A study of the use of advance organizers as adjuncts to the reading of texts in a second language.

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I hereby declare that the research contained in this thesis has been composed by myself alone.

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ABSTRACT

The present research is designed to investigate the facilitative potential of advance organizers as adjuncts to the reading of texts in a second language (L2). Recent research has indicated that many L2 learners fail to make use of the full range of contextual information available to them in their reading of texts, failing in particular to use higher level meaning constraints to guide their processing of lower level text information, with a consequent loss in text comprehension. It was hypothesized that the use of advance organizers with texts in the L2 would produce an improvement in subjects' text comprehension by inducing a more contextually sensitive type of reading strategy usage. This was investigated via experimentation using the cloze procedure, five scoring systems being used to monitor subjects' use of the different levels of contextual information available to them. Subjects were learners of French in Scotland at three main proficiency levels. The results indicated that while advance organizers do have a facilitative effect, this is not equal with all subjects or on all texts. More able subjects, in particular those with a high level of verbal proficiency, were best able to avail themselves of the facilitative potential of advance organizers, this being greatest with texts of a more demanding nature. Two main types of advance organizer induced facilitation emerged, "refinement" and "survival" level facilitation, the former being principally semantic in nature and the latter principally syntactic. The results indicate that, with appropriate instructional techniques, L2 learners of even limited language proficiency may be induced to read texts in a contextually sensitive manner and that their frequent failure to do so may not arise from the existence of a "language competence ceiling."

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I READING COMPREHENSION : A THEORETICAL INTRODUCTION

The aim of the present thesis is to examine the way in which one specific variable will affect the reading behaviour of a certain category of L2 learners. As a first step, however, the general theoretical coordinates of the thesis as a whole must be established and certain basic terms defined. Such are the aims of the present chapter. This will be carried out in three main stages. Firstly a survey will be made of the main categories of model of the reading process. Secondly, the salient characteristics of the psycholinguistic view of reading will be outlined. Thirdly, a survey will be made of a number of L1 reading studies in the light of the foregoing theoretical discussion.

A. Models of the reading process

In its essence, the debate surrounding the nature of the reading process, conducted principally in an L2 context, is between those who view reading as being "parasitic on language" (Mattingly, 1972), i.e. a primarily language based decoding skill, and those who adhere to the "psycholinguistic guessing game" view of reading (Goodman 1967, 1971), and for whom reading is largely a system of processing and organizational skills. Three main categories of model exist.

i. Bottom-up/Serial model

This model conceives of reading as a one-way flow of information, starting with the visual, graphic input and proceding through a series of progressively higher order processing stages until meaning is obtained. A typical recent example of such a model is that of Gough (1972). Reading is seen as a serial

process: each letter is analyzed, then each word, and so on. Higher level processes, such as syntactic and semantic analysis, do not influence lower level processes of letter or word identification. Context as a disambiguating factor is absent from such a model. Nor does the reader anticipate or predict upcoming words or phrases. Reading is thus viewed as a wholly bottom-up process in which lower level processes such as orthographic and phonemic analysis contribute to higher level processes but not vice versa.

In any normal reading situation such a model is unacceptable. Various experimental studies (e.g. Bransford and Johnson, 1972; Anderson et al., 1977) have shown that semantic bias can influence word and sentence identification, for example in cases of potential ambiguity, whereas in a serial model such factors would come into play only once identification had taken place. Thus both intuition and experimental evidence indicate that a serial model is inadequate to account for normal reading behaviour. This does not mean, however, that reading may never occur in this manner, but rather that the model cannot be generalized to account for normal reading behaviour.

ii. Top-down/Analysis-by-synthesis model

This model is derived from work on speech perception, where it was formulated to explain how listeners can understand noisy, variant or degenerate acoustic signals with the speed and accuracy which characterize the normal perception of connected speech. In such models the listener/reader plays an active role in comprehension. According to the more extreme versions of the model, analysis of input begins centrally, the listener/

reader creating, via a number of hypotheses, what he predicts will come next in the signal. Thus, apprehension of meaning comes first and this allows the listener/reader to generate a list of sensory features the predicted information would have if it were present. Reading, then, is seen as a process of hypothesis formulation and confirmation moving from the semantic top to the formal linguistic bottom, until the semantic representation of the text is reconstructed. Clearly, the process posited by such a model is the exact opposite of that posited by bottom-up models. Furthermore, the hypothesis fomulation-verification process means that nowhere near all of the words or letters in a text are analyzed. Proponents of an analysis-by-synthesis view of reading, in varying degrees, are Neisser (1967), Smith (1971) and Goodman (1967, 1971).

While in the following pages frequent reference will be made to the work of Smith and Goodman and their hypothesis-test view of reading, an extreme analysis-by-synthesis model is unacceptable as a total explanation of normal reading behaviour. Other than at certain locations, e.g. the end of a clause, or with highly predictable material, e.g. reading to confirm an article is about a given topic, the analysis-by-synthesis model in its extreme form is too time-consuming and uneconomical in its operation to account for normal reading behaviour.

iii. Interactive model

This category of model offers an attractive compromise between the more extreme forms of both bottom-up and top-down models by positing an interaction between all levels of information in reading, both linguistic and semantic. While accepting that

readers may need to decode graphic information, interactive models dispense with the bottom-up view that each letter and every word need to be analyzed. Similarly, while rejecting the top-down idea of readers generating visual features and matching these to the sensory input, interactive models acknowledge that appropriate use of context can allow prediction to take place and thereby reduce the amount of decoding required. Reading is thus viewed as an interactive process in which the reader draws on a variety of information sources - orthographic decoding, syntactic and semantic analysis, and also his world knowledge. The precise combination of sources used or "strategies" adopted will depend on the reader, the text and the purpose of reading. Anticipation may be used to reduce the amount of decoding required, though it is quite possible, and may under certain circumstances be necessary, to read in a largely bottom-up manner.

Gibson and Levin (1975) propose an interactive model in which the graphic array is systematically sampled at potentially high information locations, in the main those where less redundant or predictable information would be likely to be found. Experimental evidence lends support to this view (e.g. Hatch et al. 1974) by indicating that readers principally fixate content words, i.e. semantic cues, and accord far less attention to grammatical markers. This "Selective Analysis" model (Wildman and Kling, 1978. p.161) is very attractive and can be used to account for a much wider range of reading behaviour than either the bottom-up or the top-down models.

B. The psycholinguistic view of reading

It would be inaccurate to speak of a psycholinguistic "model" of reading. The value of recent psycholinguistically oriented investigations of reading lies rather in the insights it provides into the way in which readers approach text, i.e. into the process of reading itself. Of the three models outlined above it is the interactive model which most resembles the psycholinguistic view of reading, though the latter is heavily dependent on the work of analysis-by-synthesis writers such as Smith and Goodman. This section will have three main parts. Firstly, the centrality of meaning will be illustrated. Secondly the selectivity of the reading process will be emphasized and finally the distinction will be made between process and product in reading.

i. Reading is meaning centred

One of the central tenets of any psycholinguistic approach to reading is that printed information is processed not on the level of words and structures but rather on the level of meaning. Lautamatti writes that:

> ".. the reader works on the level of meaning, not only of the whole message, as it gradually unravels itself, but also of its significance in relation to previously acquired knowledge, and, more generally, to his view of the world."
> (ETIC., p.97)

Indeed, Goodman states that:

> "The extent to which a reader can get meaning from written language depends on how much related meaning be brings to it."
> (1973, p.9)

Clearly, the processing of language items is subordinate to the derivation of meaning from printed material. Moreover, meaning does not flow only from text to reader. The reader actively tries to integrate new information into his current conceptual system,

using the latter to disambiguate and organize the comprehension and assimilation of the former. Excessive attention to the details of print decoding - letter and word identification - is detrimental to the derivation of meaning, since short term memory will be overloaded and it will be difficult to establish meaningful relationships between words, word groups and larger text units. As E.B.Huey (1908) states "meaning, indeed, dominates and unitizes the perception of words and phrases".

ii. Reading is active and selective

Clarke and Silberstein (1977, p.136), referring to the work of Frank Smith, emphasize two points about reading. Firstly, because of the limited amount of information that can be taken in, processed and remembered, readers "must select the most productive language cues in determining the message of the writer". Secondly, "more information is contributed by the reader than by the print on the page". Goodman summarizes the psycholinguistic view of reading as follows:

> "Reading is a selective process. It involves partial use of available minimal language cues selected from perceptual input on the basis of the reader's expectation. As this partial information is processed, tentative decisions are made to be confirmed, rejected or refined as reading progresses."
>
> (1970, p.260)

Reading is thus not only selective, the reader not reading or processing every word, but also active, the reader contributing to the reading of the text on the basis of his previously acquired set of knowledge and expectancy.

Cooper and Petrosky (1976, p.191) identify two main classes of information which the reader has at his disposal to aid him in this process of selection and prediction. The first is his

knowledge of the written language and the second is his knowledge of the world and of the topic of the text in question. The reader's knowledge of the language system will allow him to make use of the redundancy characteristic of written language to avoid processing every word. Wildman and Kling (1978) identify three types of anticipation that readers may use to limit the amount of printed information that needs to be processed: syntactic, semantic and spatial anticipation, of which the first two are of particular relevance in the current context. A reader's knowledge of the syntax of the language will enable him to predict with a fair degree of reliability the syntactic class of upcoming words (e.g. "the" will most likely be followed by a noun) and to recognize which parts of a phrase or sentence are likely to contain non-redundant information. Cziko (1978) refers to these factors as "syntactic constraints". Another class of prediction is semantic anticipation. In this case, the reader predicts some or all of the semantic components of visually unanalyzed words by using the meaning of the foregoing text. Two levels of semantic anticipation exist. In the first, the local context is used as a basis of prediction, i.e. information on the semantic constraints of previous words is used to aid prediction of the semantic characteristics of ensuing words. In the second, the reader draws on his knowledge of the topic to anticipate the semantic configuration of upcoming words. This may be described as the use of general context, though Cziko (op.cit.) uses the terms "semantic constraints" and "discourse constraints" to refer to the two levels of local and general context which readers may use as cues to prediction.

Reading, then, is a constant interaction between thought and language.

> ".. the fluent reader reduces the alternative number of meanings a sentence or paragraph can have by using syntactic and semantic cues from the text along with prior knowledge of language and content. The use of prior knowledge, syntactic cues and semantic cues enables the reader to use redundancy to identify letter sequences and words, to guide the next fixation, to predict meaning, and to confirm or disconfirm predictions."
>
> (Cooper and Petrosky, op.cit. p.188)

Reading involves both language specific and non-language specific skills, which the fluent reader combines in an optimal manner to obtain maximum comprehension with the minimum of text decoding. Higher level skills play a crucial role in guiding lower level processing. The greater one's "conceptual readiness" (Clarke and Silberstein, 1977) for a reading task, the easier it will be.

iii. Process vs. product in reading

This distinction is an important one in the context of the current research. Process-oriented reading studies focus on the means by which a reader attempts to gain comprehension, i.e. on the way in which he uses the various information sources at his disposal both in the text itself and in his own knowledge of the language and of the topic of the target text. Product-oriented studies, on the other hand, focus on what the reader has been able to draw from a text. It would be counter-intuitive to view these as separate and mutually exclusive categories since how a reader approaches a text (process) is obviously related to the type and level of comprehension he may achieve (product). Nonetheless, the distinction is a valid one, albeit in terms of relative emphasis, not only as regards research orientations,

but also in terms of materials development. The process-product distinction may be clarified by comparison of a process-oriented list of reading strategies on the one hand, and two product-oriented lists of comprehension skills, on the other hand.

Cooper and Petrosky (op.cit. pp.191-195) list ten main strategies which characterize the reading behaviour of fluent readers:

1. The reader discovers the distinctive features in letters, words and meaning.
2. The reader takes chances - risks errors - in order to learn about printed text and to predict meaning.
3. The reader reads to identify meaning rather than letters or words.
4. The reader guesses from context at unfamiliar words or just skips them.
5. The reader takes an active role, bringing to bear his knowledge of the world and of the particular topic of the text.
6. The reader reads as though he expects the text to make sense.
7. The reader makes use of redundancies - orthographic, syntactic and semantic - to reduce uncertainty about meaning.
8. The reader maintains enough speed to overcome the limitations of the visual processing and memory systems.
9. The reader shifts approaches for special materials.
10. The reader shifts approaches depending on the purpose.

These strategies are obviously inspired by the psycholinguistic view of reading as outlined above. They constitute a behavioural

model of fluent reading and identify a series of performance characteristics whose application is conducive to success in the derivation of meaning from printed materials. Cooper and Petrosky claim that "the revolutionary import of the psycholinguistic view of the reading process" may be perceived if the above list is compared with lists of comprehension skills such as that of Thomas and Robinson (1972), which contains items such as:

1. Grasping directly stated details or facts.
5. Grasping implied meanings and drawing inferences.
6. Understanding character and setting.
9. Recognizing the author's tone, mood and intent.
11. Drawing conclusions or making generalizations.

or the very influential list of F.B. Davis (1968), which contains items such as:

1. Recalling word meanings.
3. Following the structure of a passage.
5. Finding answers to questions answered explicitly or in paraphrase.
7. Weaving ideas together in the context.

While both lists contain skills which are of value in many reading situations, they give the reader no indication of how he should go about achieving the target type or level of comprehension. Assuming, for example, that a reader should fail in "Drawing inferences from content" (Davis, op.cit. skill 2), the cause for this failure would presumably need to be sought in process terms, as would also be remediation. In other words, a given level of comprehension (product) is the result of a given set of text

attack or reading strategies (process), so it is not unreasonable to place the latter in the forefront of both research into and instruction in reading skills. The great advantage of the psycholinguistic view of reading is that it provides learners with a realistic and assimilable set of behaviour patterns to guide their interaction with the target reading materials. The ultimate aim, naturally, would be an improvement in text comprehension, or product, but it is likely that this could be more easily achieved via a focus on process.

iv. Reading strategies

This term has already been introduced, however, since it is a crucial term not only with respect to the psycholinguistic view of reading in general but also to the current research, it will be briefly clarified at this stage. A reading strategy may be defined as any purposeful means adopted, albeit unconsciously, by a reader in order to derive meaning from printed materials. When a reader is confronted with a given text he has a number of information sources at his disposal, the main being the syntactic and semantic constraints of the language, the discourse constraints derived from the target text and the reader's own prior knowledge system, particularly as this pertains to the target text. The ways in which the reader draws on or makes use of these various information sources may be referred to as his reading strategies. This does not imply that the reader be explicitly aware of his reading behaviour, nor does it imply that all strategies are equally efficient. Indeed, it will emerge from the following section that the reading behaviour even of adult native speakers of an above-average educational background is

frequently characterized by an inefficient and uneconomical reading strategy usage. The term "reading strategy" is central to any process-oriented study of reading since it permits a clear, behaviourally based definition of the ways in which readers apprehend and attempt to derive meaning from written materials.

v. Implications for reading in an L2

The psycholinguistic view of reading was largely developed from the study of the reading behaviour of native speakers. Chapter II will discuss at length the degree to which the insights and implications derived from psycholinguistically oriented studies are applicable to the study of reading in an L2. At this stage, however, brief reference will be made to one conceptualization of the reading process which underlines the similarity between the essential components of the reading situation in both L1 and L2. Coady (1979) considers reading to be a more or less successful interaction of three factors:

1. Conceptual abilities.
2. Background knowledge.
3. Process strategies: e.g.
    + grapheme - morphophoneme correspondences,
    + syllable - morpheme information,
    + syntactic information (deep and surface),
    + lexical meaning,
    + contextual meaning,
    + cognitive strategies,
    + affective mobilizers. (p.7)

The first two factors are clearly non-language specific, so it is in the use of the various process strategies that differences between L1 and L2 readers are likely to emerge. The process strategies are paths to meaning which all readers must adopt, but not necessarily in the same manner or to the same degree. While the way in which fluent L1 readers typically utilize the various process strategies differs from that of most L2 learners, the difference is a matter of relative use of available information, the main components of the reader-text interaction remaining essentially unchanged. At this level of analysis, then, there would appear to be no fundamental reason to doubt the applicability of a psycholinguistically-oriented approach to the study of the reading behaviour of L2 learners.

C. Survey of L1 reading behaviour

While any serious examination of the very considerable body of research on L1 reading would exceed the scope of the present thesis, it would be equally unacceptable to embark on a study of L2 reading without having provided at least a general overview of research into L1 reading behaviour. This will be done in three main stages. Firstly, certain significant reader types will be identified. Secondly, a survey will be made of certain experiments designed to exert a positive influence on subjects' reading behaviour. Thirdly, a survey will be made of a number of studies which explicitly focus on subjects' reading strategy usage. The L1 is in all cases English and most studies deal with adult subjects, generally undergraduate students. Furthermore, all subjects are "normal" readers, suffering from no specific neurological or sensory defect.

i. Reader types

Numerous studies have indicated that a sizeable percentage of L1 readers, even those in tertiary education, experience difficulty in organizing their reading meaningfully. W. Cromer and a number of associates conducted a series of studies to investigate the causes and characteristics of the reading behaviour of this group. Wiener and Cromer (1967) and Cromer (1970) identified at least two main groups of poor readers. The first group, deficit poor readers, while possessing adequate intelligence and language skills, failed to read effectively as a result of a deficiency in vocabulary skills. The second group, difference poor readers, are of greatest interest in the present context and this term will recur frequently. These readers, although possessing adequate intelligence, language and vocabulary skills, still experienced difficulty in comprehending text. Cromer explains this is terms of a mismatch between these readers' typical mode of responding to text and that assumed necessary for adequate comprehension to occur. Difference poor readers, Cromer observes, tend to read text in a word-by-word manner and fail to organize reading material into meaningful units. Oaken, Wiener and Cromer (1971) arrive at similar conclusions, observing that:

> ".. many poor readers miss patterns of meaning in the material they read because they miss the meaning-bearing patterns of language."
> (p.77)

and that, even when they do not read in a wholly word-by-word manner, they tend to read in arbitrary word groups or sentence fragments. Steiner, Wiener and Cromer (1971) observe a difference between better and poorer readers in their ability to

use contextual cues. While good readers use context to disambiguate and to anticipate meaning, many poor readers fail to do this:

> "They seem to be identifying words as if the words were unrelated items unaffected by syntactical or contextual relationships." (p.511)

These studies strongly point to the existence of a certain type of reader who, even if possessing adequate decoding skills, is deficient in comprehension as a result of a failure to organize his reading into meaningful units and to use context and purpose of reading to direct and disambiguate lower-level processing.

In a valuable survey article of L1 reading studies Golinkoff (1976) arrives at very similar conclusions, observing that poor comprehenders read either word-by-word or in minimum sized units and show inflexibility to task demands. This tendency of "difference type" poor readers to approach text in an arbitrary or context-insensitive manner results in frequent failure to perceive the main meaning line of written materials. Coomber (1975) discovered that the ability of college students to perceive the main idea of paragraphs was surprisingly low, concluding that many readers in this category are deficient in the "larger aspects of comprehension". Marshall and Glock (1978), in an experiment designed to investigate the effect of variations in the logical staging of texts upon comprehension, identified two populations of readers, "fluent" and "not-so-fluent". The latter accorded much greater attention to, and were therefore more dependent on the surface structure of texts. They frequently failed to perceive the thematic organization and topic of what they read and seemed unable to organize their reading semantically. The recalls

of these subjects suffered seriously when information was not stated explicitly in the text and were more like "referentially linked sentences than connected discourse". The "fluent" readers, on the other hand, were much less affected by text manipulations and their recalls contained a greater number of propositions from the logical network. Eamon (1978) made similar observations, finding that better readers adopt a selective strategy in their processing of text, evaluating information with respect to its topic-relevance, such information being processed at the expense of non-topical information. Poor readers are much less selective and fail to process information with reference to its topic-relevance.

While contrary views do exist (Perfetti and Goldman, 1976 and Perfetti and Lesgold, 1977, for example, view reading difficulties as language comprehension based), the consensus of recent L1 research is that comprehension skills are not synonymous with language decoding skills. Reading ability requires specific conceptual and organizational skills which not all readers possess to equal degrees and the cause of many readers' comprehension problems needs to be sought at this organizational level.

ii. Reading skill improvement

The observation that the comprehension difficulties of many readers stem from deficiencies in the conceptual or organizational aspects of reading as opposed to its more strictly language-based aspects not surprisingly led to attempts to inculcate in readers a more contextually sensitive set of text attack strategies. Before reviewing these studies, however, it is helpful to examine what recent research has revealed of the importance, nature and functioning of readers' level of conceptual readiness for a given reading task.

Possibly the greatest single factor influencing readers' coneptual readiness for a given text is their level of prior topic-related knowledge. Bransford and Johnson (1972) claim that prior knowledge of the content of a text can improve comprehension, not simply as a schema for generating lexical matches or associations, but by creating an interpretative context within which the text can be processed and organized into meaningful units, i.e. it alters the way in which readers process the text, making this more context-sensitive and semantically oriented. This is supported by one aspect of the Marshall and Glock study referred to above. These authors found that the reading behaviour of "not-so-fluent" readers changed on a text for which the subjects had a high level of background knowledge (the topic was graphs), coming to resemble that generally characteristic of "fluent" readers. In this case the organizationally facilitative effect of topic-relevant knowledge overrode the effect of differences in text structure which normally differentiated between better and poorer readers. Chiesi et al. (1979) also found that level of topic-related knowledge influenced assimilation of new information. The authors explain this by positing the existence of a domain-related conceptual framework which facilitates text comprehension by offering a sophisticated knowledge structure onto which new domain-related information can be mapped in a meaningful manner. Ulijn (1975) comes to similar conclusions in an L2 context. High domain-knowledge would appear to aid "semantic chunking" (Rickards, 1976), subjects' knowledge structure supplying many of the organizational categories and concept generalizations which

facilitate economical and semantically coherent text processing. A study by Anderson et al. (1977) illustrates the way in which the knowledge structure can influence a reader's text comprehension via the type of interpretative context he is able to construct for a text (the study involved the use of passages which could be interpreted in completely different ways). The authors conclude that reading is an active, constructive process in which the reader's knowledge structures or schemata exert a powerful influence on the degree to which the reader is able to organize his text processing into meaningful units. Johnson (1981), in an L2 context, describes this process in terms of the possession of "an appropriate schema for a conceptual analysis of the text" (p.177).

The most frequent means of inducing or attempting to induce a more contextually sensitive approach to reading is the use of various types of adjunct questions. Peeck (1970) discovered that giving subjects pre-questions facilitated retention of question-relevant information, even if question-irrelevant information deteriorated. Peeck's questions, however, were factually oriented and the author suggests that thematically oriented questions might have a more generalized facilitative effect. A study by Rickards (1976) attempted this presenting subjects (college students) with four types of statement: superordinate pre- and post-statements, coordinate pre- and post-statements. It was found that superordinate pre-statements (advance organizers) led to significantly more recall of both thematically significant and subordinate facts than any other type of inserted statement. Advance organizers are conceptually superordinate declarative

statements placed prior to a related subordinate piece of text. They appear to aid comprehension by giving readers a set of superordinate concepts around which sentences may be interrelated and organized. Rickards suggests that this aids subjects to chunk their reading semantically, something which many readers, especially the difference type, seem unable to do. There is a considerable body of research which points in this direction, much of which is based on the work of D. Ausubel on advance organizers and will be discussed in Chapter III. The main drift of the conclusions, supported by studies such as those of Rickards and Hatcher (1978) and Van Blaricom (1979), is that it is primarily poor readers who benefit from the use of advance organizers and related techniques. In other words, those who typically fail to organize their reading optimally, the difference type poor reader, may, via appropriate remedial techniques, be induced to adopt a more efficient set of reading strategies.

iii. Reading strategies

All the studies reviewed in this section may legitimately be considered to be concerned with reading strategy usage. However, a number of studies have focused explicitly on this point and can add a valuable dimension to the survey of L1 reading behaviour developed so far. As will be clear, the term "reading strategy" is often used to refer to different levels of reading activity.

McConkie, Rayner and Wilson (1973) found that subjects were able to alter their reading speed and the type of information they derive from texts in accordance with instructions, though less successfully when having to derive information pertinent to higher order questions. Jones (1976) arrived at different conclusions, finding that only better readers showed the ability to alter their

comprehension strategies on the basis of pre-set instructions. These results may partly be due to the fact that Jones was working with children. Moon (1976), using a Reading Recorder found that "good" reading strategies (her definition of what this is is rather vague) benefited all readers, but that subjects with lower verbal skills were more dependent upon the use of good strategies than those with higher verbal skills. Thomas and Augstein (1972), also working with a Reading Recorder, identify four patterns of reading behaviour which go to make up reading strategies (which they define as "the way in which a reader tackles a text"):

1. a quick, even read;
2. a slower, fairly even read, possibly with hesitancies but no backtracking;
3. scanning back and forth through the text;
4. no reading - e.g. note taking or thought.

The authors observe that these (macro-) strategies, or various combinations of them, characterize the behaviour of all readers at different times. Strategies 3 and 4 , however, were more used by those subjects who performed better on the reading task. While the elicitation technique used clearly constrains data in certain ways it is interesting to note that all subjects appeared to have the same strategy resources, differences occurring in the relative use made of these.

Olshavsky (1977) arrives at similar conclusions, even though she used a very different elicitation technique, protocol analysis. Defining a reading strategy as "a purposeful means of comprehending the author's message", Olshavsky identifies ten strategies which operate at word, clause and story level. The author makes the

interesting observation that all ten strategies were used by each subject. Differential use of the strategies occurred in accordance with the presence of three factors: interest, reading proficiency and writing style of the target material. Thus, it is not the strategies themselves that distinguish between better and poorer readers, all seeming to have the same basic array, but rather their relative frequency and efficiency of usage. Better readers typically employ an array of strategies which show their reading to be meaning oriented, context sensitive and predictive, and organized in large units. M.A. Clarke (1979), writing in an L2 context, makes the following comment:

> ".. it may be inaccurate to speak of 'good readers' and 'poor readers' ... Perhaps there are not 'good' and 'poor' readers, but merely 'good' and 'poor' reading behaviours, which characterize all readers at different times."
>
> (p.138)

iv. Conclusion

In an L2 reading instruction context it is often assumed that once learners have attained a given level of proficiency in the TL their reading problems will take care of themselves. While there is a good deal of truth in this, it is by no means the whole story. This section has shown that even fully proficient native speakers often fail to achieve optimal comprehension. Reading is thus clearly an interaction of language specific and also of conceptual or organizational skills, the comprehension problems of many native speakers arising from shortcomings in the latter area. Difference type poor readers typically fail to perceive reading as a process of meaning derivation, failing to organize their text comprehension in appropriate semantic units. There is evidence, however, that certain remedial techniques may be effectively used to enhance such readers' conceptual readiness

for reading tasks and thereby effect an improvement in their comprehension skills. A further interesting point to emerge from this section is that, while certain categories of reader do typically respond to text in a less than optimal manner, what essentially differentiates better from poorer readers is relative use of reading strategies and not some absolute quantitative difference in skill resources. Indeed, when for innate (e.g. high topic-relevant knowledge) or for externally induced (e.g. via the use of advance organizers) reasons poor readers have a high level of conceptual readiness for a reading task, their reading strategy usage can come to closely approximate that typical of good readers' normal reading behaviour. All these points will assume importance in the subsequent chapters.

II SURVEY OF L2 READING BEHAVIOUR

The purpose of this chapter is to provide a survey of the salient features of the reading behaviour of L2 learners within the theoretical framework provided by Chapter I. In other words, the view of reading adopted will be psycholinguistic in orientation. This will be carried out in three main stages. Firstly, an assessment will be made of the degree to which reading skill transferability takes place from L1 to L2. Since the ultimate beneficiaries of the current research would be adult L2 learners with a more or less developed set of reading skills in their L1, this is a significant factor. Secondly, an assessment will be made of the interaction between, and the relative role played by language specific and non-language specific skills in the reading behaviour of L2 learners. Finally, a number of implications will be drawn from the foregoing discussion with respect both to materials construction and to research orientations in an L2 reading context.

A. Transferability of reading skills

That the situation faced by an adult learning to read in an L2 is different in a number of significant respects from that of a child learning to read in his L1 is relatively obvious. The adult L2 learner will have a more sophisticated array of world knowledge and a higher degree of familiarity with the way in which language, both written and spoken, is used as a medium of communication. Furthermore, he will probably have a more or less highly developed set of reading skills which he will have developed in his L1. These factors will inevitably exert at least some degree of influence on the way in which the adult L2 learner will perceive texts and approach the process of reading in the L2.

This much is relatively uncontroversial. What is more controversial is the degree to which the L2 learner's level of L1 reading skills may actively be transferred to his reading of the L2 and the degree to which his level of L2 proficiency will allow this transfer to take place.

i. Theoretical considerations

The debate as to the degree to which L1 reading skills may be transferred to the L2 may be seen as part of the theoretical debate outlined in Chapter I, section A, between those who view reading as a language-based and decoding-dependent activity and those who adhere to the "reading universals hypothesis", and who stress the essential similarity of the reading process in all languages, stressing the conceptual or organizational aspects of reading.

The former group, namely those who view reading as being parasitic on language, maintain that one learns to read a language by learning to identify the meaning and significance of the cue systems of that language. It follows from this that, when one wishes to read in another language, one has to learn a completely new set of cue systems. In this view, then, the scope for positive transfer from the L1 is very limited. While this view of learning to read in an L2 may be rather extreme, it does contain a good deal of truth. M.A. Clarke (1980) makes the following relatively self-evident but nonetheless pertinent remark:

> "Attempting to teach students to use the phonological, morphological, syntactic, semantic and discourse cues of the language before they have learned what they are, how and when they occur, and their contextual variations, seems unrealistic."
>
> (pp.206-207)

At least some degree of familiarity with the code system of the TL, then, is a prerequisite for reading to take place: learners must have at least some familiarity with the cue systems of a language before they can take advantage of their communicative function. Yorio (1971), referring to the work of Goodman, identifies four major constituent factors in the reading process:

1. knowledge of the language (the code);
2. ability to predict or guess in order to make the correct choices;
3. ability to remember the previous cues;
4. ability to make the necessary associations between the different cues that have been selected.

He then goes on to point out that, as a result of the L2 learner's inadequate knowledge of the language, the guessing or predicting of future cues is made more difficult and open to error, memory span is shorter, making the recall of previous cues less reliable, and, finally, interference from the L1 occurs at all levels. In short, then, Yorio would suggest that limited L2 competence impedes virtually all aspects of the reading process to some degree or other. Success in reading an L2 would then appear to be directly related to level of competence in that language and the shortest route to reading proficiency in an L2 would appear to lie in intensive work on the code systems of the language.

That limited L2 proficiency should exert an inhibitative effect on a learner's ability to read in that language is self-evident. At the same time, it has emerged from Chapter I that reading is not synonymous with decoding and therefore, in an L2 context, it may be mistaken to consider reading proficiency as

being synonymous with language competence. Since reading proficiency is dependent upon the existence of certain conceptual and organizational skills, there is a possibility that these, at least, may be transferable to the L2 and may exert an influence on the L2 learner's ability to put his level of L2 competence to a communicative use in a reading context. Proponents of the reading universals hypothesis emphasize this aspect of the situation.

According to this view of reading, one learns to read once only and, as the reading process is essentially the same in all languages, the reading skills acquired in the L1 may be transferred to the L2 with only minor, code-specific adjustments. Consequently, those individuals who command an efficient array of reading skills in their L1 should be able to demonstrate a similar type and level of reading behaviour in the L2. The conceptualization of the reading process put forward by Coady (Chapter I p.12) provides a framework within which this view of reading skill transfer may be usefully analyzed. Coady considers reading to be a more or less successful interaction of conceptual abilities, background knowledge and process strategies. The first two factors will obviously remain unchanged whether a reader is confronted with texts in his L1 or his L2. Indeed, even certain higher-level process strategies such as the use of affective mobilizers and cognitive strategies will be equally applicable in the L2 as in the L1. The difference will clearly arise with respect to the use of the lower-level, code specific process strategies. Proponents of the reading universals hypothesis would maintain, however, that in addition to the non-

code specific factors just mentioned, a fluent reader will be able to transfer to his reading of an L2 his knowledge of how these lower-level process strategies are used to convey information and of how best the information they provide should be processed and manipulated in conjunction with that derived from higher-level cue and strategy systems. In this analysis, the fluent L1 reader disposes of a very considerable set of information when approaching texts in the L2. With only minor adjustments to accommodate the code specific features of the L2, he should be able to transfer to his reading of that language the level of reading proficiency he commands in his L1.

It emerged from Chapter I that reading proficiency and language competence may not be considered synonymous, which would lend support to the reading universals hypothesis view of skill transfer. Equally, assuming that an L2 learner has to start from zero in reading in that language is very counter-intuitive. At the same time, the role of language competence in L2 reading is considerable, and this is seriously underestimated by proponents of the reading universals hypothesis. The following data-based studies contribute to the formulation of a more balanced view than the theoretical considerations alluded to so far have allowed.

ii. Experimental evidence

Relatively little experimental work has been carried out on the relationship existing between level of reading skill in L1 and L2, and so only five main studies will be reviewed here. Two closely related studies (Bismoko and Nation, 1974; Cramer, 1975) set out to examine the transferability of reading speed from

one language to another. Both studies originate from teaching contexts in which the national language - Indonesian and Bahasa Malaysia, respectively - and English were used concurrently as the medium of instruction. There was thus an interest in discovering whether reading skills (of which reading speed is one) should best be taught in the learners' L1 or in English. The theoretical considerations underlying both studies were derived from the work of Michael West, and stress the transferability of reading skills. Bismoko and Nation open their article with the following quote from West:

> "Reading is a general power. It is not confined to one language, for improvement in the ability to read one language is 'transferred' and shows itself in improvement of the reading of another language... If practice in a foreign language improves the rate of reading in the mother-tongue, it follows that practice in the mother-tongue will probably improve reading in a foreign language... If such practice is needed it should obviously be given in the mother-tongue for preference."
>
> (West, 1941)

West based these comments on the observation that reading skills training in English produced a substantial reading speed increase in Bengali for Bengali students. Bismoko and Nation took West's advice and gave their subjects (student teachers) a ten week speed reading course in their L1, Indonesian. The results confirmed the transferability of reading skills, reading speed at least, since the subjects' reading speed increased significantly, not only in Indonesian but also in English. Cramer (1975) varied the experimental format, providing his subjects with speed reading training either in their L1 or in the L2. He found that higher L2 reading speed gains were obtained by providing training in the L1, though possibly at the

expense of reading speed in that language. The author goes on, however, to qualify his recommendation that reading speed instruction be given in the L1 in an interesting manner. Various language specific (e.g. word length) and sociolinguistic factors (e.g. domains of usage) lead him to recommend that speed reading practice be given in the students' dominant reading language, whether this be their L1 or an L2. This qualification is a significant one in situations where, for various sociolinguistic reasons, L2 learners may do all or at least a major part of their reading in a language other than their L1.

Al-Rufai (1975) set out to examine the transferability of reading skills from L1 to L2 and vice versa. The author was working with undergraduate students whose L1 was Arabic, the L2 again being English. The results indicated

> ".. a close relationship between the Arabic general and specific comprehension skills and those of the English corresponding skills."
>
> (p.237)

This suggests that a link does indeed exist between learners' comprehension skills in L1 and L2. Al-Rufai found, furthermore, that reading skills and habits may be improved by training and that they are transferable from one language to another. The recommendation, however, is that reading skill training should be provided in learners' L1. Thus far, Al-Rufai's conclusions largely coincide with those of Bismoko and Nation (op.cit.) and Cramer (op.cit.). She does, however, go on to make a further valuable observation to the effect that the transfer of reading skills from L1 to L2 can take place only if learners are able to use the L2 "with ease". Thus, while Al-Rufai's study offers

support to the theory of the transferability of reading skills, she indicates that level of proficiency in the L2 may have an inhibiting effect on learners' ability to transfer their level of L1 reading skill to the L2. This point will be taken up in greater detail subsequently.

Alderson et al. (1977), working with graduate students (L1-Spanish, L2-English), investigated the relationship between reading ability in L1 and L2, and attempted to discover whether L1 reading ability or L2 proficiency was the better predictor of L2 reading ability. The authors discovered that although a positive relationship did exist between subjects' L1 and L2 reading skills, better L1 readers maintaining a relative advantage over poorer L1 readers in the L2, this relationship was far from close. Thus, better L1 readers tend to lose part of their lead over poorer L1 readers in the L2. The authors conclude from this that it would be unsafe to predict a learner's L2 reading ability on the basis of his L1 reading performance. The best predictor of subjects' reading proficiency in the L2 emerged as being competence in that language, as assessed by scores on an English language proficiency test (the TEAL test battery). While the authors hesitate to draw any general conclusions from their study, the implications it has are clear. While some degree of reading skill transfer does appear to exist, level of L2 proficiency would appear to inhibit this transfer, reducing the relative advantage held by better readers in their L1.

Clarke (1979), in the most mature and insightful of the studies reviewed so far in this section, arrives at similar conclusions to Al-Rufai (op.cit.) and Alderson et al. (op.cit.), though is

able to take his observations a stage further to offer an explanation for the phenomena observed. Clarke found that some degree of reading skill transfer did take place: subjects assessed as being better readers in their L1 (Spanish) did maintain a relative advantage over poorer L1 readers when confronted with texts in the L2. However, the relative differences between better and poorer readers decreased substantially in the L2. Thus, while Clarke's findings do partly confirm the reading universals hypothesis, they also indicate that "the role of language proficiency may be greater than has previously been assumed" (p.138). It would appear that a learner's level of proficiency in the L2 sets limits on the degree to which he can transfer to his reading of that language the reading skills he may command when reading texts in his L1.

> "Cloze test performance and oral reading behaviour suggest the presence of a 'language competence ceiling' which hampers the good reader in his attempts to use effective reading behaviours in the target language: apparently, limited control over the language 'short circuits' the good reader's system, causing him to revert to 'poor reader strategies' when confronted with a difficult or confusing task in the second language."
>
> (1979, p.138)

Significantly, Clarke observes that the "language competence ceiling" produces an effect not only on the product of reading, but also on the process whereby the reader attempts to derive meaning from the text i.e. his reading strategy usage. These aspects of reading in an L2 will be discussed in Section B of the present chapter.

iii. Conclusions

In terms of the theoretical controversy outlined at the beginning of this section between those who view reading as

parasitic on language and those who adhere to the reading universals hypothesis, the studies reviewed appear to lend qualified support to the latter group. Reading skills are transferable from L1 to L2, and, for a given level of competence in the TL, learners who command an efficient array of reading skills in their L1 will maintain an advantage in the L2 over poorer L1 readers. However, the language competence ceiling effect appears to seriously inhibit learners' ability to transfer their full range of L1 reading proficiency to their reading of texts in the L2. Thus, while reading ability in an L2 may not be equated with proficiency in that language, nor can it be dissociated from it. As Clarke (1979) points out, reading instruction in an L2 must emphasize both the psycho and the linguistic.

B. Language and non-language aspects of L2 reading

The previous section was largely comparative in nature, the reading behaviour of L2 learners being viewed in the light of the reading behaviour they exhibit in their L1. While the comparative orientation will be retained to some degree, the current section will focus more directly on the nature of the process of reading in an L2. The purpose of this is to arrive at as accurate an assessment as current research will allow of the component factors in the reading behaviour of L2 learners and of their relative function and importance.

While all the studies to be reviewed in this section have basically the same aim, namely to clarify the precise nature of the reading process in L2 learners, the discussion will be split up into three main stages, this being done largely to facilitate

reference. Firstly, an assessment will be made of the role played by knowledge of the L2 code, largely in terms of syntax, in the reading of texts in that language. Secondly, the role of non-language specific factors will be investigated. Finally, a survey will be made of studies which explicitly focus on the reading strategy usage of L2 learners.

i. The role of code specific knowledge

Section A above has shown that while the psycholinguistic view of reading as an interactive process involving both language and organizational skills is applicable to the analysis of the reading behaviour of L2 learners, unfamiliarity with the code of the TL can limit the degree of reading skill transferability from L1 to L2. The importance of a learner increasing his command of the linguistic resources of the TL as a means of improving his ability to comprehend texts in that language hardly requires justification. Indeed, Alderson et al. (1977), referred to in Section A, discovered that level of proficiency in the L2 was a better predictor of learners' reading ability in the L2 than level of L1 reading proficiency. Observations of this nature have, not without some degree of logic, led to an assumption that the best way to prepare learners to read texts in the L2 is to provide them with a thorough course in the morphology, lexis and syntax of the TL, comprehension supposedly looking after itself. By reference to a limited number of data based studies, the aim of the present sub-section is to demonstrate that such as approach to L2 materials construction risks omitting or skimming over significant aspects of the reading process.

The traditional approach to the construction of L2 reading materials has been to identify particularly frequent or "difficult" language items and to supply intensive practice on these items. Definition of teaching units in this approach may be made in grammatical or in communicative terms. Nilagupta (1977), in an article typical of this view of reading instruction, proposed to investigate the relationship between knowledge of syntax and reading ability in Thai learners of ESL. Her subject population was made up of graduate (N.426) and undergraduate (N.533) students, and her conclusions were reached via correlations between subjects' scores on structure and writing tests on the one hand and reading comprehension tests on the other hand. The author's premiss was that:

> "For the reader, grammar and syntax are the key to comprehending language."
> (p.585)

Furthermore, she explicitly attacks the "psycholinguistic guessing game" view of reading as being inapplicable to L2 learners, on very much the same grounds as Yorio, quoted in Section A p.25. She makes the not unreasonable remark that:

> "Those who study English as a foreign language obviously cannot be expected to make such predictions [cf. the psycholinguistic view of reading as a process of hypothesis formation-confirmation] rapidly. They may be unable to recognize the uninformative features because to them all features should be informative. ...The reader must control a great deal of grammar in order to select only the most significant cues."
> (p.587)

Nilagupta logically anticipated that reading ability should correlate highly with knowledge of syntax.

This did not, in fact, turn out to be the case. The correlation between reading ability and knowledge of syntax for the undergraduate population was .64 and for the graduate population was .54. Neither of these coefficients were as high as Nilagupta had anticipated, and this would tend to indicate that there is more involved in reading texts in an L2 than knowledge of syntax. Furthermore, the fact that the correlation obtained from the graduate group was lower than that from the undergraduate group indicates that factors such as intellectual maturity, familiarity with the conventions of written communication and superior world knowledge (all of which may relatively reliably be assumed of graduate students) do indeed exert an influence on learners' ability to read in an L2. Thus, while Nilagupta does succeed in demonstrating a positive relationship between knowledge of syntax and reading ability (which is hardly surprising), she fails to make her point that reading ability in an L2 is principally dependent on the learner's knowledge of the syntax of that language.

Alderson and Richards (1977) carried out a study to investigate the causes of reading comprehension difficulty in a group of ESL learners (87 Mexican university students). The specific purpose was to assess the degree to which the ability to read a text correlated with performance on certain popular exercise types. The latter covered vocabulary, rhetorical functions, syntactic complexity and contextual reference. Correlations were worked out between scores on a reading comprehension test and scores on tests on each of the four language areas just mentioned,

and also between the reading test and global scores on the four language tests pooled. While some positive correlation was found between the sub-tests and the comprehension test scores, the coefficients were low. The highest correlation was between the comprehension test and the language test as a whole (i.e. the total of the four sub-tests), and this was .60. The authors conclude that while knowledge of language devices does influence comprehension ability, there is more to comprehension than the ability to manipulate specific language items.

> "The results of the study indicate that a person who understands text well will have little or no difficulty with vocabulary, textual rhetoric, sentence complexity or contextual reference. However, the converse is not true, since students who are weak in comprehension are equally likely to be good at the linguistic tasks sampled as they are to be poor at them. Therefore, these results do not give us grounds to say that if a student's comprehension is weak, he needs a good dosage of exercises in vocabulary, sentence complexity, rhetorical functions and contextual reference."
> (1977.p.11)

The implications of this study are much the same as those arising from Nilagupta's: while language factors do play a significant role in L2 learners' ability to comprehend texts, comprehension ability cannot be made synonymous with language proficiency. This observation clearly reiterates in an L2 context that made earlier with respect to L1 reading behaviour. At this stage a question logically arises as to what other factors have a determining effect on the ability of L2 learners to comprehend text. A few guidelines may be derived from an article by Cohen et al. (1979) reviewing a number of earlier studies, including that of Cohen and Fine (1978). The authors

set out to answer the question, "What is problematic for non-native readers when reading material in English in a specialized field ?" (1977.p.552). An assessment was made of the role of three classes of language item in the comprehension of L2 readers. These items were:

1. heavy noun phrase subjects or objects;
2. syntactic markers of cohesion;
3. non-technical vocabulary in technical texts.

(p.553)

While the authors did discover that each of these classes of language item was a source of comprehension difficulty, they conclude their article with the following, and very instructive remark:

> "It may well be that the question posed in this study, 'What is problematic in the reading of texts in a foreign language ?' is ultimately less fruitful for curriculum writers and teachers than the question, 'How do learners go about solving problems in reading ?' The former yields findings as to forms to teach, and the latter yields insights into cognitive strategies to teach."
>
> (1979.p.564)

From what has emerged in this sub-section it is relatively clear that, while a learner's level of proficiency in the L2 has a very significant role to play in his ability to derive meaning from texts, it is not the sole factor affecting comprehension. The next sub-section will attempt to identify what the other factors are and to assess their role in the comprehension ability of L2 learners.

ii. <u>The role of non-code specific factors</u>

Before embarking on an investigation of this aspect of L2 reading behaviour, it would be helpful to briefly outline its

potential importance in an L2 learning context. Unlike native speakers learning to read in their L1, L2 learners are frequently required to consult materials in the L2 before they have been able to acquire a thorough grounding in the code system. Indeed, they may need to learn the L2 exclusively in order to read written materials. Consequently, time considerations may not allow many learners to postpone the consultation of the target reading materials until the end of a language skills development course. While this does not obviate the need for intensive language work in such a context, it does imply that an assessment should be made of those non-code specific factors which an L2 learner has at his disposal when confronted with texts in a language he only partially commands, since these factors might be used to allow him to obtain a degree of text comprehension superior to that which his level of L2 proficiency alone would permit. The current sub-section will attempt to assess, from a number of data based studies, the nature and function of these non-language aspects of L2 reading.

a. Topic-related background knowledge

One of the most significant non-language factors influencing readers' comprehension ability is their level of prior knowledge of the subject matter of a text. Ulijn (1975) discovered that L2 learners' (engineering students: L1 Dutch, L2 French) ability to read technical material was dependent both on their language competence and on their topic-relevant knowledge. Thus, for a given level of competence in the TL, subjects with superior subject knowledge comprehended texts better than those with lower subject knowledge. Ulijn observes

that subjects with superior subject knowledge were able to make further use of what Cziko (1978) calls "discourse constraints". These remarks echo what was said previously with respect to L1 reading and thereby underline the basic similarity of the reading process in both L1 and L2. While prior topic-relevant knowledge does not relieve the L2 learner of the need to expand his language resources, it can significantly aid comprehension via the creation of an appropriate conceptual readiness for the reading task at hand. In another article based on the same set of experiments as the previous reference, Ulijn (1979) suggests that the reader

> ".. begins with a conceptually oriented analysis which is accompanied by syntactic analysis only if the first analysis has failed to yield comprehension of the text."
>
> (p.100)

This conceptually oriented approach to text is very similar to what Chapter I identified as the behaviour characteristic of fluent L1 readers. However, it should be recalled that Ulijn's subjects were involved in reading texts for which they had a high degree of conceptual readiness, and it will emerge that many L2 learners fail to adopt such a conceptually oriented approach to their reading. Ulijn goes on to make the interesting observation that a crucial role is played by content words, and, more specifically, technical terms in this conceptually oriented approach to reading. Consequently, if a reader does not command this area of vocabulary adequately, he will be obliged to engage in a detailed syntactic analysis of the text which, even if the reader does manage to decode a good deal, may still fail to give him a solid overall grasp

of the meaning. Although Ulijn's study involved a specialized area of L2 reading, it has significant implications. Quite apart from the support it lends to the relevance of a psycho-linguistically oriented approach to L2 reading, it shows that L2 learners can make effective use of their non-code specific skills to enhance their comprehension. Thus higher order skills may be used to guide the processing of lower level information in the L2. While this, in and of itself, may seem relatively self-evident, a survey of many L2 reading materials will indicate that its implications have not been assimilated by materials writers, who frequently fail to allow adequate scope for learners to apply their conceptual skills to reading in the L2.

b. Schema-theory based studies

Two studies by Patricia Johnson (1981, 1982) lend support to Ulijn's findings that level of related background knowledge has a significant effect not only on the level of text comprehension obtained by L2 learners but also on the way in which they process text i.e. on their reading strategy usage. Johnson (1981) investigated the reading performance of a group of Iranians reading stories from Iranian and from American folklore, together with a group of Americans reading the same stories. Each text was written in both unadapted and adapted (simplified) English. The results indicated that the L2 learners used their cultural background to help them comprehend the Iranian story.

> ".. The Iranian subjects' familiarity with the type of plot and character used in the [Iranian] story seemed to provide 1. an ideational scaffolding for selected categories in the stories during the reading and 2. a structure for searching the memory during recall. ... passages in the American story which were ambiguous to the Iranian subjects because they didn't know the language remained ambiguous or were misinterpreted due to a lack of schema for the cultural situation in the story."
>
> (p.173)

Thus, for an equivalent level of language difficulty, the L2 learners found the text from their own culture easier to comprehend than that from a foreign culture. This reinforces, in an L2 context, the relevance of the following statement by R.E. Johnson:

> "Learning may be said to be meaningful to the extent that the new learning task can be related to the existing cognitive structure of the learner... The presence of meaning [in print]... does not guarantee meaningfulness."
>
> (1975, p.451)

It emerged from a comparison between the Iranian subjects' performance on adapted and unadapted texts that the simplification of vocabulary and syntax had no effect on their comprehension of a text from their own cultural background. However, in reading a text from a foreign culture their comprehension was better on the simplified text version. Clearly, the high level of conceptual readiness the learners enjoyed in reading a text from their own culture enabled them to adopt a conceptually oriented approach to the text which entailed less low level decoding of language items. Without this degree of conceptual readiness, they were obliged to adopt a more bottom-up type of text attack strategy. Johnson's second study

(1982) confirmed the role played by topic-related background knowledge in the reading performance of L2 learners and indicated that a sufficiently high level of conceptual readiness for a given reading task may compensate to a quite considerable degree for vocabulary unfamiliarity.

> "It may take a high percentage of difficult vocabulary items to have a significant effect on readers' comprehension of a text. ... Readers seem to be able to construct a text from memory based on inferences made while reading. Thus, familiarity with the topic of a passage and general background knowledge of the theme may allow the reader to construct highly plausible meanings for unfamiliar vocabulary words."
>
> (1982, p.514)

Both of these studies indicate that a high level of conceptual readiness for a reading task can help L2 learners to overcome, albeit partially, the shortcomings in their knowledge of the L2, in terms both of syntax and of vocabulary.

Johnson, in both of the studies referred to above, makes explicit reference to the work of R.C. Anderson on schema theory. Reference was made to one study by Anderson in Chapter I (p.18) which showed how the mental schemata which a reader brings with him to his reading of a text influence the interpretation he is likely to offer for that text. In general terms, schema theorists propose that the way in which a reader's past experiences are organized will have a determining effect on the way in which the reader will comprehend and retain the content of written materials. In other words, readers process and assimilate text in the light of their mental schemata, the internal organization of their past experiences. Johnson's studies (1981, 1982) indicate the

applicability of schema theory to the reading behaviour of L2 learners. Chapter III will investigate this aspect of L2 reading in greater depth.

Two further studies, which also make reference to schema theory, are of relevance to the current stage of the discussion of L2 reading. Perkins (1983) set out to investigate whether L2 learners exhibited semantic constructivity in their reading in a way similar to that shown by L1 readers. Perkins maintains that:

> "The relevance of schema theory to reading comprehension is that it acknowledges semantic constructivity."
>
> (1983, p.20)

Her experimentation was designed to monitor whether the L2 learners used as subjects gave evidence of using their world knowledge and previously acquired information as adjuncts to their processing of short texts in the L2. The subjects (all adults) were of three proficiency levels: beginner, intermediate and advanced. Perkins discovered that only the advanced group showed clear evidence of having used semantic constructivity in their reading though the intermediate group did show more evidence of using semantic constructivity than did the beginner group. The implications of these findings are that, while L2 learners do appear to use their mental schemata in reading texts, level of proficiency in the L2 interacts with their ability to do so. Perkins concludes that:

> "... the L2 subjects in this study clearly exhibited semantic constructivity in a silent reading task. There was evidence that the ESL reader does contribute to the reading process in a constructive manner, but the ESL reader's contribution may be marred by language interference, lack of background knowledge, faulty inferencing, and certain data- and resource- limitation phenomena."
>
> (1983, p.26)

Thus, while L2 learners do appear to apply to their reading of the L2 the type of cognitive or organizational skills which characterize fluent L1 reading, limited proficiency in the code system of the TL seems to inhibit the transfer or application of L1 reading skills to the L2. This is very much what Clarke (1979) observed, referring to the language competence ceiling, whereby limited TL proficiency "short-circuits" the transfer of L1 reading skills to the L2 (cf. present chapter, section A. p.31).

Hudson (1982), in a study of which the implications will be discussed in greater detail in Chapter III, set out to investigate the effect of induced schemata on the reading behaviour of adult L2 learners. Referring to Clarke's (1980) "short circuit hypothesis", Hudson attempted to assess the degree to which L2 learners' observed failure to organize their reading semantically (cf. sub-section iii. below) was a result simply of low L2 proficiency or whether it was "a symptom of false schemata production and reconciliation in conjunction with low language proficiency" (1982, p.10). In other words, the question was whether the semantically deficient reading behaviour characteristic of many L2 learners was due solely to unfamiliarity with the code or whether it was also due to a breakdown in or a failure to utilize higher level cognitive and organizational skills. The study involved providing three types of pre-reading activity to L2 learners at beginning, intermediate and advanced level. No control group (i.e. a group receiving no pre-reading activity) was used, comparison thus being between treatment and across proficiency level.

The author found that a breakdown in what he terms second component factors (hypothesis testing and production, categorization of information, fitting new information to prior knowledge etc., i.e. basically, what has been referred to so far as the non-code specific aspect of reading skill) can cause disruption in first component factors (i.e. code specific skills). In other words, the "short circuit" effect in L2 reading does not always arise from unfamiliarity with the code itself, but may be the result of L2 learners failing to apply to their reading of the L2 skills and strategies which they have found to work in their L1 reading.

> "It may be that the process of learning to read in L2 is partially a matter of first experiencing skills and strategies as usable, and then abstracting principles for successful reading. Thus, the motivational factors of having experienced ... inducing rules successfully in L2 may lead the advanced level reader to utilize skills and strategies which the lower level reader has not yet experienced as usable."
> (1982, pp.20-21)

Hudson thus implies that the "short circuit" effect may be due not only to language deficiency but also to learners not having experienced that certain L1 reading skills are in fact applicable to reading in the L2.

> "The induced schemata in this study apparently allowed access to language decoding which was otherwise not available. The significance of this finding is that the linguistic ceiling is only one determinant of reading comprehension. The fact that it can be overridden indicates that it is not a fixed or static proficiency, but is rather a relative proficiency."
> (ibid. p.20)

However, subjects at different proficiency levels responded differently to the three pre-reading activities. Advanced learners responded best to those which allowed them greatest freedom to generate their own conceptual set for the reading

texts. Beginning and intermediate learners, especially the former, responded best to the pre-reading activity which most strongly induced an externally formulated schema. This indicates that lower L2 proficiency readers have greatest difficulty in generating and matching schemata appropriate to target reading materials. While this observation that learners at different proficiency levels process text differently echoes previous studies, the new and significant contribution offered by Hudson is that this difference may not be an absolute one, wholly conditioned by code specific knowledge, but may derive, in part at least, from learners' failure to realize the applicability of certain reading strategies to the L2. Hudson's study clearly complements that of Perkins (1983). The latter revealed that only advanced learners gave evidence of actively implementing their mental schemata in reading texts in the L2, while the former shows that lower proficiency learners are most dependent on the provision of externally induced schemata. The significant contribution of Hudson's study, of course, is the observation that even low proficiency L2 learners may be induced to make use of schemata or higher level process strategies in their reading of texts in the L2.

c. Overview

The studies reviewed in the present sub-section indicate that, in addition to a given level of competence in the L2, an adult L2 learner has a considerable array of non-code specific skills at his disposal which may significantly influence his ability to derive meaning from text. Schema theory provides

a valuable framework for the study of these factors. That level of familiarity with the syntax and vocabulary of the TL is of considerable importance in determining both level of comprehension and type of reading strategy used is evident. Indeed, limited L2 competence would appear to exert an inhibiting effect on learners' ability to apply efficient reading strategies in the L2, though Hudson suggests that this short circuit effect may not be absolute, possibly being the result of subjects not having experienced the applicability of certain strategies in the L2. He also suggests that appropriate schema-theory based pre-instructional techniques may partly override the language competence ceiling effect identified by Clarke (1979, 1980). This suggestion will play a crucial role in the current research project.

iii. Reading strategies

The consensus of research into this aspect of the reading behaviour of L2 learners is that all but the most advanced learners, or those who have some very specific conceptual readiness for the reading task at hand, adopt a largely decoding oriented type of reading strategy usage, failing to make appropriate use of higher-level cues to meaning. In other words, their reading strategy usage approximates that of the difference type of poor L1 reader.

a. Reading focus of L2 learners

A study by Hatch, Polin and Part (1974) using letter deletion recognition discovered that all but the most advanced L2 learners accorded more attention to function words in their reading than did native speakers. The latter group focused primarily on content words, i.e. those text items with the

greatest semantic information, at the expense of function words. This would imply that their reading was semantically oriented and indicates the selectivity in information processing which Chapter I, B.ii. showed to be a characteristic of efficient reading. The reading behaviour of L2 learners is much less selective and they appear to accord equal importance to all text items. Their reading is thus less semantically oriented than that of native speakers, being more centred on decoding than meaning derivation. The consequences which this type of reading strategy are likely to have on global text comprehension are illustrated in the next study referred to.

Cohen and Fine, in a study previously referred to, compared the reading behaviour of a small group of L1 and L2 readers. Although the L2 learners were described as "advanced", a number of significant differences emerged between the two groups. Firstly, the reading speed of the L2 learners was considerably lower than that of the native speakers: non-natives took 2-3 hours to read a text for which native speakers required only 30 minutes. Secondly, the L2 learners adopted a much more detailed and less selective type of reading strategy, apparently according equal importance to all text features. This concern with detailed decoding was at the expense of the main meaning line of the text and the L2 learners showed an inability to integrate information across and even within paragraphs. The authors admit that this may have been in part a result of syntactic and lexical unfamiliarity, but it was also to a large extent a direct result of the learners' excessively detail-oriented reading strategy usage. This did, on occasion result in superior non-native comprehension

at micro-level. The native speakers, who appeared to be "reacting [to the text] in broader terms" (p.64) occasionally missed details which were retained by the non-natives. Johnson (1981) makes similar observations. She explains the phenomenon in terms of the greater use which native speakers make of prediction: they sometimes see what they assume will be there rather than what is there providing this does not conflict with the global interpretative context they have constructed for the text. The more decoding oriented reading strategy of L2 learners leaves less scope for prediction, so they see only what is actually in the text. Such detailed text processing, however, is rarely productive in global terms. Al-Rufai (1975) arrives at similar conclusions, observing that even when L2 learners (her subjects were Iraqi undergraduates) are able to decode a large part of a text successfully, they often fail to perceive its meaning structure and therefore tend to be deficient in global text comprehension. Al-Rufai consideres this situation to be largely the result of the failure of L2 teaching methods to place meaning derivation at the centre of reading instruction.

It would be both naive and misleading to assume that all L2 learners exhibit the same patterns of reading behaviour. Indeed, Hosenfeld (1977) arrived at a profile of the reading behaviour of successful and unsuccessful L2 readers which bears a striking resemblance to those proposed by Golinkoff (op.cit.) and Olshavsky (op.cit.) for native speakers. Nonetheless, L2 learners as a group do exhibit a type of reading strategy usage in which lower-level processing is given

relatively greater importance over meaning derivation than is the case with native speakers, again viewed as a group. This tends to result in an inability to perceive the text as a semantic whole, with consequent deficiencies in global comprehension.

b. L2 learners' use of contextual information

Three complementary studies will be reviewed under this sub-heading. In addition to the fact that they add detail to the profile of L2 learners' reading strategy usage, they also provide certain analytical categories which will be incorporated into the experimental segment of the current thesis.

The implications of Clarke's (1979, 1980) "short circuit hypothesis", whereby a language competence ceiling inhibits the transfer of L1 reading skills to the L2, were discussed in section A above. Clarke makes some further observations, however, and these are of particular relevance at this stage of the discussion. Clarke's experimentation reveals that better readers, when reading in their native language, rely more heavily on semantic than syntactic cues to meaning whereas poorer readers seem to rely more on syntactic cues. This is clearly what emerged from Chapter I as being characteristic of the behaviour of better and poorer readers. When contronted with texts in the L2, however, the situation changed. The relatively greater ability of better readers to use semantic cues declined sharply, and their reading behaviour (as monitored by cloze tests and oral reading miscue analysis) became more syntactically oriented than in their L1.

When reading in an L2, then, even better readers seem unable to manipulate the semantic cues of texts effectively, their reading strategy usage coming to remember that typical of poor readers. In other words, good L1 readers, when reading texts in an L2, seem to regress to a type of reading behaviour characteristic of poor L1 readers. This shift involves a decreased use of semantic cues in favour of greater reliance on syntactic cues. These observations are valuable in indicating that reading in an L2 causes not only a quantitative decrease in comprehension but also a qualitative change in learners' reading strategy usage. One obvious pedagogical implication of this phenomenon is that two L2 learners may exhibit very similar reading behaviour but for different reasons:

> ".. one, because s/he is a poor reader and the other because s/he has not been able to transfer his/her L1 reading skills to the target language."
> (1980, p.207)

Cziko (1978) identified three main types of contextual information available to readers:

1. syntactic constraints are those provided by the preceding words and the syntactic rules of the language (e.g. the word "the" will most likely be followed by a noun);
2. semantic constraints are those provided by the meaning and selection restrictions of the preceding words (e.g. the words "the boy" at the beginning of a sentence will most likely be followed by a verb phrase describing something a boy is likely to do);
3. discourse constraints are those provided by the topic of the text (e.g. all the sentences in a text about

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> cross-country skiing will, in some way, be related to this topic).
>
> (p.473)

The author then went on to investigate the differential use of these constraints by L1 and L2 readers. The results indicated that L2 learners do not seem able to make use of the full range of contextual information available to and used by native speakers. While readers with only a beginner level knowledge of the L2 showed evidence of ability to use the syntactic constraints of a passage as cues to meaning, a relatively high level of L2 competence was required for learners to make comparable use of semantic and discourse constraints.

These observations led Cziko to postulate "a developmental order in the ability of the second-language reader to use contextual constraints". Sensitivity to syntactic constraints develops before sensitivity to either semantic or discourse constraints. The author proposes a number of explanations for this situation. Firstly, he suggests, the syntactic system, albeit complex, is finite whereas the semantic system is potentially open-ended. Secondly, he finds it difficult to imagine how the semantic constraints of a language could be used without prior sensitivity to the syntactic constraints as well. Thirdly, the use of discourse constraints entails the ability to integrate information over relatively long stretches of text, and so the development from local to global processing seems likely. The present writer feels that these explanations leave something to be desired and are rather vague. The analysis proposed by Yorio of the reading

difficulties of L2 learners (p.25 above) seems a better one. Nonetheless, the experimental evidence arising from Cziko's study makes a valuable contribution, lending support to Clarke's (op.cit.) conclusions. Cziko, then, proposes that the type of reading strategy which L2 learners are able to employ is governed by their level of L2 competence. Lower competence obliges learners to adopt a heavily syntactically dependent type of reading strategy and it is only at more advanced levels of L2 competence that learners are able to avail themselves of the full range of contextual information potentially available to them.

In a second study designed to examine the relationship between language competence and L2 learners' ability to manipulate the different levels of linguistic cues present in texts, Cziko (1980) again arrives at the conclusion that learners' reading strategies are related to their level of L2 competence. Subjects of intermediate and advanced proficiency levels in the L2 (French) and a group of native speakers were used, their oral reading behaviour being monitored. The intermediate level learners exhibited a reduced sensitivity to and reliance on contextual information, their reading being heavily dependent on graphic decoding. In other words, these learners read text in a largely bottom-up manner. Advanced L2 learners and native speakers, on the other hand, adopted an interactive strategy, using both graphic and the various levels of contextual information available as sources of information in reading. Once again, then, the results indicate that L2 learners at less than advanced level seem unable

to make effective use of higher level constraints as cues to meaning, adopting a bottom-up reading strategy which is heavily dependent on the decoding of low-level text information.

c. Conclusions

The profile of the reading behaviour of L2 learners emerging from the present sub-section conflicts sharply with the profile of efficient reading outlined in Chapter I. Indeed, the reading strategy usage which characterizes L2 learners as a group violates virtually all of the reading strategies which Cooper and Petrosky (cf. Chapter I p.9) identify as being conducive to effective comprehension. L2 learners seem to experience very considerable difficulty in using higher-level cues to meaning in terms of semantic and discourse constraints and background knowledge as means of guiding and disambiguating the processing of lower level text information. This failure to place meaning derivation at the centre of their reading strategy usage obliges them to decode text serially, which produces memory overload, limits flexibility and has negative consequences on global text comprehension.

Many writers view this situation as being an inevitable consequence of learners' unfamiliarity with the code system of the L2. This is the opinion held by Yorio and Nilagupta, quoted earlier in this chapter, and also, in a more refined form, by Clarke and Cziko. There is a very good theoretical justification for this viewpoint. At the same time, evidence has emerged from a number of recent studies that when, for one reason or another, L2 learners have a sufficiently strong

conceptual readiness for the reading task at hand they are able to adopt a more interactive and, thereby, more efficient type of reading strategy. The basic question is whether Clarke's "language competence ceiling" is an absolute quantity, i.e. one which necessarily obliges L2 learners to adopt a more bottom-up type of reading strategy, or whether it is a contingent phenomenon which may be overriden by other factors.

Ulijn (1975) demonstrated, within a special purpose reading context, that a high level of topic-relevant background knowledge can induce a conceptually oriented approach to reading in L2 learners. Johnson, working within the theoretical framework provided by schema theory, discovered that a high level of familiarity with the topic or the cultural background of a text can allow L2 learners to adopt an interactive reading strategy in which prediction and inference serve as guides to lower-level text processing. Finally, Hudson discovered that even low proficiency L2 learners respond positively to induced schemata. This indicates that the language competence ceiling may not place an absolute check on learners' ability to apply a meaning-oriented strategy to texts in the L2.

These studies lend support to the contention that the counter-productive reading strategies characteristic of L2 learners may not be an inevitable result of their limited language competence. They may result, albeit partially, from learners' failure to perceive the possibility of applying in the L2 the reading strategies which they may command in their L1. While this suggestion does not seek to minimize the

importance of familiarity with the language code it does indicate that, even for L2 learners with relatively limited proficiency in the language, reading remains potentially an interactive process in which both language skills and conceptual or organizational skills come into play. Any serious L2 reading skills programme would need to accommodate both aspects of the reading process. As Clarke (1979) states:

> ".. [L2] reading teachers must emphasize both the psycho and the linguistic".
>
> (p.139)

C. Implications

Given the scope and aims of the current research it would be inappropriate to attempt a detailed assessment of current L2 reading materials or to embark on an investigation of the pedagogical implications of the theoretical survey conducted in the present chapter. However, a brief overview of certain general trends in L2 reading materials writing serves as a useful bridge between what has gone before and the research orientations which will be put forward in subsequent chapters.

i. Resource development and comprehension training

The importance of developing L2 learners' syntactic and lexical resources in the TL is too obvious to require justification. However, it should by now be clear that the ability to comprehend texts in the L2 may not be equated with knowledge of syntax and vocabulary. Thus, while the development of learners' L2 comprehension skills is obviously related to the expansion of their language resources, the two are not synonymous. This fact

is frequently overlooked by L2 materials writers. Lautamatti (ETIC) makes a pertinent contrast between fluent reading behaviour on the one hand and the language-oriented approach common in many L2 reading materials on the other hand:

> "One of the central features of the reading-oriented models is that the reader works on the level of meaning, not only of the whole message, as it gradually unravels itself, but also of its significance in relation to previously acquired knowledge, and, more generally, to his view of the world. Language-oriented teaching, on the other hand, generally works on the levels of words and structures within sentences. ... The language-oriented approach, inadvertently, stresses the importance of every word and structure for understanding ... [and] trains [the learner] to work in small units, each of which is considered equally important for comprehension, and thus overloads short-term memory."
>
> (p.97)

That the difficulties of many readers are, in part at least, the result of inappropriate teaching methods which stress decoding over meaning derivation is a suggestion made by Coomber (op.cit.) in an L1 context and by Al-Rufai (op.cit.) in an L2 context.

Shook (1977), in a series of articles on this topic, identifies three main factors in L2 reading materials which he considers to be potentially harmful to the development of fluent reading behaviour. The first is what he describes as the "mania for detail". Shook points out that detail has significance only in relation to the overall theme of a text and should, thereby, only receive attention within this context, adding that:

> "I have the distinct impression that much detail is added to ESL reading exercises because something is needed to ask questions."
>
> (Part 1, p.3)

The second point is the use of oversimplified syntax, something which both Mountford (1976) and Honeyfield (1977) suggest may interfere with learners' ability to read normal texts. The third point is the violation of discourse conventions. This produces a kind of prose in which a learner's expectations as to the nature of written discourse are frustrated, forcing him to decode rather than read:

> "If reading is a theory building process, it is also a contractual one. As part of being a reader, our hypothetical person has developed a set of discourse postulates which lead him to expect certain things from the writer ... speech acts; conversational postulates; implicature; situational frames and a host of others, but they all amount to rules of procedure in sharing information ... the writer who ignores the contractual nature of discourse because he is seeking other ends, such as the teaching of vocabulary, will cripple the reader's ability to abstract meaning from the text."
>
> (Part 1, p.3)

Indeed Blau (1982) discovered that the type of simplified language typical of many L2 reading materials was actually more difficult to read than normal, and more complex language.

Clarke (1980) sums up the problem facing L2 reading instruction in these terms:

> "The dilemma for ESL reading teachers is one of attempting to provide students with a 'global' view of the task ... while at the same time helping them to acquire the fundamental language skills to facilitate the process."
>
> (p.206)

A confusion on the behalf of the materials writer is likely to produce the problems outlined by Shook above. Furthermore, if the materials writer is unclear as to the aims of a reading programme in general terms or at any specific stage, it is unlikely that the learner will be able to clarify his aims. Such confusion risks reinforcing in L2 learners the type of

bottom-up, decoding-oriented reading strategy usage which they would appear, in any event, to adopt. This in turn risks having a serious inhibitative effect on learners' ability to derive meaning from texts in the L2, in both the short and the long term.

ii. Reading strategy development

The studies of Hudson and Johnson reviewed earlier in the chapter demonstrate that a sufficiently high level of conceptual readiness for a reading task may allow L2 learners to gain access to a level of text which their L2 proficiency alone would not permit. Making active use of this in a teaching context requires an effort in two main directions. Firstly, learners should be made to view reading as a process of meaning derivation from the very outset of their L2 learning careers. This implies them being positively encouraged to see the potential value in an L2 context of their non-code specific skills such as familiarity with the conventions of written communication, topic-specific and general knowledge. Secondly, materials should be designed in such a way that they not only allow but also encourage learners to use their non-code specific skills. This clearly implies that reading materials be coherent communicative units written in normal language. Furthermore, they should have as close a conceptual link as possible to learners' interests and knowledge structure, so as to encourage a conceptual link-up between the learners' mental schemata and the text content. Exercise types, finally, should emphasize global comprehension, more detailed comprehension coming in only gradually and then within the framework provided by the former.

It is the present writer's contention,in line with Hudson, that at least part of the deficient reading behaviour exhibited by L2 learners is a result of their failure to realize that they can apply to their reading of the L2 a meaning-oriented and context-sensitive type of reading strategy usage. Furthermore, it is suggested that, via the use of appropriate pre-instructional techniques, it may be possible to induce in L2 learners a more contextually sensitive type of reading strategy. It is proposed to investigate this via experimentation with the use of advance organizers as adjuncts to L2 reading. Details of the proposed experimentation will be given in the next two chapters.

III ADVANCE ORGANIZERS

As mentioned at the end of the last chapter, the current research project will examine the functioning of advance organizers as adjuncts to the reading of L2 texts. Before the relevance of advance organizers to L2 reading instruction can be shown, they must first be placed in an appropriate context of preinstructional strategies (section A). Subsequently, the theoretical assumptions upon which their use is based will be outlined together with an overview of their use over the last two decades (section B). This will then lead to an assessment of their potential in a reading skills context, both L1 and L2 (section C). Finally, details will be given of their utilization and posited functioning in the current research (section D).

A. Preinstructional strategies

Results of experimentation into the use of various preinstructional techniques have often been ambiguous. However, all preinstructional techniques are based on the intuitively valid assumption that learners' ability to organize and structure input material meaningfully will aid the assimilation and retention of this material. All preinstructional strategies have in common that they are designed to aid learners in this process of organizing and structuring input material optimally. Interest and experimentation in the use of preinstructional strategies has been greater in a content subject learning context than in a language skills context, as should be apparent from what follows in this section. Hartley and Davies (1976) describe the benefits of using preinstructional techniques in the following terms:

> "A well-organized 'bird's eye view' of the task supplies the student with a useful perspective of what lies ahead. It also serves as a framework on which subsequent learning can be arranged and related ..." (pp.239-240)

These authors go on to identify four main types of preinstructional strategy-pretests, behavioural objectives, overviews and advance organizers. In each case, the student is "primed", in one way or another, for the learning task he has to undertake. The basic idea underlying all four techniques is very much the same, namely, that learning is more effective and more lasting if the student has a high degree of conceptual readiness for the task prior to engaging in it. Differences do, however, exist, and these will now be reviewed briefly so as to render more apparent the distinctive characteristics of advance organizers as learning aids.

i. Pretests

Pretests may have either an evaluative or an instructional function, though only the latter is of relevance in the current context. Hartley and Davies (op.cit.) define pretests as:

> "... any set of related questions, given before instruction, that is directly relevant to the knowledge, attitude or skill domain to be acquired."
>
> (p.241)

The questions themselves may be a selection or a parallel version of questions to be asked subsequent to the learning task. In its instructional use, a pretest given prior to a learning task may serve to activate the learners' analytic and organizational skills in a manner appropriate to the task at hand, especially if this has some link with the learners' prior knowledge and experience. Pretests are only feasible if the learning task has a good deal in common with what learners know or have learnt already. This is largely the result of their bi-directionality: they remind learners of what they have already learned about a

given topic and thereby give them an increased degree of conceptual expectancy as to the salient characteristics and structure of the new learning material.

ii. Behavioural objectives

Behavioural objectives, whose function is almost exclusively instructional, are designed to facilitate learning by helping learners to establish a set of expectations and goals with respect to the learning task at hand. They inform learners of what they are expected to achieve on completion of the learning task. They are based on the idea that learners will approach the target material in a more organized and insightful manner when they are clear as to the desired terminal behaviour. Unlike pretests, behavioural objectives do not necessarily refer back to learners' prior knowledge or experience. While they have been found to exert a positive influence at most learner levels, length of learning task appears to affect their usefulness, this being greater when learning tasks are relatively longer. Behavioural objectives may often be couched in more technical or abstract language than that used in the main body of the learning material, and are often pitched at a higher level of abstraction than that of the target material itself.

iii. Overviews

These are summaries of the subject material to be learned and thereby serve to introduce students to the main argument or salient points of new material. Overviews do not presuppose any prior familiarity with the subject material. By introducing the main aspects of the material to be learned, overviews aid learners to structure their learning in a more meaningful way,

for example by apportioning relatively more time to the most significant aspects of the target material. Overviews are generally written at "the same level of abstraction, generality and inclusiveness as the lessons themselves" (Hartley and Davies, op.cit., p.244). Thus, their priming effect is more direct than that of advance organizers, which, as will soon emerge, generate a context for the subsumption of the subject material. Overviews serve rather to familiarize learners with the subject material itself, emphasizing the main points and eliminating supporting detail or other non-essential factors. They are thus constructed, to a large degree at least, by a process of simplification.

iv. Advance organizers

At this stage the salient characteristics of advance organizers will be outlined within the general context of preinstructional techniques. More detailed discussion will be provided in section B below. While advance organizers have in common with pretests, behavioural objectives and overviews the fact that they are intended to facilitate subsequent learning by establishing an appropriate mental set in the student, their precise functioning differs in at least one significant manner. Advance organizers are process-oriented rather than content-oriented as are pretests, behavioural objectives and overviews. They emphasize context and thereby provide ideational scaffolding for the learning task at a higher level of abstraction. Thus, instead of supplying direct assistance in the assimilation of the constituent parts of the target learning task, they provide a conceptual framework within which learning will be made more meaningful and better organized. This view of the functioning of advance organizers is based on

Ausubel's notion of meaningful verbal learning, which will be discussed in sub-section B.i.

While advance organizers generally take a continuous prose format visual and graphic formats have also been used, in addition to the relatively frequent adjunct question format. However, whatever their form, all advance organizers have in common that they are pitched at a much higher level of generality and inclusiveness than the learning material, so that:

> "By deliberately introducing relevant and appropriately inclusive subsuming concepts into cognitive structure, one provides helpful ideational scaffolding which enhances the incorporability and longevity of the more detailed material in the learning passage."
> (Ausubel & Fitzgerald, 1961, p.266)

Two main categories of advance organizers exist, expository organizers and comparative organizers. The former are used when the material to be learned is wholly unfamiliar to the student, whereas the latter are used when the material is not completely unfamiliar.

Ausubel'stheory of learning assumes the existence of a hierarchically organized cognitive structure, whereby new, subordinate information is fitted in under more general superordinate concepts. Advance organizers, by providing the superordinate concepts relevant to a given learning task, are posited to aid the meaningful assimilation and retention of subordinate information by supplying anchorage within the appropriate conceptual framework. Organizers, then, aid the process of learning by supplying a conceptual context for the assimilation of subject matter.

As was stated at the beginning of this section, the basic idea underlying the use of all four types of preinstructional technique

discussed above is very much the same, namely that having an idea of the salient features of the learning task at hand will make it easier and more meaningful. Pretests alert students to what they will be required to learn by making them reflect on these issues before attempting the learning task itself. Behavioural objectives identify what students should know as an outcome of their learning. Overviews prepare the way by giving a summary of the main points of the learning task. Advance organizers establish a conceptual framework within which the learning task may be perceived and organized in a more meaningful way. Thus, while the basic purpose is similar, the means adopted in each of these four techniques are different from one another in varying degrees.

In a sense, the assistance offered by pretests, behavioural objectives and overviews is more direct than that offered by advance organizers. The former all focus on content - what has to be learned, whereas advance organizers emphasize context - how to perceive or organize what has to be learned, and are thereby intended to alter the process of learning itself. Advance organizers are designed to create a bridge between students' existing knowledge stucture and the target learning materials, emphasizing the importance of existing superordinate concepts in the assimilation of new subordinate information.

B. Ausubel's theory of learning and the use of advance organizers

i. Subsumption and meaningful learning

Advance organizers are very largely the result of work conducted by D.P. Ausubel and a number of associates in the early sixties, and the use to which they have been put, not to mention the claims made as to their effectiveness as learning aids, can

only be understood within Ausubel's model of learning, the subsumption theory. According to this theory,

> "... cognitive structure is hierarchically organized in terms of highly inclusive concepts under which are subsumed less inclusive subconcepts and informational data."
>
> (Ausubel, 1960, p.267)

From this view of cognitive structure, it follows that new information can be learned only insofar as it is subsumable under already existing superordinate concepts:

> "... new meaningful material becomes incorporated into cognitive structure insofar as it is subsumable under relevant existing concepts."
>
> (ibid. p.267)

Clearly, then, the ability to learn or assimilate successfully a given body of information depends crucially on the degree to which one already possesses the relevant background of concepts, generalizations and principles. The availability of appropriate background knowledge structures allows for what Ausubel calls "meaningful learning", that is:

> "... the relating of new ideas in some 'sensible fashion' to established ideas already present in the learner's cognitive structure."
>
> (Lawton, 1974, p.1)

If a learner does not possess the relevant subsuming concepts, he will be unable to relate learning materials to his existing cognitive structure and will therefore have to adopt a rote-learning approach, which has obvious disadvantages, not the least of which being the heavy load it places on memory.

Thus, in Ausubel's view of learning, the availability in a learner's cognitive structure of the appropriate subsuming concepts is a crucial factor in determining his ability to

assimilate and retain new information. New information, once it has been assimilated into cognitive structure, modifies and refines the latter, making it better able to accommodate new information. There thus exists a constant interaction between learned and to-be-learned information. Lawton (op.cit.pp.6-7) identifies four main cognitive variables in Ausubel's view of learning. The first is a clear, stable and organized body of knowledge, which affects the learner's ability to acquire new information in the appropriate subject area. The second is the availability in cognitive structure of the appropriate, relevant "anchoring ideas" which allow the learner to relate new ideas to his already existing cognitive structure. The third variable is the "discriminability" of the new information from already established ideas. Finally, the "stability and clarity" of established ideas will influence the degree to which retention of new information is possible. It is these four cognitive structure variables which constitute a learner's knowledge in a given subject or topic area and which consequently influence his ability to assimilate new information into this knowledge structure in a meaningful way.

This does not, obviously, mean that it is only possible to learn what one already knows. What it does, however, mean is that any learning - whether it be of unfamiliar or of partly know information - will only be meaningful if the relevant subsuming concepts are present in the learner's cognitive structure. Many learners are able to derive these subsuming concepts from learning materials spontaneously, though many are not, and therefore have recourse to a largely unstructured rote-type of learning, which is both inefficient and uneconomical. For instruction to be

meaningful, it needs to be ordered logically and be linked with learners' existing knowledge structure. It is also necessary, in Ausubel's opinion, that learners be presented initially with the relevant subsuming topics in a given subject area so as to allow them to structure their subsequent learning around these superordinate concepts. It is here that the role of advance organizers as learning aids becomes evident. Ausubel proposes that each learning unit be preceded by advance organizers which can supply the relevant "ideational scaffolding" and "anchoring ideas" for that learning unit. These organizers serve to activate ideas already present in learners' cognitive structure as subsumers or, in the case of an unfamiliar topic, supply new high-order concepts or generalizations which learners may not have had occasion to formulate previously. In practice, advance organizers will generally perform both of these two functions in varying degrees, activating existing subsumers and refining them in the light of the current learning task. These subsumers will then aid the learning process in the manner discussed above. While a thorough comparison between Ausubel's theory of learning and the work of schema theorists, alluded to in Chapter II with respect to articles by Hudson (1982), Johnson (1981, 1982) and Perkins (1983), would exceed the bounds of the current chapter, a clear relationship does exist. This will be underlined in section C below.

ii. Nature and functioning of advance organizers

Within the framework provided by the previous sub-section, it is now necessary to look more closely at the nature, construction and posited functioning of advance organizers. As mentioned

previously, most work with advance organizers has been conducted in a content subject context, and the following comments should be seen in this light. Ausubel defines advance organizers as:

> "... introductory material at a higher level of abstraction, generality and inclusiveness than the learning passage itself."
>
> (1978, p.252)

While this may appear relatively straightforward, a good deal of controversy surrounds advance organizers, even at the most basic level of definition. Indeed, Hartley and Davies go so far as to say that:

> "Despite a seemingly sound theoretical base, it is now recognised that there is currently no acceptable way of generating or recognizing advance organizers. This uncertainty has led at least one researcher to complain 'If it works, it's an advance organizer; if it doesn't work, it isn't!'"
>
> (op.cit. p.256)

Much of the difficulty encountered in defining and constructing advance organizers - this problem will arise in the current research - comes from the fact that they look in two directions at the same time: forward, to the learning material, and backwards, to the prior cognitive structure of the learners concerned. Thus, unlike overviews, they cannot be constructed on the basis of the target learning materials alone, in abstraction from the learner group. While an advance organizer must provide appropriate ideational scaffolding and anchoring ideas for the target learning material, it must at the same time be "relatable to presumed ideational content in the learner's current cognitive structure" (Ausubel, 1978, p.252). This means that what may be an appropriate advance organizer for one group of learners studying given materials, may not be suitable for another group of learners, with a different

educational background, studying precisely the same materials. As Ausubel puts it:

> "... one can identify an advance organizer by simple comparison with its accompanying learning passage and from knowledge of the pupils' previous studied subject matter."
> (1978, p.252)

No "recipe" exists for the construction of advance organizers above and beyond the general guidelines provided so far and, although these are reasonably clear in theoretical terms, it must be admitted that the construction of fully appropriate organizers is not always as "simple" as Ausubel would have one believe.* Much of this difficulty derives from the difficulty of gaining access to the content and organization of learners' cognitive structure.

An advance organizer, therefore, is a statement or series of statements given prior to a learning passage and which is pitched at a higher level of generality and inclusiveness than the learning passage itself. The advance organizer provides the relevant subsuming ideas which, given the learners' cognitive structure and the conceptual structure of the learning passage, will aid the learners to bridge the gap between what they know already and what they need to know in order to learn the new subject matter effectively. Mayer described describes the process in terms of two functions:

> "a. Availability - a meaningful context is provided to which new material may be assimilated.
> b. Activation - advance organizers may serve to encourage an encoding strategy in which the learner attempts to integrate incoming information with the meaningful context."
> (1978, p.880)

*An argued discussion of the construction of an advance organizer is provided on pp.109 ff.

This is a useful description of the way in which advance organizers may aid learning except that Mayer's "meaningful context" is rather a weak term and needs to be understood in terms of the provision of subsuming concepts appropriate to the task at hand and to the learners' existing cognitive structure.

Two main types of advance organizers exist, expository organizers and comparative organizers. Ausubel describes the two types of organizer and the differences existing between them in these terms:

> "Expository organizers are used when the new learning material is completely unfamiliar, as determined by pretests, and attempt merely to provide inclusive subsumers that are both related to existing ideas in cognitive structure and to the more detailed material in the learning passage. Comparative organizers, on the other hand, are used when the new learning material is relatively familiar or relatable to previously learned ideas. In this case the aim of the organizer is not only to provide ideational scaffolding for the specifics of the learning passage, but also to increase discriminability between the new ideas and the previously learned ideas by pointing out explicitly the principal similarities and differences between them."
>
> (1978, p.253)

Clearly, then, what decides which type of organizer needs to be used is the degree of unfamiliarity of the material to be learned. If the learning material is, to all practical intents, new to the learners, an expository organizer is needed in order to provide ideational anchorage or scaffolding for the target material. Ausubel considers that material may be judged unfamiliar when "cognitive structure is barren of even generally related concepts" (Ausubel and Fitzgerald, 1961, p.266). More commonly in normal learning situations, however, the new

learning material has more or less strong links with what has been learned previously, so that

> "... the new learning material ... is a variant of related, previously learned concepts ... already established in cognitive structure."
> (ibid. p.266)

Therefore, the organizer needs not only to provide optimal anchorage for the relevant concepts at the most appropriate level of inclusiveness, but also has to

> "... increase the discriminability of the learning passage from analogous and often conflicting ideas in the learner's cognitive structure."
> (ibid. p.266)

In such circumstances a comparative organizer would be used.

From what has been said so far it should be clear that advance organizers do not function merely by giving learners a "run through" of target learning material, much as overviews do. Rather, their effect is indirect. In the short term, they aid learners to approach a learning task with an appropriate mental set so that they are able to process and assimilate the target material in meaningful units. In the long term, it is posited that, via consistent use of advance organizers, learners may come to spontaneously adopt a learning strategy geared to the extraction of the appropriate subsuming concepts and the integration of these with their own cognitive structure. Advance organizers, then, work on the process of learning itself and are designed not merely to facilitate the learning of specifics, but rather to alter the strategies and mental set with which learners approach their target learning materials. Section C below will examine how this may be applied within an L2 reading skills development context.

iii. Effectiveness of advance organizers

Interest in the use of advance organizers as learning aids began in the early 60s with a number of studies by Ausubel and his associates (Ausubel, 1960; Ausubel and Fitzgerand, 1961, 1962; Ausubel and Youssef, 1963). These studies, overall, produced positive results as to the value of advance organizers as aids to the learning of academic prose materials. Subsequently, numerous other studies investigated the use of advance organizers in a wide variety of settings. The results of these later studies (Luiten et al., 1980, review a total of 135) were sometimes positive, indicating that advance organizers do facilitate learning and retention, and sometimes negative, indicating that they do not. The whole question of the use and validity of advance organizers has thus become something of a "cause célèbre", giving rise to conflicting claims and sometimes rather heated debate between the proponents and the adversaries of advance organizers. Space forbids anything like a comprehensive review of this impressive body of research. Consequently, a survey will be made of the salient features of the four seminal studies and, in the light of this, the main lines of the ensuing debate will be provided.

a. Seminal studies

All four studies were conducted by Ausubel and a number of associates at one Mid-Western university. The reading texts involved were all in the region of 2,000 words in length, and subject numbers between 120-150. In the first study Ausubel (1960) gave subjects a text on a topic judged to be unfamiliar (the metallurgical properties of a certain type of steel).

The advance organizer was therefore expository in nature. The scores of the experimental group were significantly higher than those of the control group, indicating that the organizer had in fact facilitated learning of the reading passage. Ausubel analyzes the results as showing that the organizer had facilitated incorporability and longevity of the learning material in two ways:

> "First, they explicitly draw upon and mobilize whatever relevant subsuming ideas are already established in the learner's cognitive structure and make them part of the subsuming entity.... Second, advance organizers at an appropriate level of inclusiveness provide optimal anchorage. This promotes both initial incorporation and later resistance to obliterative subsumption."
> (1960, p.270)

The "appropriate degree of inclusiveness" is defined as "that level which is as proximate as possible to the degree of conceptualization of the learning task" (ibid. p.270), though this is relative to the already existing degree of differentiation of the subject matter in the learner's cognitive structure.

> "Thus, the more unfamiliar the learning material ..., the more inclusive or highly generalized the subsumers must be in order to be proximate."
> (ibid. p.270)

The second study involved a topic (Buddhism) which, while itself unfamiliar to the subjects, dealt with

> "... variants of previously learned concepts (i.e. Christian doctrines) generally familiar to all our subjects and, presumably, reasonably well-established in the cognitive structure of most of them."
> (Ausubel and Fitzgerald, 1961, p.267)

The experiment had three subject groups: one with a comparative organizer, one with an expository organizer and a control group.

It was hypothesized that the comparative organizer would facilitate learning by increasing the discriminability between new and previously learned material in subjects' cognitive structure. The results confirmed this hypothesis, scores of the comparative organizer group, overall, being significantly higher than those of the other two groups. Subjects' knowledge of Christian doctrine had been assessed and this was found to interact significantly with organizer effect. Subjects with less prior knowledge benefited much more from the organizer than subjects with a high level of related background knowledge:

> "... in the learning and retention of unfamiliar ideational material that is relatable to established concepts in the learner's cognitive structure, both comparative and expository organizers appear to be effective only in those instances where existing discriminability between the two sets of ideas is inadequate as a consequence of the instability or ambiguity of established concepts."
> (ibid. p.274)

Organizers therefore appear to be of most assistance to those learners who experience difficulty in deriving appropriate subsuming concepts from material spontaneously. Whereas,

> "... if discrimination of a learning passage is already high because of endogenous factors within cognitive structure (i.e. because of the clarity and stability of related established knowledge), less scope exists for the potentially facilitating influence of exogenously manipulated factors (i.e. organizers) designed to promote discriminability."
> (ibid. p.270)

In the third study (Ausubel and Fitzgerald, 1962) an expository organizer was used with two unfamiliar learning passages. Subjects' verbal ability and general background knowledge on the topic of the learning passage (endocrinology) were assessed.

The results showed that while the organizer group as a whole scored higher than the control group, virtually all of the difference obtained (just short of significance) was derived from subjects in the lower third of the distribution of verbal ability scores. The authors interpret this to mean that:

> "... organizers, by providing ideational anchorage, facilitate the learning and retention of totally unfamiliar material for those subjects who have relatively little verbal ability. Subjects of average and better ability are evidently capable of spontaneously organizing new learning material around relevant, more inclusive concepts, and hence derive little or no benefit from introduced advance organizers."
>
> (1962, p.247)

This interaction between verbal ability and organizer effect was not recorded in the previous study (Ausubel and Fitzgerald, 1961), where level of related knowledge was the significant subject variable. The 1962 study noted, however, that general background knowledge did facilitate learning of the new material. Furthermore, the organizer appeared to enable subjects to make more effective use of whatever background knowledge they did possess in structuring the unfamiliar material.

The last of the four seminal organizer studies (Ausubel and Yousef, 1963) only partially confirmed previous findings. Comparative organizers were used with two texts (on Buddhism and Zen Buddhism respectively). On the first text, experimental subjects did benefit from the organizer. However, unlike the situation in the 1961 study, level of related background knowledge did not interact with organizer effect, all subjects deriving equal benefit. There was, though, a trend (just short of significance) for subjects with lower verbal proficiency to derive greater benefit from the organizer, which lends support

to the findings of the 1962 study. The organizer failed to improve learning or retention significantly on the second text, a fact which the authors attribute to the temporal proximity of the first text, this seeming to have aided discriminability independent of the presence of the organizer.

b. Key variables

Although these four studies produce generally positive results as regards the facilitative effects of advance organizers, the difficulties of using advance organizers correctly are apparent and thus the seeds of future controversy are present even in the initial studies. A number of particularly significant variables emerge. Ausubel himself (1960, 1968) recognizes that organizers may be less effective with certain types of materials than with others. He considers that they are more likely to be effective in facilitating the learning of factual than of abstract material since abstractions

> "... in a sense, contain their own built-in organizers - both for themselves and for related detailed items."
>
> (1968, p.149)

Furthermore, the potential value of advance organizers depends in part on how well-organized the target learning material itself is:

> "If it already contains built-in organizers and proceeds from regions of lesser to greater differentiation (higher to lower inclusiveness), rather than in the manner of the typical textbook or lecture presentation, much of the potential benefit derivable from advance organizers will not be actualized."
>
> (1968, p.149)

Problems obviously exist in making a correct assessment of learners' cognitive structure with respect to a given subject

area. If an incorrect assessment is made the risk arises of the organizer being pitched at an inappropriate level of generality and abstraction, which will seriously lessen its potential value to the learners in question (cf. Ausubel, 1960, p.269).

Another crucial variable is subject ability. Indeed, this is one of the most controversial points in the study of the use of advance organizers. Ausubel contends that organizers have greatest potential with lower ability learners, as regards both related subject knowledge and verbal ability. Learners who have a thorough command of a given area, Ausubel contends, will probably already possess the relevant subsuming concepts. Furthermore he maintains that:

> "... the facilitating effect of organizers is greatest for those individuals who have relatively poor verbal ability and who therefore tend spontaneously to structure such material less effectively."
>
> (Ausubel, 1968, p.154)

Subsequent writers have disagreed with this assessment of the situation. Hartley and Davies (op.cit.) recommend that organizers are better used with subjects "of above-average ability, maturity and sophistication" (p.260). This question turns on whether it is lower ability learners, as a result of their greater need of the organizer, who benefit most or whether it is rather higher ability learners who do so as a result of their greater ability to perceive and actualize the facilitative potential of the organizer. The importance of the materials used and their internal organization, as well as subject ability level, will all emerge as significant factors in the current research project.

c. Subsequent research

That one recent article (Luiten et al., 1980) was able to review a total of 135 organizer studies, including 70 doctoral dissertations, illustrates the amount of work that has been devoted to the study of advance organizers over the last two decades. One reasonably influential review article (Barnes and Clawson, 1975) arrives at a largely negative assessment of the facilitative value of advance organizers. The authors claim that "no clear patterns emerged regarding the facilitative effects of advance organizers" (p.651), concluding that:

> "The efficacy of advance organizers has not been established. ... We must conclude from this review that advance organizers, as presently constructed, generally do not facilitate learning."
>
> (ibid. p.651)

However, the limited sample of studies (35) analyzed in this article and the alleged partiality of their examination have been criticized on a number of occasions (Lawton and Wanska, 1977; Ausubel, 1978; Luiten et al., 1980). The last of these articles contains the most comprehensive review of advance organizers in the literature, and arrives at largely positive conclusions as to their facilitative effects, concluding that:

> "The average organizer study shows a small but facilitative effect on learning and retention. ... Moreover, the findings indicate that advance organizers facilitate learning in all content areas examined, albeit broadly defined, and with individuals of all grades and ability levels."
>
> (p.217)

Hartley and Davies (1976), in an article reviewing work on preinstructional strategies in general, also arrive at basically positive conclusions as to the potential value of advance organizers. They do, however, recommend that organizers be reserved for

> "...situations requiring some sort of conceptual framework that students can subsequently use to help clarify the task ahead. The subject matter should possess a dominant structure that can be readily integrated with the existing knowledge already possessed by the students." (p.259)

Thus, while disagreement does exist with respect to certain aspects of the construction and use of advance organizers, the result of twenty years of experimentation is a globally positive one. It would appear that, when sufficient attention is given to both learner and learning material characteristics in their construction, advance organizers can provide significant assistance in the assimilation of content subject materials.

C. Advance organizers and reading comprehension

The discussion of advance organizers so far in this chapter has been concerned with the learning of content subject materials, as already stated. While this does involve the reading of texts the emphasis has been on the learning and retention of the relevant subject material and not on the process of reading itself. Relatively little work has been carried out in a language or reading skills context, and what has been done has been in the L1. The aim of the present section will therefore be to illustrate the relevance of the use of advance organizers to the development of reading skills, how they are posited to function and what improvements they are expected to effect in learners' reading behaviour. This will be done via an analysis of the limited number of L1 studies in existence and then of their implications with respect to reading in an L2.

i. L1 studies

A very considerable body of research exists concerning the use of adjunct questions as aids to more effective reading. To give

even the most general trends in this area would take up more space than is warranted in this context, the reader being referred to the article by Anderson and Biddle, in Bower, 1975, for a review. The present writer was able to locate only two studies which unequivocably focus on the use of advance organizers in a reading skills development context. These were the studies conducted by Rickards (1976) and by Van Blaricom (1979). Rickards and Di Vesta (1974) and Rickards and Hatcher (1978) had conducted experiments which, though not using advance organizers, had lent considerable support to Ausubel's theory of learning and, thereby, to the theoretical bases of advance organizer use. Nothing further will be said of these studies, however, as their relevance in the current context is only secondary.

Reference was made to Rickards' 1976 study in Chapter I (p.18) and details given then will not be repeated here. Rickards gave subjects an 800 word text to read split up into sixteen paragraphs, each being accompanied, depending on the experimental condition, by an advance organizer or another reading adjunct. The advance organizer condition produced significantly greater recall of superordinate concepts, related facts and unrelated concepts than any of the other three experimental conditions. The author argues from this observation that advance organizers had effected a subsumptive process with respect to the related paragraph information. The other process which Rickards identifies is "abstraction of superordinate concepts from material topically unrelated to the advance organizers."(p.617) This is evidenced by the fact that only the advance organizer group produced significantly more recall than the control group of concepts derivable from paragraphs which dealt with passage topics other

than those contained in the organizers themselves. Thus it would appear that the presence of advance organizers for related paragraphs established a mental set in subjects which encouraged them to abstract superordinate concepts from paragraphs for which no superordinate context was given.

These observations clearly lend substantial support to Ausubel's theory of meaningful learning. Rickards refers to a number of studies of L1 reading behaviour (Wiener and Cromer, 1967; Cromer, 1970; Steiner, Wiener and Cromer, 1971 - all referred to in Chapter I) which point to the existence of "difference" poor readers, whose reading problems stem primarily from an inability to organize their reading into appropriate semantic units. Rickards maintains that his findings offer indications of a means of inculcating a more semantically oriented array of reading strategies:

> "...it would seem fruitful to study the use of interspersed advance organizers or high level questions as aids for such poor readers in the comprehension of reading material. ...Perhaps, through repeated exposure to these semantic cues or advance organizers, more viable organizational strategies could be developed in 'difference poor readers', which would then persist beyond the remedial instruction to new reading situations."
>
> (1976, pp.620-621)

Van Blaricom (1979) refers to the work of Ausubel and also to L1 reading studies such as that of Oaken, Wiener and Cromer (1971). The theoretical background and orientations of this study are thus very close to those of Rickards. Van Blaricom used a "passage organizer", defined as "an explicitly stated main idea statement or a topic sentence" (p.64), in an investigation of subjects' ability to identify the main idea of paragraphs. The results varied with the subject groups analyzed (third and fourth grade

pupils). Third grade pupils, who were all good readers for their grade level, derived no significant benefit from the organizer. Fourth grade pupils, a mixed group, did however derive significant benefit from the organizer. The author suggests that this result may be due to the following factors:

> "1. good readers impose some organizational structure on passages as they read, thus having little need of advanced or explicitly stated passage organizers;
> 2. poor readers, on the other hand, tend not to organize material independently, so tools or aids for organizing passage content seem to enhance their comprehension."
> (p.71)

However, as reading ability level was not fully monitored prior to the experiment, Van Blaricom limits herself to suggesting this as a possible explanation, proposing that

> "The role of a paragraph organizer in organizing materials for poor readers should be investigated."
> (p.72)

Indeed, in view of the youth of the subjects and the brevity of the reading texts involved (20 texts averaging 50-60 words each), the implications of this experiment need to be treated with some caution. Nonetheless, the results do point in the same direction as Rickards' (op.cit.) and coincide to a large degree with the hypothesized functioning of advance organizers as emerges from previous studies (e.g. Ausubel and Fitzgerald, 1962).

Despite the very limited number of studies investigating the use of advance organizers as reading adjuncts, there are solid indications that they may serve to improve the way in which certain categories of readers process text. Those most likely to benefit from their use are readers who have difficulty in organizing their reading semantically, i.e. the difference type

of poor reader identified in Chapter I. By providing such readers with a high level context or framework within which text details may be meaningfully organized, advance organizers seem able to help these readers to alter their habitually word-centred and non-discriminating type of text attack strategy. They would, therefore, seem to aid and encourage certain categories of poor readers to shift from a serial, bottom-up type of text processing to a more contextually sensitive and interactive approach to reading.

ii. Implications for L2 reading instruction

The fact that many ESL and most EAP reading courses which have appeared in recent years contain some sort of "pre-reading activities" indicates an awareness among materials writers that the mental set with which an L2 learner approaches a text has an influence on the way in which he will read that text. This implies a recognition, albeit an implicit one, of the importance of a process-oriented approach to reading in an L2. In terms of data based research, however, there is a singular lack of work designed to investigate how pre-reading activities do in reality affect the way in which learners process text. Since it is only in the last five years or so that data based investigations of L2 reading using an explicitly psycholinguistically based and process oriented approach have begun to appear in the literature, the absence of manipulative L2 reading studies is not wholly surprising. The writer is unaware of any study having attempted to examine the functioning of advance organizers as adjuncts to L2 reading. Both West (1941) and Bismoko and Nation (1974) make reference to the use of "before questions", observing that they can aid L2 learners, especially those with lower L2 competence, to structure

their reading in more meaningful terms. Given the limited scope of these references, however, it would be unwise to attempt to draw too many implications from them.

A number of very recent schema theory based L2 studies (Johnson, 1981 and 1982; Perkins, 1983 - all referred to in Chapter II) do, however, lend substantial, albeit indirect, support to the current research. These studies all indicate that the mental schemata or patterns in cognitive structure which an L2 learner brings with him to his reading of texts have a considerable influence on the learner's ability to process these texts. A high level of conceptual readiness for a given text appears to allow a learner to gain access to a level of language his L2 competence alone would not allow and, furthermore, aids him to adopt a more semantically-oriented, interactive set of reading strategies. A logical progression from such studies was to consciously control learners' level of conceptual readiness for texts and this was, in fact, attempted by Hudson (1982). He attempted to provide schemata for reading texts via three techniques: presentation of text-related pictures plus group discussion; presentation of potentially difficult vocabulary from the text plus provision of definitions in group discussion; pre-reading of the text and questions prior to subjects' test reading and question answering. Regrettably, no control group was used. The results indicated that provision of externally induced schemata positively influenced subjects' text processing and comprehension. Interestingly, lower level subjects benefited more from the first two techniques while advanced subjects benefited most from the third, indicating that more advanced L2

learners are better able to generate and match schemata to texts autonomously. Lower level learners, on the other hand, are more dependent on externally induced schemata, apparently finding it difficult to generate schemata unaided in the L2. This study is the only one which, to the writer's knowledge, attempts to study the way in which externally provided pre-reading techniques can influence the reading behaviour of L2 learners. The current research project represents an attempt to move a step further in this direction via an examination of the way in which advance organizers may influence the reading behaviour of L2 learners. Details of the experimental proposals will be given in the following section. However, a brief overview will now be provided to illustrate the general trends of the proposed research in the light of the analysis of L2 reading behaviour and advance organizer usage contained in this and the previous chapter.

Chapter II revealed that the reading behaviour of L2 learners tends to be characterized by a type of reading strategy typical of certain categories of poor L1 reader. In general terms, this involves an emphasis on word-by-word, serial decoding and a failure to use higher level semantic and discourse constraints as cues to the organization and direction of lower level text processing. In other words, L2 learners, even if they are proficient readers in their L1, tend to adopt a largely bottom-up approach to reading instead of the interactive approach which Chapter I revealed to be the most efficient and productive type of global reading strategy. A number of influential writers such as Clarke and Cziko maintain that this situation is an almost inevitable consequence of L2 learners' limited language proficiency i.e. the language competence ceiling/short circuit hypothesis.

It is the present writer's contention that, while limited language competence may indeed hinder successful reading strategy usage to some degree, it does not represent an absolute block to the use of good reading strategies in the L2. Advance organizers, by providing a high-level conceptual context for a text, appear to alter the way in which learners process that text. It appears that they aid learners, especially those who habitually experience difficulty in organizing their reading in meaningful units, to chunk their reading semantically. The presence of the high-level, inclusive context provided by the advance organizer thus creates a link between learners' prior experience and knowledge, on the one hand, and the specifics of the reading/learning task, on the other hand, which enables learners to approach the text in a more contextually sensitive manner. Since the reading behaviour of L2 learners is, in general, marked by a failure to make this meaningful link between prior knowledge and target reading materials, it is posited that the use of advance organizers as adjuncts to L2 reading materials may aid learners to approach their reading of texts in the L2 in a more semantically oriented manner and, thereby, to improve their comprehension. In the short term this would result in greater text comprehension and, in the long term, by encouraging learners to view L2 reading as a process of meaning derivation in which their prior knowledge and experience have a significant role to play, would possibly allow learners to feel confident to read more extensively and actively in the L2. The use of advance organizers in an L2 reading context may thus be seen as having both immediate and generalized results, though only the former will be investigated in the current research project.

These, then, are the general orientations of the current research into the reading behaviour of L2 learners. The specifics of the research proposals will be given in the following section.

D. Experimental proposals

The purpose of this section is to provide a clear overview of the aims of the current research. This will involve a description of the type of test format employed, the posited functioning of the experimental variable and the means by which subjects' responses are monitored and interpreted. This will be done in general terms, so as to allow the reader to obtain a clear overview of the aims and methodology of the research. The rationale for, and details of test construction, marking scheme, subjects, test administration and data analysis will be provided in the following chapter. Sub-section i. of the present section will outline the orientation of the research as stated above and sub-section ii. will present the experimental hypotheses which will be investigated.

i. Aims of experimentation

It is hypothesized that placing an advance organizer prior to a reading text in the L2 will improve subjects' comprehension of that text in accordance with the posited functioning of advance organizers as outlined previously. The experimental format chosen is that of a cloze test and evidence for the facilitative effect of the experimental variable (the advance organizer) will be derived from an analysis of subjects' cloze test responses.

The main framework within which subjects' cloze responses will be analyzed is that provided by Cziko (1978), who identifies three main sources of information available to learners in their reading

of any given text: syntactic, semantic and discourse constraints (definition provided in Chapter II, pp. 51-52). Thus, subjects' cloze responses will be analyzed, via appropriate scoring systems (cf. Chapter IV, pp.102-105),to give evidence of the way in which the presence of the advance organizer has affected subjects' ability to manipulate these three levels of contextual information. While the experimental variable is predicted to effect a generalized improvement in subjects' text comprehension as monitored by the cloze procedure, facilitation is predicted to be greatest on subjects' ability to manipulate the semantic and discourse constraints of the text, as monitored by the scoring systems designed to provide data on these aspects of subjects' text comprehension. It is therefore proposed that the presence of an advance organizer will not only effect an overall improvement in subjects' text comprehension, but also that this improvement will be greatest in subjects' use of the semantic and discourse constraints of the text used.

The justification for these proposals arises from the foregoing discussion as a whole, though in particular from Chapters II and III. It will be very briefly reiterated at this point for the sake of clarity and to facilitate subsequent reference.

The reading behaviour of L2 learners tends to be characterized by a reliance on low-level, word-by-word text processing and a failure to make appropriate use of higher-level text information in terms of local and, especially, passage-level semantic constraints. Advance organizers, by providing a high level interpretative context for reading texts, encourage learners to establish a meaningful link between their prior knowledge and

expectancy and the specifics of the reading task at hand. This aids them to adopt a more semantically oriented approach to text processing, whereby they are better able to take advantage of the semantic and discourse constraints present in the text and thereby read in a more efficient and meaningful manner. It is currently proposed to investigate whether the presence of an advance organizer given prior to a reading text in the L2 will effect this type of alteration in the reading behaviour of a specific group of L2 learners, inducing them to adopt a more efficient and more semantically oriented set of reading strategies.

ii. Experimental hypotheses

Hypothesis I

The use of an advance organizer with an L2 reading passage will produce an improvement in subjects' comprehension of this passage relative to that of subjects not receiving the advance organizer.

The results will be interpreted as confirming this hypothesis if the cloze scores of the experimental group are superior to those of the control group, either in terms of a statistically significant difference emerging between the experimental and control groups or in terms of a non-significant but consistent trend for experimental group scores to be superior to those of the control group.

Hypothesis II

The use of an advance organizer with an L2 reading passage will produce principally semantic facilitation, in particular, on items sensitive to passage-level semantic constraints (i.e. discourse constraints).

The results will be taken as confirming this hypothesis if the scoring systems designed to monitor the semantic and discourse elements in subjects' cloze responses show a greater difference in the predicted direction between experimental and control group performance than do the scoring systems designed to monitor the syntactic elements in subjects' cloze responses. This will be assessed in terms of magnitude of experimental-control group T-ratios on each scoring system.

IV METHODOLOGY, SUBJECTS, TESTING AND ANALYSIS

A. Choice of elicitation technique

i. Aims

Two levels of problem arose in the choice of an appropriate elicitation technique. Firstly, there is the observers' paradox common to any study of reading:

> "There is a sense in which it is impossible to investigate reading comprehension, in that (as in subatomic physics) an uncertainty principle operates, and simply by attempting to observe the reader's response we are bound in some way to affect that response."
>
> (Harrison and Dolan, 1979, p.13)

Secondly, there is the problem specific to the current research. The purpose of this research is to assess the way in which the presence of an advance organizer accompanying a text in the L2 will affect subjects' reading strategy usage, the latter being defined as the relative use they make of the syntactic, semantic and discourse constraints of a text. Thus, the elicitation technique selected had to possess the ability to yield detailed information on these aspects of subjects' reading behaviour with a minimum of disruption and in a manner which would allow reasonable inferences to be made from the experimental results to a normal reading situation.

ii. Options

As already mentioned, the cloze procedure was selected as the elicitation technique to be used in the current research. The arguments for and against the use of the cloze procedure will be given shortly. However, it is felt that this debate will be more meaningful if it is seen within the wider context of the options available in terms of the types of elicitation technique used in reading strategy oriented research.

1. Protocol analysis

This technique has subjects "think aloud" or give a stage-by-stage verbal account of (what they feel to be) the way in which they are reading a text as they progress through it. This technique was used by Hosenfeld (1977). While it does provide a great deal of detailed data, protocol analysis has a number of distinct disadvantages. Subjects' reading is very interrupted and tends to become serial, subjects adopting a word-by-word or clause-by-clause type of strategy. In other words, the technique itself constrains subjects' reading heavily in certain directions. Furthermore, data is very dependent on subjects' verbal skills and introspection. It is also "expensive" in subject time and mitigates against the use of large subject numbers, something necessary if educationally significant conclusions are to be reached, albeit for the subject population involved.

2. Oral reading miscue analysis

It is unclear how far subjects' silent reading behaviour can be inferred from their oral reading behaviour. There are also indications (cf. Clarke, 1979, p.135) that this technique tends to constrain all subjects' reading behaviour in similar ways. It is also expensive in subject time.

3. Timed reading

This technique was used by Cziko (1978) with normal, anomalous and random texts to test subjects' sensitivity to different types of contextual information. While Cziko's study is a valuable one, the use of such a manipulative technique is not feasible in a context such as the present one when it is hoped to make meaningful inferences about subjects'

normal reading behaviour.

4. Reading passage + m/c or True/False questions

On the face of it, this would be an ideal format. Subjects are required to read an unmutilated text in their own time in order to derive certain facts or items of information, which, in general terms, is what normal reading entails. In practice, however, this elicitation technique has serious shortcomings in the current context. These fall into two main categories. Firstly, reading a text to answer questions may well elicit a type of strategy usage unrepresentative of normal reading e.g. by subjects flicking back and forth from question to text. More significantly, however, one faces the problem of inferring subjects' reading strategy usage from their m/c or True/False responses. Munby (1979, pp.147-153) provides a useful example of how the m/c test format may be used to identify error types and text comprehension difficulties. However, this is not adequate to yield the level of detail on subjects' use of syntactic, semantic and discourse constraints required in the present research. The second main shortcoming of the passage + question format relates to the current experimental variable, the advance organizer. Berkoff (1979) makes the following comment:

> "One of the weaknesses of reading tests with multiple-choice questions is that the questions impose an organization on the reader, so that he is prevented from doing what the normal reader is doing in his own way as he reads and after he reads."
>
> (p.99)

The presence of questions inevitably shapes a reader's perception of a text and since one of the main aims of the current research is to assess how far and in which way an

advance organizer can alter the way in which L2 learners perceive and organize their text processing, the presence of questions would introduce an additional and potentially troublesome variable.

5. Recall

In this technique subjects would be asked either to recall what they remembered of the passage or would be given questions only when the passage had been removed. This technique shares with the passage + questions format the lack of detail. One might be able to infer that a given segment had been misunderstood, but it would be very difficult to assess which strategies the subject had employed at that stage of his reading. Furthermore, while the processing and retention of text information are related factors, they are not necessarily synonymous. Recall tends to shift the emphasis somewhat to the latter, whereas it is the former which is of interest currently.

iii. Reasons for use of the cloze procedure

In view of the impossibility of gaining direct access to the mental processes by which a reader comprehends text, any elicitation technique used to investigate reading behaviour will have a number of limitations. The cloze procedure is no exception to this general rule and, in the context of the current research, it has three main weaknesses. Firstly, subjects are asked to process a text of which a given proportion of the words (one-fifth or whatever deletion ratio is chosen) has been omitted. A cloze passage cannot thus be said to be a normal passage of prose. Secondly, it may be questioned whether the process of blank completion produces results representative of normal reading.

Thirdly, blank completion requires subjects to make active use of the language. A cloze test can thereby become a test of L2 competence in general and not merely of reading and comprehension skills which, as has previously emerged, are not synonymous with one another.

Apart from the fact that counter-arguments may be proposed for certain of the disadvantages just mentioned, the cloze procedure does offer a number of distinct advantages in the current context. Firstly, although a cloze passage is not a normal text, it presents the distinct advantage that the text <u>is</u> the test, subjects' responses not being mediated by comprehension questions or their personal interpretation of how they process the text. Secondly, while the random deletion of words produces an effect which differs from that present when a learner is unfamiliar with certain words as a result of limited language competence, the process of inferring the meaning of missing words is not dissimilar to that by which learners infer the meaning of unknown words. Thirdly, allowing subjects to give responses in their L1 lessens the criticism that the cloze procedure is a test of L2 competence rather than comprehension ability. This entails the construction of appropriate scoring systems and this aspect will be discussed in section B below. Furthermore, the cloze procedure provides a considerable amount of very detailed information on the way in which subjects process text at frequent and regular intervals. This fact, in combination with the appropriate scoring systems, makes it possible to arrive at a detailed assessment of subjects' use of the syntactic, semantic and discourse constraints present in the text, which is precisely what is currently required.

There is some disagreement as to the extent to which cloze items are sensitive to discourse or passage-level constraints. Alderson (1979) maintains they are sensitive only to local constraints while Chihara et al. (1977) take a contrary view. The answer seems to be that, in passages of reasonable length dealing with a topic of some complexity, at least a certain number of cloze items in a passage will indeed reflect or tap subjects' awareness of discourse constraints.

> "Because of the fact that cloze items are usually scattered over an entire text on some fixed or variable ratio method, cloze tests are generally tests of discourse level processing. Further, it has been shown that performance on cloze items is affected by the amount of text on either side of a blank up to at least fifty words. Apparently cloze items reflect overall comprehension of a text. Not every item is sensitive to long-range constraints, but enough items apparently are sensitive to such constraints to affect overall performance.
> It is difficult to imagine anyone filling in the blanks on a cloze test correctly without understanding the meaning of the text in the sense of mapping it onto extralinguistic content."
> (Oller, 1979, p.346)

It is thus reasonable to suppose that cloze tests based on passages of 300 words or more in length, as is the case in the current experimentation, will be able to yield information on subjects' use not only of the syntactic and semantic constraints of a text but also of the discourse constraints. The cloze procedure would thus appear to be an instrument capable of yielding the type of information required and of monitoring the effects of the advance organizer with minimal disruption. Steiner, Wiener and Cromer (1971) make the following observation about the ability of the cloze procedure to monitor the reading behaviour of better and poorer readers:

> "It seems as if the poor reader is forced to make a response in the Cloze procedure from a vastly greater word repertoire than for the good reader. On the other hand, the good reader is able to delimit the response possibilities, utilizing both syntactic cues (e.g. to provide a verb-class form instead of a noun-class form) and contextual cues (e.g. he knows that the story is about hunting, and so seems to limit his verb choice to that context)."
> (p.507)

The cloze procedure, therefore, together with appropriate scoring systems would appear a suitable instrument for testing the experimental hypotheses given at the end of the last chapter (pp.91-92).

iv. Modalities of cloze test construction

a. Word deletion

Two main options exist with respect to the deletion of words in cloze test construction.

1. Fixed-ratio method: This involves deleting every nth word on a pre-chosen frequency.
2. Variable-ratio method: This may also be referred to as rational deletion. The test writer, in this case, decides that a given category of word will be deleted and omits only words which fall into this category. The writer may, for example, wish to delete prepositions or cohesive devices, or he may decide to delete only content words or nouns.

A slightly modified version of the fixed-ratio method was adopted. Very occasionally a proper name or an acronym was was not included in the count assessing the nth deletion. This affects only a handful of items in all eight test passages used.

Initially, a variable-ratio deletion method focussing on

content words had been planned. This was due to the fact that experimental effect was expected to be greatest on meaning-bearing test items. Subsequently, it was decided that this approach would impose limits on the range of data gathered and thereby limit the possible implications which might be reliably drawn. Thus, as the current experimentation is exploratory in the area of the use of advance organizers in an L2 context, it was decided to adopt the unmarked method, the fixed-ratio method, as that which made no prior assumptions about result configuration. Data analysis subsequently indicated the wisdom of this decision.

b. Language used in responses

As mentioned in sub-section iii above, one possible criticism of the cloze procedure as a test of subjects' text comprehension is the fact that it requires productive use of the L2. Thus, a subject may be able to infer the syntactic class and semantic features of a given cloze item, but may have no idea of its L2 expression. This is a serious problem and would seriously undermine the ability of the cloze procedure to yield the type of information which is required in the current research. For this reason it was decided to allow subjects to supply responses in their L1. The subjects were urged to use this option only as a last resort and the results indicate that the vast majority of subjects did treat it in this light. This decision, it is felt, gave the writer access to a far greater and more instructive body of data than would have been possible had L2 responses alone been permitted.

B. Scoring systems

i. Aims

Since the research is concerned not only with assessing whether the experimental variable produces a global improvement in experimental group subjects' text comprehension but also with identifying the way in which it affects subjects' relative use of syntactic, semantic and discourse constraints, a scoring system was needed which would yield detailed information on these aspects of subjects' cloze test performance. This presents one set of requirements for the scoring system to be adopted. In addition to this, the decision to allow L1 responses, taken in order to gain closer access to subjects' comprehension in cases where this exceeded their productive abilities in the L2, requires the adoption of a scoring system capable of incorporating both L1 and L2 responses in a meaningful and intuitive manner.

The scoring system finally adopted was based on an analysis of those used in three separate studies, Oller (1972), Clarke (1979) and Alderson (1980). All three scoring procedures attempt, in various ways, to look beyond the subjects' actual responses and to use these responses as windows onto the way in which subjects apprehended the text and the strategies they employed in seeking to gain an understanding of it. Each of the three scoring procedures has its relative advantages. Alderson's is useful in categorizing grammatical factors and subjects' ability to manipulate syntactic constraints, but is weak on evaluation of degrees of proficiency in the use of semantic and discourse constraints. Clarke's format is more detailed overall, possibly unnecessarily so, but does not distinguish sufficiently well, for

the present purposes, between the use of semantic and discourse constraints. Oller's format gives good overall coverage to the different types of contextual information at subjects' disposal, but is somewhat lacking in detail and precision. Thus, while each of these three scoring procedures gives much more relevant information on subjects' use of contextual information than the Exact-Word method, none is wholly adequate to supply the range of information on subjects' reading strategies required in the current context, nor do they have the ability to cater for responses in the L1.

ii. Marking scheme

It was finally decided to adopt five scoring systems. Thus, each cloze test was marked five times, producing five separate scores. On each scoring system responses were either acceptable or unacceptable, no weighting being used. The scoring systems are as follows. The abbreviation given in brackets will be the way in which that scoring system will be referred to subsequently.

a. Exact Word (Exact): Only the originally deleted word was accepted. Correct spelling was required, though omission of accents was not penalized (the L2 is French) unless this led to semantic ambiguity (e.g. "ou" vs. "où"). Clearly, no L1 response could be accepted under this scoring system.

While the scores resulting from this system will be used together with those resulting from the other four systems in the analysis and interpretation, Exact was originally designed to serve as a measure of comparability between the present and other experimentation in virtue of its frequent use.

b. Syntactic Acceptability I (Syn I): Only responses which were fully syntactically acceptable in the sentence in which they occurred were accepted. Semantic considerations were not taken into account. Thus, if a response was fully syntactically acceptable it was accepted, no matter how implausible it may have been semantically. No L1 response could be considered acceptable.

This scoring system monitors subjects' ability to correctly identify all the syntactic features of the deleted word, e.g. number, gender, tense, and their ability to express this understanding in accordance with the syntactic rules of the L2.

c. Syntactic Acceptability II (Syn II): Responses which were of an acceptable form class were considered acceptable even if they were not fully correct syntactically. For example, if the deleted word was a finite verb, then any finite verb would be considered acceptable. If subjects supplied a word which was of a different form class from the deleted word, this was accepted providing the form class of the response produced a syntactically acceptable sequence. The criterion for assessing acceptability was the sentence in which the item occurred. Semantic considerations were not taken into account. L1 responses were considered on exactly the same footing as L2 responses.

This scoring system monitors a lower level of syntactic acceptability than Syn I. It was designed to monitor subjects' ability to perceive the general syntactic features of the deleted word even if a. they were unable to perceive all its

syntactic features, or, b. they were unable to express their perception in accordance with the syntactic rules of the L2. While a difference does exist between a. and b., it did not appear productive to attempt to distinguish between them.

d. Semantic Acceptability (Sem): Responses were taken as being correct if they were fully semantically acceptable within the context of the sentence in which they occurred. Syntactic considerations were not taken into account. Thus, if a response contained the appropriate semantic features it was accepted even if it was of an incorrect form class. L1 responses were considered on exactly the same footing as L2 responses.

While Syn I and Syn II monitor subjects' ability to manipulate the syntactic constraints of the text within the context of the sentence in which cloze items occur, Sem monitors their ability to manipulate local (sentence level) semantic constraints.

e. Discourse acceptability (Disc): Responses were taken as being correct if they were fully semantically acceptable within the text as a whole i.e. if they were fully consonant with the discourse constraints of the text. Syntactic considerations were taken into account only insofar as they reflected supra-sentential meaning relations: this largely affects cohesive devices, and failure to signal such relations correctly entailed a response being scored incorrect. In other respects syntactic considerations were not taken into account. L1 responses were considered on exactly the same footing as L2 responses.

This scoring system monitors the degree to which subjects were able to use passage-level semantic constraints to guide their identification of the semantic features of deleted words. The decision to include supra-sentential semantico-grammatical markers in this system was felt to be justified by the fact that these markers reflect subjects' ability to recognize meaning relations existing in the text at above sentence level, thereby reflecting their ability to view the text as a single semantic unit and not a composite of single sentences. Many items are dependent only on local constraints, and these items were marked correct in Disc according to the criteria adopted for Sem. However, a number of items in all texts could receive responses judged acceptable under Sem but unacceptable under Disc.

Notes:

1. To reiterate, Syn I, Syn II and Sem take the sentence in which the cloze item occurs as the context for assessing response acceptability. Disc takes the text as a whole.
2. Apart from Exact, the scoring systems used attempt to separate syntactic from semantic considerations in order to gain greater insight into subjects' use of syntactic, semantic and discourse constraints. In the majority of cases, the syntax-semantics distinction could, in practical terms, be made relatively easily. In certain cases, however, the decision was more difficult, though every effort was made to maintain consistency. Appendix II contains an illustration of how the scoring systems were applied. Examples are given from subjects' test papers and difficult cases are discussed.

3. Subjects were urged to use one word per blank. However, they were asked to attempt or to guess at all the blanks, even if they had to use more than one word. The acceptance of responses of more than one word is not customary in the cloze procedure. In the present experimentation, however, this was done for the same reason that L1 responses were accepted, namely to obtain a maximum of data on the subjects' comprehsnsion of the text in terms of their ability to infer at least some part of the syntactic and semantic features of deleted words. While responses of more than one word could not be accepted under Exact and Syn I, they were judged according to the same criteria as single word responses on Syn II, Sem and Disc. The use of multiple word responses was not a widespread phenomenon, but the decision to include such responses in the analysis was based on the desire to exclude as little data as possible on subjects' performance.

C. Subjects

i. L2

The subjects were all native speakers of English studying French in the Edinburgh and Glasgow areas. Three groups or levels of subjects were used.

1. 'O' Grade: These subjects were preparing to take the 'O' Grade examination in French at the end of the academic year 1981-82, during which the experimentation took place. They were 15-16 years of age and had been studying French for 3-4 years at secondary school.
2. Higher: These subjects were preparing to take the Higher examination in French at the end of the academic year 1981-82.

They were 16-17 years of age and had been studying French for 4-5 years at secondary school.

3. University: This group consisted of subjects who were in their first year of university, studying French, and also of subjects who were in the second year of 'A' Level preparation. All subjects had completed Higher French. The mixing of subjects who were in their first year of University study with those still at school is the result of a difference between the entry requirements of English and Welsh universities on the one hand and Scottish universities on the other hand. While a range of abilities does exist within the group as a whole, they may be considered homogenous. "Post-Higher" would be a more accurate term to describe this group. These subjects had, in general, been studying French for 6-7 years at secondary school.

It may be observed that the teaching of French in the UK is generally referred to as foreign- and not second-language teaching. While a difference may well exist between the learning situations referred to by those two terms, with respect to a learner's ability and aptitude to read a text at a given difficulty level relative to his competence in the TL, the distinction does not appear a significant one. Therefore the term L2 will continue to be used here, even if the FL-L2 distinction may be a valid one in more global course design terms.

ii. Educational abilities

The three subject levels reflect the passage of learners from one eliminative stage of the educational system to another. Thus,

the mean intellectual abilities of the Higher subjects may safely be assumed to be greater than those of the 'O' Grade subjects. Similar comments apply to University over Higher subjects. This means that the three subject levels are separated from one another by more than merely one academic year's instruction in the L2. This factor will play a significant role in the subsequent interpretation.

D. Test Construction

i. Passage selection

a. Initial selection

Two texts were used at each of the three proficiency levels. This was done to avoid the risk of results being too passage-specific. Subsequent data analysis revealed the wisdom of this decision. A number of constraints on text type arose from the nature of the experimental variable. Advance organizers are suitable for use only with texts which have a reasonably solid logical and propositional content. Narrative and descriptive texts do not lend themselves to use with advance organizers. Consequently, informative texts needed to be used. Passages were designed to be pitched at a level of difficulty similar to that of passages used in subjects' end of year examinations and in their classroom teaching. This comment applies to initial testing (cf. section G below), the idea being to use passages which were "unmarked" in terms of difficulty level at the initial stage of the investigation. Similar comments apply to passage content.

b. Final selection

On the basis of the above criteria, the writer composed or adapted five passages at each level. Criteria of suitability were subjective, being based on scrutiny of end of year examinations and samples of subjects' class texts. These five texts were submitted to the class teachers whose students were to be involved in the study. The aims of the research were explained and they were asked to assess which texts were most suitable in terms of difficulty level and topic accessibility. Final selection was based on a consensus of teachers' assessments. Deletion ratio was also determined in this way (6th in three initial testing passages; 5th in the remaining three initial testing passages and in the two new retest passages). Teacher judgement was also used to aid in assessing subjects' conceptual readiness for the passages.

All tests were given a time allocation of 40 minutes. This was generous, but was designed to allow scope for a variety of text attack strategies on subjects' behalf. While the use of the same texts at all three levels would have provided useful comparative data, the L2 proficiency range (not to mention intellectual ability) was so great between poorer 'O' Grade subjects and better University subjects that this approach was not feasible.

ii. Organizer construction plus worked example.

The advance organizer which preceded the passage given to the experimental group was constructed according to the criteria outlined in Chapter III (pp.69-73). For reasons of subject availability pretests assessing in detail subjects' level of text

related knowledge could not be given. Subjects' familiarity with the passage content was assessed by consultation with their class teachers. As this provided only general guidelines, expository rather than comparative organizers were used.

The level of abstraction of language used in the advance organizers varied between levels, being simpler at 'O' Grade than at Higher and most abstract at University level. In part this reflects the innate complexity of the passages used, but primarily is a reflection of the subjects' different levels of intellectual sophistication. Such an approach is consistent with the theoretical foundations of advance organizer usage.

The organizers were written in English, the subjects' L1. This was decided upon since, had the organizer been written in the L2, comprehending the organizer itself would have become a test of subjects' L2 proficiency, risking null results which might merely indicate that subjects had failed to understand the organizer itself. This was all the more relevant in view of the fact that the language used in the organizer was denser and more abstract than that used in the passage itself. Experimental group versions of the tests are contained in Appendix I.

While the general criteria governing advance organizer construction given in pp.69-73 may be relatively clear in theoretical terms, the construction of organizers for a given teaching situation is often a complex process. In the following pages an attempt will be made to provide the reader with a number of practical guidelines to the construction of organizers, this being accompanied by an argued discussion of the considerations underlying the construction of one of the organizers used in the present experimentation.

Two factors distinguish organizers from other types of preinstructional strategy. Firstly, the organizer should be pitched at a higher level of abstraction and generality than the target text material. Secondly, the organizer should make reference to the users' level of conceptual readiness relative to the content of the target materials. These factors are designed to encourage users to adopt an appropriate processing strategy in their text processing via the activation of the relevant subsuming concepts, rather than simply giving them a run through of the target materials. Consequently, in addition to an analysis of the content structure of the target materials, the organizer writer must undertake an assessment of the users' conceptual readiness for these materials and of their level of intellectual sophistication. In terms of conceptual readiness the organizer writer has to evaluate both general familiarity with the text topic and possession of the relevant subsuming concepts.

Thus, if the target text deals with an unfamiliar topic, for instance marriage customs in a culture unknown to the users, the organizer needs to be pitched at a higher level of generality relative to the text specifics in order to provide general interpretative categories which would allow the users to fit the text specifics into their cognitive structure in at least approximative terms. This might involve reference to marriage customs in the users' own culture (a comparative organizer) or might focus on certain general traits of the unknown culture or even on general intercultural differences (an expository organizer). If, on the other hand, the text deals with a familiar topic, for instance the topic mentioned above but read by anthropologists, then the organizer would be less far removed

from the text and would invoke subsuming concepts directly relevant to the cultural phenomena discussed and solidly possessed by the users. In terms of users' intellectual sophistication, the writer has to assess the degree of abstraction with which users can reasonably cope. Thus separate organizers might need to be constructed on the same text for two user groups if one group had a substantially higher level of intellectual and verbal sophistication than the other, other factors being held constant.

While these guidelines may cast some further light on the criteria governing the construction of organizers, they can best be understood when applied to the construction of an organizer for a specific group of users on a specific text. Text U1 (Appendix I pp.13-14) appeared suitable for this purpose, though any of the other texts could equally well have been used. The discussion of the criteria underlying the construction of the organizer for this text will have two main stages. Firstly, the organizer will be contrasted with an overview for the same text. Secondly, a rationale will be given for the way in which user characteristics influenced organizer construction.

Of the preinstructional strategies reviewed on pp.61-66 it is overviews that, in their external form at least, may most closely resemble organizers. This is not surprising in that both organizers and overviews are constructed on the basis of the target text, overviews wholly and organizers partly so. Provision of an overview for U1 will help to illustrate the differences between the two.

> Since 1945 the regional press in France has grown substantially, often at the expense of the national press. This is because the former provides more extensive coverage of local events and has a broader political appeal than the latter. However, this development has caused the partial or total disappearance of numerous local papers with only a limited readership and the appearance of regional papers geared to larger areas, albeit with several local editions.

The overview given above reflects the propositional content of the text in a more direct manner than does the organizer. It is derived from the text by a process of simplification or omission of detail and can thus be constructed in abstraction from the user population. The organizer stands in a more abstract relation to the text. For example, the organizer contains no reference to the details of text parag.1. Furthermore, while each of the three sentences of which the organizer consists is relatable to text content, this relationship is less direct than those of the overview. The organizer deals with the concepts of "popularity of regional papers", "breadth of readership" and "commercial efficiency" and not the specific details found either in the text itself or in the overview. This reflects the aim of the organizer to be pitched at a higher level of abstraction and generality than the text itself so as to create in users' minds a link between the general concepts mentioned in the last sentence and the text specifics via what Mayer (quoted on p.71) refers to as availability and activation. Thus while a link does exist between the organizer and the text specifics it is less direct than is the case with the overview, the text specifics being instances of the general concepts contained in the organizer.

It is in this way that an organizer is posited to provide a more indirect type of text foregrounding than an overview by presenting users with general concepts which can serve as global interpretative categories for text specifics, via activation of the appropriate subsumptive text processing strategies.

Other than the relatively abstract level of text foregrounding they provide, the main characteristic of organizers is that their construction makes reference to the users' presumed cognitive structure as this pertains to the target materials. As mentioned at the opening of the present sub-section, this could be assessed in the current experimentation only in general terms and not via pretests as would have been desirable. With respect to the content of U1 it was assumed, on the basis of teacher consultation, that the users would possess subsuming concepts relevant to the national-local press distinction, to the motivational factors in choice of newspaper and to the economic problems facing local papers. The organizer was therefore constructed on the assumption that these concepts were present in users' cognitive structure with sufficient solidity to allow the users to integrate text specifics into these general concepts in a meaningful manner. Had pretesting been possible and had the user population been homogeneous in origin (users were both Scottish and English) it might have been feasible to construct a comparative organizer making reference to national papers in the UK and to familiar local papers. Equally, had the users been students of journalism, the form of the organizer might have been altered, making reference, for instance, to wider ranging trends in newspaper readership. Had, again, the users been from

a cultural background in which the national-local press distinction did not prevail, the organizer would have to have been more general, not being able to assume the presence in users' cognitive structure of the concepts mentioned above. A similar situation might have arisen had U1 been given to 'O' Grade pupils. Assessment of the suitability of the level of abstraction used in the organizer language itself was inevitably subjective. However, had the users been 'O' Grade pupils the level of abstraction would almost certainly have been lowered to accommodate a lower level of intellectual and verbal sophistication.

E. Background information

i. L2 proficiency

A measure of subjects' L2 proficiency was obviously desirable, among other things to assess the degree to which organizer effect correlated with L2 proficiency. Ideally a single measure was hoped for so that all subjects could be placed along a single score spectrum. This was not, however, possible, for two reasons. Firstly, it would be extremely difficult to devise a test capable of discriminating meaningfully over such a wide range of L2 learners as those represented by the total subject population employed in the experimentation. Secondly, those tests which did have a reasonably wide range of discrimination were 2-3 hours in length. This amount of subject time was quite impossible to obtain in addition to that required for the two cloze tests.

It was, however, possible to obtain L2 proficiency scores which are intercomparable within each level. These were either standard examination grades in 'O' Grade, Higher, 'S' Level or

'A' Level examinations, or, in the case of 'O' Grade subjects, mock-'O' Grade scores. While such scores exist for most subjects, gaps do exist when this information was not forthcoming from class teachers.

ii. L1 proficiency

It was also felt useful to obtain some measure of subjects' L1 proficiency. Subject availability severely limited the means of obtaining such information. The Mill Hill Vocabulary Scale was chosen and administered to virtually all subjects. The Mill Hill test is a test of verbal ability in English which uses synonym selection and production. It has the advantages of being brief (10 minutes were allowed for the test) and has been shown to be a sturdy and reliable predictor of verbal ability which correlates at .6 or higher with virtually all other commonly used tests of verbal ability. The reader is referred to Raven, Court and Raven (1977) for a thorough description of the construction and reliability of the test. Subjects' scores on the Mill Hill test will be used as the measure of their L1 proficiency. Appendix III contains a copy of the Mill Hill test.

F. Administration of tests

i. Subject selection

At 'O' Grade and Higher, subject groups were complete class groups obtained via the cooperation of their class teacher. Prior selection of schools had been designed to give a wide spread of socio-economic backgrounds. Similarly, consultation with class teachers had made it possible to gain a wide spectrum of subject ability within each of these subject levels. Subjects at these levels, then, had no choice as to their participation in the testing. Testing was conducted in normal class hours.

At University level the situation was more complex. Three categories exist:

1. volunteers (unpaid) - a small minority;
2. volunteers (paid);
3. class groups (as at 'O' Grade and Higher).

The first two categories were exclusively first year undergraduates. The third category were in the second year of their 'A' Level study in private schools in the Edinburgh area.

ii. Test distribution

Testing involved single groups numbering between 10 and 30 subjects. The experimental group version of the test (i.e. plus organizer) was given to half of each group and the control group version (in all ways idential to the experimental version minus the advance organizer) to the other half of the group. Distribution was random. When subjects received the second cloze test (invariably on another day) the groups were reversed, the initial control group receiving the experimental version of the second test and vice versa.

In the initial testing the same subjects generally received both tests as outlined above. When, for reasons of subject availability, different subjects took the second test, distribution was random. The same applies to retesting.

iii. Instructions

The instructions given on the test cover sheet (cf. Appendix I) were briefly reiterated orally prior to test administration by the writer, who conducted all testing personally. Subjects were not given any further information on how organizers were supposed to work or what assistance subjects might be expected to derive from them.

G. Initial testing and retesting

i. Interim interpretation

Initial testing involved giving two tests to each level of subjects according to the criteria of test construction outlined in section D above (pp 108-110). Scrutiny of the results obtained from this round of testing indicated a positive relationship between organizer effect and test difficulty level. It was therefore decided to conduct a second round of testing increasing the difficulty level of the tests relative to subjects' L2 proficiency level.

In order to achieve this aim and to provide comparative data on how subjects of different L2 proficiency levels performed on the same test, subjects at each of the three main subject levels were given the two tests originally given to subjects at the next higher level, e.g. 'O' Grade subjects received the two tests originally given to Higher subjects. This entailed two new tests being composed for University subjects. Nothing in the tests was changed between their use as initial tests or as retests.

Tests will subsequently be referred to by means of a combination of letters and numbers. For example, 01 refers to 'O' Grade test number one and U2 refers to University test number two. When a test is used as a retest its name is followed by (R). Thus H1(R) is Higher test number one used as a retest with 'O' Grade subjects. The two new University tests composed for the second round of testing are referred to as RU1 and RU2. The distribution of tests as used in the two rounds of testing is as follows:

Subjects	Initial testing	Retesting
'O' Grade:	01, 02	H1, H2
Higher:	H1, H2	U1, U2
University:	U1, U2	RU1, RU2

ii. Scale of testing

The aim of the testing was to achieve educational significance. This entailed the use of reasonably large subject numbers so that any conclusions which might emerge could be considered to have some degree of reliability, albeit for the subject population involved.

Subject numbers are given below. University subjects are less numerous as a result of the extreme difficulty experienced in obtaining subjects at this level. Retest subject numbers are smaller than initial test numbers. This is partly a result of difficulties in obtaining larger numbers and partly because it seemed justifiable to use smaller subject numbers once certain basic trends had begun to emerge. Numbers in brackets following each test indicate the number of subjects taking that test.

	Initial testing	Retesting
'O' Grade:	01(94), 02(93)	H1(50), H2(56)
Higher:	H1(79), H2(88)	U1(42), U2(40)
University:	U1(60), U2(40)	RU1(47), RU2 (48)

The subsequent analysis is thus based on a total of 737 cloze tests:

'O' Grade - 293

Higher - 249

University - 195

H Analytical framework

i. Grouping of subjects

The main analytical categories are the three subject levels: 'O' Grade, Higher and University. However, it was felt that working with single groups per level (e.g. in 01 comparing the cloze performance of the 48 experimental group subjects with that of the 46 control group subjects) risked obscuring potentially interesting insights into organizer effect. Even prior to testing it was anticipated that subject ability level within each of the three main levels was likely to influence organizer effect, which did indeed turn out to be the case.

Thus, within each main level subjects were split into smaller groups. This, of course, refers to completed tests and had no influence on test administration. Subjects were grouped according to their L2 proficiency score and also according to their L1 proficiency score (cf. section E above). The two groupings were independent of one another. Large subject numbers (01, 02, H1, H2 initial testing) were split into Upper, Middle and Lower ability groups. Smaller subject numbers were split into Upper and Lower groups. Each group was homogeneous in terms of range of French proficiency (F.P.) or of Mill Hill (M.H.) score.

Subject numbers in experimental and control groups per ability level group, if not always exactly the same, were very similar. To clarify this arrangement an example will be given of how subjects were grouped for test 01.

01

F.P. Ordering			M.H. Ordering		
Score range	Experimental	Control	Score range	Experimental	Control
70-100%	Upper-16	17	31-66	Upper-15	13
50- 69%	Middle-18	14	24-30	Middle-14	14
0- 49%	Lower-14	15	0-23	Lower-15	16
	Total S's 48	46		Total S's 44	43

Mill Hill numbers are slightly smaller, a few subjects being absent when the test was administered.

More will be said subsequently of the reasons for and implications of this bi-partite analysis. For the moment it is sufficient to say that it is related to an analysis of how L2 specific and non-L2 specific factors interact with organizer effect.

ii. Statistics obtained

The following statistics were obtained using the SPSS computer program. The units used in the statistical analysis are those described in the previous sub-section.

1. Mean and standard deviation.
2. T-test: experimental-control groups.
3. T-test: Upper-Middle, Middle-Lower groups;
   or Upper-Lower groups (depending on subject numbers).
4. Kendalls Tau: F.P. score-cloze scores.
5. Kendalls Tau: M.H. score-cloze scores.
6. Kendalls Tau: F.P. score-M.H. score.

*7. Kendalls Tau: inter scoring system correlation.

*NB The purpose of this set of statistics is largely to monitor the reliability of the scoring systems used. Its implications will therefore be dealt with outside of the text itself, in Appendix VI.

iii. Content word analysis

It was stated in section A.iv.a. (p. 99) above that it had been anticipated that organizer effect would have been greatest on meaning-bearing text items, basically content words. Rational deletion focussing on content words was rejected. However, it was decided to single out content words for post hoc analysis.

Content words were identified according to the criteria outlined by Fries (1952). Cloze items conforming to these criteria were singled out and subjects' scores on these items were analyzed separately, in addition to their occurrence as part of subjects' overall score. Thus, each test has two scores, one for overall score (OS) and one for content word score (CWS), on each of the five scoring systems used.

iv. Overview of data for analysis

The decision to group subjects on the basis of L1 score as well as L2 score doubled the amount of analysis to be carried out. The decision to analyze both OS and CWS did the same. Combined with the use of five scoring systems, these decisions produced a considerable amount of data. Thus, the statistics given in sub-section ii. above were worked out for each of the following sets of input data.

1. F.P. ordering:

   a. overall score - Exact
                      Syn I
                      Syn II
                      Sem
                      Disc

   b. content word score - Exact, etc.

2. M.H. ordering:

   a. overall score - Exact, etc.

   b. content word score - Exact, etc.

This means that a total of ten scores were obtained for each cloze test completed:

OS: Exact, Syn I, Syn II, Sem, Disc

CWS: Exact, etc.

The interpretative use made of these four main sets of input data and the resulting statistics is outlined in sub-section I.ii. below.

I. Interpretation

i. Aims

Each of the decisions mentioned above, namely the analysis of M.H. as well as F.P. ordering, the isolation and separate analysis of CWS in addition to OS and the use of five scoring systems, was made in order to provide specific information on the effect of and the variables influencing subjects' use of the experimental variable. As will emerge in subsequent chapters, each decision made did add significantly to the writer's ability to investigate the two experimental hypotheses given on pp. 91-92 .

At the same time, with so much data there was a risk of the significant aspects of the interpretation being engulfed in detail.

A number of decisions therefore had to be made in order to give a meaningful orientation to the interpretation so that the details of the data could be made to serve the main purpose of the research and not obscure it.

ii. Primary and secondary data usage

The overview of data given at the end of the last section shows that it would be possible to arrive at four separate sets of conclusions, each being based on one of the four data formats. This would obviously be uneconomical. Furthermore, it could lead to a number of theoretically suspect inferences. While the decisions to group subjects on the basis of L1 proficiency score and to make a separate analysis of CWS have a valid theoretical basis, they do presuppose certain aspects of the results. Thus, according to these "marked" data formats the same interpretative weight as to a relatively "unmarked" data format would lend itself to the criticism that an interpretative context had been created which was biased to produce a certain type of result. It is therefore proposed that the interpretation will be built primarily around the least marked data format, i.e. that which makes the minimum of prior assumptions about the subsequent results.

The "unmarked" data format is taken to be F.P. ordering, overall score. In an L2 reading test, assuming that level of L2 proficiency will affect performance is relatively uncontroversial, unlike assuming that L1 proficiency has a role to play, which assumes a given stance in the transferability of reading skills debate (cf. Chapter II pp.23-32). Thus, grouping subjects according to L2 proficiency makes minimal presuppositions about

subject performance. Similarly, examining organizer effect on the full range of language items included in the cloze tests makes less assumptions about results and allows for a wider data input than examining content words alone. Therefore, the F.P. ordering, overall score data format emerges as that which is the least marked and which, as a result, will be used as the main basis for interpretation. The other data formats will also be employed, but will be subordinated to FPOS. Results on the other formats will be examined to indicate whether they indicate trends not present in the FPOS results and which appear to yield meaningful insights into the functioning of advance organizers in terms of the two experimental hypotheses.

iii. Staging of interpretation

Two experimental hypotheses exist, one predicting that the organizer will facilitate subjects' comprehension and the other that this facilitation will function principally with respect to discourse level semantic information. While these two hypotheses are clearly related, it is proposed that, in view of the complexity of the data and for the purposes of clarity, they will be discussed separately, initially at least. Chapters V and VI will discuss Hypothesis I and Chapter VII will discuss Hypothesis II.

iv. Initial tests and retests

Analysis of the initial testing results indicated certain trends linking organizer effect to difficulty level, as already mentioned, and retesting was designed to monitor this interaction more closely. However, in the interpretation as presented in the following chapters both rounds of testing will be discussed simultaneously. To treat them separately would be both counter-intuitive and uneconomical.

v. "Relative" difficulty level

For comparative purposes the mean Exact Word score of all control group subjects taking a test is used as a measure of text difficulty. All scores are expressed as percentages. In addition to this it is often useful to assess the subjective or relative difficulty level of a text for a given sub-group of subjects as identified in sub-section H.i. above. This is calculated as the mean Exact Word score of all control group subjects in the sub-group. Control group scores are used as experimental group scores contain possible organizer effect, which may be positive, negative or zero. This figure will assume a significant role in the interpretation.

vi. Interpretative categories

Interim interpretation revealed three main categories of factors as playing a significant role in determining level of organizer effect (Chapters V and VI). These were:

- difficulty level of task;
- subject ability level;
- text variable.

The interpretation, in the next two chapters at least, will be built around these three sets of factors. Initially (Chapter V), they will be examined within the framework provided by subject level (i.e. 'O' Grade, Higher and University). Subsequently (Chapter VI), however, the emphasis will shift to the text variable itself, this having assumed a much greater role in interpretation than had been foreseen at the outset. Thus, in Chapter VI the interpretation will be structured around text pairs (i.e. 01, 02; H1, H2; U1, U2; RU1, RU2). Since the texts in each text pair have a great deal in common in terms of approximate difficulty level and subjects taking them, joint

analysis facilitates the perception of the more subtle factors influencing organizer effect.

J. L1 testing

In addition to the main L2 testing, a certain amount of L1 testing was carried out. With obvious differences resulting from the use of texts in subjects' L1, the format was very much the same as that outlined so far for L2 testing. The rationale for, details and results of the L1 testing will be provided in Chapter VIII.

V LEVEL AND DISTRIBUTION OF ORGANIZER EFFECT : SUBJECT LEVEL BASED

A. Aims and approach

The aim of this and of the following chapter is to assess the degree to which the data confirm the first experimental hypothesis (p. 91), namely that the presence of an advance organizer will improve subjects' text comprehension as monitored by the cloze procedure. An appraisal of the first experimental hypothesis logically preceeds that of the second. The complexity of the results requires, however, that two chapters be devoted to an assessment of Hypothesis I. The present chapter will do this in terms of the most obvious interpretative category, subject level. The next chapter will examine the text variable. The present chapter will have three main sections, corresponding to the three subject levels involved, 'O' Grade, Higher and University. Each of these sections will, in turn, have four sub-sections:

i. Difficulty level;

ii. Subject ability;

iii. Text variable;

iv. Conclusions.

The first, difficulty level, will deal with the sub-units identified in Chapter IV.H.i.(pp.115-116) and will attempt to assess the degree to which the difficulty level of a task relative to subjects' L2 proficiency (as assessed by each control group's Exact Word cloze score) interacts with organizer effect. In this sub-section mean T-ratios will be used to provide an indication of general trends. These are means of the T-ratios obtained on the five scoring systems used. Full details are provided in Appendix IV. The purpose of using mean T-ratios is merely to save space in the main body of

the text and to allow the reader to obtain a succinct overview of general trends in results. The second sub-section will examine the role of subject ability in determining level of organizer effect. Both L1 and L2 proficiency measures will be employed. A number of statistics will be provided in this section. They are again provided via means, for the same reasons as given above. Full details of these statistics can be obtained in Appendix V. The third sub-section will examine the role of the text variable. This will indicate only general trends and is designed to provide a meaningful framework for the more detailed text-based discussion in Chapter VI. Some forward reference will be made to text characteristics which will only be described in Chapter VI. Finally, a few general conclusions will be drawn for each subject level as to the degree to which the data has or has not confirmed Hypothesis I.

While it is intuitively plausible that the three factors of relative difficulty level, subject ability and the text variable (including the more detailed text characteristics that will be discussed in Chapter VI) might influence level and distribution of observed organizer effect, the decision to adopt this approach to the interpretation was made a posteriori, on the basis of a preliminary analysis of the data. In other words, this approach to the interpretation evolved from the data itself and does not derive from an a priori prediction of what would be significant interpretative categories. It will be assumed in what follows that, insofar as any of these factors provides a meaningful and non-arbitrary means of interpreting the level and distribution of observed organizer effect, then that factor has a role in determining subjects' ability to make use of the organizer. As will soon become apparent, no one

factor will, alone, account for the observed experimental effect and, therefore, this must be seen as an interaction of all those factors discussed.

B. 'O' Grade subjects

i. Difficulty level

The statistics on the following page form the basis for the analysis in this section. From the left, they provide the text-group name (e.g. 02 Upper), the mean control group Exact Word cloze score, the mean experimental-control group T-ratio for overall and content word scores, and the mean F.P. and M.H. scores of the experimental group. The same is provided for M.H. ordering except that the order of F.P. and M.H. score is reversed. It is on the basis of these statistics that an assessment will be made of the degree to which Hypothesis I has been confirmed for 'O' Grade subjects. Largely to facilitate reference, this sub-section will be split into three parts, corresponding to low, middle and high difficulty levels. Which groups go into each of these levels will be decided upon not as a result of pre-set divisions, but rather on the basis of what appears most productive in interpretative terms. "Low" difficulty, obviously, refers to groups with a high cloze score, which indicates that the subjects found the task relatively easy.

a. Low difficulty

Only one group falls into this category, 02 Upper, with a mean Exact score of 59.1%. Such a high score clearly indicates that the subjects in this group experienced relatively little difficulty with the text. It is interesting to note that the mean T-ratios for this group on F.P. ordering are

'O' GRADE

'O' GRADE - FP ORDERING

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN FP SCORE OF EXPT'L GROUP	MH SCORE
02 Upper	59.1%	-.23	.13	80.6%	(29.9)
02 Middle	35.6%	.68	.77*	61.2%	(27.4)
H1(R) Upper	34.1%	.13	.20	74.8%	(19.3)
01 Upper	33.3%	1.3*	.88	79.8%	(32.2)
H2(R) Upper	30.5%	.41	.85	73.4%	(24.4)
01 Middle	25.4%	-.75	-.45	58.3%	(27.3)
02 Lower	24.8%	.42	1.68*	40.6%	(21.4)
H1(R) Lower	18.2%	-.34	-.36	39.4%	(20.5)
H2(R) Lower	12.7%	-1.33	-.65	34.5%	(19.3)
01 Lower	12.3%	2.14*	1.18	37.9%	(23.5)

'O' GRADE - MH ORDERING

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN MH SCORE OF EXPT'L GROUP	FP SCORE
02 Upper	46.4%	-.64	.32	32.2	(69.5%)
02 Middle	37.2%	.94	.80	27.6	(68.6%)
01 Upper	36.5%	1.08	1.22	35.8	(71.1%)
H1(R)Upper	29.1%	1.22	1.84*	27.3	(70.8%)
01 Middle	27.6%	-.05	-.09	26.8	(62.6%)
02 Lower	26.6%	2.56*	2.07*	18.7	(51.9%)
H2(R)Upper	25.1%	.68	.94	26.7	(68.6%)
H1(R)Lower	22.5%	-.42	-.81	19.2	(48.5%)
H2(R)Lower	19%	-.58	-.65	18.6	(46.7%)
01 Lower	19%	-.56	-.67	20.9	(47.2%)

* = significance attained on at least one SS.

either slightly negative or slightly positive, the situation in M.H. ordering being much the same. The occurrence of negative or only marginally positive organizer effect at the lowest difficulty level is a feature common to all three subject levels. The most plausible explanation would be that the subjects found the test well within their capabilities and that therefore there was little potential scope for improvement. In other words, at such low difficulty levels the organizer was superfluous. More will be said of this group's performance in sub-sections ii. and iii. below, but in terms of difficulty level alone it is not surprising that the organizer should have little or no facilitative effect at such a low difficulty level. It is worthy of note, however, that negative T-ratios occur. Thus, when the organizer does not produce a facilitative effect it appears that it may even impair subjects' text comprehension.

b. High difficulty

Groups with mean Exact scores below 24/25% show negative experimental effect. 01 Lower, F.P. ordering is, however, an exception to this trend. Indeed, 01 is a text which causes a number of interpretative problems, and a thorough discussion of this text will occur only in the following chapter. It would therefore appear that beyond a certain difficulty level, equivalent to about 25% on Exact, the organizer not only fails to provide positive assistance but also serves to impair subjects' text comprehension. While the data does indicate this trend clearly it does not, in and of itself, provide an explanation for it. It appears likely, however, that the negative

experimental effect observed is the result of subjects feeling that they had to make use of the organizer in some way, but being unable to do so meaningfully. Thus, a confusion seems to have arisen which, overall, produced a deterioration in subjects' text processing abilities. At 'O' Grade, comments that the "introduction" (i.e. the advance organizer) "wasn't about the same thing" as the texts were not uncommon. Clearly, many subjects were unable to perceive the organizer-text relationship, let alone make meaningful use of it.

c. Middle difficulty

Groups with means in the range 24.8%-35.6% (F.P. ordering) and 25.1%-37.2% (M.H. ordering) show generally positive organizer effect, significance (at .10 at least) being reached on at least one scoring system (SS) on three occasions. Again, this trend is broken by 01. It would thus appear that in this difficulty range, circa 25%-35%, the organizer did provide subjects with positive assistance in their text processing. The level of facilitation observed is often limited, only occasionally reaching significance (Appendix IV contains details of T-ratios and levels of significance). nonetheless, a clear trend emerges.

d. Overview

Difficulty level of the task relative to subjects' L2 proficiency, as monitored by control group Exact score, does appear to interact with level of organizer effect. Below circa 25% subjects seem generally unable to make meaningful use of the organizer and seem to be confused by it. Above circa 40% the organizer becomes superfluous, subjects

presumably being able to supply an adequate interpretative context for the text unaided. Indeed, the negative T-ratios observed in OS may result from a conflict arising between subjects' spontaneously generated interpretative context and that provided by the organizer. However, in the difficulty range circa 25%-35/40% the organizer does appear to produce a generally positive effect on subjects' text comprehension. At this difficulty range, subjects presumably experience sufficient comprehension difficulties to need some level of assistance in organizing their reading semantically, but do not experience such great difficulties as to make establishing the organizer-text relationship impossible.

Thus, difficulty level does appear to interact with organizer effect. However, other factors are involved. Firstly, although the above-mentioned trends do emerge, it is difficult, especially in F.P. ordering, to discern any close relationship between level of organizer effect and difficulty level even in the region 25%-35%. Secondly, 01 causes problems with respect to level of organizer effect observed in 01 Middle (both orderings) and 01 Lower (F.P. ordering). Clearly, both of these points indicate the role of the text variable in determining level of organizer effect. Furthermore, the differences between F.P. and M.H. ordering results indicate that subject ability may be a factor influencing level of organizer effect. Finally, at the high difficulty levels, the subject ability levels are low and one is faced with the question whether it is the high difficulty or the low subject ability which accounts for the negative experimental effect

observed. The purpose of the subsequent sub-section is to assess the role of these factors.

ii. Subject ability level

The purpose of this sub-section is to assess the role played by subjects' L1 and L2 proficiency in determining level of organizer effect. Before this can be meaningfully done, however, it is necessary to assess the degree to which subjects' L1 and L2 scores correlate with one another and with cloze scores.

a. Control statistics

The level of correlation between subjects' F.P. and M.H. scores is generally low.

F.P.-M.H. score correlation

	01		02			H1(R)		H2(R)	
	01E	01C	02E	02C		H1(R)E	H1(R)C	H2(R)E	H2(R)C
Upper	-.24	.12	.12	-.30	Upper	.19	.03	.36*	-.02
Middle	.21	.24	.25	.30	Lower	.50*	.28	.05	.43*
Lower	.17	-.03	.07	.18					

(* = significant at .05)

Correlations reach significance only in the retests, H1(R) and H2(R), and even there at relatively low levels. While a positive link does appear to exist between M.H. and F.P. scores, sixteen out of twenty groups showing a positive correlation, this link is not a strong one. Why this link should be greater in the retests than in the initial tests is unclear.

The general trend of F.P. and M.H. correlations with cloze scores is much as one would expect, F.P. score being the better

predictor. Only control group correlations are given below as experimental group cloze scores may be influenced by the presence of the organizer.

Mean F.P./M.H.-cloze score correlations

	01C		02C			H1(R)C		H2(R)C	
	F.P.	M.H.	F.P.	M.H.		F.P.	M.H.	F.P.	M.H.
Upper	.38*	.27	.39*	.12	Upper	.41*	.17	.37	-.04
Middle	.59*	.15	.50*	-.12	Lower	.68*	.33	.62*	.60*
Lower	.30	.17	.26	-.05					

(* = significant at .05)

The F.P.-cloze score correlation is in each group greater than the corresponding M.H.-cloze score correlation and seven out of ten reach significance. This is not surprising since one would expect F.P. score to have some degree of correlation with performance in that language. However, with the exception of 02, M.H. score does generally have a positive relationship with cloze performance, something which is not self-evident in an L2 cloze test.

The last set of statistics of relevance in the current context are T-ratios indicating inter-group discrimination. Control group results are again used.

Mean F.P./M.H. inter-group discrimination

	01C		02C	
	F.P.	M.H.	F.P.	M.H.
Upper-Middle	2.28**	.58	4.22**	2.01*
Middle Lower	4.51**	1.68	3.08**	2.12**

	H1(R)C		H2(R)C	
	F.P.	M.H.	F.P.	M.H.
Upper-Lower	3.93**	1.47	5.24**	1.24

* = significant at .10
** = significant at .05
** = significant at .01
*
*** = significant at .001
**

Clearly, F.P. ordering produces far better discrimination between subject groups than does M.H. ordering. The latter does, however, produce positive discrimination in all cases, indicating that the groups arrived at via ordering on the basis of L1 score are distinct from one another in terms of cloze performance.

These statistics indicate that while a relationship does exist between L1 proficiency and cloze performance (the allowance of L1 responses might in part account for this), F.P. ordering is by far the better predictor of the cloze performance of control group subjects. Comparison between these control group based statistics and those for the experimental group is not fruitful in view of the fact that organizer effect is sometimes positive, sometimes negative and sometimes zero and it is extremely difficult to perceive trends. However, these statistics should be borne in mind where an analysis is made in c. below of the role of L1 proficiency in determining level of organizer effect. While this factor is only a weak predictor of control group cloze performance it will emerge as playing an important and even decisive role in interpreting level of organizer effect observed.

b. F.P. score

With the exception of 01 Lower (F.P. ordering) the three groups with the lowest F.P. scores on both orderings show negative organizer effect, and 01 Lower will be discussed in

terms of its M.H. score subsequently. It is difficult to establish whether it is this limited level of L2 proficiency or the consequent high difficulty levels obtained which accounts for the negative experimental effect. However, it would appear likely that it is not limited L2 proficiency alone which accounts for the subjects' inability to make meaningful use of the organizer. Subject groups with mean F.P. scores ranging from 37.9% (01 Lower) to 79.8% (01 Upper) show positive to significant experimental effect. Thus one cannot claim that a given level of F.P. proficiency is a prerequisite to subjects' ability to make meaningful use of the organizer. This would seem to be determined by other factors, a very important one being level of verbal proficiency (as monitored here by M.H. score). It would appear, however, that 'O' Grade subjects of limited L2 proficiency experience relatively greater difficulty in making meaningful use of the organizer than do subjects of higher F.P. proficiency levels. Thus, while level of L2 proficiency may not automatically condition subjects' ability to use the organizer, it does contribute to the ease with which this may be done.

c. M.H. score

In general terms subject groups with lower M.H. scores tend to exhibit low or negative organizer effect: H1(R) Lower, H2(R) Lower - F.P. ordering; these groups and 01 Lower on M.H. ordering. Thus limited verbal proficiency does appear to exert an inhibiting effect on subjects' ability to manipulate the organizer effectively. Exceptions occur, though: 01

Middle, F.P. ordering, has a relatively high M.H. score but shows negative experimental effect; 02 Lower, M.H. ordering, has the second lowest M.H. score of all groups but has a high to significant level of experimental effect. At first sight, then, the role of verbal proficiency in determining level of organizer effect would appear to be similar to that of L2 proficiency, namely that more able subjects benefit more from the organizer than less able subjects. This is indeed the case. However, the role of verbal proficiency is more subtle than this and, albeit in combination with considerations of difficulty level and text variable, can serve as a key to many unclear aspects of the results as given on p.126 . Illustration of this point will require close attention to the details of these results.

Sub-section i. above indicated that the difficulty range within which organizer effect was greatest was circa 25%-35%. However, H1(R) Upper, F.P. ordering shows only slightly positive mean T-ratios, lower than "should" have been the case. This group, therefore, poses something of an interpretative problem until one notices that its mean M.H. score is only 19.3 i.e. well towards the lower end of the score range on this test. Again in F.P. ordering, 01 Lower "should" not have shown such a high level of organizer effect in terms of its very high difficulty level and the low mean F.P. score of the subjects. However, one may observe that the group has a middling M.H. score of 23.5. The interpretation which it seems warranted to draw from these two cases is that, even at very different F.P. ability and difficulty levels, level of verbal proficiency has a conditioning effect on subjects' ability to manipulate the facilitative potential of the organizer effectively.

This observation leads to another intriguing aspect of the data. M.H. ordering produces a much more comprehensible distribution of experimental effect than does F.P. ordering. In M.H. ordering (with the exception of 01 Middle) a very clear difficulty level related trend in level of organizer effect emerges, being greatest in the range 26.6%-36.5%, tailing off slightly on either side and then moving into negative organizer effect, especially at high difficulty levels. From this it would appear plausible to suggest that, although F.P. score is a far better predictor of subjects' cloze performance than M.H. score, ordering based on M.H. score better reflects the abilities underlying subjects' successful use of the experimental variable than that based on F.P. score. This is a very important point since it tends to indicate that, in the 'O' Grade subject population, it is level of verbal proficiency that is possibly the greatest single factor conditioning subjects' ability to make meaningful use of the organizer.

In addition to this, it would appear that a given level of verbal proficiency (equivalent to a score of circa 20 on the M.H. test) is a prerequisite to subjects' ability to use an organizer unless particularly strong mitigating factors are present. Only two groups with mean M.H. scores of 20 or less show positive experimental effect. These are H1(R) Upper, F.P. ordering, and 02 Lower, M.H. ordering. The former has very low positive mean organizer effect and the fact that its low M.H. score did not prevent even this may be attributable to the high F.P. score (74.8%) of the group, this compensating

to a limited extent for limited verbal proficiency. The second group, 02 Lower, with a very low M.H. score (18.7), shows strong experimental effect. 02, however, is by far the easiest and least complex text used at this level. Thus it would appear that even subjects with a limited level of verbal proficiency can derive benefit from the experimental variable when the text itself and the organizer-text relationship is a relatively transparent one.

d. Overview

The general trend is for more able subjects, in terms of both L2 and L1 proficiency, to be in a better position to profit from the facilitative potential of the organizer. The most significant observation, however, is that verbal proficiency as monitored by the M.H. test is a powerful predictor of subjects' ability to make meaningful use of the organizer. A relatively high level of verbal proficiency can override low L2 proficiency, which tends to block organizer usage, and allow subjects to derive significant benefit from the organizer. At the same time, even high F.P. ability subjects may be unable to use the organizer meaningfully if their verbal proficiency is not of a sufficiently high level. Despite the generally low F.P.-M.H. score correlations observed, there is a large degree of overlap between groupings based on the two scores, high F.P. score groups generally having high M.H. scores (H1C(R) Upper, F.P. ordering is the one obvious exception to this). This hinders a thorough study of which score better predicts level of organizer effect.

The data indicate, however, that at 'O' Grade it is level of verbal proficiency which is the main predictor of subjects' ability to activate the facilitative potential of the advance organizer.

iii. Text variable

The purpose of this chapter is to give an overview of the factors which, at each subject level, determine level and distribution of organizer effect. A thorough analysis of the text variable would produce an imbalance in the chapter and, as a result, this is postponed to the following chapter. The purpose of the present sub-section is to illustrate the importance of the text variable as a means of arriving at as full as possible an understanding of the complex interaction of factors influencing the functioning of advance organizers as L2 reading adjuncts.

The first point to notice is the rather unpredictable results obtained on 01. 01 Middle should, in terms of both difficulty level and subject ability, have produced positive organizer effect. In practice, the opposite is the case. Furthermore, although the high positive experimental effect observed on 01 Lower, F.P. ordering may be partly explained by this group's high M.H. score, it still remains something of an exception to the general trend of results.

In F.P. ordering significance (on at least one scoring system) is reached in four groups, either on OS or CWS. All instances are on 01 and 02, significance not being reached on the retests. In M.H. ordering the situation is different, H1(R) Upper attaining significance. It would appear that some difference exists

between the initial tests and the retests which makes subjects less able to make full use of the organizer on the latter. It is not simply that the retests are more difficult than the initial tests. Rather, the explanation needs to be sought in a generally higher level of sophistication in the language and content of the retests as compared to the initial tests (they were, it will be recalled, originally written for Higher subjects). Also, the organizer-text relationship may have been less transparent to 'O' Grade subjects in the retests.

02 will emerge in Chapter VI as by far the simplest 'O' Grade text in all respects. It is also the text which produces the most easily explicable pattern or organizer effect which, not surprisingly, is at its clearest in M.H. ordering. One here observes a steady increase in level of organizer effect from Upper to Lower groups. The relative simplicity of this text appears to have allowed all subject levels to derive some degree of benefit from the organizer, unlike the unpredictable effects of 01. It is in 02 that one important trend in the data emerges. This will be referred to as the "greater need-greater organizer effect" factor and describes a frequent phenomenon whereby subjects who have the greatest need of the organizer, generally those of lower ability, in relative or absolute terms, derive greatest benefit from the presence of the organizer. In 02 this may be seen in the fact that organizer effect increases as relative difficulty level rises and subject ability falls off in the Middle and Lower groups (especially in M.H. ordering).

While the preceding comments do little to elucidate the role of the text variable they certainly serve to illustrate that it is

a factor which is essential in any thorough analysis of organizer effect.

iv. Conclusions

The results on p. 126 and the related discussion allow a qualified affirmative response to be given to the first experimental hypothesis as far as 'O' Grade subjects are concerned. It is, however, qualified, and the data indicate that attempting to use advance organizers with 'O' Grade subjects as a whole would require very considerable care. While the organizers used do seem to produce a positive facilitative effect, and while this reaches significance on three of the four texts used (importantly, it is H2(R), the most complex text, which is the exception), level of organizer effect is varied and its distribution is very uneven. Not only do certain subjects fail to make positive use of the facilitative potential of the organizer, in certain cases the organizer even depresses experimental group scores with respect to those of the control group. All three subject ability groupings (i.e. Upper, Middle and Lower) show positive or significant experimental effect on at least one text, thus it is not that some absolute block prevents a given level of 'O' Grade subject from manipulating advance organizers. The real difficulty would appear to lie in the heterogeneity of the subject population as a whole. Such a wide range of abilities are present at 'O' Grade than a given organizer-text relationship will almost inevitably be either superfluous for upper ability subjects or too abstract for lower ability subjects. Thus, the use of advance organizers as L2 reading adjuncts for 'O' Grade subjects would appear to require the materials writer to

work with smaller and more homogeneous sub-groups of the total population, which, logically, would imply the use of a different level of abstraction and generality in organizer construction depending on the ability levels of the subjects involved. This is consistent with the theoretical bases of organizer construction as outlined in Chapter III B.ii (pp. 69-73). Furthermore, Hudson (1982) indicated that L2 learners of distinct proficiency levels responded differently to the three types of schema formation adjuncts employed in his study. This implies that a different type of pre-instructional strategy might be more appropriate for certain sections of the 'O' Grade subject population.

In addition to these general comments, two main aspects of the 'O' Grade results merit particular attention. While it has just been stated that all levels of 'O' Grade subject showed ability to make meaningful use of the organizer used with one text or another, the general trend is for lower ability subjects to fail to do so. Apart from with particularly easy texts (cf. 02), it would appear that a certain level either of L1 or of L2 proficiency is needed if subjects are to actualize the discourse potential of the advance organizer. This composite ability level is not easy to define, but the lower ability 'O' Grade subjects in the current testing seem to be on the wrong side of it. The second point of interest is the considerable role played by M.H. score. Not only does M.H. ordering produce a more comprehensible result distribution, but M.H. scores also serve to explain numerous aspects of F.P. ordering results. At this subject level it would appear that the skills reflected in M.H. score interact significantly with subjects' ability to make meaningful use of the organizer. Indeed, at 'O' Grade, an

assessment of subjects' verbal proficiency would be an important first step in deciding on the suitability of employing advance organizers with a given subject population. With mean M.H. scores of 20 or under, there would be limited scope for the use of advance organizers in the form employed in the current testing and serious re-thinking would be called for. However, there is evidence that if levels of verbal proficiency were reasonably high (ca. 25 or over on the M.H. test), there would be a good likelihood of advance organizers serving a meaningful role. The text variable itself is also of importance, but this factor is subordinate to considerations of difficulty level and subject ability to a greater extent than at other subject levels.

In conclusion, then, while advance organizers do seem able to produce a positive or significant facilitative effect with 'O' Grade subjects, the factors governing their successful use are complex and require careful consideration to be given to subject ability, difficulty level and the text variable. With higher ability subjects, especially those with a high level of verbal proficiency, there are indications that organizers can serve a valuable function as L2 reading adjuncts, though with lower ability subjects this is much less clear. The fact that significance was attained on four groups lends support to the hypothesis that organizers have a positive facilitative effect, though the very uneven performance of the 'O' Grade population as a whole indicates that there is reason to doubt the general applicability of advance organizers with 'O' Grade subjects, at least in the form used in the current testing.

C. Higher subjects

In comparison with the 'O' Grade results, what immediately strikes one about the Higher results given on the following page is the generalized occurrence of positive experimental effect: nine out of ten groups in F.P. ordering and eight out of ten in M.H. ordering have positive T-ratios. Level of T-ratios obtained varies, significance being attained in only three groups, but the overall trend at this subject level indicates much stronger facilitative organizer effect than with 'O' Grade subjects. Nonetheless, level of experimental effect does vary among the subject-test groupings and the reasons for this variance require analysis within the same framework as that applied to 'O' Grade results.

i. Difficulty level

a. Low difficulty

At this level, "low" difficulty groups are the three groups with the highest cloze scores i.e. H1 Upper and Middle and H2 Upper. H1 Upper has a very high Exact score (65%) and shows markedly negative experimental effect. As mentioned at 'O' Grade, this is a common phenomenon and the explanation offered here is the same, too. At such a low difficulty level, subjects were presumably able to generate their own interpretative context for the text unaided. Logically, one might infer from this that they could simply ignore the organizer, but this does not seem to be the case. It would appear that a conflict arose between subjects' own interpretative framework, which presumably entailed them fitting the text specifics into their own, individualized schemata, and that provided by the organizer. In other words, subjects generated their own

HIGHER

HIGHER - F.P. ORDERING

GROUP	MEAN GROUP CLOZE SCORE	MEAN OS	T-RATIO: CWS	MEAN F.P. SCORE OF EXPT'L GROUP	M.H. SCORE
H1 Upper	65%	-1.97	-2.16	8.9	(35.5)
H1 Middle	51.2%	.50	.43	6.6	(29.8)
H2 Upper	48.3%	3.19*	2.93*	9.4	(34.1)
H2 Middle	39.1%	1.17	.96	6.6	(30.2)
H1 Lower	36.2%	.73	.57	3.7	(27.5)
H2 Lower	35.3%	.81	.78	4.5	(27)
U1(R)	27.2%	1.45*	1.3*	N.A.	(30.6)
U2(R)	21.5%	1.96*	1.67*	N.A.	(32.6)

HIGHER - M.H. ORDERING

GROUP	MEAN GROUP CLOZE SCORE	MEAN OS	T-RATIO: CWS	MEAN M.H. SCORE OF EXPT'L GROUP	F.P. SCORE
H1 Upper	62.6%	-2.39	-2.86	35.5	(6.7)
H1 Middle	52.6%	.54	.36	29	(6.2)
H2 Upper	47.3%	2.03*	1.98*	36.2	(8)
H2 Middle	41.5%	.68	.74	28.4	(6.4)
H2 Lower	37.4%	- .20	- .47	22.3	(5.9)
H1 Lower	37%	.52	.71	24.8	(5.3)
U1(R)	27.7%	1.26*	1.11*	30.6	N.A.
U2(R)	21.4%	1.88*	1.54*	32.6	N.A.

* = significance attained on at least one SS.

interpretative context i.e. in a sense they produced their own, highly personalized organizer for the text, and found that this conflicted with the organizer provided. Since the latter could not be built on an accurate, data-based assessment of subjects' prior text- related knowledge, such conflict is not surprising. This mismatch would then appear to have generated a conflict, subjects possibly assuming that since the organizer had been provided they were obliged to make use of it, which led to a depression of their cloze performance relative to that of control group subjects who had only their own self-generated interpretative framework to deal with. This observation should make it clear that the indiscriminate use of advance organizers, especially with subjects who, for reasons of L2 proficiency or high background knowledge, have a strong conceptual readiness for a task, is a potentially risky undertaking. In such cases great care would need to be exercised in fitting organizers precisely to subjects' level of conceptual readiness. While this is always desirable, it will emerge from future discussion both in this and the following chapter that there are other circumstances where a greater degree of robustness exists in a more approximate type of organizer construction. This will occur with respect to the phenomenon which will be referred to as "survival level" organizer facilitation.

With respect to the remaining low difficulty groups, reference to the relevant sections of Appendix IV is required. The mean T-ratios of H1 Middle do not give an accurate reflection of level of observed experimental effect. In F.P.

ordering one SS(Disc) has a T-ratio of 1.7 on OS and 1.64 on CWS, i.e. .006 and .066 respectively short of significance at .10. The other SS's have lower T-ratios, and this point will be referred to in Chapter VII with respect to type of organizer facilitation. H2 Upper shows consistently high to significant experimental effect, all SS's attaining significance in F.P. ordering. Thus, although H1 Upper, at a very low difficulty level, shows negative organizer effect (the text variable is also a factor in this), the other two low difficulty level groups show results attaining or a hair's-breadth short of significance. Higher subjects consequently seem to be able to derive benefit from the advance organizer even at relatively low difficulty levels in the region of 50% on Exact.

b. High difficulty

The group placed in this category are those taking retests U1(R) and U2(R). As F.P. scores were not available (N.A.) for all subjects this subject group could not be split into sub-parts. This could have been done on M.H. ordering but it was decided to maintain symmetry of grouping on the two orderings for comparative purposes. Experimental effect is greater on U2(R) than on U1(R) (see Appendix IV for details) but significance is attained on at least one SS in both texts. As mentioned earlier, the retest format adopted entailed increasing task difficulty level by giving subjects at one level the tests originally given to those of the next higher level. The interim interpretation of initial test results had indicated that this would increase level and generality of organizer

facilitation. At 'O' Grade this patently did not occur, the retests producing a level of difficulty which largely precluded organizer facilitation at all but high subject ability levels. At Higher, however, the results turned out more as expected and the retest groups exhibit consistent positive to significant organizer effect. The mean Exact scores, 27.2% and 21.5%, indicate that subjects had considerable difficulty with both texts but were nonetheless able to make meaningful use of the organizer. It is significant to note that U2(R), with a mean of 21.5%, falls into the difficulty range which, at 'O' Grade, appeared to preclude subjects' meaningful use of the organizer. Furthermore, it is of interest that significance occurs at opposite ends of the difficulty spectrum, in groups with means in the 20's and around 50%. Higher subjects would thus appear able to make meaningful use of the facilitative potential of the organizer at a wide range of difficulty levels and, as will emerge from Chapter VII, in different ways.

c. Middle difficulty

Between the two difficulty levels discussed above, organizer effect levels off, slipping into negative T-ratios on H2 Lower, M.H. ordering. Mean T-ratios do not give a full picture of this. In H2 Middle and Lower and H1 Lower, no SS shows T-ratios as close to significance as those obtained in H1 Middle. The explanation for this phenomenon whereby high levels of organizer effect tend to be concentrated at opposite ends of the difficulty spectrum is a complex one and represents one of the more unexpected aspects of the data. At Higher a partial explanation may be provided in text specific terms and by

reference to subject ability. However, with respect to difficulty level alone the trend is that, while Higher subjects seem able to derive benefit from the organizer at all but very low difficulty levels, the level of facilitation obtained is less at middle difficulty levels (ca. 30%-40%) than at difficulty levels on either side of this range.

d. Overview

A number of interesting points emerge from a difficulty level based analysis of Higher results. The first is that, at very low difficulty levels the organizer may not only be superfluous but may even impede subjects' text comprehension. Secondly, with this qualification, Higher subjects exhibit the ability to make meaningful use of the organizer at a wide range of difficulty levels, 21.5%-51.2% from the data. However, their ability to make statistically significant use of the organizer emerges as greatest at the opposite ends of this difficulty spectrum. This was a rather unexpected phenomenon but occurs frequently in the data as the present and, in a text-based analytical framework, the following chapter, will show. This will lead to the use of two terms, "refinement level" facilitation, referring to organizer facilitation occurring with groups who, on the basis of the control group's Exact score, could be assumed to have understood a good deal of the text without the organizer, and "survival level" facilitation occurring in groups who, according to the same criteria, could be assumed to have experienced considerable text comprehension problems.

ii. Subject ability level

a. Comparative

As reference has not infrequently been made to 'O' Grade results, it seem instructive to make a comparison of L1 and L2 ability levels in the 'O' Grade and Higher subject populations. F.P. scores are not intercomparable: 'O' Grade scores are based on percentage mock-'O' Grade marks while Higher scores are based on mean 'O' Grade results converted so that 10 is the highest grade and 1 is the lowest. However, a comparison can be made between mean total population control group Exact scores on H1 and H2, texts taken by both subject levels.

	'O' Grade		Higher	
	$\bar{x}$	sd.	$\bar{x}$	sd.
H1	26.5%	12.5	53.2%	16.5
H2	21.9%	12.9	41.7%	11.9

The means of the Higher subjects are nearly double those of the 'O' Grade subjects, which is indicative of the differing levels of L2 proficiency of the two populations. In terms of M.H. score the difference is less marked but shows the same trend.

	'O' Grade		Higher	
	$\bar{x}$	sd.	$\bar{x}$	sd.
M.H.	25.4	5.9	29.9	4.8

Not only is the mean more than five points higher for the Higher population, but the lower sd. shows the greater homogeneity of the population in this respect. From these figures alone it should be clear that a significant difference

exists between the 'O' Grade and Higher populations in terms of both L1 and L2 proficiency. The generally higher level of organizer effect observed at Higher would tend to indicate that the increased ability level of the subject population positively affected their ability to actualize the facilitative potential of the organizers used.

b. Control statistics

Level of F.P.-M.H. score correlations differ very widely between initial and retest groups.

F.P.-M.H. score correlations

	H1		H2			U1(R)		U2(R)	
	H1E	H1C	H2E	H2C		U1(R)E	U1(R)C	U1(R)E	U1(R)C
Upper	-.23	.22	.40*	.08	TOTAL	.48*	.61*	.44*	.41*
Middle	-.11	-.12	-.20	.13					
Lower	.07	.37	.07	-.27					

(* = significant at .05)

Lack of F.P. scores for about one third of the retest subjects (total population:U1(R)-42; U2(R)-40) means that the F.P.-M.H. correlations for the retest groups are based on a relatively small population which might limit their reliability somewhat. Nonetheless, the difference is very considerable and no explanation is apparent for why this should be the case, even though a similar phenomenon was observed at 'O' Grade, too. The retest groups show the highest F.P.-M.H. correlations present anywhere in the data. The initial test groups, however, have very low or negative correlations. It should be observed that, despite the generally low correlations obtained in H1 and H2 above, reference to the results on p.143 will reveal a large degree of correspondence between group level ordering of

F.P. and M.H. score, the higher F.P. score groups having higher M.H. scores and the same with middle and low F.P. score groups. Thus, while in statistical terms F.P.-M.H. score correlations are low in H1 and H2, there is a large degree of correspondence between level of F.P. score and level of M.H. score in global terms.

The situation with respect to F.P./M.H.-cloze score correlations is also somewhat confusing, these being particularly low in H1 and H2.

Mean F.P./M.H.-cloze score correlations

	H1C		H2C			U1(R)C		U2(R)C	
	F.P.	M.H.	F.P.	M.H.		F.P.	M.H.	F.P.	M.H.
Upper	.51*	-.18	.07	-.02	TOTAL	.40*	.48*	.39*	.25
Middle	-.03	-.06	-.21	-.03					
Lower	.26	.36	-.09	.20					

(* = significant at .05)

These are mean correlations, averaged from those of the five scoring systems used. That three of the five systems allow for L1 responses might serve to lessen the predicted high correlation between subjects' F.P. score (obtained on a national examination) and their cloze test performance. It remains rather surprising, however, that correlations are so low, even on Exact, which is a standard scoring system. Thus, in the initial tests F.P. and M.H. score are roughly equivalent in their predictive ability, which is very low in both cases. Stronger correlations are observed in the retests, but still fall short of what might be expected in U2(R). Despite these low correlations both F.P. and M.H. score do discriminate successfully between subject groupings in H1 and H2, though better in the former.

Mean F.P./M.H. inter-group discrimination

	H1C		H2C	
	F.P.	M.H.	F.P.	M.H.
Upper-Middle	3.1**	2.24**	2.02*	1.03
Middle-Lower	3.1**	2.57**	.99	1.03

* = significant at .10
** = significant at .05
** * = significant at .01

In H1 F.P. produces slightly better inter-group discrimination, though M.H. score also does so significantly. In H2 the situation is different, M.H. discriminating slightly better between Middle and Lower groups.

The low F.P.-M.H. and F.P.-cloze correlations observed in H1 and H2 are confusing, especially when compared with those obtained in U1(R) and U2(R), and it is difficult to explain them. Possibly the L2 tests on which they are based ('O' Grade examinations) reflect ability and performance on aspects of L2 proficiency other than those monitored by cloze performance. At any rate, both score orderings produce distinct groupings and therefore both merit attention within the current interpretative context, as they would appear to reflect meaningful subject groupings.

c. F.P. score

An accurate assessment of the role of L2 proficiency in determining organizer effect is made difficult by two factors. Firstly, no F.P. score is available for the retest groups. Secondly, in H1 and H2 there exists a text related trend which moves in opposite directions in the two texts. H1 is a relatively simple text and allows limited scope for organizer facilitation except among lower ability subjects. H2 is a

difficult and complex text and it appears that only more able subjects were able to perceive and actualize the facilitative potential of the organizer. Thus, in H2, experimental effect declines from Upper to Lower ability groups (both orderings), while in H1 the opposite trend exists, though less clearly. Two points may here be made, however. Firstly, in H2 it is presumably the Lower group subjects who were in greatest need of the organizer, but it was not this group that did, in fact benefit the most. Secondly, the general trend in H1 is for experimental effect to increase in Middle and Lower groups, these groups finding scope for facilitation as a result of their more limited L2 proficiency. However, the Lower group does not seem to be able to derive as much benefit from the organizer as its lower L2 proficiency would make it require. It would thus appear that lower ability subjects are less able to make facilitative use of the organizer than are more able subjects. This is the general trend that emerged at 'O' Grade. In the data as a whole, however, due to the considerable coincidence in relative F.P. and M.H. score orderings between text groupings it is difficult to distinguish the relative role played by F.P. and M.H. score level.

d. M.H. score

Despite the last comment, a number of aspects of the data indicate that level of verbal proficiency as indicated by M.H. score does interact with subjects' ability to actualize the facilitative potential of the organizer. Significance (or T-ratios just short of significance) occurs in four groups (in F.P. ordering), H1 Middle, H2 Upper, U1(R) and U2(R).

All of these groups have mean M.H. scores of 29 or over. It would thus appear that a high level of verbal proficiency does positively influence subjects' ability to actualize the facilitative potential of the organizer significantly.

Furthermore, one may observe that H2 Lower shows negative experimental effect in M.H. ordering whereas it shows positive effect in F.P. ordering. It may not be without importance that, in M.H. ordering, this group has a mean M.H. score of 22.3 while the parallel group in F.P. ordering has a mean of 27, i.e. nearly five points higher. While this interpretation is offered with reservations it does move in the main direction of results so far, indicating the very considerable role played by verbal proficiency in determining subjects' ability to make meaningful use of an advance organizer.

e. Overview

Despite the low F.P.-M.H. correlations noted above, the considerable coincidence in group level F.P. and M.H. score orderings at Higher makes it more difficult than at 'O' Grade to separate the role of L1 and L2 proficiency in level of experimental effect. However, the general subject ability related trends observed at 'O' Grade re-occur at Higher. Firstly, the generally higher ability levels of Higher subjects may safely be considered to account for the much more generalized occurrence of positive and significant organizer effect at this subject level. Secondly, subjects with higher levels of both L1 and L2 proficiency seem better able to profit from the presence of the organizer. Thirdly, a high level of verbal proficiency appears to serve as a significant factor positively

influencing subjects' ability to use the organizer. It thus emerges from both subject levels examined so far that, in an L2 context at least, organizers are more suitable for use with high ability subjects, especially those with high levels of verbal proficiency.

iii. Text variable

Reference has already been made to the fact that differences in the relative complexity of H1 and H2 produced not only differing levels of organizer effect, but also a different distribution and type of organizer effect. These factors will be examined in depth in the relevant section of the following chapter. Clearly then, interpretation of the results obtained on these two texts cannot be undertaken without detailed consideration of their text characteristics.

In comparison with this, Higher subject results on U1(R) and U2(R) would lead one to believe that there was a less marked difference between these two texts than between H1 and H2. This is not the case and University subjects produce results which reflect far better than do those of Higher subjects the differences existing between these two texts. At high difficulty levels, such as those of U1(R) and U2(R) for Higher subjects, subjects' text sensitivity decreases sharply and this affects the type and level of organizer effect produced. This means that when a text is at a high level of difficulty relative to subjects' level of L2 proficiency their sensitivity to subtle text characteristics is limited, and this makes them respond differently to the organizer-text relationship than would subjects for whom the text was more accessible in terms of their L2 proficiency. In

the latter case one observes refinement level facilitation (e.g. H1 Middle, H2 Upper) while in the former case one observes survival level facilitation (e.g. U1(R), U2(R)). There is also evidence that at high difficulty levels the use of advance organizers has a greater degree of sturdiness, subjects needing a more general interpretative context, and is less liable to produce the negative effect observed in H1 Upper. These factors will all receive more thorough attention at a subsequent stage of the interpretation.

iv. Conclusions

The results provide strong indications confirming experimental hypothesis I, at least for the population of Higher subjects used in the experimentation. All subject ability levels show the ability to derive positive organizer facilitation on at least one text. The occurrence of positive to significant organizer effect is thus the rule and not the exception at this subject level. At the same time, considerable differences in level of organizer effect do occur and, as at 'O' Grade, the precise level of organizer effect which a given group of subjects are likely to obtain on a given text depends on the complex interaction of a number of factors.

Highest levels of organizer effect tend to be concentrated at opposite ends of the difficulty spectrum, which gives rise to the concepts of refinement and survival level organizer facilitation. In addition to this, organizer effect is greater, overall, on more difficult texts (i.e. H2 vs. H1, and U2(R) vs. U1(R)). Thus gross difficulty level has a role to play, one which often runs parallel with that played by the characteristics of each text in terms of content, topic familiarity and discourse structure.

From the subjects' standpoint, the greater their ability the greater is the likelihood of them being able to perceive and manipulate the facilitative potential of the organizer with respect to a given text. While all Higher subjects seem to have the requisite level of L2 and L1 skills to make meaningful use of organizers, higher ability subjects, especially in terms of verbal proficiency, show greater flexibility and success in this than do lower ability subjects. Thus, one finds that those who presumably most need the organizer, namely lower ability subjects, are often those who experience the greatest difficulty in using it optimally. This interaction of need of the interpretative context supplied by the organizer on the one hand, and the ability to actualize its facilitative potential with respect to a given text on the other hand, will increasingly emerge as being one of the main interpretative axes of the data gathered.

Thus, while the factors governing precise level of facilitation obtained are complex, Higher subjects show a clear ability to make meaningful use of advance organizers at a wide range of difficulty levels, on a variety of texts and at all subject ability levels. The data would thus suggest that, for the subject population used at least, the use of advance organizers as L2 reading adjuncts with Higher subjects may be recommended with a reasonable degree of confidence. Their use at this level demonstrates a degree of sturdiness not found among 'O' Grade subjects.

D. University subjects

A brief comment needs to be made about the University retest population, i.e. subjects taking tests RU1 and RU2. The Upper and Lower groups are made up of subjects at the opposite ends of the ability spectrum within this subject level as a whole. Details will

be given in the following chapter but for the moment it is sufficient to state that it was not considered advisable to mix these two populations together on the basis of M.H. score as is customary. As no F.P. scores were available for the Upper group this could not, in any case, be done in F.P. ordering. Thus, while these four groups are included in M.H. ordering, they are exactly the same groups as those in F.P. ordering.

i. Difficulty level

One obvious aspect of the results on the following page is the relatively uneven spread of difficulty levels obtained. While the full range is quite satisfactory, 21.6%-58%, four groups have means in the 40's. This makes it difficult to establish the tripartite discussion of difficulty levels adopted at previous subject levels. Consequently, only two categories will be employed, middle-low and high. In part, this bunching of scores reflects the high L2 competence of this level of subject in absolute terms, most having a very solid command of the basic grammatical and lexical system of the L2.

a. Middle-low difficulty

This category includes all groups except RU1 and RU2 Lower. As is usual, the group (U1 Upper) with the highest cloze score shows either low (F.P. ordering) or negative (M.H. ordering) organizer effect. The reasons would appear to be much the same as those given at Higher (cf. p. 142) and will not be repeated here. Of the five other groups in this difficulty range three show significance. The two which do not, U1 and U2 Lower, are best examined in terms of subject ability, though the text variable

UNIVERSITY

UNIVERSITY - F.P. ORDERING

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN F.P. SCORE OF EXPT'L GROUP	M.H. SCORE
U1 Upper	58%	.37	.42	2	(39.6)
RU2 Upper	49.4%	.14	.41*	(3?)	(39.3)
U2 Upper	46.2%	1.7*	1.57*	2	(40)
U1 Lower	41.9%	.16	.25	1	(36.7)
RU1 Upper	41.2%	2.32*	2.57*	(3?)	(42.5)
U2 Lower	34.1%	-.26	.67	1	(32.2)
RU2 Lower	25.5%	.64	.87	N.A.	(38.2)
RU1 Lower	21.6%	.83	1.0	N.A.	(38.2)

UNIVERSITY - M.H. ORDERING

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H. SCORE OF EXPT'L GROUP	F.P. SCORE
U1 Upper	52.6%	-.95	-.85	42.9	(1.62)
RU2 Upper	49.4%	.14	.41*	39.3	(3?)
U2 Upper	45%	.69	.70	42.7	(1.78)
RU1 Upper	41.2%	2.32*	2.57*	42.5	(3?)
U1 Lower	41.1%	.33	.76	34.2	(1.57)
U2 Lower	36.2%	.26	.71	30.7	(1.27)
RU2 Lower	25.5%	.64	.87	38.2	N.A.
RU1 Lower	21.6%	.83	1.0	38.2	N.A.

* = significance attained on at least one SS.

also has a role to play here. It is worthy of note, however, that the three groups showing significance have Exact means in the 40's, which indicates that the subjects were able to gain a reasonably good level of text comprehension even without the organizer (it should be recalled that these are the control group means and do not therefore include organizer effect). Clearly, these groups exhibit what has been referred to as refinement level facilitation. At the same time, the results also demonstrate that difficulty level alone cannot be used to predict level of organizer effect, certainly not when defined in terms of Exact score, since U1 Lower, which has an almost identical mean to RU1 Upper, has a very different level of organizer effect. Indeed, it will emerge from the next chapter that Exact score is a very inaccurate indicator of those text characteristics which interact significantly with advance organizers.

b. High difficulty

With respect to RU1 and RU2 Lower reference to the full range of T-ratios in Appendix IV is required. In RU1 Lower, one SS (on CWS) has a T-ratio just .015 short of significance at .1. In RU2 Lower, one SS (again on CWS) has a T-ratio just .057 short of significance at the same level. Thus, while these instances are not statistically significant they do indicate that experimental effect was greater in these two groups than in any of the other three groups not showing significance.

Thus one finds the same overall pattern of experimental effect as that observed at Higher, namely that the organizer

produces greatest facilitation at very different difficulty levels. Means of 21.6% and 25.5% show that the subjects found considerable difficulty with the texts, but still derived nearly significant benefit from the organizer. Again, one finds the second main type of organizer facilitation observed previously, survival level facilitation.

c. Overview

In view of the fact that six out of eight groups have means in the 20's or 40's it would be unsafe to infer too much from the fact that organizer effect is greatest in these two difficulty ranges, comparison being limited. Nonetheless, University subjects do show the ability to make meaningful facilitative use of the organizer at these difficulty levels and the similarity with Higher results is, in this respect, striking. Thus, while difficulty level alone cannot be said to be an accurate predictor of level of organizer effect, other than that at very low difficulty levels the organizer will have little or no facilitative effect (there being, presumably, little scope for it), University subjects, like Higher subjects, appear to be able to use the organizer meaningfully over a wide range of difficulty.

ii. Subject ability level

a. Comparative

Higher and University F.P. scores are not intercomparable, the latter being based on Higher, S' Level and A' Level grades. The initial test University subjects were split into two groups, those receiving an "A" grade on either Higher, S'Level or A' Level and those receiving less than an "A" grade. The "A" grade group is given an F.P. rating of 2 and the non-"A" grade

group is given a rating of 1. This was the only feasible means of dividing up subjects but meant that certain correlations based on F.P. score could not be calculated, all subjects in each group having the same rating. The results breakdown has the F.P. rating for RU1/RU2 Upper as (3?). This indicates that the F.P. rating of this group was almost certainly higher than that of the groups with a 2 rating, but that this assessment was based on a subjective assessment only. F.P. scores for U1 and U2 in M.H. ordering are means of subjects receiving ratings of 1 and 2. F.P. scores are available for RU1/RU2 Lower, and are used as a basis for correlations. However, it was quite impossible to assess how they compare with the other ratings used and they were consequently omitted.

As just stated, Higher and University F.P. scores are not intercomparable. However, a comparison of the performance of the two populations on U1 and U2 should give an idea of the difference in L2 proficiency level involved. As is usual, mean control group Exact scores are used.

	Higher		University	
	$\bar{x}$	sd.	$\bar{x}$	sd.
U1:	27.2%	11.5	52.2%	11.1
U2:	21.5%	7.7	40.2%	8.9

Clearly, the mean F.P. level of the University population is very considerably greater than that of the Higher population. A similar degree of difference separated 'O' Grade and Higher subjects in terms of F.P. In terms of M.H. score, however, the difference between Higher and University subjects is larger than that between 'O' Grade and Higher.

	Higher		University	
	$\bar{x}$	sd.	$\bar{x}$	sd.
M.H.	29.9	4.8	38.6	4.4

Thus the University population has a significantly higher level of both L2 proficiency and verbal proficiency than the Higher population. Furthermore, these levels may be considered to be high in absolute and not merely in relative terms.

b. Control statistics

As a result of the type of F.P. score obtained at this level it was possible to calculate F.P./M.H. correlations only for RU1/RU2 Lower. These were low, being in the range .06 to .26. For the same reasons F.P.- and M.H.-cloze score correlations are incomplete.

Mean F.P./M.H.-cloze score correlations

	U1C		U2C		RU1C		RU2C	
	F.P.	M.H.	F.P.	M.H.	F.P.	M.H.	F.P.	M.H.
Upper	N.A.	.36*	N.A.	.60*	N.A.	.15	N.A.	.28
Lower	N.A.	.33	N.A.	-.50	.50*	.21	.61*	.04

(* = significant at .05)

The lack of F.P. data limits what comments can be made. There is a general trend for Upper groups to show a greater M.H.-cloze score correlation than Lower groups (RU1C is an exception). M.H.-cloze score correlations tend to be greater in the initial test groups. It is difficult to know what to make of these observations except that, in general terms, M.H. score, while not a powerful one by any means, is a more consistent predictor of cloze performance at this level than at Higher.

Mean F.P./M.H. inter-group discrimination

	U1C		U2C		RU1C	RU2C
	F.P.	M.H.	F.P.	M.H.	F.P.	F.P.
Upper-Lower	5.87**	2.63**	5.19**	2.17**	6.25**	7.63**

** = significant at .05

** = significant at .001

The F.P.-based groupings show consistently high T-ratios, though the M.H. based groupings also discriminate significantly, albeit at a lower level. Thus one observes at this level the trend found at previous subject levels, namely that while F.P. score generally discriminates between group better than M.H. score, the latter also discriminates positively between subject groups.

c. F.P. score

In consideration of the role of F.P. in determining level of organizer effect it is helpful to clarify the range of group results to be considered. Firstly, RU1/RU2 Lower cannot be taken into account as they do not have a score comparable with the others. Secondly, U1 Upper falls into a difficulty range in which low or negative organizer effect is, in a sense, unmarked (text specific considerations also indicate this to be the case). In the five remaining groups, three show significance and these all have F.P. scores of 2 or 3 i.e. higher scores. The two groups with F.P. scores of 1 show low or even negative T-ratios. It would thus appear that, in F.P. ordering results, a high level of F.P. score is positively related to subjects' ability to make meaningful use of the organizer. At the same time, however, the three groups showing significance are those with the highest M.H. scores as

well as the highest F.P. scores, which causes the same problem as found at Higher, namely of trying to assess which score is the more important determinant of ability to use the organizer.

d. M.H. score

The last point, namely the considerable coincidence of high F.P. and M.H. scores, illustrates the difficulty of distinguishing between the role of these two scores in conditioning level of organizer effect. However, there are indications that a high level of verbal proficiency does serve a meaningful role. While the F.P. level of RU1 and RU2 Lower cannot be accurately compared with that of other groups, it is unlikely that their F.P. scores would be as high as 2. It appears likely that these subjects would have an F.P. score in the region 1-2, more probably nearer 1. However, despite this, these groups show T-ratios just short of significance i.e. close to those of upper F.P. ability groups. The high M.H. scores of the retest groups would appear to be a plausible explanation for this phenomenon. In other words, when the difficulty level of a task is high relative to subjects' L2 proficiency, a high level of verbal proficiency is called for if subjects are to make meaningful use of the organizer. In cases of survival level facilitation, then, one would expect to see subject groups having a high M.H. score relative to the population as a whole. This would certainly appear to be the case in RU1/RU2 Lower, in U1(R) and U2(R) at Higher and in 01 Lower (F.P. ordering) at 'O' Grade.

One aspect of the results for U1 and U2 which causes an interpretative problem is the lower level of organizer effect

observed in M.H. ordering. This is particularly marked in the case of U2, the more difficult text. A similar phenomenon was observed at Higher. It is clear that this is related to the differential interaction of subject abilities with the text variable and it is also likely that the lower level of discrimination resulting from M.H. ordering produces groups more alike one another in ability, this, in turn, causing a levelling out of organizer effect. However, without detailed reference to text characteristics it is impossible to approach this question and, even then, a clear interpretation in unlikely. That the different interaction of L2 competence and verbal proficiency in the two orderings is responsible for the different levels of organizer effect observed is relatively clear. However, moving beyond this observation to anything approaching a formula encapsulating the L1-L2 ability interaction most conducive to organizer usage is, given the data available, an unrealistic task.

e. Overview

In general terms the ability related trends emerging from this subject level echo those observed previously. Except with very low difficulty tasks (and, as it will emerge from Chapter VI, certain text types), a high level of both L1 and L2 proficiency is a distinct advantage in subjects' ability to make meaningful use of advance organizers. Subjects with low L1 and L2 proficiency (e.g. U1/U2 Lower) seem to experience greater difficulty in using the organizer, even if they probably have greater need of it than higher ability subjects. L1 and

L2 ability, at Higher and University levels, have tended to overlap more than was the case at 'O' Grade, which makes it sometimes difficult to distinguish between the role played by each. Nonetheless, it would appear that it is verbal proficiency more than L2 proficiency which determines subjects' ability to make meaningful use of the organizer. Indeed, at high difficulty levels, i.e. in cases of survival level facilitation, a high level of verbal proficiency seems an essential prerequisite for meaningful organizer usage.

iii. Text variable

The differing levels of experimental effect observed between U1 and U2 might be attributed to the differing difficulty levels of the two texts at first sight. Closer analysis, however, reveals a more profound difference in text type, U1 being a text which leaves little scope for organizer facilitation with University subjects even though this does not apply when it is given to Higher subjects. In other words, the organizer can produce survival level facilitation but not refinement level facilitation. The same is not true of U2, and those differences require careful scrutiny. As regards RU1/RU2 Upper one observes a very substantial difference in both type and level of experimental effect, even if significant facilitation is observed on both. These differences are lessened in RU1/RU2 Lower, these subjects being less sensitive to the text characteristics which produced the differing levels of organizer effect observed in the Upper groups. Here again one encounters different types or levels of facilitation on the same text depending on the subject variable. Clearly, then, while difficulty level and subject ability are very significant

conditioning factors, they alone can only supply a general interpretative context, this needing to be complemented by text oriented analysis.

iv. Conclusions

The results at this subject level appear to support Hypothesis I, especially in the retest groups. Three out of eight groups show significant facilitation and two more (RU1/RU2 Lower) show facilitation only marginally short of statistical significance. In addition to this only one group on each ordering fails to show at least some degree of positive experimental effect. While level of experimental effect is more uneven than at Higher, University subjects as a total group do appear able to derive positive benefit from the advance organizers used. The results would thus appear to indicate that the use of advance organizers with this level of subjects is at least worthy of consideration.

At the same time, level of organizer effect varies considerably between groups. While difficulty level supplies some measure of explanation for this, subject ability is a very important factor as is the text variable itself. Indeed, it is more difficult to interpret the results at this level without reference to the text variable than at either of the previous levels. By way of conclusion, then, the data would appear to lend substantial support to Hypothesis I but would also indicate that considerable care needs to be given to questions of difficulty level, subject ability and text characteristics if the full potential of advance organizers as L2 reading adjuncts is to be realized.

E. Implications

The complexity of the data, which is clearly a reflection of the complexity of the factors influencing level and distribution of organizer effect, does not allow a thorough assessment of Hypothesis I to be made until the text variable has been examined. Nonetheless, in this section, which will conclude the present chapter, an effort will be made to discern some of the main trends emerging from a subject-level based analysis of the experimental results.

The first point to be made is that while the data does provide quite considerable evidence in support of the facilitative potential of advance organizers as adjuncts to L2 reading texts, level of facilitation varies significantly not only across but also within each of the three subject levels examined. Thus, while the data does reveal advance organizers to have a potential value, it is also clear that the presence of an advance organizer before a given text does not necessarily produce a given level of facilitation. Indiscriminate use of advance organizers at all subject levels and with any text would not, therefore, seem advisable. For advance organizers to produce their full facilitative potential their construction and use calls for careful analysis of the conditioning factors outlined so far, difficulty level, subject ability and text characteristics. If this is done with sufficient insight, however, their facilitative potential seems significant, on the basis of the data gathered at least.

Setting aside text specific factors, which cannot be meaningfully discussed at this stage of the interpretation, the key factor around which obtained level of experimental effect appears to pivot is the interaction between task difficulty level and subjects' ability levels (L1 and L2) in both relative and absolute terms. The only

study of any real seriousness which examines the functioning of advance organizers in a reading skills context is that of Rickards (1976), referred to in Chapters I and III. This writer suggests that advance organizers have greatest potential with those poor readers who typically fail to organize their reading meaningfully, i.e. difference type poor readers. Similar comments are made by Van Blaricom (1979)(cf. Chapter III C.i.pp.81 - 85). These experimentally based observations in an explicitly reading skills oriented context largely echo the findings of Ausubel and his associates in their seminal organizer studies (cf. Chapter III B.iii. pp.74 - 78), which indicated that it was subjects with a lower level of verbal proficiency that tended to derive greatest benefit from the use of advance organizers. The idea underlying this interpretation is clear: for subjects whose reading is impaired by an inability to organize their text input into meaningful semantic units, the high level interpretative framework provided by the organizer supplies from "outside" what good readers can generate spontaneously, namely an appropriate and contextually sensitive set of text attack strategies. Not all writers, however, agree with this, Hartley and Davies recommending that advance organizers are better used with subjects "of above-average ability, maturity and spohistication" (1976, p.260). This aspect of the debate on the use of advance organizers turns on a very significant factor in their pedagogical application. Are organizers of most value with lower ability learners, i.e. with those who, as a result of a certain shortcoming in their learning or reading strategies, have the greatest need of them, or are they best suited for use with higher ability learners who, as a result of their more sophisticated learning or reading strategies, are in the best position to perceive and actualize the facilitative potential present

in the organizer-text relationship ? This question is of very considerable importance in the current context.

At first sight, the data would appear to support the latter interpretation, namely that advance organizers are of greatest value to high ability subjects, since it is this category of subject who is best able to perceive and actualize their facilitative potential. On closer analysis of the data, however, the situation emerges as being more complex. Indeed, it is likely that one can, in global terms, find confirmation in the data not only for the greater ability-greater organizer effect interpretation but also for the greater need-greater organizer effect interpretation, which posits that less able subjects will derive relatively greater benefit from the organizer.

Within the ability range, both L1 and L2, represented by the subject population of the current research, it is very clear that organizers can be more effectively used by high ability subjects. In terms of subject level, the lowest ability level, 'O' Grade, shows very uneven organizer effect and it was concluded that the use of advance organizers with the 'O' Grade population as a whole might be inadvisable. To do so would necessitate a subdivision of the population into smaller and more homogeneous ability groupings. Even if this was done, however, there remain doubts whether lower ability O'O Grade subjects would be able to make meaningful use of advance organizers as adjuncts to their L2 reading. Results at Higher and University level, on the other hand, indicate that organizers have considerable potential, these subjects being of a sufficiently high ability level to make meaningful use of organizers.

Thus, in the current data, it is the two higher ability levels and the better 'O' Grade subjects who seem to be suitable candidates for the use of organizers. The term "ability" has been used frequently in this paragraph and while the three subject levels were defined in terms of L2 proficiency they also reflect significantly different levels of L1 or verbal proficiency. It is this which appears to be the crucial factor influencing subjects' ability to actualize the facilitative potential of the organizer, and not L2 proficiency, though relative ability in the two areas very frequently coincides. Thus, the conclusion, contrary to that of Ausubel and his initial co-workers, is that it is subjects with a high level of verbal proficiency who are able to derive the greatest benefit from the use of advance organizers. These observations would thus lend support to the recommendation of Hartley and Davies quoted above that organizers be used with learners "of above-average ability, maturity and sophistication". That, within each subject level, it is subjects with higher levels of verbal ability who derive greatest benefit from the organizer reinforces this conclusion.

These comments need, however, to be viewed within the theoretical perspective on the reading behaviour of L2 readers developed in Chapter II. From this chapter, in particular from the work of Clarke and Cziko, it emerged that L2 learners as a group are characterized by an inability to adopt optimal reading strategies in the L2. Clarke explains this in terms of the "short-circuit" hypothesis whereby limited L2 competence prevents L2 learners from transferring to their reading of the L2 the reading skills they may command in their L1 and, in general terms, causes them to regress to a largely bottom-up, decoding-oriented type of reading strategy similar to

that of difference type L1 readers. Thus, if this conceptualization of the reading behaviour of L2 learners is accepted, which the consensus of recent research does in fact do, then it follows that in dealing with L2 readers one is inevitably confronted by a population which, in reading skill terms, is disadvantaged. Consequently, that organizers exert a facilitative effect on the reading behaviour of this group of learners indicates that they are functioning to correct a deficiency in the normal reading behaviour of a specific category of poor readers. In other words, organizers do have a facilitative effect on the reading of those whose normal reading behaviour, according to recent research, is characterized by a failure to make adequate use of the full range of contextual information available to them in their reading of a text. While the previous paragraph viewed the ability variable within the context of the subject population used, the current paragraph expands the perspective to view L2 readers in comparison with L1 readers. In this perspective the former group emerges as typically exhibiting certain clear reading deficiencies (cf. Chapter II, esp. B.iii.pp.47 - 56) which allow them to be seen as a low-reading ability group. On this wider basis one can state that organizers serve a positive remedial function with a specific category of poor readers. The limited L1 testing (cf. Chapter VIII) conducted confirms the validity of this comparison by demonstrating that, for native speakers reading similar texts under similar circumstances, advance organizers rarely have a facilitative function.

Thus, in terms of subject ability, two sets of observations arise from the data. In global terms, L2 learners, viewed as a group which typically experiences reading difficulties as compared with L1 readers, again viewed as a general group, derive benefit from the

remedial use of advance organizers. These presumably function by aiding L2 learners to approach their reading of a text in a more contextually sensitive manner (cf. Chapter VII for type of facilitation observed in terms of the three levels of contextual information examined, namely syntactic, semantic and discourse constraints). At the same time, within this category of readers, or, more precisely, within the sample studied, it is subjects with higher levels of verbal proficiency who are best able to perceive and actualize the facilitative potential of the organizer. It would appear that, for subjects with low verbal proficiency, it is difficult or impossible to perceive the relationship existing between the relatively abstract interpretative cues provided by the organizer (in the L1 in the current experimentation) and the L2 text specifics. Indeed, this often results in confusion, causing not infrequent deterioration in low ability subjects' test performance.

In addition to these general orientations a number of other interesting points have emerged from the current chapter. The first is that organizer facilitation would appear to take different forms depending on the difficulty level of the task relative to subjects' L2 proficiency and, thereby, their level of text comprehension. At middle to low difficulty levels one observes what has been referred to as "refinement level" facilitation, whereby the organizer enhances an already solid level of text comprehension. At high difficulty levels one observes "survival level" facilitation, whereby the organizer may be assumed to provide a much more basic level of assistance to subjects whose level of text comprehension is low. The following chapter will deal frequently with these terms and no more will be said of them here. Furthermore, Chapter VII will show

that these two levels of facilitation are generally marked by facilitation on different levels of contextual constraints, the former aiding discourse constraints while the latter provides a more syntactically oriented type of facilitation. The second most interesting point concerns the role of the text variable, which emerges as a significant conditioning factor on level of organizer effect, even if this does interact with the refinement-survival level facilitation distinction. This perspective will form the basis for the next chapter.

To sum up, then, the data lend strong though qualified support to Hypothesis I. Advance organizers do seem able to effect a meaningful level of comprehension improvement in the reading behaviour of the L2 learners examined. However, as level of facilitation is very uneven and by no means automatic at all levels, considerable care is required in their remedial use in a teaching context if their full potential is to be realized.

VI LEVEL AND DISTRIBUTION OF ORGANIZER EFFECT : TEXT BASED

A. Aims and approach

The aim of this chapter is to assess the degree to which the experimental data confirm Hypothesis I, namely that the presence of an advance organizer will improve subjects' text comprehension. The present chapter is to be seen as complementing the previous chapter, which had precisely the same aim but approached this within a subject-level based interpretative framework. Here, Hypothesis I will be examined in the light of the text variable, the interpretation developed being built on and incorporated into that of the previous chapter. The decision to adopt this dual approach to the assessment of Hypothesis I was made as a result of a preliminary analysis of the data, and thus reflects trends present in the data itself and not an a priori conceptualization of the functioning advance organizers.

As mentioned in Chapter IV, two tests were given to each level of subject. Including retests this gives a total of four text pairs. The analysis will focus on text pairs and not on single texts, though each text will be analyzed in its own right within this general framework. Since the two texts in each pair have a considerable amount in common in terms of subjects, difficulty level and discourse complexity (as compared with other text pairs at least), discussing them together is more productive of meaningful insights than treating them in isolation from one another.

The chapter will have five sections, one dealing with each text pair and a conclusions section. Furthermore, each text-pair section will have three sub-sections. Firstly, the texts themselves will be discussed in terms of difficulty level, content, discourse structure and organizer-text relationship. The discourse structure sub-section will contain a discourse outline of the propositional structure of

each text designed to highlight its degree of internal coherence and structuring. Secondly, and most importantly, is the interpretation section. This will open with an overview of the experimental results for the two texts in tabular form. Like similar tables in Chapter V mean T-ratios will be used for ease of reference, full details being available in Appendix IV. The Exact mean score for the total F.P. ordering control group population is used as a measure of text difficulty. In all other respects the column arrangement is as found in Chapter V p.126, p.143 and p.158. The main interpretation will focus on F.P. ordering results though M.H. ordering results will also be scrutinized. Sub-headings will reflect meaningful trends in the data and may therefore vary from one text-pair to another. Thirdly, a number of conclusions will be drawn for each text-pair illustrating the way in which the insights emerging influence judgement on the first experimental hypothesis. Throughout the chapter the comments and conclusions derived from Chapter V will be taken as read. Furthermore, when this appears necessary to provide an adequate interpretation, forward reference to the contents of Chapter VII may be made.

B. Texts 01, 02

i. Text characteristics

a. Difficulty level

The general criteria governing the selection of test passages were given in Chapter IV D.i.pp.108-109. Currently, under the heading of "difficulty level" reference will be made merely to the more quantifiable aspects of text structure insofar as these seem likely to have an effect on gross difficulty level of a text.

Of the text pair 01, 02 it is 01 which is clearly the more difficult, and by a sizeable margin in terms of Exact score: 23.7% vs. 39.8%. Deletion ratio in both texts was every 6th word. 01 has two more items than 02: 52 vs. 50, and a slightly higher ratio of content word deletions: 48% vs. 40%. it also has one more paragraph: 6 vs. 5. The syntax of 01, as defined by words per T-unit (cf. Hunt, 1971), was slightly more complex, with a mean of 14 words per T-unit as opposed to 13 words per T-unit in 02. If one assumes that content words, by virtue of belonging to an open word class, are potentially more difficult than function words, then the higher ratio of content word deletions together with the marginally greater words per T-unit ratio and the two extra deletions of 01 do indicate that this text might be slightly more difficult than 02. However, these more quantifiable aspects of the texts do not account, in and of themselves, for the very substantial difference in difficulty level emerging between these two texts - 12.1% on Exact.

The reason for this marked difference in the difficulty level of the two texts needs to be sought elsewhere, in an analysis of text characteristics. It may be added at this stage that 01 turned out to be more difficult for subjects than the writer had anticipated. This is why its mean Exact score is more similar to those of the retests H1(R) and H2(R) (26.2% and 21.6% respectively) than to that of 02.

b. Content

Content would appear to be the crucial factor determining not only the difficulty level of these two texts but also the different levels of experimental effect which emerged. In content terms there can be little doubt that 01 is more demanding than 02.

02 deals with the work of Unesco in combating illiteracy. While this topic might well lend itself to a complex treatment, in 02 it is dealt with in very simple terms. Furthermore, the text opens (paragraph I) with an outline of the situation vis-à-vis reading "dans notre pays", thereby relating the (presumably) new information in the text to a situation already familiar to the subjects. This may have served to make the text as a whole more accessible via the stated "us-them" comparison, and will be referred to in the interpretation section. The vocabulary used is simple and, given the topic, has a high degree of predictability. It is extremely likely that most of the content words used would appear on a word association test related to reading and illiteracy. The text thus contains a high degree of predictability both in terms of content and vocabulary.

Although the question has already been partly answered, the reader might at this stage legitimately ask why subjects' content and vocabulary knowledge relevant to each text was not assessed, since this would allow remarks such as those just made to be placed on an objective basis. There are two categories of reason for this omission, one practical and one theoretical. In practical terms there were problems in obtaining adequate subject availability for the main testing, since this was carried out in subjects' normal class periods, and the additional time required for such back-up testing would have put the good will of the class teachers to severe test. Furthermore, a reasonably clear assessment of these factors was obtainable via discussion with the subjects' class teachers, at least four separate teachers being involved at both 'O' Grade and Higher. On the theroetical level, prior testing, which would have been the most instructive in test construction, risked introducing another

type of pre-instructional variable into the testing situation. It will be recalled from Chapter III that pre-tests may have both an evaluative and an instructional function. Thus giving any type of text-related pre-test prior to the main testing would have entailed the risk of obscuring the effect of the experimental variable under consideration, namely the advance organizer. Post-testing would have been less unacceptable in this respect, but results would inevitably have been influenced by the text itself and, possibly, by the presence of the advance organizer for the experimental group. Consequently, for both practical and theoretical reasons it was difficult to avoid a certain degree of subjectivity in the assessment of topic and vocabulary familiarity. This, however, is informed subjectivity, being based on a consensus of teacher assessment.

01 deals with a topic (the use of tidal power to generate electricity) which not only was less likely to have impinged directly on subjects' field of consciousness but also had less links with familiar aspects of subjects' everyday life than 02. Even a relatively well read person might be at something of a loss to predict the content and vocabulary of the text on the basis of its topic alone, especially those paragraphs dealing with the details of the Rance project. Thus, 01 deals with a relatively unusual topic in a fair amount of detail and it can reasonably be assumed that subjects would have had only limited ability to predict the content and vocabulary contained in it. It was not considered unwise to use this text as it was adapted, like 02 in fact, from a French course aimed specifically at this level of learner (Downes and Griffith, 1973), though it had not been used with any of the experimental population.

In content terms, then, a clear difference emerges between the two texts. Two terms may now be introduced to make this difference more clear. Topic familiarity is relatively self-explanatory and refers to the degree to which subjects are likely to be familiar with the topic of the text. Topic complexity refers to the internal complexity of the topic. Some topics, or rather their treatment in a given text, have a higher degree of complexity than others. On both of these counts, then, 01 emerges as being more demanding than 02.

c. Discourse structure

The discourse structure outline given on the following page is designed to provide a clear view of the propositional structure of the text concerned. It works with sentence and paragraph units so that I.iii. means paragraph one sentence three. Its purpose is mainly to provide a clear overview of the relative degree of internal coherence of each text. The outline is given in English to facilitate reference by readers not familiar with French. The term "expansion" is used frequently to refer to a sentence whose propositional content introduces no new element to the text but merely expands on or illustrates a proposition introduced in a previous sentence.

Unlike certain text pairs, no very marked difference exists between the discourse structure of 01 and 02. Both texts have an introductory section which takes the form of a "scene-setter", a vignette which almost pictorially sets the reader's mind working along given lines. In 02 this is the first paragraph while in 01 it is staged over the first two paragraphs, something which indicates not only the greater complexity of the topic but also its greater distance from the

01

I.i. The tide: its familiarity.
ii. Expansion of i.
iii. Expansion of ii.

II.i. The tide as a source of power: Man's will to harness it.
ii. This realized in C20.

III.i. Tides differ in strength: strong in English Channel.
ii. Stronger the tide, more power produced.
iii. i+ii are why Rance chosen.

IV.i. Many difficulties in construction.
ii. Expansion of i.

V.i. Station built in estuary itself.
ii. Problems of i.
iii. Expansion of ii.
iv. Expansion of iii.

VI.i. Station: its form.
ii. Station: its functioning.
iii. Expansion of ii.

02

I.i. Everyone in UK can learn to read.
ii. Expansion of i.
iii. Expansion of ii.
iv. Expansion of iii.
v. Situation different in other countries.

II.i. More than half world's population can't read.
ii. Expansion of i.
iii. Expansion of i.

III.i. An organization exists that attempts to remedy II.
ii. i is Unesco.
iii. Unesco an international organization.

IV.i. What is work of Unesco ?
ii. Poor countries lack schools and teachers.
iii. Unesco helps remedy ii.
iv. Frequent language diversity.
v. Unesco assists with iv.

V.i. Unesco's work important.
ii. But problems numerous.

target readers' habitual frame of reference. Subsequently both texts introduce the text-topic (Unesco; the Rance project) and then give details of its functioning. Each paragraph has basically one idea, accompanied by a number of expansions, which serves to advance the topic of the text as a whole one stage further. Thus, in most respects there is a large amount of similarity between the writing style and discourse structure of both 01 and 02.

The only real difference which does exist between the two texts is in the degree to which the initial paragraph prepares subjects for the rest of the text. This point is at the interface between discourse structure and content, though is best discussed at this point of the analysis. Before going further, however, it should be made clear that the writer's comments are based on the assumption that the introductory paragraph or opening section of a text exerts an influence on the way in which readers perceive the remainder of the text, i.e. that they have a foregrounding function. The introductory paragraph of 02 consists largely of a positive assessment of literacy "dans notre pays" and thereby immediately establishes a link with a situation familiar to the subjects. It is a basic tenet of the theory of learning on which the current research is based (cf. Chapter III B.i.pp.66 - 69) that new material may be assimilated more easily if it is relatable to already known material. There is therefore good reason to believe that an introduction such as that of 02 which explicitly hooks the text into subjects' own experience in an accessible manner will facilitate subsequent text processing more than one which does not give subjects "pegs" around which to organize their reading.

The former type of introductory paragraph will certainly allow subjects to exercise prediction as a reading strategy to a greater degree than the latter type. 02, then, has an introductory paragraph which aids and encourages subjects to create a meaningful conceptual link between their personal experience and the text content.

This cannot be said of 01 to nearly the same degree, despite the basic similarity in discourse structure noted above. While the first paragraph, or even the first two paragraphs together, do serve as an introduction to a text on tidal power in a similar way to that in which the initial paragraph of 02 introduces the text on Unesco and its work, they do not seem to possess the same potential of relating the subsequent text content to subjects' existing experience as that of 02. This is due to the relative unfamiliarity of the topic of 01, but the fact remains that in this text subjects would have difficulty in generating an appropriate level of conceptual expectancy for the remainder of the text from their reading of paragraphs I and II. Thus, while in discourse terms the foregrounding function of the introductory sections of 01 and 02 are equivalent, in terms of the degree to which they are likely to have positively influenced subjects' conceptual and semantic readiness for the rest of the text a considerable difference exists between the two.

d. Organizer

Under this heading it is not intended to discuss organizer effect, which is a matter for the interpretation section. Rather, the aim is to make an assessment of the organizer-text relationship in the light of the criteria provided in Chapter III.

The similarity in writing style and discourse structure between 01 and 02 means that there is less scope for radical differences in organizer-text relationship than in other text pairs, RU1, RU2 for instance. Indeed, this relationship is very similar in the two texts. One difference does, however, emerge. The organizer in 01 is further removed from the specifics of the text than that of 02. All the propositions in 01 are instances of the organizer and may be meaningfully inserted into the conceptual framework which the organizer provides. However, the level of abstraction at which the organizer is pitched is much greater than that of the text itself, which is consonant with the theoretical bases of organizer construction. The organizer preceding 02 mirrors the content ordering and level of abstraction of the text more closely. This might lead to the criticism that it is moving in the direction of being more like an overview than an advance organizer (cf. Chapter III A.iii pp.63 -64), i.e. that it is constructed from the text largely by a process of simplification and omission of detail.

While this is a serious point there are reasons for the situation described. Firstly, the lower degree of semantic relatedness present in 01 requires that the organizer be at a more abstract level to include all the text components. By the same token, the greater semantic relatedness of 02 called for a lower degree of abstraction in the organizer. Secondly, one has the problem of constructing organizers whose level of abstraction does not exceed the subjects' processing abilities. More abstractly worded organizers could easily be constructed for both texts, but it is questionable whether these would

have been within the intellectual grasp of many 'O' Grade subjects. The necessity of using only a very limited level of abstraction in the organizers inevitably makes them appear more similar to overviews. However, with subjects of limited intellectual ability and verbal proficiency there is little alternative. These comments clearly imply a question as to the suitability of an essentially abstract type of reading adjunct with 'O' Grade subjects as a whole, and the previous chapter did in fact indicate that there are real problems in the use of advance organizers with lower ability 'O' Grade subjects. At the same time, these difficulties should not be exaggerated, being a matter of degree rather than indicating a fundamental defect. They do, nonetheless, point to the importance of the subject variable in organizer construction and, indirectly, to the question of whether all texts lend themselves equally well to use with advance organizers.

ii. Interpretation

a. Overview of experimental results

Certain aspects of the results given on the following page have been discussed in Chapter V in a subject level based context. Other aspects require reference to the type of organizer effect analysis to be carried out in Chapter VII. The current aim, however, will be to assess the way in which the text variable influences level and distribution of organizer effect on the basis of the general trends emerging from Chapter V. One cautionary note is called for with respect to the current text pair. 01, 02 cause, in certain respects at least, greater interpretative problems than any other text-pair. This may be partly the result of text specific factors

01-F.P. Ordering (23.7%)**

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: O.S.	C.W.S.	MEAN F.P.(M.H.) SCORE OF EXPT'L GROUP
01 Upper	33.3%	1.3*	.88	79.8%(32.2)
01 Middle	25.4%	-.75	-.45	58.3%(27.3)
01 Lower	12.3%	2.14*	1.18	37.9%(23.5)

02-F.P. Ordering (39.8%)

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: O.S.	C.W.S.	MEAN F.P.(M.H.)SCORE OF EXPT'L GROUP
02 Upper	59.1%	-.23	.13	80.6%(29.9)
02 Middle	35.6%	.68	.77*	61.2%(27.4)
02 Lower	24.8%	.42	1.68*	40.6%(21.4)

01-M.H. Ordering

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: O.S.	C.W.S.	MEAN M.H.(F.P.) SCORE OF EXPT'L GROUP
01 Upper	36.5%	1.08	1.22	35.8 (71.1%)
01 Middle	27.6%	-.05	-.09	26.8 (62.6%)
01 Lower	19%	-.56	-.67	20.9 (47.2%)

02-M.H. Ordering

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: O.S.	C.W.S.	MEAN M.H.(F.P.) SCORE OF EXPT'L GROUP
02 Upper	46.4%	-.64	.32	32.2(69.5%)
02 Middle	37.2%	.94	.80	27.6(68.6%)
02 Lower	26.6%	1.56*	2.07*	18.7(51.9%)

* Significance attained on at least one SS.

** These figures indicate total population mean score. When two figures occur they refer to that of initial and retest group populations in that order.

but is also due to the lower degree of population ability homogeneity of 'O' Grade subjects. These problems occur both within texts and between the two texts. Thus, while a satisfactory interpretation will be offered for the main trends in the results obtained, it is extremely difficult to account for all aspects of the data.

The results provided on the results summary page indicate a number of particularly interesting trends and these will be used as a basis for the details of the interpretation. As is customary, the interpretation will focus primarily on F.P. ordering, not only because this is the more unmarked data format but also because the statistics on p.131 show F.P. ordering to produce a better level of inter-group discrimination. In 01, the first point which merits consideration is the "leap-frog" effect whereby Upper and Lower ability groups show positive to significant organizer effect while the Middle group shows negative T-ratios. This may be contrasted with the very different result distribution in 02. This observation raises the second main interpretative problem, namely the fact that experimental effect in 01 is greatest on OS while is 02 it is greatest on CWS. Scrutiny of these points will require detailed reference to the preceding text characteristics section. Subsequent to this stage of the interpretation attention will be given to M.H. ordering results in an attempt to assess whether the way in which they differ from F.P. ordering results is indicative of meaningful trends in the data.

b. F.P. ordering

1. 01: distribution of organizer effect

The interpretative problems raised by the result distribution in 01 were alluded to in Chapter V within a subject level context, though it was not possible to offer a full explanation at that stage. It was, however, indicated that 01 is something of a problem in interpretative terms. General trends at 'O' Grade indicate that the optimal difficulty range for organizer facilitation is 25%-35% and that below that level subjects experience difficulty in actualizing the facilitative potential of the organizer. Both 01 Middle and 01 Lower contradict this trend, the former by showing negative organizer effect and the latter by showing positive to significant organizer effect. The reasonably high M.H. score of 01 Lower (23.5) with respect to the low F.P. score (37.9%) of this group was proposed as a partial explanation. The idea behind this is that the reasonably high level of verbal proficiency of the group, combined with their obvious need of the organizer's assistance, enabled subjects to perceive and actualize the facilitative potential of the organizer. This does not, however, help to explain the negative T-ratios observed in 01 Middle, a group which not only needed the organizer (Exact mean 25.4%) but also had quite a high level of verbal proficiency relative to the 'O' Grade population as a whole (M.H. score, 27.3). These factors, combined with the fact that 01 is an exception to general 'O' Grade trends in terms of type of organizer effect too, might lead one to discuss results on 01 as idiosyncratic and not meriting

serious attention. However, trends present elsewhere in the data corpus indicate that this would be a mistake as other texts reveal not dissimilar patterns of experimental effect. U2 is another instance of a "leap-frog" pattern of organizer effect (cf. p.224 below) and there is widespread evidence in the data for the existence of two levels of organizer effect, as emerged from Chapter V. Indeed, the interpretation of the 01 results will be based on the refinement and survival level types of facilitation identified previously together with certain less clearly identifiable text specific factors.

While these terms, refinement and survival level facilitation, have already been introduced within a subject level context their justification can be better perceived and understood within the present text-specific context. The Upper group has a mean F.P. score of 79.8%, which would indicate that virtually all its members would pass 'O' Grade French at a high level. The Lower group has a mean F.P. score of only 37.9%, which would indicate that many of its members would fail 'O' Grade French and that, in absolute terms, their command of the L2 is very limited. Mean Exact cloze scores, 33.3% and 12.3%, show the same substantial difference in the subjects' command of the L2. While caution needs to be shown in this respect, there is every likelihood that the two groups represented different levels not only on L2 proficiency but also of general academic ability. Mean M.H. scores 32.2 and 23.5 point in the same direction, namely that the Upper and Lower groups are very different ability groups in most respects. These subject ability

comments would lead one to believe that the way in which Upper and Lower group subjects perceived the text and, thereby, the type of organizer assistance they required and were able to derive was very different.

The Exact score of the Upper group, 33.3% shows that while these subjects still found 01 a demanding text they were able to obtain a reasonable understanding of what the text was about. It is thus legitimate to assume that the organizer was used by them to refine or perfect their text comprehension, hence the term refinement level facilitation. The Lower group, with an Exact mean of 12.3%, must have had very considerable difficulty in gaining any clear perspective on the text as a whole. It is therefore legitimate to assume that the organizer was used by this group to obtain a very basic level of global text comprehension, hence the term survival level facilitation. Subsequent text-pair analyses will reveal that this bipartite organizer facilitation is a frequent occurrence. This aspect of the data was not anticipated prior to testing. The use of these terms helps to encapsulate a certain aspect of the data. However, one should view the two terms as referring to the opposite extremes of a continuum and not to mutually exclusive categories. Level of organizer effect obtained at any given point of the data is the result of a complex interaction of difficulty level, subject ability (in terms of L2 competence and also of verbal proficiency) and text specific factors, so that similar levels of organizer effect may occur as the result of very different combinations of these factors.

While the interpretation does account for the level of experimental effect observed in the Upper and Lower groups

it does not help a great deal in accounting for the negative effect observed in 01 Middle. It would be tempting to offer an interpretation based on the refinement vs. survival levels of facilitation, and this would receive some support from other aspects of the data. This interpretation would propose that the Middle group did not have a sufficiently high level of text comprehension to make refinement level use of the organizer, but at the same time did not experience such major comprehension problems as to require survival level assistance. This might have some element of truth in it, but calls for far too much interference to be proposed with any degree of conviction. Sampling factors do not seem to account for the result distribution either. The Middle group does have a larger s.d. than the Upper and Lower groups. In percentages they are: Upper - 10.4; Middle - 11.5; Lower - 7.7. Thus the Middle group represents a wider spread of cloze test performance than do the other groups, but this in and of itself does not supply an explanation. It would appear that 01, presumably as a result of the unfamiliarity of its content and the resultant high level of global text difficulty produced an effect whereby the organizer either "clicked", subjects being able to perceive and actualize its discourse potential to a strong or significant degree, or did not do so, subjects failing completely to perceive its relevance and being confused by it. 02, which is a much easier text, produces a more gradated level of facilitation, virtually all subjects being able to derive some type or level of assistance from the organizer.

More difficult texts, in absolute terms, do have a greater tendency to produce this all-or-nothing effect.

2. 02: distribution of organizer effect

The second most intriguing aspect of the results on p.186 is the very different distribution of organizer effect observed between 01 and 02. This cannot adequately be discussed without reference being made to the OS-CWS distinction. The trend at 'O' Grade is for T-ratios to be greater on CWS than on OS, 01 being an exception. Thus, the result distribution in 02 will be examined as it emerges on CWS. There are two reasons for this. Firstly it is clearer, thereby facilitating analysis. Secondly, 'O' Grade results as a whole indicate that subjects drew greater benefit from the organizer in the derivation of content words, which indicates that the analysis of CWS results is legitimate in that it reflects a meaningful trend in subjects' organizer usage. This being said, two main questions need to be addressed. The first concerns the observed increase in organizer effect from Upper to Lower groups and the second concerns the reasons for the OS-CWS difference between 01 and 02.

It is suggested that the increase in organizer effect from Upper to Lower groups, as seen most clearly on CWS, is a result of the greater need lower ability subjects experienced for the interpretative context provided by the organizer. In other words, one is confronted with the greater need-greater organizer effect factor mentioned in Chapter V. While stating that this reflects the increased difficulty of the text relative to the L2 proficiency of

Middle and Lower group subjects would doubtless be correct, it still does not give the full picture. Under the heading of difficulty level above (p.176) it was stated that the main factors distinguishing 01 and 02 were content and, to a lesser degree, discourse structure. The relatively accessible content of 02 and its introductory paragraph, which serves to link the subsequent text specifics to subjects' personal experience, presumably allowed Upper group subjects to generate an adequate interpretative context for the text without reference to or need of the organizer. In other words, these subjects' high level of L2 competence relative to the task demands allowed them to perceive and exploit the contextual cues present in the text itself and thereby to spontaneously generate their own interpretative context for the text. The Middle group, with its lower level of L2 proficiency, was less able to pick up on the cues present in the text itself and were therefore more dependent on the organizer. Significance was attained on one SS in CWS. The Lower group, however, with a low level of F.P. proficiency (not to mention a low level of verbal proficiency and, possibly, of general discourse skills), must have experienced considerable difficulty in organizing its reading of the text meaningfully and was consequently heavily dependent upon the assistance provided by the advance organizer. Thus, the advance organizer may be seen as serving to fill in a given level of text perspective which more able subjects were able to generate spontaneously on the basis of the contextual cues present in the text itself. The fact that 02 is a relatively simple and accessible text produced (in both orderings) a gradated type of organizer

facilitation, different L2 ability levels being able to use the organizer to different degrees. 01, which was considerably more complex, produced a more extreme type of organizer effect, the "all-or-nothing" effect observed earlier.

The second point of interest, namely the higher T-ratios on OS and CWS in 01 and 02 respectively, is not unrelated to the last point. In a sense, the unmarked form of result distribution at 'O' Grade is for T-ratios to be higher on CWS. This suggests that subjects derived relatively greater benefit or assistance from the organizer in the derivation of the syntactic and semantic characteristics of content words than of function words, which was what had originally been predicted. The question then arises as to why the opposite should be the case in 01.

The content of 01 was judged (cf. p. 177 above) to be unfamiliar to subjects. Furthermore, given the level of L2 proficiency and general academic ability of the 'O' Grade population as a whole, 01 contains a considerable amount of detail of a reasonably specialized nature, much of which was most unlikely to have impinged on the awareness of the average 'O' Grade subject. Thus, while the results do indicate a significant level of organizer facilitation in Upper and Lower groups, it is likely that subjects would have experienced difficulty in generating the appropriate content words in the more detailed parts of the text, albeit in English. Indeed, the results clearly indicate that subjects used the organizer to greatest effect in the derivation of function words. It would appear plausible that the organizer, by providing a context within which the

specifics of the text may be interpreted more meaningfully, reduces the general level of text "opacity" and thereby allows subjects to infer with greater accuracy the intra-textual relationships present. Furthermore, by activating subjects' cognitive systems with respect to a given area of experience or knowledge (level of topic-related knowledge has a significant role in determining the degree to which this may take place) the organizer aids learners' predictive ability, aiding them to guess or infer the syntactic and semantic features of unknown (or deleted) words with a higher degree of accuracy than would otherwise have been the case. In the present case it is suggested that the unfamiliarity of the topic and vocabulary of 01 "blocked" subjects' ability to use the organizer on content words so that they, albeit unconsciously, shifted their focus to function words. The accessibility of the topic and vocabulary of 02, especially in view of the explicit link which paragraph one establishes between a familiar situation and the text specifics, would appear to have allowed subjects to use the organizer's facilitative potential relatively more in the derivation of content word form and meaning. These factors of organizer usage, which vary both between and within subject levels, will receive more detailed attention in the following chapter. However, some reference to them was necessary to elucidate 01-02 differences.

3. 01-02: comparative

Unlike the three remaining text pairs, it is difficult to make a single statement as to which of the two texts

shows greater organizer effect as this varies so much between OS and CWS. What is clear, however, is that text characteristics have a significant role to play in determining level and distribution of organizer effect and, in addition, type of organizer effect. These factors appear to be dependent on the degree to which subjects are able to spontaneously generate an interpretative context for the text they are reading on the basis of the cues present in the text itself. When the text is relatively simple in relation to subjects' level of L2 proficiency they seem able to make adequate use of the cues present in the text to generate an interpretative context (02 Upper) and thus derive little benefit from the organizer. When, however, the text presents greater processing problems, either as a result of subjects' more limited L2 proficiency (02 Middle and Lower) or as a result of greater difficulty in absolute terms (01), subjects rely more heavily on the interpretative context provided by the organizer. Unfamiliarity of content would appear to alter the way in which subjects, or the 'O' Grade sample population at least, use the facilitative potential of the organizer. On a text with an accessible topic and vocabulary subjects adopt a content word oriented strategy of organizer usage whereas with a more unfamiliar topic they adopt a strategy focusing more on relatively more predictable text items, namely function words. Finally, results would appear to be less predictable on a more demanding text such as 01. Clearly, then, the use of advance organizers calls for detailed

attention to text specifics. In the current text pair content, in terms of both topic complexity and topic familiarity, emerges as the main feature distinguishing between the texts, though this is not always the case.

c. M.H. ordering

The fact that M.H. ordering produces a more comprehensible pattern of experimental results than F.P. ordering was pointed out in Chapter V B.ii.pp.130 -137 in reference to 'O' Grade results as a whole. This phenomenon may be the result of two factors. Firstly, the lower inter-group discrimination of M.H. ordering produces less distinct groupings and thereby may serve to obscure certain more extreme types of organizer effect. The disappearance of the survival level facilitation observed in 01 Lower is the best example of this. Secondly, and more importantly, it appears clear that at 'O' Grade the abilities underlying level of M.H. score are a better predictor of subjects' ability to make meaningful use of the organizer than those underlying F.P. score. Therefore, ordering based on M.H. score produces a grouping which is more representative of the data trends conditioning level and distribution of organizer effect than that based on F.P. score. Above and beyond these general trends there is little of significance that can be said of F.P.-M.H. ordering differences within the present context.

The only difference worthy of note is the disappearance of positive organizer effect in 01 Lower on M.H. ordering. One very tentative interpretation may be offered for this, though without any great conviction. This group on M.H. ordering

had a higher F.P. score (47.2% vs. 37.9%), which would indicate a lesser need of the organizer, even though their mean Exact score (19%) is still very low. In addition, their lower M.H. score (20.9 vs. 23.5) would point to a reduced ability to use the organizer. These factors, combined with the "all-or-nothing" effect characteristic of 01, may have meant that the subjects failed to enter into or to be able to perceive the possibility of the extreme survival level type of facilitation demonstrated by the parallel group in F.P. ordering. This interpretation is consonant with that offered for 01 as a whole, but it calls for a considerable degree of inference and thus is offered with a substantial degree of reservation.

What differences do occur between the two orderings on 02 may reliably be attributed to differing interactions of difficulty level and subject ability, in terms of both verbal proficiency and L2 competence, within the framework of a given set of text characteristics. However, going beyond this general observation to attempt to account for the details of the differences observed would call for an unwarranted and largely unproductive degree of inference. In general terms, the interpretation offered for this text and its results on F.P. ordering applies equally to M.H. ordering, with only minor alterations.

iii. Conclusions

Texts 01 and 02 were discussed within the context of 'O' Grade results as a whole in Chapter V section B. It would therefore serve little purpose to repeat the general interpretation offered at that stage as regards the role of difficulty level and of

subject ability. The conclusions drawn here should therefore be seen as complementing those offered for 'O' Grade subjects in the previous chapter and the main lines of the interpretation developed at that stage are currently taken as read. Currently, only the new text specific aspects of the interpretation emerging from the present section will be recorded.

Survey of 01 and 02 results would lead to a more favourable assessment of the facilitative potential of advance organizers with 'O' Grade subjects than is the case when the results of the retests are included. The opposite is the case at the other subject levels. Difficulty level alone is not the answer since that of 01 is much the same as those of H1(R) and H2(R). It is rather that the discourse styles of 01 and 02, with their "scene-setter" type introductions, represent a much more simple entry to the text than H1 and H2 provide, which were originally written with Higher subjects in mind. The level of abstraction in the organizer itself is also greater in these texts, which further increases processing difficulties for 'O' Grade subjects.
While Chapter V voiced reservations as to the general applicability of the use of advance organizers at 'O' Grade, the results on 01 and 02 taken on their own are largely positive, significance being attained on four out of six groups. The conclusion would appear to be that, as a result of limited academic ability and discourse skills (of which M.H. score would appear to be at least an approximate indicator), the range of texts with which 'O' Grade subjects can make meaningful use of advance organizers is restricted. Level of F.P. in absolute terms may also be a factor limiting access to different text and discourse types. Thus, while the use of advance organizers at 'O' Grade lacks the robustness

observed at other levels, the current section has indicated that, if care is exercised in prior selection of texts to ensure an accessible level of discourse complexity, advance organizers do have considerable potential. Objective measures of text difficulty such as Exact Word score or words per T-unit do not give any more than a very approximate measure of those factors likely to influence subjects' ability to make meaningful use of an organizer with a given text. This calls for scrutiny of factors such as discourse structure and content, in particular topic familiarity and topic complexity.

In addition to these general orientations, the analysis in this section reveals a number of other interesting text-related aspects of organizer functioning. There is evidence for the existence of a greater need-greater organizer effect factor: the greater the difficulty subjects experience in generating an adequate interpretative context for a text the greater is the likelihood of them deriving benefit from the organizer. "Greater difficulty" may be seen in absolute terms, some texts are innately more complex than others, or in relative terms, for subjects with lower L2 competence a given text will cause greater problems than for subjects with a higher level of L2 competence. At the same time, there would appear to be a given level of organizer-text processing difficulty which precludes 'O' Grade subjects from making meaningful use of an organizer (cf. evidence of retests). At the same time, the organizer can function in different ways and at different levels. Refinement and survival levels of facilitation are the most obvious example of this. Subjects may also make differential use of the organizer, albeit unconsciously, deriving benefit from it sometimes in terms of the

derivation of content words more than of function words, and sometimes of function words over content words. Results for 01 and 02 indicate this to be a text related phenomenon though there is considerable evidence that subject level trends also exist.

In conclusion, then, it is clear that an adequate interpretation of the experimental data obtained is impossible without detailed scrunity of text characteristics and of their interaction with difficulty level and subject ability.

C. Texts H1, H2

i. Text characteristics

a. Difficulty level

Of the current text pair H2 is the more difficult by a substantial margin in terms of Exact score: 40.9% vs. 50.8% on initial testing and 21.6% vs. 26.2% on retesting. While both passages were of similar length, H1 ca. 330 words and H2 ca. 350 words, deletion rate differed, being every 6th word in H1 and every 5th word in H2. This produced 69 items in H2 against 55 in H1. However, H2 has a lower ratio of content words among its deletions than H1: 48% vs. 58%. The mean number of words per T-unit is the same in both texts, 15, which would indicate a similar level of syntactic complexity. As regards number of paragraphs, H1 has four while H2 has five plus one single sentence paragraph. Thus, the only quantifiable aspect of text structure which might go to account for the higher difficulty level of H2 is the greater number of deletions in that text, which not only increases the productive demands placed on subjects but also reduces the

availability of text cues. It will soon become evident, however, that this factor alone is unlikely to have caused the marked difference in difficulty level and in level and distribution of organizer effect between the two texts.

b. Content

H2 appears to be the more demanding of the two texts in terms of both topic familiarity and topic complexity. It deals with the problems of hunger and poverty in the Third World and the means of attacking these problems. While one cannot assume that Higher students are unaware of such questions, it is unlikely that the majority of subjects at this level would have any very clear ideas as to the issues involved. This would tend to limit their ability to predict text content and would, through the absence or weakness of the necessary mental schemata, increase the difficulty they would experience in generating an appropriate interpretative context for the text specifics. Furthermore, the text employs a certain type of vocabulary related to the topic which is very likely to have been unfamiliar to subjects whose exposure to the L2 was limited to the conversationally oriented textbooks used up to 'O' Grade in French. Paragraphs 4-6 of H2 contain a number of specific proposals and counter-arguments, which adds a reasonable degree of ideational density to the text.

H1 is based on an explicit comparison between national and regional newspapers in France. The topic is thus immediately more circumscribed than that of H2. It is built around a bi-polar comparison/contrast style of presentation, unlike the problem presentation/assessment style of H2 which further

serves to limit the scope of the topic and to aid prediction. While a certain amount of close argumentation does exist in H1, it is more limited than that of H2 and takes place within a more clearly delimited conceptual frame of reference than that of H2. Furthermore, and this is a very important point, there is much greater scope for subjects to relate the content of H1 to their own experience, either via a comparison with national and regional papers in the UK or, more simply, on the basis of their own experience of what they do or do not like about the newspapers they see around them. The more delimited topic of H1, together with the probably more accessible nature of the concepts dealt with in it, all being related to the topic "newspapers-readership", produces a simpler type of vocabulary usage. This increased familiarity in terms of topic and vocabulary may safely be assumed to positively aid semantic prediction in reading, text content being more easily relatable to subjects' existing conceptual systems or mental schemata.

c. Discourse structure

On one level at least they are similarities between H1 and H2 in terms of discourse structure (cf. discourse outline on following page). Both have two parts of roughly equal length. In H1 the first two paragraphs focus on the Parisian press and the last two on the regional press, the final sentence of paragraph two serving a linking function. In H2 the first two paragraphs outline the rich world-poor world dichotomy, and the three final paragraphs each outline one approach to solving these problems and its attendent difficulties. A single sentence paragraph serves a linking function between these two

H1

I.i. Twelve Paris papers.
ii. Expansion of i.
iii. Expansion of i.

II.i. Ref. to I: Parisians have good choice.
ii. Contradiction of i.
iii. Expansion of ii.
iv. Expansion of ii.

III.i. Other papers exist in France.
ii. Expansion of i.
iii. Expansion of ii.
iv. Expansion of iii.

IV.i. Ref. to III: Each regional paper concerned with a specific region.
ii. Expansion of i.
iii. Expansion of ii.
iv. Expansion of iii.
v. Expansion of iv.

H2

I.i. Recognition of human liberties.
ii. Limits of i.
iii. Hunger in the world.
iv. Expansion of iii.
v. Injustice of iii, iv.

II.i. Rich-poor gap increasing.
ii. Expansion of i.
iii. Expansion of ii.

III.i. What can be done ?

IV.i. Ref. to III: Distribute resources better.
ii. Difficulties of i.
iii. Expansion of ii.
iv. Expansion of iii.

V.i. Ref. to III: Help research.
ii. Necessity of i.
iii. Expansion of ii.
iv. Difficulties of i.

VI.i. Ref. to III: Population.
ii. Expansion of i.
iii. Proposal: limit births.

main text divisions. However, the two texts can be contrasted on two main counts.

The first of these concerns the nature of the opening paragraph and its relation to the rest of the text. The opening paragraph of H2 serves as a good introduction to the text topic and, while it does not explicitly prime the reader for the specific proposals to be made, it establishes in the reader a clear view of the scope and orientations of the text as a whole. The opening paragraph of H1, which is admittedly shorter, would lead one to believe that the text is largely concerned with the Parisian press, i.e. no allusion is made to the comparative nature of the text. Thus, one could infer that the initial paragraph of H2, by activating readers' conceptual expectancy to a greater degree than that of H1, would lessen the facilitative potential of the organizer, the text itself giving a significant level of foregrounding. In discourse terms this would be plausible, though the results show that it was not the case. Without prejudging the interpretation, it may be pointed out that the complexity of H2's initial paragraph and its relative abstraction may have prevented all but the most sophisticated readers from perceiving its discourse potential. The lower-level and more accessible style of the initial paragraph of H2 may, in practice, have served better to activate subjects' semantic associations and, thereby, their ability to predict upcoming text characteristics.

The second respect in which differences emerge between the two texts is in terms of their relative internal complexity. All four paragraphs of H1 are largely made up of a topic

sentence plus expansions. This means that there is a high degree of semantic relatedness within each paragraph, and this clearly reduces the amount of conceptual processing involved in reading these text segments. While four paragraphs in H2 do have a clear topic sentence there is more diversity in their content than is the case of H1. This calls for a greater degree of conceptual organization on the readers' behalf. These comments are not unrelated to the scope of the topic being dealt with (cf. Content, above), but the way in which the treatment of the topic is staged in discourse terms plays a significant role in subjects' text processing and their relative need of and ability to use the organizer.

d. Organizer

Both organizers seem to fulfil the theoretical criteria governing organizer construction adequately. The propositions contained in each text are all instances of the respective organizer, which in turn is pitched at a higher level of abstraction and generality than the text itself. At the same time, the H2 organizer does emerge as being further removed from the specifics of the text than that of H1, which mirrors the staging of the text more closely. On the one hand this may be seen as being a reflection of the different scope of the topics dealt with. That of H2 is essentially more vast than the bi-polar contrast of H1 and therefore requires its organizer to be pitched at a higher level of abstraction in order for it to supply a sufficiently broad interpretative framework for the text specifics. At the same time, one could easily conceive of a more abstract organizer for H1,

for example, one focusing on newspaper readership in more general and abstract terms. The difficulty here, of course, is assessing the appropriate degree of abstraction to be used in organizer wording, since this cannot be assessed merely by reference to the target text but needs to take subject ability into account. These factors will be referred to again in the interpretation.

ii. Interpretation

a. Overview of experimental results

The results on the following page indicate a number of clear trends in the data meriting attention. Firstly, level of organizer effect is much greater in H2 than in H1. Secondly, in addition to this difference in level, the distribution of organizer effect between the two texts differs markedly. In H2, T-ratios are highest in the Upper group and decline as difficulty level increases, whereas in H1 the Upper group shows negative T-ratios these rising slightly to the Lower group and then falling off again in the retest groups. There are also indications that Higher and 'O' Grade subjects made different use of the organizer, the former producing T-ratios greater on OS while the latter on CWS. Finally, certain differences between M.H. and F.P. ordering will need attention, in particular the high level of organizer effect noted in H1(R) Upper on M.H. ordering, which was absent from F.P. ordering.

b. F.P. ordering

1. H1-H2: level of organizer effect

Under this heading an effort will be made to account for the markedly different levels of experimental effect observed in these two texts. Distribution of experimental

H1 - F.P. Ordering (50.8%; 26.2%)

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN F.P.(M.H.) SCORE OF EXPT'L GROUP
H1 Upper	65%	-1.97	-2.16	8.9** (33.5)
H1 Middle	51.2%	.50	.43	6.6 (29.8)
H1 Lower	36.2%	.73	.57	3.7 (27.5)
H1(R) Upper	34.1%	.13	.20	74.8% (19.3)
H1(R) Lower	18.2%	-.34	-.36	39.4% (20.5)

H2 - F.P. Ordering (40.9%; 21.6%)

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN F.P.(M.H.) SCORE OF EXPT'L GROUP
H2 Upper	48.3%	3.19*	2.93*	9.4 (34.1)
H2 Middle	39.1%	1.17	.96	6.6 (30.2)
H2 Lower	35.3%	.81	.78	4.5 (27)
H2(R) Upper	30.5%	.41	.85	73.4% (24.4)
H2(R) Lower	12.7%	-1.33	-.65	34.5% (19.3)

H1 - M.H. Ordering

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN M.H.(F.P.) SCORE OF EXPT'L GROUP
H1 Upper	62.6%	-2.39	-2.86	35.3 (6.7)
H1 Middle	52.6%	.54	.36	29 (6.2)
H1 Lower	37%	.52	.71	24.8 (5.3)
H1(R) Upper	29.1%	1.22	1.84*	27.3 (70.8%)
H1(R) Lower	22.5%	-.42	-.81	19.2 (48.5%)

H2 - M.H. Ordering

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN F.P. (M.H. SCORE OF EXPT'L GROUP
H2 Upper	47.3%	2.03*	1.98*	36.2 (8)
H2 Middle	41.5%	.68	.74	28.4 (6.4)
H2 Lower	37.4%	-.20	-.47	22.3 (5.9)
H2(R) Upper	25.1%	.68	.94	26.7 (68.6%)
H2(R) Lower	19%	-.58	-.65	18.6 (46.7%)

*significance attained on at least one SS.

**F.P. scores based on different gradings in ititial and retest groups, therefore are not intercomparable.

effect among the test groups taking each text will be examined subsequently. The question here is clearly why experimental effect is so much greater on H2 than H1. There would appear to be two main categories of explanation for this. The first is related to the content and the second to the discourse structure of the two texts. A third factor might also merit attention, but as it is of lesser importance will be dealt with here briefly. In two texts of virtually equal length, the higher deletion ratio of H2 (5th vs. 6th in H1) not only increased the number of test items but also reduced the number of cues present in the text. This would logically imply that subjects would have experienced greater difficulty in generating an interpretative context for H2, assuming all other factors were equal, than for H1. Therefore one may suppose they would have experienced greater need of the interpretative context supplied by the organizer than was the case in the text with a lower deletion ratio and, thereby, a greater number of text cues to meaning. These comments clearly point to the operation of a greater need-greater organizer effect factor in the interpretation of the results and this will indeed be the main orientation of the subsequent interpretation.

The content differences between H1 and H2 in terms of topic complexity and topic familiarity were outlined in sub-section i. above. The factors would appear to have exerted an influence on subjects' need of and ability to use the organizer in relation to the degree to which subjects were able to generate an interpretative context for the

texts concerned without the assistance of the organizer. The relative simplicity of the topic of H1, the bi-polar national-regional press contrast, and the relative ease with which the concepts involved could be meaningfully linked to subjects' personal experience may safely be assumed to have aided subjects to generate an adequate interpretative context for the text specifics largely without the presence of the advance organizer. Thus, the degree of organizer facilitation observed in H1 is very limited, as a result of the limited need subjects experienced for its conceptual assistance in organizing their text processing. The situation in H2 is very different. Apart from the complexity of the topic itself, there is only limited scope for subjects to relate the text contents to their personal experience. Consequently, they will have experienced substantial difficulty in generating a sufficiently broad interpretative context for the text specifics unaided, i.e. on the basis of the text itself in relation to their related mental schemata. As a result of this they would have experienced greater need of the interpretative framework provided by the organizer.

Similar conclusions may be reached with respect to discourse structure. The discourse outline on p.204 shows that H1 is largely made up of paragraphs with a topic sentence + expansions structure. Thus the internal staging of H1 is clearly marked, so that the reader is given a high degree of direction and numerous cues in his discourse level processing of the text as he proceeds through it. This

clearly aids the process of hypothesis formation and confirmation, making it easier for the reader to generate his own interpretative context for the text in relation to his existing mental schemata. H2 is more complex in a number of respects. Apart from the higher deletion ratio mentioned earlier, there is less predictability at paragraph level. The last three paragraphs argue round a concept instead of expanding on a basic idea as is the case with H1. Indeed, paragraph two is the only paragraph in H2 which has a clear topic sentence + expansions structure. Furthermore, the initial paragraph of H2 is rather abstract and possibly only the more able subjects would have been able to realize its discourse potential in the text as a whole. Finally, the greater number of paragraphs in H2 is likely to have increased global processing problems. This raises questions of wider significance which will call for discussion in a more general context subsequently. While it may be easier to process a text with a larger number of shorter paragraphs piecemeal, it is likely that such a text is harder to process in global terms as a result of the greater number and variety of conceptual units which need to be encompassed within an interpretative framework. In other words, a text which is split up into a larger number of conceptual blocks may make it more difficult for subjects to generate an interpretative context at a sufficiently high level to encompass all the text specifics in an adequate manner. Since the organizer is designed precisely to do this, it is not wholly surprising that a

higher level of experimental effect be observed in H2 over H1. Thus, in terms of discourse structure, the higher level of organizer effect observed in H2 would appear to reflect the greater difficulties experienced by subjects in spontaneously generating an adequate interpretative context for the text specifics, a task which was much easier in H1.

The conclusion would appear to be that, as a result of both content and discourse factors, the higher level of experimental effect in H2 over H1 is the consequence of the greater need-greater organizer effect factor.

2. H1-H2: distribution of organizer effect

The greater need-greater organizer effect factor may be said to account for the differences in level of experimental effect between H1 and H2. However, when one comes to examine level of experimental effect within each text this factor must be seen in conjunction with subjects' ability to perceive and to actualize the facilitative potential of the organizer.

Level of organizer effect in H1 increases from Upper to Lower initial test groups and then falls off on the retest group, significance being nowhere attained. The explanation for the negative organizer effect in the Upper group would appear to arise from a conflict between subjects' spontaneously generated and therefore highly individualized interpretative framework for the text and that provided by the organizer. This phenomenon has been discussed elsewhere and the debate will not be repeated here. Simply, though, it is reasonably clear that the Upper group subjects were

able to use the semantic cues present in the text itself, in conjunction with their text-relevant mental schemata, to produce an adequate interpretative context, the organizer merely functioning as a distractor. In the Middle and Lower groups level of organizer effect is limited, though it is slightly greater in the Lower group. Given the accessibility of H1, as outlined under the previous sub-heading, there was relatively limited scope for organizer facilitation and what benefit subjects did derive from it was limited and selective (e.g. in the Middle group one SS falls just .006 short of significance while others are low or even negative). Nonetheless, the fact that organizer effect increases slightly from Upper to Middle and from Middle to Lower indicates that as subjects' ability to manipulate text cues decreased their need of the organizer increased, i.e. the greater need-greater organizer effect factor was at work.

If the latter factor was the only one involved one would expect the retest groups to show even greater organizer effect, but this is not the case. Both groups have low M.H. scores, indeed, the Upper retest group has a lower score than the Lower retest group. In view of this fact it would appear that, although these groups doubtless experienced considerable need of the organizer, they lacked the ability in terms of verbal proficiency (Upper and Lower groups) or L2 competence (Lower group) to make meaningful use of the organizer. Thus, the text-organizer relationship exceeded their discourse processing skills producing very limited or even negative experimental effect.

The distribution of organizer effect in H2 shows the opposite trend to that in H1, decreasing as subject ability decreases. Since H2 is a complex and demanding text, one might assume that it was the lower ability subjects who would experience the greatest need of the organizer, and this is indeed likely to have been the case. However, in view of the complexity of the text and the resultant abstraction of the organizer, it would appear that it was only high ability subjects who were able to perceive and actualize the full facilitative potential of the organizer. While all groups except H2(R) Lower show clearly positive experimental effect, the level declines as subjects' ability declines. The only exception to this trend is H2(R) Upper whose mean CWS T-ratio is slightly greater than that of the H2 Lower, though this is part of a general trend among 'O' Grade subjects for T-ratios to be greater on CWS and does not seriously undermine the main trend. The reason why H2(R) Upper has higher T-ratios than H1(R) Upper even though on a more demanding text may reliably be attributed to the higher M.H. score of the former group. Thus, the greater need all subjects experienced for the assistance of the organizer in H2 produced a consistently higher level of organizer effect on this text than on H1. At the same time, however, the complexity of H2 in its own right and of the organizer-text relationship meant that, despite their lesser need in absolute terms, it was higher ability subjects who were best able to make use of the facilitative potential of the organizer. In this text, then, the operation of the greater need-greater organizer effect factor was blocked

by the interaction of subjects' need of and their ability to use the organizer.

c. M.H. ordering

The results distribution in M.H. ordering is basically the same as that observed in F.P. ordering and therefore there seems no reason to revise the interpretation offered. As observed under this heading in the previous section (01, 02) slight differences in level of organizer effect may be attributable to different combinations of difficulty level and subject ability. Currently, just three aspects of M.H. ordering results will be focused upon, all three having similar implications.

The first is the substantially higher level of experimental effect observed on H1(R) Upper in M.H. ordering as compared with F.P. ordering. It will be recalled that the trend for level of organizer effect to rise as subject ability fell from Upper to Lower groups on H1 was interpreted in terms of the greater need-greater organizer effect factor. It may also be recalled that H1(R) Upper "should" have exhibited a higher level of organizer effect than it did, the group presumably being less able to make use of the cues present in the text itself. This was not the case in F.P. ordering, though the same group shows positive to significant facilitation on M.H. ordering, which is more what would have been expected. The explanation may be sought in subject ability, as indicated below.

	H1(R) Upper		
	Exact score	F.P. score	M.H. score
F.P. ordering:	34.1%	74.8%	19.3
M.H. ordering:	29.1%	70.8%	27.3

The group on M.H. ordering has a lower F.P. score, which in turn results in a lower control group Exact score (F.P. scores of experimental and control groups are almost invariably within an odd percentage point of one another). This increases the need subjects would have experienced for the organizer as a result of their more limited ability to make use of the text cues to generate an interpretative context. Furthermore, the substantially higher M.H. score of the M.H. ordering group indicates a level of verbal proficiency in the group sufficient to allow them to make use of the organizer to good effect. This reinforces the observation made in Chapter V that a high level of verbal proficiency is a key factor in subjects' ability to manipulate the discourse potential of the organizer at high difficulty levels.

Secondly, H2 Lower has negative organizer effect on M.H. ordering instead of the positive effect of the parallel group on F.P. ordering. H2(R) Upper on M.H. ordering shows slightly greater organizer effect even though the difficulty level in terms of Exact score is greater than in F.P. ordering. The explanation for both these phenomena may be sought in level of M.H. score.

	H2 Lower	H2(R) Upper
	M.H. score	M.H. score
F.P. ordering:	27	24.4
M.H. ordering:	22.3	26.7

Tha fall of M.H. score in H2 Lower results in a sharp decrease in subjects' ability to use the organizer, while an increase in the M.H. score of H2(R) Upper results in a slightly improved ability to do this, albeit at a higher difficulty level, all

of which strongly indicates that the abilities monitored by the M.H. test are closely related to those conditioning subjects' ability to make meaningful use of organizers in an L2 context.

iii. Conclusions

With respect to Hypothesis I the most significant aspect of the preceding discussion is that certain text types lend themselves less to use with advance organizers than others. Basically, texts with a high degree of internal discourse staging for which subjects can, with relative ease, generate an adequate interpretative context, leave less scope for organizer facilitation. It was pointed out in sub-section i, sub-heading d. above that a more abstract wording and form could have been used in the construction of an organizer for H1. While this is not verifiable, it is unlikely that such changes would have produced a higher level of organizer effect, for the reasons just given. Advance organizers would appear to have the greatest facilitative potential with texts for which, for reasons of topic complexity, topic familiarity and discourse structure, subjects experience difficulty in generating an interpretative context capable of encompassing meaningfully the text specifics.

At the same time, when the difficulty level of even less complex texts is high relative to subjects' level of L2 competence, i.e. when the subjective difficulty level is high, subjects are able to derive positive to significant benefit from an organizer provided their level of verbal proficiency is sufficiently high (cf. H1(R) Upper, M.H. ordering). This is clearly an instance of survival level facilitation and implies that even texts which leave little scope for refinement level facilitation do generally

allow for the more basic type of survival level facilitation. In H2, a complex and demanding text, one finds both, subject groups with Exact means as different as 48.3% (H2 Upper, F.P. ordering) and 25.1% (H2(R) Upper, M.H. ordering) deriving positive assistance from the organizer.

Thus, with the exception of lower ability 'O' Grade subjects the results on H1 and H2 are largely positive, but they make it clear that the appropriate use of advance organizers requires very careful attention to text characteristics and to subject ability. Advance organizers do have considerable facilitative potential but not at the same level on all texts.

D. Texts U1, U2

i. Text characteristics

a. Difficulty level

Exact scores indicate that U2 is the more difficult of the two, and by a sizeable margin, 40.2% vs. 50% for the initial test group and 21.5% vs. 27.2% for the retest group. Deletion ratio is the same in both texts, 5th word, and both texts have virtually the same number of items, U1-65, U2-66, though U1 has a higher ratio of content word deletions than U2, 62% vs. 41%. None of these factors give any indication of why U2 should be more difficult. However, U2 does have more paragraphs than U1, 7 vs. 4, and a very much greater mean of words per T-unit, 37 vs. 19.

b. Content

In terms of content there is some degree of similarity between U1, U2 and H1, H2. U1 surveys the growth of the regional press in France since 1945 and U2 deals with the problems of development aid to the Third World. At first sight it is

not easy to make a clear statement as to which text was more demanding in content terms, as was possible with 01, 02 and H1, H2 and as will be the case with RU1, RU2. Both texts deal with their respective topic in a fair amount of detail and both contain some segments which are relatively self-evident together with others which are far less so. This being said, certain differences are perceptible, and these point to U2 as being the more demanding text in content terms.

This difference is most evident with respect to topic familiarity. One cannot exclude a certain level of awareness among university students of the question of development aid. Indeed, U2 was adapted from a selection of readings designed for first year university students. However, while U2 deals with concepts and concerns which may have been familiar to certain subjects, U1 deals with concepts which may safely be assumed to have been familiar to most if not all subjects, namely newspapers and their readership, albeit in a French context. It is therefore likely that the average subject would have been better able to establish a meaningful link between the content of U1 and his personal experience than would have been the case with U2.

In terms of topic complexity there are difficulties in distinguishing between the content itself and its type of presentation, which is more a question of discourse structure. However, U2 deals with a wider range of complex issues than does U1, and these are less easily relatable to one another unless the reader has a solid grasp of the social and political implications of development economics, e.g. rich world-poor world, development aid, social inequality within Third World

states, internal tensions, and the potential international repercussions of these, the problems of the post-colonial era. While U1, in paragraph IV in particular, does go into a fair amount of detail, the concepts dealt with all centre round the theme of newspapers and their readership. This relative thematic unity may reliably be considered to aid subjects' semantic organization of their text processing.

Thus, in terms of both topic familiarity and topic complexity there is good reason to believe that subjects would have experienced greater difficulty in predicting concepts and vocabulary in U2 than U1 and, thereby, would have been relatively disadvantaged at both micro- and macro-levels of text processing in U2 with respect to U1.

c. Discourse structure

Even a cursory glance at the discourse outlines of U1 and U2 on the following page will show that there are substantial differences in the construction of the two texts. Each paragraph in U2 is made up of a single complex sentence and the propositional content summary does not at all adequately reflect this complexity. This writing style produces a high level of text density which calls for not infrequent back-tracking even for a fluent reader of French. The propositional content of each paragraph/sentence could have been expressed in a more accessible manner, but the author chose to adopt a style which presents the complexity of the situations described "at a glance". The resulting use of complex noun phrases and subordinate clauses adds significantly to the processing demands of the text, as reflected by the high words per T-unit ratio. U1 is written in a much more straightforward and easily

U1

I.i. Growth of regional press since 1945.

ii. i. partly at expense of Paris press.

iii. Expansion of ii.

iv. Expansion of iii.

v. Expansion of i.

II.i. Reason for regional press.

ii. Expansion of i.

iii. Expansion of ii.

III.i. Paris papers: most have clear political viewpoint.

ii. Regional papers: need wider appeal.

IV.i. Growth of regional press caused disappearance of smaller papers.

ii. Expansion of i.

iii. Distribution area shifted from department to region.

iv. Expansion of iii.

v. Expansion of iv.

U2

I.i. Urgency of aid to developing countries.

II.i. Results of aid to date inadequate.

III.i. Quote: gravity of situation; inadequacy, misuse of aid to date.

IV.i. Risk of internal social conflict.

V.i. Risk of international conflict.

VI.i. Moral injustice of situation.

VII.i. need to reorganize aid.

processable style. This is the most obvious difference in the discourse structure of the two texts, though others do exist.

There is very little discernible difference in the degree to which the initial paragraph of each text provides foregrounding for the remainder. Both establish the basic theme of their text in relatively clear terms and contrasting the two texts in this respect is not productive. There is far less conceptual staging in U2, however. As each paragraph is made up of a single sentence, there can clearly be no topic sentence to guide paragraph level processing, the reader having to read the whole paragraph to gain an insight into its place and role in the text as a whole. U1, on the other hand contains more frequent topic sentence paragraph openings and this provides the reader with gradual cues in his text processing. Furthermore, the fact that U1 is made up of four paragraphs, each having a relatively clear topic makes text level processing easier, even if the reader has to process larger units. U2 has shorter paragraphs and this increases the difficulty readers may experience in relating these separate conceptual units to the thematic development of the text as a whole.

In conclusion, then, the complex syntax and lower level of discourse cues present in U2 may be assumed to have increased the discourse level processing demands which this text, as compared with U1, placed on readers.

d. Organizer

There is little perceptible difference in the organizer-text relationship in these two texts. That of U2 mirrors the propositional structure of the text itself more closely than that of U1, i.e. it might be considered to have moved slightly

in the direction of being an overview. Indeed, in practical terms, advance organizers and overviews sometimes appear as points along a continuum rather than wholly distinct entities, even if the theroetical distinction is clear. However, in the present instance both organizers do fulfil the theoretical requirements governing organizer construction adequately. What difference there is between them in the relationship each has with its text is likely to be the result of the relative specificness of the text topic. U1 deals with a not uncommon process and one can imagine the organizer of U1 being used with a wide variety of texts dealing with this general topic. U2, on the other hand, is a rather polemic text which focuses on one specific problem, even if it draws in a range of related issues. The text thus has a more specific focus of attention than U1 and the organizer reflects this, though one could conceive of a more abstract organizer format, especially if a high degree of related background knowledge could be assumed of the subjects using it. In this testing, however, such an assumption would have been unwarranted.

ii. Interpretation

a. Overview of experimental results

The results for U1, U2 on p.224 indicate two main lines of investigation. The first concerns the higher level of experimental effect observed in U2 over U1. The second concerns the distribution of experimental effect within each text. This point may be viewed from two angles. The first of these raises the interpretative problem of why experimental effect is greater in the Upper initial test group than in the Lower. This trend is present in both texts but is much more

U1 - F.P. Ordering (50%; 27.2%)

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN F.P.(M.H.) SCORE OF EXPT'L GROUP
U1 Upper	58%	.37	.42	2 (39.6)
U1 Lower	41.9%	.16	.25	1 (36.7)
U1(R)	27.2%	1.45*	1.3*	N.A. (30.6)

U2 - F.P. Ordering (40.2%; 21.5%)

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN F.P.(M.H.)SCORE OF EXPT'L GROUP
U2 Upper	46.2%	1.7*	1.57*	2 (40)
U2 Lower	34.1%	-.26	.67	1 (32.2)
U2(R)	21.5%	1.96*	1.67*	N.A. (32.6)

U1 - M.H. Ordering

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H.(F.P.) SCORE OF EXPT'L GROUP
U1 Upper	52.6%	-.95	-.85	42.9 (1.62)
U1 Lower	41.1%	.33	.76	34.2 (1.57)
U1(R)	27.7%	1.26*	1.11*	30.6 (N.A.)

U2 - M.H. Ordering

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H.(F.P.) SCORE OF EXPT'L GROUP
U2 Upper	45%	.69	.7	42.7 (1.78)
U2 Lower	36.2%	.26	.71	30.7 (1.27)
U2(R)	21.4%	1.88*	1.54*	32.6 (N.A.)

pronounced in U2 than in U1. The second concerns the high level of experimental effect observed in the retest groups. Taken together, these two trends produce a distribution of results in which experimental effect is greatest at the opposite ends of the difficulty spectrum.

b. F.P. ordering

The interpretation offered for U1, U2 is not unlike that offered for H1, H2, being built around the greater need-greater organizer effect factor. At the same time, reference to refinement and survival levels of facilitation is an essential aspect of the within-text result distribution analysis. As both of these factors have already been discussed at previous stages of the interpretation, an attempt will be made to avoid unnecessary repetition.

1. U1-U2: level of organizer effect

As indicated in sub-section i. above, U1 is a less demanding text in a number of respects. Its less complex and more circumscribed topic, the greater ease with which the concepts it introduces could be related to subjects' personal experience and its simpler syntax and discourse structure go together to make it a great deal easier for subjects to link the text content of U1 to their existing cognitive structure and, thereby, to generate for the text specifics an appropriate interpretative context. On the micro level semantic constructivity, the process whereby familiar vocabulary items trigger off associative and inferential relationships with related concepts, can function with greater ease when the concepts and vocabulary in a text are familiar to subjects. At macro level, familiarity

of the concepts involved in a text facilitates prediction and hypothesis formation, which aid discourse level text processing. Thus, when subjects are able to make meaningful use of the cues present in the text itself there is limited scope for organizer facilitation, subjects being able to generate spontaneously from the text itself enough cues to form the type of text perspective the organizer is designed to provide. Such at least would appear to be the explanation for the generally lower level of organizer effect in U1.

The situation with respect to U2 is, to some extent, the mirror image of that just described, even if, in practice, the two texts merely reflect points along a continuum. The relatively more vast and less familiar topic of U2, combined with its complex syntax and discourse style, may safely be assumed to have resulted in subjects experiencing difficulty in deriving sufficiently encompassing subsuming concepts to form an interpretative context for the text. Consequently, they would have experienced a greater need for the type of high-level semantic cues provided by the organizer. In other words, in U2 the organizer had to supply the text perspective which subjects were largely able to supply unaided, on the basis of the text cues and their own world knowledge, in U1. Thus, level of organizer effect in U2 is greater than that in U1 because it served to fulfil a need which was greater in U2 than in U1

2. U1-U2: distribution of organizer effect

The aspect of the results for U1, U2 which causes the greatest interpretative problems is the low level of

experimental effect observed in the Lower initial test groups. Discussion of this question will, however, be postponed until the more easily interpretable aspects of the data have been dealt with.

The generally low level of experimental effect in the U1 initial test groups is the result of the virtual superfluity of the organizer for subjects of this level of L2 competence, which enabled them to make full use of the cues present in the text itself. The weight of the discussion will therefore be on U2 and on the retest groups on both texts. The high to significant level of organizer effect observed in U2 Upper is a clear instance of refinement level facilitation similar to that observed in H2 Upper. In both cases it is the high ability group which benefits the most from the organizer (retest groups excepted), which indicates that in a relatively complex text such as U2 or H2 a high level of ability, both L1 and L2, may be required to perceive and actualize the facilitative potential of the organizer.

The results obtained by the retest groups are of interest in two main respects. Firstly, they provide clear instances of survival level facilitation. While initial test subjects had a sufficiently high level of L2 competence to understand and manipulate the textual cues present in U1 to form an interpretative context unaided, retest subjects did not and therefore experienced a need of the organizer. Their high level of verbal proficiency would then appear to have allowed them to actualize this facilitative potential meaningfully. Similar comments were made with respect to H1(R) Upper, M.H. ordering in the previous section (cf. p.215).

In U2 the need experienced by retest subjects was substantially greater for the text specific reasons outlined previously and therefore the level of organizer effect observed in U2(R) is also greater. The second point of interest in the retest group results relates to the more limited difference between their results on the two texts than that observed with the initial test group. The results of the initial test group differ substantially between U1 and U2 whereas the retest group results, even if they show the same trend, are more alike one another. The explanation for this phenomenon would appear to lie in the lower L2 competence of the retest subjects relative to the language used in the texts. Being less able to recognize the linguistic cues present in the texts, i.e. both texts assuming a similar level of opacity, these subjects' text sensitivity was reduced and this in turn means that the organizer functioned in a more similar manner on the two texts for retest subjects than for initial test subjects. This is related to the rather basic type of assistance which organizers supply at very high difficulty levels i.e. survival level facilitation. Similar comments will be made with respect to RU1/RU2 Lower.

Thus far it has been possible to account for the distribution of organizer effect in terms of refinement and survival level facilitation. The lower initial test groups, i.e. U1 and U2 Lower, raise problems, however. These groups both have adequate levels of verbal proficiency to allow them to make use of an organizer and, their need of the organizer being greater than that of the Upper groups,

one might suppose that they would show a higher level of organizer effect, in U1 at least. The only possible explanation for their low level of organizer effect is that offered for 01 Middle, F.P. ordering (cf. p.188). This suggests that these subjects, as a result of lower L2 competence and/or verbal proficiency, were unable to use the organizer at refinement level but had not moved into the difficulty range at which survival level facilitation comes into play. This interpretation is offered with reservation, but is the only means of accounting for this aspect of the data.

c. M.H. ordering

Differences in T-ratios for U1(R) and U2(R) between F.P. and M.H. orderings merely reflect the omission from the latter of subjects for whom no M.H. score was available and therefore do not merit discussion in the present context.

In U1, U2 there is a substantial difference between the result distribution on the two orderings. On U1, M.H. ordering produces a more easily comprehensible distribution which would seem to reflect the greater need-greater organizer effect factor. The Upper group shows the not unfamiliar negative organizer effect observed at low difficulty levels on easier texts, the Lower group showing limited facilitation. The main conclusion, however, remains the same, namely that the organizer was largely superfluous for initial test subjects on U1. On U2 levels of organizer effect on Upper and Lower groups are similar, though higher single SS T-ratios are attained on the Upper group. Clearly, the high to significant

level of facilitation observed on U2 Upper, F.P. ordering is now absent. M.H. ordering results, then, tend to indicate that the organizers were either superfluous or of only limited value on both texts, for initial test subjects at least.

Since both orderings produce significantly different groupings (cf. p. 163 above), the interpretations based on both merit consideration. However, F.P. ordering discriminates at a much higher level (significant at .001) than M.H. ordering and may thus be considered to be more worthy of retention. Those differences which do occur between the two orderings doubtless represent different combinations of subject ability which interact differently with the organizer. However, going beyond this observation to make any meaningful statement about this interaction of abilities would, given the data as it stands with respect to these texts, be a hazardous and possibly unproductive undertaking.

iii. Conclusions

The importance of the text variable in determining level and distribution of organizer effect has been clear in all three text pairs examined so far. However, H1, H2 and U1, U2 reveal certain clear trends with respect to the interaction between text type and organizer effect. Indeed, the conclusions which can be drawn from U1, U2 are very much the same as those for H1, H2. There is greatest scope for the use of advance organizers with texts for which, for reasons of content or of discourse structure, subjects experience relatively greater difficulty in generating an appropriate interpretative context. 01, 02 and H1, H2 illustrated the role of content, while in U1, U2 it is discourse

structure which is the factor most clearly distinguishing between the texts and, thereby, creating in subjects a greater need for the organizer in one text over another.

These comments view texts in absolute terms, some being objectively more suitable for use with organizers than others. At the same time, it is necessary to view text difficulty, which is clearly a composite term, in relative terms as well. Thus, while a given text may leave little scope for organizer facilitation when given to one group of subjects, it may leave substantial scope for facilitation when given to a group of subjects whose lower level of L2 competence prevents them from perceiving the semantic and discourse cues present in the text itself. This again is an instance of survival level facilitation, and emerges clearly in U1, U2. A relatively high level of verbal proficiency is needed for subjects to be able to use an organizer at this level, however. Subjects' text sensitivity at survival level is lessened, which produces similar levels of facilitation on very different texts.

E. Texts RU1, RU2

i. Text characteristics

a. Difficulty level

RU1 is the more difficult text by a margin of about 6% on Exact score: 31.4% vs. 37.5%. Of the quantifiable text factors not all point in this direction. Deletion ratio is the same in both texts, every 5th word, and RU1 has a slightly lower ratio of content word deletions, 52% vs. 58%. Furthermore, RU1 has a lower ratio of words per T-unit, 17 vs. 24, indicating that RU2 is written in more complex syntax. On the other hand, RU1 has a greater number of items, 98 vs. 83, and more paragraphs, 7 vs. 3.

b. Content

RU1 is a very complex text which deals in considerable detail with the economic problems experienced by Nigeria in the wake of the rise in world oil prices. It employs a number of specialized economic terms and argues in a dense and concise manner around these terms as they pertain to the economic situation in Nigeria. Even with a reasonable background in development economics one has to read RU1 carefully in order to obtain a clear view of the situation being described. Indeed, RU1 may reliably be described as a semi-technical text which, to be fully understood, requires some degree of familiarity with the terminology and concepts employed. RU2 is a considerably less complex text and, even if it does introduce a number of terms which might be unfamiliar to the average reader, does not presuppose any specialized knowledge. It also contains less close argumentation than RU1. RU2 is a largely descriptive text which sets out to provide an overview of the main climatic and geographical factors impeding the development of Africa.

Thus, in terms of topic complexity there can be no doubt that RU1 is substantially more demanding than RU2. In terms of topic familiarity, reference needs to be made to the subjects taking the text. For reasons which will soon become apparent a separate sub-section will be devoted to an analysis of the subject population. Briefly, it may be stated unequivocably that RU1 presupposes specific background knowledge while RU2 does not. The Upper group subjects may be assumed to have possessed such knowledge to an adequate degree. The Lower group subjects, as a whole, are unlikely

to have had such background knowledge. It may also be safely assumed that Upper group subjects had a superior level of conceptual readiness for RU2 than did Lower group subjects. Topic familiarity thus needs to be assessed not only between texts but also between subject levels.

c. Discourse structure

In terms of discourse structure RU1 and RU2 differ from one another substantially, as the discourse outline of the following page should illustrate. Firstly, RU1 has a considerable number of propositions which are explicitly linked neither to the paragraph in which they occur nor to the thematic development of the text as a whole. While all these propositions are, of course, related to the topic, the reader is left to make the link unaided and this increases the processing demands of the text considerably. RU2, on the other hand, contains a very large number of expansions, i.e. propositions which are an instance of the topic sentence itself or of another sentence occurring previously in the text. Thus, in RU2 the text is constructed in such a way that the reader is given considerable assistance in relating text specifics to the thematic development of the text as a whole. This clearly facilitates both local and global text processing.

The second point, which does admittedly overlap with the first, is related to the number of paragraphs and the effect this may have had on text processing. RU2 is made up of only three paragraphs, each of which has a clear topic sentence and a high degree of internal cohesion. RU1 has seven paragraphs none of which is explicitly linked to the others, it

RU1

I.i. In early 70's agriculture good.

ii. Economy good.

II.i. Rise in oil price transformed economy.

ii. Expansion of i.

iii. Expansion of i.

iv. Expansion of i.

v. Expansion of i.

vi. Expansion of i.

III.i. State investment increased in 70's.

ii. Financial burden of government.

iii. Emphasis on social services.

iv. Expansion of iii.

IV.i. Rise in inflation, worsening of exchange rate.

ii. Fall in non-oil exports.

iii. Country in red.

V.i. Agriculture developed slowly in 70's.

ii. Rural exodus.

VI.i. Despite investment GDP growth low 74-77.

ii. Public investment too great for administrative capacity.

iii. Waste of resources.

VII.i. State investment increased after 79-80 oil price rises.

ii. Agriculture encouraged, home oil price raised.

iii. Oil reserves limited.

iv. Expansion of iii.

RU2

I.i. Africa largely tropical

ii. i. an obstacle to development.

iii. Expansion of ii: Land poor.

iv. Expansion of iii.

v. Expansion of iii.

vi. Expansion of iii.

vii. Expansion of ii: Mining difficult.

viii. Expansion of vii.

ix. Expansion of ii: Climate unhealthy.

II.i. Drought a crucial factor.

ii. Expansion of i.

iii. Expansion of ii.

iv. Expansion of iii.

v. Expansion of iii-iv.

III.i. A long-term climate change ?

ii. i.- Probably not.

iii. Expansion of ii.

iv. Expansion of iii.

being assumed that readers will have a sufficient conceptual grasp of the issues involved to perceive the relationship. Thus readers of RU1 have a large number of separate conceptual units to process and organize into a coherent whole with a minimal level of discourse cues to aid them. In this respect the two texts differ radically from one another, RU1 placing very much greater demands on subjects' organizational and discourse skills than RU2.

d. Organizer

The organizer preceding RU1 is that which, in the current experimentation, most fully and unequivocably fulfils the theoretical criteria given in Chapter III for organizer construction. This is a result of the interaction of text and subjects. As stated above, RU1 is a complex text in absolute terms, one which gives a detailed assessment of a complex situation without explicitly establishing links between the component parts of the text. Furthermore, the subjects were of a high educational level and at least part of the subject population (cf. ii below) could be assumed to have had an adequate conceptual readiness for the text. This means that the level of abstraction and generality used in the organizer's construction did not have to be scaled down to accommodate limited subject ability, a process which tends often to make organizers resemble overviews at certain levels of analysis.

RU2's organizer is much more closely related to the text and this inevitably leads to the criticism that the organizer resembles an overview. This may be the case in part, and it raises an important point concerning the use of organizers with texts of the length used in the current experimentation. RU2

is a descriptive text which proceeds largely by listing rather than by argumentation and it is difficult to write an organizer for such a text without, to some extent at least, making it resemble an overview. This point is of obvious significance in the current research and will be discussed in the final section of this chapter. It is not, however, felt that these observations on the organizer-text relationship in RU2 should be taken as being of sufficient gravity to undermine the validity of the results obtained and their implications with respect to the rest of the data.

ii. Subjects

In view of the preceding remarks made about the semi-technical nature of RU1, the question might arise as to why such a text was chosen. There are two main reasons. Firstly, above a certain level of L2 text difficulty, increases in difficulty level are largely the result of content or style. The texts U1 and U2 are written in what may be considered normal French and the retest format, designed to raise composite text difficulty level, required the use of texts of a substantially higher difficulty level. The use of literary texts or those with some specific stylistic features was not acceptable and therefore the use of a conceptually demanding text was the best alternative. In addition to these general considerations, the writer wished to investigate the use of an organizer with a specialized text. The background knowledge of the Upper group subjects made this possible and the relative lack of such knowledge among Lower group subjects made comparison potentially interesting. These choices would appear to have been justified as the interpretation section will reveal.

Unlike other cases, Upper and Lower groups subjects are from distinct populations and they are not merged on the basis of M.H. score, thus in the current text pair only F.P. ordering exists. Upper group subjects were, at the time of testing, near the end of their first year's university study of French and one other language as part of a four year translating/interpreting degree course. The Lower group subjects were at the end of their 'A' Level French course, having sat Higher French one year previously. There exists, then, one year's university study between the two groups even if the total number of years of instruction in French may be the same (as a result of the different requirements for Higher and 'A' Level) in many cases. In qualitative terms, however, a substantial difference exists between the two groups in terms of L2 competence. While all Lower group subjects had passed Higher, the grades obtained varied, while all Upper group subjects had obtained an A-pass in either Higher or 'A' Level French prior to admission to university. In addition to this the Upper group subjects had received one year of very intensive and high level language instruction geared to their preparation as translators and interpreters. Although there is no measure of this group's F.P., the Exact scores of the two groups show how different their L2 competence was:

	RU1	RU2
Upper:	41.2%	49.4%
Lower:	21.6%	25.5%

In addition to this difference in L2 competence, another factor distinguishes the two groups. Upper group subjects, as part of their training as translators/interpreters were given a basic background introduction to economics and may thus be

safely assumed to have been conversant with the type of concept dealt with in both RU1 and RU2. In addition to this, they mainly worked with economic and social texts in the L2. Therefore, they had a good level of familiarity with the L2 equivalents for the economic concepts dealt with in RU1. Thus on both conceptual and linguistic levels, Upper group subjects had a very good preparation for RU1 and RU2. The same cannot be said of Lower group subjects. While the odd subject may have studied economics (no data is available on this point), it is most unlikely that the group as a whole had any specific conceptual readiness for the details of RU1. Furthermore, they would not have used economic texts of this nature as part of their 'A' Level preparation. RU2 places less extreme demands on subjects on both conceptual and vocabulary levels. However, it is not the type of text, thematically or linguistically, to which Lower groups were exposed and their preparation for it on these levels may be considered to be limited.

iii. Interpretation

a. Overview of experimental results

The results provided on the following page indicate that there are three main aspects of subject performance on RU1 and RU2 which require attention. Firstly, it is necessary to account for the higher level of organizer effect observed in RU1 over RU2. Secondly, the reasons for the higher levels of organizer effect observed in the Upper group need investigation. This is most marked in RU1, though reference to the details of T-ratios given in Appendix IV will reveal

	RU1 - F.P. Ordering (31.4%)					RU2 - F.P. Ordering (37.5%)			
GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN F.P.(M.H.) SCORE OF EXPT'L GROUP	GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO OS	CWS	MEAN F.P.(M.H.) SCORE OF EXPT'L GROUP
RU1 Upper	41.2%	2.32*	2.57*	N.A. (42.5)	RU2 Upper	49.4%	.14	.41*	N.A. (39.3)
RU1 Lower	21.6%	.83	1.0	N.A.**(38.2)	RU2 Lower	25.5%	.64	.87	N.A. (38.2)

* significance attained on at least one SS.

** F.P. scores were available for the Lower group and were used to calculate certain correlations. However, in the absence of a comparable F.P. score for the Upper group, their inclusion would have served no useful purpose.

that although mean T-ratios for RU2 Lower are greater than those for RU2 Upper, significance is attained on one SS in the Upper group. This selectivity in organizer usage in RU2 Upper will require attention. Thirdly it will be necessary to examine why the relative difference between the two texts in terms of level of organizer effect is so much greater in the Upper than the Lower group. This and the first point represent trends in the data which, by this stage of the analysis, should be familiar.

b. F.P. ordering

1. RU1-RU2: level of organizer effect

The reasons for the higher level of organizer effect in RU1 over RU2 may reliably be sought in the substantially greater difficulty of this text. In other words, the greater need-greater organizer effect factor appears to be responsible, the same interpretation as was offered for the higher levels of organizer effect observed in H2 over H1, and U2 over U1. RU1 is more complex in terms of content, requires a higher degree of background knowledge and has a substantially more demanding discourse structure than RU2. All these factors combine to indicate that subjects would have experienced very much greater difficulty in generating a sufficiently broad based and encompassing interpretative context on the basis of the text cues and their own mental schemata for RU1 than for RU2. Consequently, they would have experienced greater need of the facilitative potential of the organizer which, in view of their high levels of verbal proficiency, they were able to actualize, resulting

in the higher levels of organizer effect observed in RU1 over RU2. In this respect, then, the results on the current text pair move in very much the same direction as those of the two previous text pairs.

2. Upper-Lower groups: relative inter-text differences

The more limited differences in level of organizer effect between RU1 and RU2 in the Upper and Lower groups may also largely be accounted for in terms of previously developed interpretative categories and this point will therefore be discussed before the second point mentioned in sub-section a. above.

The Exact scores of the Upper group are, on both texts, nearly double those of the Lower group. This significant difference in difficulty level clearly indicates that subjects in the two groups perceived the texts in a very different manner, which implies that they used the organizer in different ways or at different levels. Reference to the relevant section of Appendix IV will reveal that although significance is not attained in the Lower group on either text, at least one SS (on CWS) comes within a hair's-breadth of statistical significance on both texts, indicating a clear, albeit selective, positive facilitative effect. From previous analysis, the two levels of facilitation observed in the Upper and Lower groups should now be familiar, namely refinement level in the Upper group and survival level in the Lower group.

The substantially more limited difference in level of organizer effect observed between RU1 and RU2 in Upper and Lower groups again recalls a trend observed previously

in the data. The initial test group results on U1, U2 differed considerably while those of the retest group, even though they showed the same trend, were much more similar to one another. The same is true of RU1, RU2. As stated with respect to U1, U2, it appears plausible that the substantially lower L2 competence of the retest or, in this instance, the Lower group, reduced their text sensitivity. This reduced ability to perceive text cues tends to make the texts appear more similar to lower L2 ability subjects than they would to higher ability subjects, both assuming a not dissimilar degree of opacity. Thus the facilitative role of the organizer at such difficulty levels, namely providing some general type of interpretative perspective, is less sensitive to text differences which, at lower difficulty levels, significantly affect its functioning. Thereby, at high difficulty levels organizer effect on what are, in objective terms, very different texts, may be similar. This is a characteristic feature of survival facilitation.

3. Upper-Lower groups: level of organizer effect

In U1, U2, the retest group, i.e. those for whom the texts were most difficult, showed the greatest organizer effect. RU1, RU2 Lower, who have mean Exact scores much like those of U1(R) and U2(R), do not show the same level of organizer effect. In RU1 it is the Upper group which shows by far the greatest organizer effect. In RU2 the situation is more complex, the Lower group having more generalized organizer effect on the five SS's, while the Upper group attains significance (in CWS) on one SS. The

reasons for this result distribution call for investigation.

It was stated in sub-section ii. above that Upper group subjects had a good conceptual readiness for both texts. This, combined with the relatively simple content and discourse structure of RU2, accounts for the generally low T-ratios observed on this text, subjects presumably being able to generate an adequate interpretative context for the text specifics relatively unaided. At the same time, significant facilitation (at .1) is attained on Disc in CWS. This selective organizer usage concentrating on discourse level semantics was the type of facilitation originally anticipated, but which rarely occurs. The subjects thus would appear to have made what might be seen as a classic case of refinement level use of the organizer, using it to aid them at the highest level of semantic appropriacy. That T-ratios are greater on CWS reflects the content word oriented use of the organizer, and that Disc is the SS with the significant T-ratio reinforces this further, as Disc is the SS which reflects full passage-level semantic appropriacy. The demands of RU1 were much greater than those of RU2, and thus, not surprisingly, T-ratios on this text are much higher on all SS's. However, one may ask why, if subjects in the Upper group did have a good conceptual readiness for RU1, they still derived so much benefit from the organizer. This may be answered in two ways. Firstly the global processing problems of RU1 are high and thus there was substantial scope for organizer facilitation. Secondly, subjects' conceptual readiness for the task will have enabled them to fully comprehend the

organizer and to perceive its potential with respect to the details of the text itself. It would thus appear likely that, with a specialized text such as RU1, a good level of conceptual readiness is required of readers if they are to perceive the facilitative potential of the organizer with respect to the text itself. If the organizer is written at the level of abstraction of that of RU1, this would seem to be an important condition. While these observations are new in the current research insofar as they make reference to the use of a specialized text, they may be related to other aspects of the data (e.g. H2 Upper) which have indicated that in certain and not infrequent cases it is only high ability subjects who can derive full benefit from the organizer. In the current context it would further emerge that, when specialized texts are used, a high level of conceptual readiness in content terms may be an important component of subjects' ability to use an organizer meaningfully.

The Lower group's relative lack of an appropriate level of conceptual readiness for RU1 and, to a lesser extent, for RU2 would seem to explain the somewhat surprisingly low T-ratios obtained. This lack would have made it difficult for them to make a fully meaningful link between the organizer and their personal experience, on the one hand, and between the organizer and the text itself, on the other hand.

iv. Conclusions

The main lines of interpretation offered for RU1, RU2 are very similar to those for H1, H2 and U1, U2. Inter-text differences

in level of organizer effect would appear to result from the operation of the greater need-greater organizer effect factor. The occurrence of positive or significant levels of facilitation at the very different difficulty levels of the Upper and Lower groups may be explained in terms of the concepts of refinement and survival level facilitation, as outlined previously. What has emerged from the current text-pair as a new insight on organizer functioning is the role of appropriate conceptual readiness when advance organizers are used with specialized texts.

The six other texts used may all be described as being of general interest, in that they do not presuppose any specific background knowledge. RU1 and RU2 are taken from a World Bank report on development in Africa (cf. Appendix I) and are thus aimed at an audience of which certain definite assumptions may be made in terms of intellectual sophistication and background knowledge. Naturally, of the first six texts used, one of each pair was inevitably more familiar to subjects in content terms than the other, this is what is referred to as topic familiarity. This factor emerged as one of the variables affecting level of organizer effect in that the organizer appeared to produce greater facilitation on texts which were more unfamiliar to subjects. This was explained in terms of the relative availability in subjects' minds of the appropriate subsuming concepts. When the topic of a text was familiar, it was suggested, vocabulary items were able to activate the relevant subsuming concepts with relative ease, so that subjects were able to generate an interpretative context for the text in question with little or no assistance from the organizer. Indeed, in such cases a conflict could arise between subjects' spontaneously generated interpretative context, a highly personalized one, and that provided by the

organizer, resulting in negative organizer effect. When the topic was not familiar to subjects and the relevant subsuming concepts were only weakly established in subjects' conceptual structure, the interpretative context provided by the organizer had an important role to play, its effect being greater on such texts. While exceptions do arise, this general trend emerges clearly from the first three text pairs analyzed. Thus, among other factors such as topic complexity and discourse structure, topic familiarity plays an important role in determining level of organizer effect, this being greater on less familiar texts for which subjects only weakly possess the appropriate subsuming concepts.

The evidence from RU1 and RU2, though RU1 in particular, would indicate the opposite to be the case with respect to specialized texts, organizers benefiting those subjects who do possess more solidly the relevant subsuming concepts to a greater extent than those subjects who do not. The contradiction is only apparent, however. The content of each of the first six texts, while inevitably more or less familiar to the subjects, was always relatable on at least some level to subjects' personal experience. In other words, it may be assumed that all subjects possessed, to a greater or lesser degree, subsuming concepts capable of encompassing the ideas involved in these texts. With respect to specialized economic concepts, however, this situation does not hold. One either knows what an economic surplus is or one does not, and an organizer which is constructed in the belief that its recipients do know this will be of limited value if the recipients do not. Thus, there is no essential difference in the use of organizers with specialized or general interest texts,

except that in the former special attention must be given to matching the organizer and its level of abstraction to subjects' conceptual readiness relative to the target text. Judging from the results obtained on RU1 Upper, the organizer would appear to have been pitched at the right level. Equally, results on RU1 Lower would indicate that it was pitched at a non-optimal level of abstraction, in this case too high, and assumed too much in terms of conceptual readiness. Although this is not currently verifiable, it is likely that for a group of development economists of similar L2 proficiency to the Upper group the RU1 organizer would have been superfluous, the subjects having such clearly established subsuming concepts that they could, unaided, generate an appropriate interpretative context for the text. The conclusion, then, is the very obvious one that very careful attention must be paid to subjects' conceptual readiness for the target text in organizer construction.

F. Implications

The aim of the current section is similar to that of section E of the previous chapter, namely to draw together the insights into organizer functioning arising from the foregoing interpretation in an attempt to assess the degree to which they lend support to or refine the first experimental hypothesis (cf. Chapter III p.91). Chapter V provided an adequate overall assessment of the degree to which advance organizers did effect positive facilitation in the current experimentation and of the main subject characteristics influencing organizer usage. The present chapter, and this section in particular, should be seen as building on this level of interpretation to refine, insofar as the data allow, our understanding of the subject-text interaction and how this influences subjects'

need of and ability to use advance organizers. To facilitate reference, this discussion will be subdivided into three parts. The first will survey those texts which did and did not yield meaningful levels of organizer facilitation in order to arrive at certain generalizations with respect to text types with which the use of advance organizers is most suitable. Subsequently, an assessment will be made of the way in which advance organizers would appear to aid text comprehension. Finally, a few brief and general conclusions will be drawn.

i. Text types

That advance organizers are more suitable for use with certain text types over others was stated in Chapter III (p. 78 - 81). The most basic factor is that advance organizers may only be used with factual, expository type texts, though this was clear prior to the current experimentation. Ausubel (1968) states that the facilitative potential of advance organizers, in a content learning context, will be lessened if the target material itself contains its own built in organizers. In other words, if the target material provides learners with a high level of cues to aid them in deriving the appropriate subsuming concepts and in generating their own interpretative context, then the potential scope for advance organizers is limited. To some degree this is a statement of the obvious since it merely says that when advance organizers are less needed they will be less useful. However, moving from this rather obvious observation to an accurate assessment of those text characteristics which do limit organizer usefulness requires careful consideration of the various factors influencing subjects' relative need of an organizer. This can be made more clear via use of the three

factors employed in the course of the interpretation, topic complexity, topic familiarity and discourse structure. In practical terms there is often considerable overlap among these three factors, especially the first two. However, dealing with each separately does help to clarify the component parts of a complex situation.

a. Topic complexity

Within a globally similar level of language and conceptual difficulty the factor which seems to distinguish one text from another in terms of topic complexity is the relative degree of intra-textual propositional relatedness. This factor will inevitably affect the degree to which the reader is able to perceive the relationships existing between different parts of the text and thereby derive the subsuming concepts appropriate for a contextually sensitive interpretation of the text. If the reader is unable to see a clear relationship between the constituent propositions of a text he will inevitably be forced to decode the text in a largely bottom-up manner. If, however, the reader is able to relate text propositions to one another in a meaningful manner, he will be able to generate an interpretative context for the text which will allow him to process it in a more top-down manner.

While differing in emphasis, H1 and U1 have a similar content, the differences between national and local newspapers. Again with differences in emphasis, H2 and U2 focus on the rich world-poor world contrast. In H1 and U1 the propositions are very closely related to one another and to the underlying theme of the texts. Consequently, subjects will have found it

easier to derive the relevant subsuming concepts from the texts. In H2 and U2 the relationship between the text propositions is less obvious, a greater range of concepts being brought into play in these texts. Consequently, subjects will have had a greater processing task in perceiving the underlying theme of these texts or, better, in moving from the decoding of individual propositions to the formulation of a hypothesis as to the nature of the underlying theme. Very much the same may be said of RU1 and RU2. Thus, when the relationship between the conceptual content of the propositions which go to make up a text is not immediately evident, readers will experience greater difficulty in establishing an interpretative context for the text as a whole. An assessment of these factors could be made via a discourse outline along the lines of those provided for each text pair in the present chapter, an analysis of the main semantic components of each proposition or possibly a study based on lexical cohesion.

Thus, in practical terms one may consider topic complexity to be a result of the level of intra-textual propositional relatedness. When this is high, and subjects can perceive intra-textual conceptual relationships with relative ease there appears to be less scope for organizer facilitation than when subjects experience difficulty in relating text propositions to one another in a meaningful manner.

b. Topic familiarity

While topic complexity is assessed by analysis of the text, topic familiarity is assessed via examination of subjects' conceptual readiness for the text content. It appears that,

with the exception of specialized texts, texts whose content is more familiar to subjects leave less scope for organizer facilitation than texts whose content is less familiar. The reasons for this may be sought at two levels. Firstly, the presence of familiar vocabulary in a text triggers off the inferential processes referred to by the term semantic constructivity. Simply put this means that if a sentence contains the words "newspaper", "reader", "news", etc, the relevant sections of the reader's cognitive system will be activated and semantic inference and prediction will be set in motion. If, however, the vocabulary used is unfamiliar, such associative links will either be held in check or will function only at a very low level. The presence of familiar vocabulary, then, will aid and encourage the reader to make a positive link between his personal experience and the text content, which will make reading a more active and semantically oriented process.

The second point is very similar but functions at a higher level of analysis. The presence of concepts familiar to the readers, types of newspapers and what the various types contain, for example, will activate a discourse level interpretative strategy by which the text specifics are related to and fitted into the reader's existing conceptual framework. If, however, the concepts found in a text are relatively unfamiliar, the construction of a tidal power station or the international implications of poverty in the Third World, for example, these conceptual associations will be blocked to varying degrees, resulting in a diminished ability to organize the text processing into meaningful semantic units. To use Ausubel's

terms, texts which activate subsuming concepts which are solidly established in readers' cognitive framework leave less scope for organizer facilitation than those which make reference to ideas or entities for which the relevant subsuming concepts are only weakly or imperfectly present in readers' cognitive framework.

Texts, then, whose vocabulary and content can readily trigger off associative processes and activate the relevant subsuming concepts in readers' minds leave only limited scope for organizer facilitation, subjects being able to generate an adequate interpretative context for the text on the basis of their conceptual expectancy or world knowledge on the one hand and the text cues on the other. More scope for organizer facilitation exists when the relative unfamiliarity of the vocabulary and concepts used in a text limit subjects' associative and predictive processes. This, it should be repeated, does not apply in specialized or technical texts of a high level of difficulty. In such cases a high level of conceptual readiness may be a prerequisite to the ability to perceive and actualize the facilitative potential of the organizer.

c. Discourse structure

In certain respects this point has common ground with topic complexity, though in other respects it is very different. Not surprisingly, texts whose discourse structure provides readers with a high level of cues leave less scope for organizer facilitation than those which provide a lower level of organizational cues. These cues may be of three main types.

An introductory paragraph which establishes a meaningful link with readers' personal experience (cf. that of 02) and which thereby activates the subsumptive process in learners along appropriate lines will aid subsequent text processing. Secondly, the use of clear topic sentences will aid readers to organize paragraph level processing meaningfully. If these also link the content of the paragraph back to that of previous paragraphs or other text segments then readers' ability to interpret that paragraph in the light of what has gone before will also be enhanced. Thirdly, clear ideational staging within the paragraph reduces the amount of conceptual and organizational processing required of readers. To some extent this can coincide with a high level of semantic relatedness within the paragraph (cf. the relative frequency of "expansions" in the discourse outlines used in this chapter). These three factors serve to aid the reader to perceive the way in which text segments are related to one another and also how they contribute to the unfolding of the text as a whole i.e. they aid both local and global text processing.

When a text has a high level of such organizational cues (RU2 is a good instance) the reader receives substantial assistance from the text itself, providing his L2 proficiency is adequate to allow him to perceive the value of these cues, in generating an interpretative context for that text, which clearly reduces the potential assistance which the organizer may provide. However, when the text does not provide a high level of cues the reader is left to organize the input himself, which increases processing difficulties. In such a situation the provision of the high level interpretative context offered

by an advance organizer may substantially improve comprehension by providing, prior to the reading of the text, an interpretative framework into which text specifics may be meaningfully inserted. Thus, there is likely to be greater scope for organizer facilitation in texts which do not provide a high level of discourse cues and conceptual staging.

ii. Nature of organizer facilitation

a. General functioning

From the foregoing it is clear that the presence of an advance organizer serves to provide readers with a global text perspective which, for reasons of topic complexity, topic unfamiliarity or discourse structure, they are unable to generate themselves. When readers are unable to derive an adequate interpretative context for a text so as to be able to perceive it as a single thematic unit and to recognize the role which the component parts of the text play in the development of the text as a whole, an advance organizer can provide a high level interpretative context which can allow the reader to view the text specifics in a more meaningful and contextually sensitive manner. Advance organizers thus appear to perform a function which readers can spontaneously perform when they find a sufficient level of semantic and discourse cues in a text to allow a meaningful link-up to be made between the text and their own knowledge, experience and expectations. Advance organizers thus provide readers with assistance in creating an interpretative context for a text when content and discourse structure factors prevent them from spontaneously deriving the relevant subsuming concepts from a text. The previous chapter

in general terms, came to the conclusion that advance organizers do function as adjuncts to L2 reading providing subjects have a sufficiently high level of verbal proficiency to perceive the facilitative potential of the organizer. The present chapter adds a further significant qualification to Hypothesis I, namely that advance organizers perform a facilitative function as L2 reading adjuncts insofar as subjects are unable to generate an appropriate interpretative context for a text as a result of the content and discourse complexity of this text. These two qualifications on Hypothesis I must be seen as functioning simultaneously. Thus, while the main drift of the results is a positive one, it is clear that the use of advance organizers in an L2 context is not suitable for all learners or on all texts. At the same time, with the right subjects and the right type and level of text their facilitative potential is significant.

b. Survival level facilitation

The comments made so far in this section would be lacking if reference was not made to the phenomenon of survival level facilitation and how this affects subjects' apprehension of text characteristics. It has been observed that subject groups for whom a given text pair had a high difficulty level (generally in the region of 20%-25% on Exact) showed, in terms of T-ratio size, less discrimination between texts than groups for whom the same texts had a lower difficulty level. Examples are U1(R), U2(R) and RU1, RU2 Lower, though also H1(R) Upper (M.H. ordering). Indeed at high difficulty levels one finds that the organizer can produce high to

significant levels of facilitation on texts which, in terms of content and discourse complexity, left little scope for facilitation at lower difficulty levels for the reasons given in the present section. This situation is not difficult to explain. The debate in sub-section i. above assumed that subjects would be able to recognize the value of content cues, in terms of vocabulary items, and discourse cues, in terms of explicit staging of the argument. Clearly, for subjects whose level of L2 proficiency was low relative to the text demands, such cues would be less meaningful, or rather, subjects would be less able to perceive their value in discourse terms. For example, relative unfamiliarity with the L2 equivalents of even familiar concepts will impede the functioning of semantic constructivity which, we have seen, plays a significant role in enabling subjects to formulate hypotheses about and generate an interpretative context for a text. From the subjects' point of view this means that the way in which texts are perceived at high difficulty levels obscures many differences between texts which significantly influence the way in subjects of a higher level of L2 proficiency perceive these same texts. In other words texts which in objective terms may be very different from one another assume a similar degree of opacity and thereby the type and level of organizer effect obtained on these texts also becomes very similar.

These observations imply that a significant modification be made to the comments made above concerning text types with which the use of advance organizers is most suitable. As a result of the reduced text sensitivity of subjects whose L2

proficiency is limited relative to text demands advance organizers have a more generalized facilitative potential i.e. they can meaningfully be used with a wider range of texts, at survival level than at refinement level. When subjects find a text very difficult (at Exact scores anything much below 30%), the problems they experience in gaining any sort of interpretative perspective on the text are so great that, whatever the specifics of the text in content or discourse terms, there is substantial scope for organizer facilitation. Thus, at high difficulty levels there is a considerably greater sturdiness in the use and applicability of advance organizers as L2 reading adjuncts than at lower difficulty levels. However, subjects would appear to need a relatively high level of verbal proficiency to use organizers meaningfully at this level, this apparently being a factor conditioning their ability to perceive the discourse potential of the organizer with respect to the text itself.

c. Specialized texts

This is a specific instance of organizer usage and as only one text, RU1, can unequivocably be considered specialized (RU2 is a less clear case) comments must be limited and offered with a degree of reserve. Marshall and Glock (1978) observed that a high level of text related knowledge could positively influence the reading strategy usage of poor L1 readers and Ulijn (1975) observed that, for a given level of L2 proficiency, subjects with a higher level of subject knowledge read specialized texts better than low knowledge subjects. The

results obtained on RU1 seem to indicate that subjects with a solid conceptual readiness for a specialized text in the L2 are better able to perceive and actualize the facilitative potential of the organizer than subjects with a lower level of background knowledge. In this area of organizer usage, however, very considerable care is required in fitting the organizer's level of abstraction and generality to subjects' conceptual readiness for the task at hand, since a mismatch at this level of organizer usage may result in serious confusion.

The use of advance organizers with specialized texts may be viewed as a specific, and advanced type of refinement level facilitation. This area of organizer usage appears to have great potential though care is required. At survival level there is a sturdiness in organizer usage resulting from subjects' limited text sensitivity and marked need. At refinement level more care is required in text selection and also in judging the correct level of abstraction for the organizer. The instances of negative organizer effect observed in H1 Upper and U1 Upper (M.H. ordering) indicate the risk, at low difficulty levels, of a conflict arising between subjects' spontaneously generated interpretative context and that provided by the organizer. Though the data provides no indication of this, the risks involved in using advance organizers with subjects who have a specific level of conceptual readiness for a specialized text are very real, since a mismatch between subject readiness, text and organizer could result in serious confusion. Thus, while the use of advance organizers at refinement level and with specialized

texts have significant potential it also requires a high level of preparation and great care in organizer construction.

d. Applications

It would exceed the scope of the present chapter to enter into the details of the pedagogical application of advance organizers. However, certain general orientations do emerge and it is of interest to allude to these briefly at this stage of the analysis. The facilitative potential of advance organizers in an L2 reading context is greatest in instances when text demands, in absolute or in relative terms, are high. This is the greater need-greater organizer effect factor which has frequently been alluded to in this and the preceding chapter. When subjects are being "stretched" by a text the use of an appropriately constructed advance organizer can effect a substantial improvement in subjects' text comprehension. The greatest potential of advance organizers would thus appear to lie in their use with texts which, to varying degrees, elude subjects' unaided comprehension. In other words, advance organizers may be used to aid subjects to handle texts at difficulty levels or of a complexity which would normally exceed their L2 proficiency level. This use of advance organizers would allocate them a significant text resource expansion role in an L2 comprehension skills context. Another potential use, which is inferable though not verifiable from the data, is in a context in which L2 learners are required to read texts (e.g. study texts) in the L2 which substantially exceed their current level of proficiency in the language. This use might combine aspects of survival level

organizer usage with aspects of refinement level usage should the target texts be of a specialized nature, requiring some specific conceptual readiness in content terms. This is an aspect of organizer use which merits investigation.

iii. Conclusions

This and the previous chapter conclude the examination of the first experimental hypothesis (cf. p. 91). The data, in general terms, provides considerable support for the hypothesis that advance organizers may perform a facilitative function as adjuncts to L2 reading texts. At the same time, the conditions governing the use of advance organizers are considerably more complex than the first experimental hypothesis in its initial form would imply. The mere presence of an advance organizer before a text in the L2 does not ensure that it will facilitate subjects' comprehension of that text. Global text difficulty, subject ability, particularly in terms of verbal proficiency, and text characteristics all have a significant effect on the degree to which a given group of subjects will derive benefit from the presence of an advance organizer given prior to a given text. Considerable care is necessary in text selection and subject preparedness both for the text itself and in terms of ability to use the organizer needs to be assessed accurately. Organizers are best used with high ability subjects on demanding texts which "stretch" the subjects' L2 decoding skills. Despite the numerous qualifications and refinements which need to be made to the initial hypothesis, then, advance organizers emerge as having substantial facilitative potential in an L2 reading context, providing the prior selection of texts and subjects is correctly carried out.

VII TYPE OF ORGANIZER EFFECT

A. Aims and approach

i. Aims

This chapter is designed to examine the type of facilitation provided by the advance organizers used in the present study. This will be analyzed in terms of subjects' use of the syntactic and discourse constraints of a text under the influence of an advance organizer as monitored by the five scoring systems described in Chapter IV pp. 101-106. Specifically, this chapter will attempt to assess the degree to which the data gathered confirm the second experimental hypothesis (Chapter III, p. 91), repeated here for ease of reference:

> The use of an advance organizer with an L2 reading passage will produce principally semantic facilitation, in particular, on items sensitive to passage-level constraints (i.e. discourse constraints).

ii. Analytical framework

The main statistics used in the current chapter will again be experimental-control group T-ratios, though the use of them will differ from that of the last five chapters.

Firstly, a comparison will be made between size of OS and CWS T-ratios per subject level. OS contains results for both content and function words. CWS contains results for content words only. Thus, if CWS T-ratios are greater than the corresponding OS T-ratios it may be assumed that subjects derived relatively greater benefit from the advance organizer in the derivation of the syntactic and semantic characteristics of content

as against function words. If, on the other hand, OS T-ratios are greater than the corresponding CWS T-ratios, it may be assumed that subjects derived relatively greater benefit from the advance organizer in the derivation of the syntactic and semantic characteristics of function as against content words. An assessment of this aspect of organizer effect is of obvious significance.

Secondly, the dominant scoring system (DSS) will be used. The DSS is the scoring system with the highest T-ratio out of the five SS's used, and will be assessed for the groups which have been used as the basic units of analysis so far (cf. Chapter IV pp.115-116). Since the various SS's used are designed to monitor different aspects of subjects' cloze test performance, it may be assumed that the SS with the highest T-ratio is that which reflects those aspects of cloze test performance most influenced by the presence of an advance organizer. The T-ratios given in Appendix IV are ordered in terms of size of T-ratio to aid reference in this chapter. The purpose of assessing DSS is of obvious significance and this is the main means of assessing the degree to which the data confirm Hypothesis II. It will soon be clear that trends arising from OS-CWS analysis and from DSS analysis generally coincide.

iii. Staging of analysis

The data will be examined in two main stages. Firstly subject level trends will be analyzed and then an effort will be made to discern certain general trends in terms of subjects' organizer usage strategies. The analysis will be restricted to F.P. ordering results, M.H. ordering being examined separately as a

sub-section of section C. Finally, a number of general conclusions will be drawn, the implications of the current chapter being related back very briefly to the theoretical bases of the study as a whole.

B. Subject level trends

This section will be sub-divided into three sub-sections, each dealing with one of the three subject levels used. In addition, each of these sub-sections will have the following sub-parts: firstly, the results in terms of OS-CWS and DSS will be given; secondly, general trends will be identified; thirdly, variance within each level will be examined. Reference will be made to the results summaries used in Chapter V and to the details of the T-ratios obtained as provided in Appendix IV. The content and implications of Chapters V and VI will be taken as read and may be referred to without further justification. As already mentioned, only results obtained on F.P. ordering will be discussed. This is designed to aid the discernment of general trends and also because F.P. ordering, in addition to being the "unmarked" data format, is also that which produces better inter-group discrimination.

A type of DSS result distribution table, e.g. p.265 for 'O' Grade, will be used in this chapter which requires some explanation. The figures indicate the number of occurrences of each SS as DSS out of the total possible on a given text. For example, in 01 there are three groups, Upper, Middle and Lower, and each has an OS and a CWS result. Logically, then, this produces six instances in which a DSS must occur. These figures will be repeated for total, positive and significant DSS's per SS. "Positive" and "significant" refer to the T-ratio of the DSS itself and not of the other four SS's. For obvious reasons, discussion will focus primarily on positive and significant DSS occurrence.

i. 'O' Grade

a. Results

OS-CWS: Reference to the results summary on p.126 shows that of the seven groups showing positive mean organizer effect on either OS or CWS, five have higher T-ratios on CWS than OS. The differences are sometimes limited and it is only 02 Lower and H2(R) Upper who have CWS T-ratios greater than the corresponding OS T-ratios on each SS. The two groups which have mean OS T-ratios greater than mean CWS T-ratios show this trend on all SS's and, significantly, those groups both occur on 01.

The main trend at 'O' Grade, then, would be for subjects to derive relatively greater benefit from the organizer in the derivation of the syntactic and semantic features of content words as against function words. That exceptions occur on 01, which has already emerged as a troublesome text in interpretative terms, would seem to indicate that this trend is subject to text-specific factors.

DSS: The results on the following page indicate that the SS's which best reflect 'O' Grade subjects' attempts to make use of the organizer are Exact and Disc. Syn I assumes a relatively greater place in terms of significant occurrence, though this is part of a general trend which will be discussed in section C. As will soon emerge, one very important feature of this aspect of the discussion is the syntax-semantics opposition, and how to place Exact in this debate is central to result interpretation at this level.

b. General trends

Under this sub-heading the aim will be to identify the dominant trends in subjects' organizer usage strategies, variances

'O' GRADE: DSS

i. TOTAL

	01	02	H1 (R)	H2 (R)	TOTAL	%
Exact	1*(6)	2(6)	2(4)	(4)	5(20)	25%
Syn I	3				3	15%
Syn II	1	1		2	4	20%
Sem.	1	1			2	10%
Disc.		2	2	2	6	30%

* = total number of instances cf. p. 263

ii. POSITIVE

	01	02	H1 (R)	H2 (R)	TOTAL	%
Exact	1	2	2		5	25%
Syn I	2				2	10%
Syn II		1			1	5%
Sem.	1	1			2	10%
Disc.		2	1	2	5	25%

iii. SIGNIFICANT

	01	02	H1 (R)	H2 (R)	TOTAL	%
Exact	1	1			2	10%
Syn I	1				1	5%
Syn II						
Sem.						
Disc.		1			1	5%

being discussed under the next sub-heading. The essential question at this level is what should be made of the occurrence of Exact as DSS, since Exact reflects both syntactic and semantic accuracy. It is proposed that the frequent occurrence of Exact as DSS should, in the main at least, be seen in conjunction with that of Disc, i.e. as reflecting an underlying organizer usage strategy geared to full semantic appropriacy. A number of trends present in the data indicate that Exact should be seen in this light.

1. Summing the occurrences of Syn I and Syn II and then of Sem. and Disc. as DSS indicates that 'O' Grade subjects adopt a more semantically oriented organizer usage strategy.

	TOTAL	POSITIVE	SIGNIFICANT
Syn I, Syn II:	35%	15%	5%
Sem, Disc:	40%	35%	5%

2. The OS-CWS trend is for 'O' Grade subjects to benefit more from the organizer in the derivation of content words, which points to a more semantically oriented organizer strategy.
3. 01 is an exception to the last point and this observation, combined with the interpretative problems which this text has already posed, gives reason for viewing it separately from the other 'O' Grade texts at an initial stage of analysis. Scrutiny of the DSS distribution on the three remaining 'O' Grade texts produces a strongly semantically oriented organizer usage strategy:

	TOTAL	POSITIVE	SIGNIFICANT
Syn I, Syn II:	21%	7%	
Sem, Disc:	50%	43%	7%

Clearly, if 02, H1(R) and H2(R) are viewed in isolation from 01, one would assume that 'O' Grade subjects do primarily use the organizer in semantic terms.

4. Of the five occurrences of Exact as DSS all are followed by either Sem. or Disc. as the SS with the second largest T-ratio. While this alone would not constitute conclusive proof of the semantic orientation underlying the occurrence of Exact as DSS, it does add substantially to the other indications pointing in this direction.

These considerations lend substantial support to the proposal that the frequent occurrence of Exact and Disc as DSS reflect similar underlying strategies, in other words that Exact as DSS reflects a semantically oriented organizer usage strategy geared to full passage-level semantic appropriacy. Together with the trend for higher T-ratios to occur on CWS, the results would therefore seem to move in the direction predicted by Hypothesis II.

c. Intra-level variance

The summary of DSS's per text given below shows that four out of seven occurrences of Syn I or Syn II occur in just one text, 01, and that this text contains two out of the three positive occurrences of these SS's as DSS, including the only occurrence reaching significance.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO OS	CWS
01 Upper	33.3%	Syn I 1.7*	Syn I 1.57
01 Middle	25.4%	Syn II -.32	Syn I -.31
01 Lower	12.3%	Exact 4.19*	Sem 1.61

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS		CWS	
02 Upper	59.1%	Exact	.34	Syn II	.55
02 Middle	35.6%	Disc	1.05	Disc	1.7*
02 Lower	24.8%	Sem.	.88	Exact	1.91*
H1(R) Upper	34.1%	Exact	.28	Exact	.72
H1(R) Lower	18.2%	Disc	-.11	Disc	.16
H2(R) Upper	30.5%	Disc	.94	Disc	1.20
H2(R) Lower	12.7%	Syn II	-.95	Syn II	-.92

(* = significant at .10 at least. See Appendix IV for details)

It would appear that there are features specific to 01 which cause subjects to alter their usual organizer usage strategy. This raises two sets of questions. The first has to do with those text specific factors operating in 01 which may be responsible for this shift. The second concerns the psycholinguistic processes involved in this shift and the way in which subjects were able to use the organizer to produce primarily syntactic facilitation.

In Chapter VI pp. 176 - 185 it was stated that the factor which most clearly differentiated between 01 and 02 was content. 01 deals with a topic which had little likelihood of having impinged on subjects' awareness prior to the test and for which they were unlikely to have possessed the relevant subsuming concepts to any appreciable degree. As a consequence of this unfamiliarity of the topic, the vocabulary of 01 was likely to have been more unfamiliar to the subjects than that of the other texts. This means that the subjects

would have experienced more difficulty in attacking 01 in terms of content words than would have been the case with the other texts used. As a result, they appear to have been forced to adopt, overall, a set of text attack and organizer usage strategies which centred more on function words and on syntax. The limited topic familiarity of 01 would thus appear to have "short-circuited" 'O' Grade subjects' usual organizer usage strategy, forcing them to work with the more constrained and predictable aspects of the text, namely function words and the syntactic aspects of the text in general.

While this would seem to be a satisfactory means of accounting for the results obtained, it is very difficult to give a convincing explanation for the psycholinguistic processes involved. Indeed, to investigate this aspect of organizer usage satisfactorily would require smaller-scale and more intensive experimentation. An interim interpretation will be offered, though, as it relies very heavily on inference, it can only be advanced with a degree of caution. It would appear plausible to suggest that the presence of the organizer reduces the general "opacity" of the text, allowing subjects to approach it with a more contextually sensitive set of text-attack strategies. Since the organizer provides a high-level and abstract interpretative context within which text specifics may be meaningfully inserted, one would expect facilitation to occur primarily on the semantic level, especially with respect to passage-level semantic constraints. However, in 01, for the reasons given above, subjects found it

difficult to work on the semantic level and so used their improved contextual perspective to help them with the more predictable and code-bound text features. Thus, organizers would appear to produce a globally greater level of text "transparency", the benefits of which are generalized over all text items and which subjects can use in different ways depending on text-specific factors. At 'O' Grade the main tendency of subjects is to use this greater contextual awareness of a text primarily in a semantic manner, though the results obtained on 01 show clearly that this is not the only possibility that exists.

A number of general observations may be made which lend support to this view of organizer usage. Six out of seven occurrences (both positive and negative) of Syn I and Syn II as DSS are in 01 and H2(R), i.e. the more difficult texts. Furthermore, four out of five occurrences of Exact as DSS (all positive) occur in 02 and H1(R), i.e. the easier texts. The latter might lead one to believe that, if Exact and Disc represent the same underlying strategy, then the occurrence of Disc signals instances when the desire for full semantic appropriacy could not also be accompanied by syntactic correctness, this being more accessible on the two easier texts. Above and beyond these general trends it is extremely difficult to give an accurate account of the details of DSS occurrence at 'O' Grade. At Higher and University this will be possible to a much greater degree. In view of the relatively low population homogeneity at 'O' Grade and the fact that serious reservations have been voiced about the suitability of the use

of organizers with 'O' Grade subjects in general, this may not be wholly surprising.

In conclusion, then, while the results obtained at 'O' Grade would, at first sight, appear to move in the direction indicated by Hypothesis II, the reality of the situation is more complex. True, the main trend of results is for subjects to use the organizer to facilitate their apprehension of the semantic and, in particular, of the discourse constraints of the texts. However, there are strong indications that the organizer may also be used in a syntactically oriented manner. In other words, using an advance organizer in discourse-level semantic terms, while certainly one possibility, is not the only one, something which was not originally anticipated.

ii. Higher

a. Results

OS-CWS: Survey of the results on p.143 reveals that Higher subjects adopted an organizer usage strategy by which they derived more benefit from the organizer in the derivation of function words over content words. All groups have mean OS T-ratios greater than the corresponding CWS T-ratios. Only two groups, H2 Upper and U2(R), which also happen to be those with the highest T-ratios, have each SS with a greater T-ratio on OS than CWS. In the other groups the trend is reversed on some SS's. The general trend, however, is clear.

DSS: The DSS breakdown on p. 272 shows that the three most frequent SS's occurring as DSS are Syn I, Syn II and Disc. in general terms, then, it is syntactic SS's which predominate at this level. This observation coincides with the OS-CWS

HIGHER: DSS

i. TOTAL

	H1	H2	U1 (R)	U2 (R)	TOTAL	%
Exact	*(6)	1 (6)	(2)	(2)	1 (16)	6%
Syn I	2		2		4	25%
Syn II		3		2	5	31%
Sem.	2				2	13%
Disc.	2	2			4	25%

* = total number of instances

ii. POSITIVE

	H1	H2	U1 (R)	U2 (R)	TOTAL	%
Exact		1			1	6%
Syn I	2		2		4	25%
Syn II		3		2	5	31%
Sem.						
Disc.	2	2			4	25%

iii. SIGNIFICANT

	H1	H2	U1 (R)	U2 (R)	TOTAL	%
Exact						
Syn I			2		2	13%
Syn II				2	2	13%
Sem.						
Disc.		2			2	13%

results and goes to indicate that subjects adopted an organizer usage strategy by which they derived most benefit from the organizer in terms of syntactic appropriacy.

b. General trends

The trend for subjects to derive such marked assistance from the organizer primarily in syntactic terms was not anticipated and the results at Higher as a whole go against what was anticipated under Hypothesis II. The trend, however, is too clear to be overlooked, as the summary below shows:

	TOTAL	POSITIVE	SIGNIFICANT
Syn I, Syn II:	56%	56%	26%
Sem, Disc:	38%	25%	13%
Exact:	6%	6%	

One clear difference between Higher and 'O' Grade is the virtual disappearance of Exact as DSS, which occurs only once at Higher, and then fails to reach significance. Higher subjects' organizer usage shows a reasonable degree of flexibility, giving roughly equal importance to discourse level semantic appropriacy (Disc), syntactic precision (Syn I) and general syntactic appropriacy (Syn II). However, the main and more striking general trend at Higher, as evidenced by both OS-CWS and DSS results is the emphasis placed on syntactic text features in subjects' organizer usage.

c. Intra-level variance

The occurrence of semantically and of syntactically sensitive DSS's at Higher emerges as being related to text complexity and gross difficulty level, though these two factors clearly

overlap to a large degree. Both single text analysis and pooled analysis of results point in this direction, though it is more instructive to start with the former.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OW	CWS
H1 Upper	65%	Sem. -1.54	Sem. - 1.52
H1 Middle	51.2%	Disc. 1.7	Disc. 1.64
H1 Lower	36.2%	Syn I 1.37	Syn I 1.07
H2 Upper	48.3%	Disc. 3.62*	Disc. 3.33*
H2 Middle	39.1%	Syn II 1.47	Syn II 1.37
H2 Lower	35.3%	Syn II .96	Exact 1.07
U1(R)	27.2%	Syn I 1.88*	Syn I 1.95*
U2(R)	21.5%	Syn II 2.29*	Syn II 2.54*

(* = significant at .10 at least. See Appendix IV for details)

In H1, the easiest text, semantic DSS's occur in the Upper and Middle ability groups, even if the former shows negative organizer effect for the reasons discussed previously. It is only H1 Lower that has a syntactic DSS, Syn I. A similar pattern emerges in H2 except that here it is only the Upper group that has a semantic DSS, Disc. That both Middle and Lower groups show a predominance of syntactic DSS's would appear to result from the greater difficulty of H2, which seems to have pushed Middle group subjects into a syntactically oriented organizer usage strategy. The occurrence of Exact as DSS in H2 Lower, CWS goes against the main trend of the results and no ready explanation exists for it. The retest

groups U1(R) and U2(R), with their high difficulty levels, have exclusively syntactic DSS's.

Thus it appears that Higher subjects' organizer usage strategies are related to the difficulty level of the task. At low difficulty levels, subjects seem to adopt a strategy geared to discourse level semantic appropriacy. However, when difficulty levels increase, they shift to a syntactically oriented strategy. A similar trend emerged at 'O' Grade but less clearly, 'O' Grade subjects as a whole being less able to manipulate organizers than Higher subjects. In addition to this general trend, it may be observed that of the text pair H1-H2 the easier text, H1, has Syn I as its syntactic DSS's while the harder text H2, has Syn II. The same is true of U1-U2, the easier text showing Syn I as DSS and the harder Syn II. This may well be the result of the relatively greater difficulty subjects experienced in attaining full syntactic accuracy in H2 and U2(R). This again illustrates a flexibility in the way in which subjects make use of the facilitative potential of the organizer. While there is a good deal of inference involved in this interpretation, the data appear to suggest that Higher subjects had a three tiered approach to organizer usage. At low difficulty levels the increased text "transparency" provided by the organizer was used to aid in inferring discourse level semantic constraints. As difficulty level increased, subjects shifted to full syntactic appropriacy, but when this was difficult to obtain they used the organizer to aid them with a lower level of syntactic appropriacy, namely form-class identification as monitored by Syn II.

Though it adds nothing of substance to what has been said above, a breakdown of DSS's on the basis of difficulty level allows the reader to gain a clearer overview of the trends in operation.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS	CWS
H1 Upper	65%	Sem. -1.54	Sem. -1.52
H1 Middle	51.2%	Disc. 1.7	Disc. 1.64
H2 Upper	48.3%	Disc. 3.62*	Disc. 3.33*
H2 Middle	39.1%	Syn II 1.47	Syn II 1.37
H1 Lower	36.2%	Syn I 1.37	Syn I 1.07
H2 Lower	35.3%	Syn II .96	Exact 1.07
U1(R)	27.2%	Syn I 1.88*	Syn I 1.95*
U2(R)	21.5%	Syn II 2.29*	Syn II 2.54*

It is only groups with mean cloze scores of over 45% that have Disc. as DSS (H1 Upper being ignored). Virtually all groups with means below this have syntactic DSS's. Higher subjects, then, shift to a syntactically oriented organizer usage strategy at difficulty levels where they may still be assumed to have a reasonable level of text comprehension even without the organizer. The last table also clearly shows the concentration of highest DSS T-ratios (again excluding H1 Upper) at opposite ends of the difficulty spectrum, H1 Middle and H2 Upper on the one hand and U1(R) and U2(R) on the other hand. The former, showing what was termed refinement level facilitation, have the type of organizer effect anticipated under Hypothesis II. The latter, exhibiting survival level facilitation, an aspect of the data not anticipated precisely

in the form in which it has occurred, have primarily syntactically oriented facilitation, which goes against what was anticipated under Hypothesis II. These observations lend support to the contention that two different, albeit not mutually exclusive, categories of organizer facilitation exist.

Before summing up, mention should briefly be made of the second highest T-ratios obtained. Of the four instances of Disc. as DSS, three are followed by an at least partially semantically sensitive SS, Sem. or Exact, which would indicate that in these groups, i.e. at refinement level, subjects' organizer usage was strongly semantic in orientation, even if subjects do benefit relatively more in the derivation of function over content words. Of the nine instances in which Syn I or Syn II occur as DSS, fully eight are followed by a semantically sensitive SS and not, as one might expect, by the other syntactic SS. This indicates that Higher subjects, even when their primary organizer usage is syntactically oriented, still maintain a semantic awareness.

The discussion so far has shown that although the organizer usage strategy of Higher subjects is principally syntactic in nature, there is a considerable degree of flexibility in the way in which this level of subjects can avail themselves of the facilitative potential of advance organizers. Organizer usage appears to be dependent upon gross difficulty level and text complexity, subjects giving evidence of being able to adapt their organizer usage in accordance with the demands imposed by these two factors to gain at least some level of

benefit from the organizer. That their strategy usage, in global terms, is a successful one would appear clear from the fact that significance is attained in over one-third of the groups (six out of sixteen) and only very narrowly missed in two more. At the same time, the picture of type of organizer facilitation emerging from this sub-section is considerably more complex than Hypothesis II would predict.

iii. University

a. Results

OS-CWS: Survey of the results on p.158 show that University subjects adopted a strategy by which they derived relatively greater assistance from the organizer in the derivation of content over function words. Seven out of eight groups have mean CWS T-ratios greater than the corresponding OS T-ratios. The differences, however, are often slight and only on one group, RU1 Upper, is the T-ratio of each SS greater on CWS than on OS. The general trend in favour of content word facilitation, however, is clear.

DSS: The results on p.279 indicate a complementary trend. Subjects at this level show a definite trend to adopt a more semantically oriented organizer usage strategy. Nearly half the DSS's observed are Disc. and, together with Sem., constitute the greater part of DSS's obtained. The relative proportion of semantic to syntactic DSS's declines between positive and significant occurrences, though this is a general trend in the data.

UNIVERSITY: DSS

i. TOTAL

	U1	U2	RU1	RU2	TOTAL	%
Exact	*(4)	(4)	(4)	(4)	(16)	
Syn I		2	2		4	25%
Syn II		1			1	6%
Sem.	1	1		2	4	25%
Disc.	3		2	2	7	44%

* = total number of instances.

ii POSITIVE

	U1	U2	RU1	RU2	TOTAL	%
Exact						
Syn I		2	2		4	25%
Syn II		1			1	6%
Sem.	1	1		2	4	25%
Disc.	3		2	2	7	44%

iii. SIGNIFICANT

	U1	U2	RU1	RU2	TOTAL	%
Exact						
Syn I		2			2	13%
Syn II						
Sem.						
Disc.			2	1	3	19%

b. General trends

A number of points emerge immediately. Firstly, Exact as DSS appears nowhere, even if it does occur as the second highest SS after Disc. in three out of seven occurrences of the latter as DSS. Secondly, Sem. assumes a greater role than at previous levels. Thirdly, and most clearly, Disc. assumes a dominant role. Not only is its DSS ratio by far the greatest at this level, but also it produces the highest occurrence ratio of any DSS in the data. University subjects, then, produce a very clearly semantically oriented organizer usage strategy, as the table below shows:

	TOTAL	POSITIVE	SIGNIFICANT
Syn I, Syn II:	31%	31%	13%
Sem., Disc.:	69%	69%	19%

c. Intra-level variance

As at previous levels it is profitable to begin with a breakdown of DSS occurrence in terms of the text variable.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS		CWS	
U1 Upper	58%	Sem.	.62	Disc.	.70
U1 Lower	41.9%	Disc.	.71	Disc.	.75
U2 Upper	46.2%	Syn I	2.09*	Syn I	2.67*
U2 Lower	34.1%	Syn II	.35	Sem.	1.44
RU1 Upper	41.2%	Disc.	3.34*	Disc.	3.44*
RU1 Lower	21.6%	Syn I	1.41	Syn I	1.71
RU2 Upper	49.4%	Disc.	1.01	Disc.	1.95*
RU2 Lower	25.5%	Sem.	1.21	Sem.	1.66

(* = significant at .10 at least. See Appendix IV for details)

The trend observed at previous levels for syntactic DSS's to occur more frequently in more difficult texts is present at this level too, though in a clearer manner than previously. The more difficult text of each text pair, U2 and RU1, is that which has syntactic DSS's, these being absent in the easier text of each text pair, U1 and RU2. Three out of five instances of syntactic DSS's occur in just one text, U2, and this text also produces higher OS than CWS T-ratios, which goes against the main trend at University level. Reference to Chapter VI pp.218-223 will show that this text is marked by a particularly complex syntax, which, together with its discourse style in general, was identified as the factor best distinguishing it from its companion text, U1. Thus, as the difficulties of U2 were primarily syntactic in nature, subjects seem to have altered their organizer usage strategy to focus primarily on these text features. This entailed a shift from a semantic to a syntactically oriented organizer usage strategy, much as one finds with respect to 01 at 'O' Grade, though for different reasons. In addition to the fact that this seems to be part of the general trend at all subject levels to use the facilitative potential of the organizer primarily in syntactic terms when task demands are high, the high occurrence of syntactic DSS's in U2 and the higher level of OS T-ratios indicates subjects' response to the specific demands of U2, which are largely syntactic in nature.

At this level Syn II occurs at DSS on only one occasion whereas at 'O' Grade and Higher it occurred with approximately equal frequency to Syn I. In addition to this, Syn II occurs

as the second highest T-ratio on only one occasion. Given the criteria underlying this SS (cf. p.103), its low frequency of occurrence at University level is not wholly surprising. Subjects at this level have a very solid command of the L2 and it is therefore to be expected that they would have been able to assess the correct form class of cloze items largely unaided, even in more difficult texts. They therefore appear to have availed themselves of the facilitative potential of the organizer either in terms of achieving full syntactic appropriacy (Syn I) or semantic appropriacy. These comments receive support from the fact that the only occurrences of Syn II as DSS or as the SS with the second highest T-ratio are found in lower F.P. ability groups, U2 Lower and RU1 Lower respectively.

Some further aspects of the data require attention but these will benefit from being viewed within the context of the results for this subject level as a whole. The table given above will therefore be repeated, but this time being ordered according to task difficulty level.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS	CWS
U1 Upper	58%	Sem. .62	Disc. .70
RU2 Upper	49.4%	Disc. 1.01	Disc. 1.95*
U2 Upper	46.2%	Syn I 2.09*	Syn I 2.67*
U1 Lower	41.9%	Disc. .71	Disc. .75
RU1 Upper	41.2%	Disc. 3.34*	Disc. 3.44*
U2 Lower	34.1%	Syn II .35	Sem. 1.44
RU2 Lower	25.5%	Sem. 1.21	Sem. 1.66
RU1 Lower	21.6%	Syn I 1.41	Syn I 1.71

With the exception of U2 Upper, which has already been discussed, groups with means above 40% show exclusively semantic

DSS's, principally Disc. This is much the same as the Higher results, even as far as the group with the highest mean score showing Sem. as DSS (there is no ready explanation for this, other than that at this level the organizer is becoming largely superfluous and that one is consequently entering an area of little interpretative significance above and beyond this fact itself). Below the 40% level, however, a difference between Higher and University results emerges. While at Higher virtually all DSS's were either Syn I or Syn II, at University level three out of six DSS's are Sem. This difference may be viewed from two angles, though in practical terms the two should probably be seen as working simultaneously.

The first concerns the different L2 proficiency levels of the two subject levels. It was pointed out in Chapter V p.161 that a very substantial difference exists between Higher and University subjects in terms of L2 proficiency. University subjects may be assumed to have a good command of the syntactic system of the L2 in absolute terms. Consequently, there is only limited scope for improvement in this area of their cloze test performance. This, in global terms, would explain the generally lower level of syntactic DSS occurrence among these subjects.

The second approach concerns the role of the text variable as it affects subjects' organizer usage. Syntactic DSS's occur only in U2 and RU1 Lower. The syntactic complexity of U2 has already been mentioned as the factor which would seem to be responsible for the frequency of syntactic DSS's on this text. The reasons for the presence of syntactic DSS'S in RU1 Lower are different. This is a specialized text which requires

a specific set of background knowledge to be fully comprehended. It also employs a number of technical terms with which (cf. Chapter VI pp.236-238) Lower group subjects may not have been conversant. These subjects would therefore have experienced considerable difficulty in approaching this text in conceptual terms, and, equally, of using the facilitative potential of the organizer in a fully semantically oriented manner. The relative unfamiliarity of the content and vocabulary of RU1 would therefore appear to have short-circuited subjects' ability to adopt a semantically oriented organizer usage strategy, obliging them to focus on the more predictable aspects of text structure, namely syntactic form and appropriacy. That RU1 Lower, OS, is the only group in which Syn I as DSS is followed, in terms of size of T-ratio, by Syn II indicates the degree to which the text characteristics of RU1 constrained these subjects into adopting a syntactically oriented strategy of organizer usage.

These comments would indicate that University subjects' unmarked organizer usage is heavily semantically oriented and that subjects only shift to a syntactic strategy when the text constrains them in this direction (U2) or when they are unable to function on the semantic level (RU1 Lower). The more frequent occurrence of Sem. (cf. Chapter IV p.104 for details of its criteria of appropriacy) as DSS at University than at other subject levels would appear to be part of this general trend. Sem. occurs as DSS on four occasions, though one, U1 Upper, will be left out of consideration for the reasons already given. The three remaining instances all occur at difficulty levels at which syntactic DSS's might have been

expected, U2 Lower and RU2 Lower, since subjects were experiencing reasonably great difficulty with the texts in question. The occurrence of Sem. as DSS at these locations would appear to indicate two factors: firstly a desire on subjects' behalf to adopt a semantically oriented strategy in organizer usage and, secondly, the difficulty experienced by subjects in attaining full, passage-level semantic appropriacy as monitored by Disc. The fact that in all three groups Sem. as DSS is closely followed by Disc. as the SS with the second highest T-ratio, both being a noticeable degree greater than the remaining T-ratios, would tend to reinforce the contention that the presence of Sem. as DSS indicates a solidly semantic orientation in subjects' organizer usage, but one which fails to attain full semantic appropriacy as a consequence of text difficulty, subjects working on more localized semantic appropriacy.

In conclusion, the organizer usage strategy of University subjects coincides to a large degree with that predicted under Hypothesis II. Subjects appear to adopt a semantically oriented organizer usage strategy geared primarily to passage-level semantic appropriacy (Disc.). However, when this is not possible, they shift to a more localized semantic strategy (Sem.) or to a syntactic strategy (Syn I, Syn II). Thus, while in general terms University subjects tend to use the organizer much along the lines predicted, they show a greater flexibility than Hypothesis II would allow for. From this subject level, as from the others, it emerges that the facilitative potential of advance organizers with respect to the texts they accompany can be exploited by different

subjects in different ways depending on the interaction of subject ability, text characteristics and gross difficulty level. While organizers may certainly be used in semantic terms, this is clearly not the only option.

iv. Overview

The subject level based analysis conducted in this section has indicated that the way in which subjects may make use of an advance organizer is considerably more complex than Hypothesis II would predict. 'O' Grade and University subjects show a trend, as regards both OS-CWS and DSS, to adopt a more semantically oriented organizer usage strategy, whereas Higher subjects show evidence of a more syntactically oriented strategy. At the same time, all subject levels give evidence of making use of organizers in both syntactic and semantic terms. Furthermore there is strong evidence that the choice of a syntactic or a semantic approach to organizer usage is not an arbitrary one. In very general terms, subjects appear to adopt a syntactically oriented strategy when the task difficulty level increases, either in terms of gross difficulty level or as a result of text specific factors such as syntactic complexity or content.

Up to this point these factors have been viewed exclusively within a subject-level context. In the following section, however, an attempt will be made to discern certain general trends with respect to subjects' organizer usage and to relate these to the main interpretative categories developed in the two preceding chapters.

C. Organizer usage strategies

That the way in which subjects made use of the advance organizers provided is more complex than was initially anticipated is clear.

The present section will attempt to assess the main factors governing the organizer usage strategies present in the data obtained for the three subject levels. The first and most important point is the syntactic vs. semantic orientation in organizer usage. Subsequent to discussion of this point subjects' performance will be viewed from the perspective of strategy flexibility. Thirdly, reference will be made to the concepts of refinement and survival level facilitation and finally, a survey will be made of M.H. ordering trends.

i. Semantic vs. syntactic organizer usage

a. General trends

There is a clear general trend in the data for subjects to adopt a more syntactically oriented organizer usage strategy at higher difficulty levels or on more complex texts. At 'O' Grade the trend is less clear overall but may be seen in the concentration of syntactic DSS's in 01. At Higher and University levels the trend emerges more clearly, subjects tending to exhibit a greater frequency of syntactic DSS's at difficulty levels above 40%. At this point it may be worthwhile to point out a similarity between Higher and University results which subject level analysis was not able to highlight. Five out of eight Higher groups (cf. p.276) have means below 40% while only three University groups (cf. p.282) have means below 40%. This means that difficulty distribution is different, which tends to obscure the similarity between the two subject levels. At difficulty levels above 40% subjects at both levels appear to shift from an organizer usage strategy geared to full semantic appropriacy, as monitored by Disc., to a more localized strategy relying heavily on syntactic

organizer usage (Higher), more localized semantic appropriacy (University) or a combination of the two. While this does not undermine the observations made previously that Higher subjects in general adopt a more syntactically oriented strategy while University subjects adopt a more semantic strategy, it does reveal a substantial similarity in the way in which these subjects' organizer usage responds to difficulty level.

These observations may be related to the greater need-greater organizer effect factor alluded to in the two previous chapters, whereby organizer effect tended to be greater when the task was more difficult for subjects, either in absolute or in relative terms. The combination of this factor and the trend for subjects to adopt a more syntactically oriented organizer usage strategy at higher difficulty levels means that, relative to their total positive occurrence, syntactic DSS's attain significance more frequently than do semantic DSS's. The table below gives the number of positive and significant DSS's of semantic and syntactic orientation followed by the percentage of significant to positive occurrences.

	Semantic DSS's	Syntactic DSS'S
	Positive-Significant	Positive-Significant
'O' Grade:	12-3 = 25%	3-1 = 33%
Higher:	5-2 = 40%	9-4 = 44.4%
University:	11-3 = 27.3%	5-2 = 40%

Thus, with the exception of Higher, semantic DSS's are more frequent than syntactic DSS's as regards both positive and significant occurrence. However, the positive-significant

ratio is always higher with respect to syntactic than to semantic DSS's. At the level of the data as a whole the situation is equally clear.

Semantic DSS's	Syntactic DSS's
Positive-Significant	Positive-Significant
28-8 = 28.6%	17-7 = 41.2%

To conclude from these figures that a syntactically oriented organizer usage strategy is a "better" one would be a serious oversimplification. It would seem more accurate to say that, at high difficulty levels and on demanding texts, a primarily syntactic approach to organizer usage has a greater likelihood of success than one geared to passage-level semantic appropriacy. This was not anticipated and poses a number of interpretative problems. Some of these have already been alluded to in Section B. above, though an effort will now be made to draw them together.

b. Psycholinguistic considerations

In view of the fact that an advance organizer is designed to provide a high-level interpretative context for the text it accompanies in order to aid subjects to organize their reading in a more semantically oriented and context sensitive manner, it was expected that organizer facilitation would be greatest in semantic terms, particularly passage-level semantics. The type of result distribution predicted was thus similar to that obtained on RU2 Upper (cf. Appendix IV for details). Here subjects derive greatest benefit from the organizer on those text features monitored by Disc. (cf. p.104 for details of scoring criteria), with limited or zero facilitation on

other scoring systems. Indeed, a slight depression of syntactic performance would not have been surprising if the organizer had, as anticipated, caused subjects to effect a radical change in their reading strategy usage in a more semantic direction (cf. Hatch, Polin and Part, 1974). Thus, instances of Sem. and Disc. as DSS do not pose any real interpretative problem, fitting in with what had been initially predicted. The same is not true of the frequent instances in which subjects derived primarily syntactic benefit from the organizer. At first sight it is difficult to see how subjects made use of the discourse potential of the organizer to derive primarily syntactic benefit, expecially in terms of full syntactic accuracy (Syn I), though this is certainly what happened on numerous occasions.

It has emerged from sub-heading a. of the present sub-section that subjects' "first option" in terms of organizer usage is semantic in nature and that they move to a syntactic strategy when this "first option" is frustrated as a result of gross difficulty level or certain text-specific factors. In other words, when they cannot exploit the organizer-text relationship in discourse level semantic terms they shift their focus to the more predictable and code-specific text features, namely syntax. The precise psycholinguistic processes whereby this shift may have been effected are very difficult to assess on the basis of the data gathered. However, some interpretation may be offered. It would appear plausible that the presence of an advance organizer reduces the global opacity of a text, reducing by a given degree the difficulties subjects experience in perceiving text structure and meaning relations. This increased text "transparency"

resulting from the organizer would appear to be generalized over all intra-textual relations, both semantic and syntactic. Thus subjects seem as able to make meaningful use of the organizer's facilitative potential with respect to syntax and function words as to semantics and content words. The discourse potential of an advance organizer with respect to the text it accompanies is thus more generalized than was originally anticipated and appears to provide subjects with a generally enhanced text perspective on both semantic and syntactic text features, either of which may receive relatively greater focus (and, consequently, relatively greater facilitation) depending on factors related to difficulty level and text characteristics. In F.P. ordering a significant level of organizer facilitation was obtained in 15 out of a total of 52 groups. Only on one occasion (RU2 Upper) does a negative T-ratio occur in a group of which one or more other SS's attain significance. Thus, while relative level of facilitation does clearly vary among SS's and the text features they monitor, the last observation does indicate a generalization of organizer facilitation over all text features.

In conclusion, then, although the frequency of syntactically oriented facilitation was not anticipated, its occurrence appears to reflect a clear underlying trend in organizer functioning and one which, furthermore, adds a very solid dimension to the pedagogical potential of advance organizers. Instead of bringing about an essentially semantic improvement in subjects' text perception as anticipated, organizers seem

to effect a generalized improvement in subjects' perception of all levels of contextual constraints present in a text, syntactic, semantic and discourse. This generalized increase in text transparency then would appear to allow for differential emphasis in subjects' organizer usage depending on the specific demands of the text in question. Subjects' first option would appear to be semantic in nature, but when this is blocked they can equally well use the organizer's facilitative potential in syntactic terms.

ii. Organizer strategy flexibility

The previous sub-section indicated that the discourse potential of advance organizers is generalized over all text features, and is not restricted to semantics. This allows for subjects to actualize the organizer potential in different ways depending on their conceptual and linguistic preparedness relative to the demands of a given text. However, it logically follows from this observation that subjects' ability to actualize the discourse potential of any given advance organizer will depend, in part at least, on the degree to which they are flexible in their use of this discourse potential. Performance of University and Higher subjects on texts U1 and U2 can serve as an illustration of how this might work, even though specific instances of strategy flexibility within each of these subject levels have already been discussed in section B. sub-sections ii. and iii. above under the sub-heading "Intra-level variance".

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS	CWS
U1 Upper	58%	Sem. .62	Disc. .70
U1 Lower	41.9%	Disc. .71	Disc. .75
U1(R)	27.2%	Syn I 1.88*	Syn I 1.95*

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS		CWS	
U2 Upper	46.2%	Syn I	2.09*	Syn I	2.67*
U2 Lower	34.1%	Syn II	.35	Sem.	1.44
U2(R)	21.5%	Syn II	2.29*	Syn II	2.54*

U1 was a relatively easy text for initial test subjects and so they adopted a semantic organizer usage strategy, deriving benefit primarily on the semantic level, especially in terms of passage-level semantic constraints. The limited level of facilitation observed should be seen less as a failure on subjects' behalf to use the organizer than as an indication of the existence of only limited scope for facilitation. For the retest group, however, the text was considerably more difficult and so they adopted a syntactic strategy, i.e. one focusing on the more code-specific and predictable aspects of the text. As, however, U1 did not have a particularly complex syntactic structure, subjects were able to use the organizer to aid them most in terms of syntactic precision (Syn I). In U2, a much more difficult text, even the initial test group (with one exception, U2 Lower, CWS) adopted a syntactically oriented strategy. Interestingly, however, while the Upper initial test group derives benefit from the organizer in terms of syntactic precision (Syn I), the retest group does so in less exacting syntactic terms (Syn II), which reflects this group's much more limited L2 proficiency with respect to the demands of the text. That subjects of very different levels of L2 proficiency can derive similar levels of benefit from the same organizer on the same text was observed in the last chapter. The present discussion shows clearly that this almost invariably requires subjects to adopt different organizer usage strategies. In

other words, while subjects of very different L2 proficiency levels can derive similar levels of benefit from an organizer used with a given text, they cannot to it in the same way. They must alter the way in which they use the discourse potential of the organizer, focusing on those text features which are within the reach of their L2 proficiency.

The generally high level of success shown by Higher and University subjects in their use of organizers is a clear indication that they were able to adopt appropriate organizer usage strategies. The same cannot be said of 'O' Grade subjects. Results for the three levels in terms of percentage occurrence of positive and significant DSS's shows this clearly:

	Positive DSS's	Significant DSS's
'O' Grade:	75%	20%
Higher:	87.5%	37.5%
University:	100%	31.3%

Something, then, is wrong with 'O' Grade subjects' organizer usage. Insufficient flexibility may be one factor in this, as the results for Higher and 'O' Grade subjects on H1 indicate.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS	CWS
H1 Upper	65%	Sem. -1.54	Sem. -1.52
H1 Middle	51.2%	Disc. 1.7	Disc. 1.64
H1 Lower	36.2%	Syn I 1.37	Syn I 1.07
H1(R) Upper	34.1%	Exact .28	Exact .72
H1(R) Lower	18.2%	Disc. - .11	Disc. .16

While initial test subjects in H1 Lower have shifted from the semantic strategy adopted by those in H1 Middle to a syntactic

strategy, retest subjects, despite their more limited L2 proficiency, maintain an organizer usage strategy geared to full response accuracy (Exact and Disc.). The low T-ratios observed clearly indicate that this was not a successful strategy. 'O' Grade subjects' strategy with respect to use of an advance organizer is heavily oriented to full semantic accuracy (Exact, Disc.). While this does work on certain occasions in 01 and 02, the general trend of results at 'O' Grade would indicate that subjects' use of the organizer is too inflexible to allow them to actualize its discourse potential in a way suited to their level of L2 proficiency.

The quote by Coady given on p. 12 proposes that what he terms process strategies represent paths to comprehension which must be adopted, but not necessarily in the same way or to the same degree. Evidence from the current experimentation suggests that there is an equal degree of flexibility in the way in which advance organizers, or rather their discourse potential, may be actualized to enhance subjects' text comprehension. Hypothesis II predicted that organizers would primarily be used in semantic terms. While this does appear to be, in a sense, their "unmarked" use, representing subjects' first option, they appear to enhance subjects' text comprehension as monitored by all five scoring systems and can be used in a considerable variety of ways. They therefore enhance subjects' text comprehension in a generalized and not a specifically semantic manner, though subjects need to have a fairly developed level of verbal proficiency in order to perceive the full potential of an organizer and to respond to it appropriately.

iii. Refinement and survival level facilitation

These terms were introduced in Chapters V and VI to explain the observation that subjects were able to derive benefit from the organizer preceding a given text at such different difficulty levels that it seemed inconceivable that they had used the organizer in the same way. The current chapter has shown that such differences do in fact exist with respect to subjects' organizer usage.

The trend has emerged that, in general, refinement level facilitation is characterized by a semantically oriented organizer usage strategy geared to full passage-level appropriacy, as monitored by Disc. Examples are H1 Middle, H2 Upper, RU2 Upper (CWS), RU1 Upper and possibly 02 Middle (CWS). Survival level facilitation tends to be characterized by syntactically oriented organizer usage, as monitored by Syn I and Syn II. Examples are U1(R), U2(R) and RU1 Lower. These are general trends in the data and exceptions do occur depending on subject-specific and text-specific factors. For example, U2 Upper, with a control group mean of 46.2%, is a clear instance of refinement level facilitation but has Syn I as DSS. RU2 Lower, with a control group mean of 25.5%, is a case of survival level facilitation but has Sem. as DSS. The former is a result of the syntactic complexity of U2 while the latter is the result of the generally more semantic organizer usage characteristic of University subjects whose high L2 proficiency reduces the scope for organizer facilitation in terms of syntactic text features.

The existence of the two levels of organizer facilitation, refinement and survival levels, was one of the more unexpected aspects of the data. The semantic-syntax shift in organizer

usage was also unexpected. These two phenomena are not, however, unconnected and both point to the multi-faceted nature of the assistance which advance organizers may provide subjects in the comprehension of texts in the L2, those subjects involved in the current experimentation at least.

iv. Mill Hill ordering trends

There are two main reasons for discussing M.H. ordering results at this stage of the present chapter. Firstly, Chapters V and VI revealed that, while M.H. ordering yields useful insights into organizer functioning, F.P. ordering discriminates better among subject groupings and therefore is a better framework for statistical analysis. Secondly, M.H. ordering produces subject groupings which reflect different ability mixes than those arising from F.P. ordering. Therefore a survey of possible differences in type of organizer usage between the two orderings is best viewed in terms of organizer usage flexibility or, in other words, in terms of the variety of ways in which subjects can avail themselves of the discourse potential of the organizer. The discussion in this section will consequently focus only on the main lines of divergence between the two orderings. This will be done within a subject level framework.

a. 'O' Grade

In F.P. ordering 'O' Grade subjects' organizer usage emphasized content words (cf. OS-CWS mean T-ratios) and full passage-level semantic appropriacy as monitored by Exact and Disc. This general trend is found in M.H. ordering too. Indeed, it is even more marked although, overall, it is less successful, as the table below illustrates.

DSS's in % occurrence

F.P. ordering	TOTAL	POSITIVE	SIGNIFICANT
Syn I:	15%	10%	5%
Syn II:	20%	5%	
Sem.:	10%	10%	
Disc.:	30%	25%	5%
Exact:	25%	25%	10%

M.H. ordering	TOTAL	POSITIVE	SIGNIFICANT
Syn I:	5%	5%	5%
Syn II:	15%	10%	
Sem.:	20%	15%	5%
Disc.:	35%	30%	5%
Exact:	25%	10%	

Three main observations may be made on comparison of the results for the two orderings:

1. Positive and significant occurrence of Exact and Syn I as DSS is lower on M.H. than F.P. ordering.
2. Positive and significant occurrence of Syn II and Sem. as DSS is greater on M.H. than F.P. ordering.
3. Positive occurrence of Disc. is slightly higher on M.H. than F.P. ordering.

None of these observations are particularly surprising. Subjects grouped on the basis of L1 proficiency show a lesser tendency to benefit from or to use the organizer in terms of text features requiring L2 response precision, as monitored by Exact and Syn I. They do, however, benefit more in terms of SS's not requiring response precision, Syn II and Sem.

Since M.H. ordering is based on verbal proficiency score as opposed to F.P. score these trends are not unexpected and reflect how subjects may exploit the organizer in different ways depending on their type and level of preparation for the task at hand.

In general terms, however, the orientation and level of organizer effect observed is very much the same on both orderings. Neither produces a clear strategy pattern as one finds at Higher and University levels on F.P. ordering. Nor is the level of success in organizer usage particularly high for this subject group on either ordering. Indeed, overall, level of organizer effect is lower on M.H. ordering, though this is a general trend at all subject levels and reflects the lower discrimination produced by M.H. score which produces less distinct subject groupings and, consequently, less clear organizer effect trends.

b. Higher

In F.P. ordering both OS-CWS and DSS results pointed strongly towards Higher subjects having adopted an organizer usage strategy focusing on function words and syntactic text features, albeit within the general difficulty level related semantics-syntax shift in organizer usage. In M.H. ordering this trend is less marked. As regards OS-CWS T-ratios, in M.H. ordering only four of the six groups showing positive organizer effect have mean OS T-ratios greater than the corresponding CWS T-ratios whereas in F.P. ordering this was the case with all seven groups showing positive mean T-ratios. DSS distribution also differs.

DSS's in % occurrence

F.P. ordering	TOTAL	POSITIVE	SIGNIFICANT
Syn I:	25%	25%	13%
Syn II:	31%	31%	13%
Sem.:	13%		
Disc.:	25%	25%	13%
Exact:	6%	6%	

M.H. ordering	TOTAL	POSITIVE	SIGNIFICANT
Syn I:	13%	13%	13%
Syn II:	31%	31%	19%
Sem.:	25%	25%	6%
Disc.:	31%	19%	

Certain specific points of interest arise from these two tables.

1. Exact appears nowhere as DSS on M.H. ordering.
2. Positive and significant occurrences of Disc. as DSS are less frequent on M.H. ordering.
3. Total and positive occurrences of Syn I are less frequent on M.H. ordering.

Since Disc., Exact and Syn I, especially the latter two, call for L2 response precision it is not surprising that they should occur less frequently on ordering based on verbal proficiency as opposed to L2 competence. Similar trends were also present at 'O' Grade between the two orderings.

4. Total, positive and significant occurrences of Sem. as DSS are more frequent on M.H. ordering.
5. Significant occurrences of Syn II as DSS are slightly more

frequent on M.H. ordering.

These points are, again, predictable. Subjects clearly are able to derive most benefit from the organizer on SS's not geared to L2 response precision.

The conclusions then, including those referring to the generally lower level of organizer effect on M.H. ordering, are the same as those for 'O' Grade, namely that the different ability mix in M.H. ordering groups produces a shift in subjects' primary organizer usage to those text features which are less L2 competence dependent.

c. University

In view of the fact that only U1 and U2 could be re-ordered on the basis of M.H. score, scope for a meaningful comparison is limited. The general trend at University level was for mean CWS T-ratios to be greater than the corresponding OS T-ratios, U2 Upper being an exception to this trend. M.H. ordering for U1 and U2 shows that all three groups showing positive organizer effect have higher mean CWS than OS T-ratios. The DSS trends are unclear.

DSS's in % occurrence

F.P. ordering	TOTAL	POSITIVE	SIGNIFICANT
Syn I:	25%	25%	25%
Syn II:	12.5%	12.5%	
Sem.:	25%	25%	
Disc.:	37.5%	37.5%	

M.H. ordering	TOTAL	POSITIVE	SIGNIFICANT
Syn I:	37.5%	37.5%	
Syn II:	25%	25%	
Disc.:	12.5%		
Exact:	25%	12.5%	

Two points clearly deserve note. Firstly, M.H. ordering produces a greater percentage of syntactically oriented DSS's than does F.P. ordering, both Syn I and Syn II. Secondly, Exact appears in M.H. ordering whereas it is absent from F.P. ordering results. These trends go against what 'O' Grade and Higher inter-ordering comparison indicated as the main data trends, though serious interpretative problems have arisen previously, in Chapters V and VI, in accounting for the differences in F.P. and M.H. ordering results on these two texts. Since M.H. ordering results are markedly less successful than F.P. ordering results one can assume that subjects' organizer usage was deficient, which may account for the difficulty in accounting for M.H. ordering results. While there is some degree of circularity in this argument it must be admitted that no ready explanation seems available for these points and they must, therefore, be left open.

v. Overview

The main point of interest to emerge from sub-section iv. above, as from the rest of this section, is that the discourse potential of advance organizers is multi-faceted and can be actualized in a variety of ways depending on the conceptual and linguistic readiness of the user relative to the demands of the target text. At the same time, the user has to have the flexibility to perceive the options available and to make the appropriate use of the organizer's facilitative potential. The ability to do this effectively would appear to be related to level of verbal proficiency, since 'O' Grade subjects, whose mean level of verbal proficiency is low, do not seem to possess the strategy

flexibility which characterizes Higher and University subjects in general. More than a symptom of the low level of organizer facilitation observed at 'O' Grade, this would seem to be one of its causes. The presence of a given level of potential facilitation in a given organizer-text relationship does not ensure that all subjects will be able to actualize it in the manner most appropriate to their abilities. These observations would tend to reinforce those made at the end of Chapter V to the effect that, in an L2 context at least, advance organizers are most suitable for use with subjects with a relatively high level of verbal proficiency and, one may assume, of discourse skills.

D. Conclusions

It has very clearly emerged from this chapter that the way in which subjects make use of the organizers provided is considerably more complex than had been anticipated. Organizers were predicted to effect an essentially semantic level of facilitation in subjects' text comprehension. Insofar as one may infer from the cloze test results, while this sometimes did occur, it was by no means the only type of facilitation in operation. In support of Hypothesis II one may observe that a semantically oriented organizer usage seems to be subjects' first option. However, as task difficulty level increases, the benefit subjects are able to derive from the organizer becomes more syntactic in nature. Thus, Hypothesis II is not incorrect but merely inadequate in its assessment of organizer functioning since it fails to allow for the latter, syntactically oriented type of facilitation. The discourse potential

of advance organizers emerges as being generalized over all text items and all levels of intra-textual relationships. Depending on their conceptual and linguistic readiness relative to the task demands, subjects would appear to be able to derive benefit from this increased degree of text transparency in numerous ways. Although this was not anticipated, it is not counter-intuitive that the increased level of text perspective on advance organizer is designed to provide should be generalized in the way just outlined over all levels of contextual information present in a given text.

While these observations do not undermine the pedagogical value of advance organizers they do show that their facilitative potential is not wholly semantic in nature. Indeed, it would appear that the presence of an advance organizer does not affect a radical change in subjects' reading strategy usage by moving it in a more semantic direction, but rather enhances subjects' already existing reading strategy usage in respect to a given text in a generalized manner. As the elicitation technique was designed only to monitor experimental-control group differences and not to provide information on control groups subjects' reading strategies, such comments need to be made with a degree of reservation. What is clear, however, is that, with the interpretative framework provided by an advance organizer all subject levels show the ability to manipulate syntactic, semantic and discourse constraints. This observation tends to undermine Clarke's "language competence ceiling" hypothesis, which states that limited language competence blocks L2 learners' ability to avail themselves of the full range of contextual information present in a text. While task difficulty does cause subjects to adopt a more syntactically oriented organizer usage strategy, L1 studies have shown that task difficulty produces a shift to a more localized

reading strategy usage even in native speakers. Writers such as Clarke and Cziko tend to portray the reading behaviour of L2 learners as differing in a number of essential respects from that of native speakers in terms of subjects' ability to use the full range of contextual information potentially available to them. While this may be true in certain respects, the present chapter would appear to indicate that this situation may not be inevitable and may, indeed, result, as Hudson suggests, from learners having failed to realize the applicability in the L2 of reading strategies they may command in the L1.

Thus, in addition to the main line of the present investigation, namely an assessment of the potential facilitative value of advance organizers as adjuncts to L2 reading materials, the data yield a number of secondary insights into the reading behaviour of L2 learners in general terms. The fact that, albeit with the assistance provided by an advance organizer, the subject population of L2 learners not only shows the ability to manipulate all levels of contextual information in a text but also seems to do so in a manner resembling the flexible and task-responsive manner characteristic of L1 reading, goes to indicate that no essential difference exists between the reading process in L1 and L2. Indeed, it seems likely that what differences in reading strategy usage do occur between L1 and L2 readers may be largely the result of learners having either failed to realize the applicability of their L1 reading strategies to the L2 or of their reverting relatively quickly to poor reader strategies in the L2 through lack of experience in L2 comprehension training. Evidence in this direction may be found in the fact that, from Chapters V and VI,

organizers emerged as providing on difficult texts a level of contextual perspective subjects could spontaneously provide on easier, more accessible texts, and that, from the present chapter, organizers emerged as able to produce a flexible and context-sensitive set of text apprehension and processing strategies in experimental group subjects, those, at least, of higher verbal proficiency levels. These considerations will be drawn together in the final chapter. As a last word to the present chapter it may be said that although the type of organizer facilitation observed in the data is more complex than anticipated, the presence of an advance organizer does appear to enhance subjects' text comprehension in a generalized and contextually sensitive manner.

VIII L1 TESTING

The current research is essentially concerned with the reading behaviour of L2 learners, specifically, the way in which the presence of advance organizers may affect the text comprehension of one specific group of L2 learners as monitored by performance on a series of cloze tests. Although the main orientation of the research, then, is L2 centred, it was decided to conduct a certain amount of L1 testing for comparative purposes. This testing, the results obtained and the implications it has in the wider context of the present research will be discussed in the present chapter. The analysis will consist of three main parts. Firstly the methodology will be outlined. Secondly, the results will be examined with respect to level and distribution of organizer effect obtained (cf. Chapters V and VI). Thirdly, type of organizer effect will be examined (cf. Chapter VII). Frequent back-references will be made to the L2 testing interpretation at all stages of the analysis. It should be borne in mind throughout that the ultimate aim of the present chapter, essentially, is to provide an additional perspective on and understanding of the behaviour of the L2 subjects.

A. Methodology

Other than the fact that the texts used were in subjects' L1 the elicitation technique, scoring systems, test administration, subject population and statistical analysis are, in all essential respects, similar to those outlined in Chapter IV for L2 testing. Mention will therefore be made here only of those instances in which the L1 testing differed from the L2 testing analyzed up to this point.

i. Subjects

The same subject population was used as in the L2 testing, namely subjects who were preparing for 'O' Grade or Higher

examinations at the end of the academic year in which the testing was conducted (1981-82) or subjects in their first year of university study. Individuals used in the L2 testing were not used in the L1 testing. At 'O' Grade and Higher English class groups were used, though virtually all subjects involved were currently studying at least one foreign language, generally French or German. University subjects were taken either from those studying Linguistics plus other subjects or from first year students in the Department of Chinese. All 'O' Grade and Higher subjects were from schools in the Edinburgh area and all first year undergraduates (paid volunteers) were from the University of Edinburgh.

ii. Tests

Only two tests were used and both were given to all subject levels. There were two reasons for this decision. Firstly, it was desirable to be able to compare the performance of all subject levels on the same texts. In the L2 testing the wide range of L2 proficiency present in the total subject population made this impossible, but it was feasible when the L1 was used. Secondly, L1 versions of 'O' Grade and Higher texts would have been very easy for most subjects and this would have limited the amount of result variation and scope for an analysis of organizer effect. The two texts chosen were English versions of the most difficult L2 tests, RU1 and RU2. These were renamed E1 and E2 respectively.

Deletion ratio and time allocation differed in L1 and L2 testing. Both L1 tests had a deletion ratio of every 4th word. This produced 102 items in E1 (RU1 had 98) and 88 items in E2 (RU2 had 83). Time allocation for each text was 25 minutes. This made the task a demanding one for subjects. These decisions

were made in view of the observation made in L2 testing that organizer effect was greatest at high global difficulty levels. The reduction in testing time, which was in part a necessity resulting from limited subject availability, may have penalized certain text attack strategies allowed for by the 40 minute time allowance in the L2 testing (the majority of subjects did not require the full 40 minutes), particularly those of the "slow and systematic" type of subject. It is not felt, however, that this had any major effect on results. Item completion ratios, i.e. the total number of cloze items attempted, are given below for experimental and control group populations.

	Experimental	Control
E1:	82.3%	81.6%
E2:	77.6%	79.7%

Not only are these quite respectable rates given the difficulty of making subjects attempt all blanks in a cloze test, but also they show that the time allowance did not penalize experimental group subjects, i.e. those who had to process the organizer as well as the text itself.

The organizers used with RU1 and RU2 were left unchanged in the L1 testing and the same organizers were given to all subject levels.

Subject numbers per level and text are given below:

	E1	E2
'O' Grade:	48	50
Higher:	43	43
University:	28	29

Subsequent analysis is thus based on a total of 241 cloze tests.

iii. Subject-test groupings

All subjects took the Mill Hill test and their score on this test was used to order them within their subject level and within the subject population as a whole in the manner outlined below. Data in the form of completed cloze tests were arranged in two ways.

Firstly, subject level grouping was maintained. 'O' Grade and Higher populations were split up into Upper and Lower ability groups on the basis of M.H. score. The University population, being smaller, was not sub-divided.

Secondly, all subjects were pooled and reordered exclusively on the basis of M.H. score. This produced three ability groupings, Upper, Middle and Lower. Inter-group discrimination for the control groups in terms of mean T-ratios (cf. Appendix VII A. for details) for the two orderings are given below:

Subject level	E1C	E2C
'O' Grade: Upper-Lower	2.54**	4.1^{**}
Higher : Upper-Lower	1.6	2.28**
Pooled	**E1C**	**E2C**
Upper-Middle	.8	3.03^{**}
Middle-Lower	3.02^{**}	3.36^{**}

** = significant at .05

** = significant at .01

** = significant at .001

The text variable appears to produce an effect on subjects' cloze performance which alters inter-group discrimination. Discrimination between the subject levels was not calculated as these represent already existing subject categories. With certain exceptions both orderings discriminate effectively among subjects and both will be

used in the subsequent interpretation. Subject level ordering is more sensitive to subject-text interaction as it works with smaller units cross-defined by subject level and M.H. score. Pooled ordering aids in the discernment of clear general trends in the data.

B. Level and distribution of organizer effect

This stage of the analysis will be conducted in the same manner as that of L2 test results. Firstly, the results will be examined in terms of subject ability, the latter being defined in terms of M.H. score. Secondly, the results per text will be analyzed. In this respect the reader is referred to the text characteristics outline provided for RU1 and RU2 in Chapter VI pp.231-236. The reader should bear in mind throughout this chapter that the aim is only to discern general trends in L1 results so as to supply some level of comparative perspective on the main aspects of the testing, namely the L2 results. Interpretation may consequently be less detailed than that provided in the previous chapter.

i. Subject ability

As mentioned previously, two data formats exist, that based on subject level and M.H. score and that based on M.H. score alone. The former provides greater detail and the latter a clearer overview. Both will be used as appears appropriate.

a. Result trends

M.H. score assumed an important interpretative role in L2 testing and, although levels of M.H.-cloze score correlation vary considerably (cf. Appendix VII B. for details), it is not surprising that it is M.H. score that should provide the most

meaningful result distribution. Consequently, unlike L2 testing, where groups were ordered on the basis of mean control group Exact cloze score, the L1 results will be ordered on the basis of M.H. score. The following abbreviations are used: U=University, H=Higher, O='O' Grade. Thus, for example, E2H Upper is the Upper Higher subjects group on text E2.

GROUP	MEAN M.H. SCORE OF EXPT'L GROUP	MEAN T-RATIO: OS	CWS	MEAN CONTROL GROUP CLOZE SCORE
E1U	45.7	.50	.78	39.3%
E2U	44.8	1.75*	.30	49.2%
E1H Upper	34.7	-1.32	.80	40.1%
E2H Upper	34.7	-1.31	-1.14	45.3%
E2O Upper	27.8	-1.42	-1.33	40.1%
E1O Upper	27.7	- .91	-1.22	33.1%
E1H Lower	25	.29	.33	31.3%
E2H Lower	25	.26	.46	29.3%
E1O Lower	15.9	1.31*	.34	25.9%
E2O Lower	15.6	-1.81	-1.14	26.8%

(cf. Appendix VII C. for details)

Two clear trends emerge from these results. Firstly, advance organizers, or at least those used on the two texts E1 and E2, not only do not have a generalized facilitative effect but indeed frequently cause a marked deterioration in the cloze test performance of experimental group subjects. Secondly, what positive or significant experimental effect does occur is found at the opposite ends of the verbal ability and difficulty level spectrums (these two factors coinciding to a very large degree). Pooled ordering produces much the same picture except that the more limited number of groups present causes a levelling out of trends.

GROUP	MEAN M.H. SCORE OF EXPT'L GROUP	MEAN T-RATIO: OS	CWS	MEAN CONTROL GROUP CLOZE SCORE
E2 Upper	44.2	.67	.99*	48.4%
E1 Upper	44.2	.09	.05	39.5%
E1 Middle	29.2	-.87	-.48	34.7%
E2 Middle	28.9	-1.03	-1.55	39.5%
E1 Lower	18	.67	.31	27.5%
E2 Lower	17.6	-2.05	-1.61	28.3%

Text specific trends are also present in these two sets of results but these will receive attention in sub-section ii. below. At this stage of the analysis, however, two clear interpretative questions arise. The first is why level of positive organizer effect is so low and so infrequent in L1 testing. The second is why what positive organizer effect that does occur is concentrated at opposite ends of the ability/difficulty level spectrum. The L2 interpretation conducted previously would appear to supply the categories capable of answering both these questions. A very great deal of the L2 results could be encompassed within the operation of two global data trends, the greater need-greater organizer effect factor on the one hand and the refinement vs. survival levels of facilitation on the other. The subsequent analysis of the L1 results will be built around these two lines of interpretation.

b. Greater need-greater organizer effect

Very low or negative T-ratios did occur in the L1 results and were generally due to one of two factors. Either they indicated that the organizer-text relationship was too complex for subjects' discourse processing skills, this occurring

largely among lower ability 'O' Grade subjects, or they indicated that the organizer was largely superfluous, subjects being able to generate an adequate interpretative context for the text unaided, a conflict then arising between subjects' spontaneously generated interpretative context and that provided by the organizer. It is proposed that the frequent negative organizer effect observed in the L1 results and the generally low level of positive organizer facilitation is a result of the operation of the latter factor. In other words, as subjects' need of the organizer was limited the degree to which they derived benefit from it was also limited, and, indeed, they were frequently confused by it.

That this should be the case is by no means obvious from the range of Exact scores observed, 25.9%-49.2%, which was the difficulty range in which organizer effect tended to be positive or significant in the L2 testing viewed overall. The difference, it would appear, needs to be sought in the relative ease with which subjects can process linguistic cues in their L1 and use these to form an interpretative context for the text in which they occur. It was observed in the L2 testing that subjects derived greater benefit from an advance organizer on texts whose content and, thereby, whose vocabulary, was less familiar to them. Relatively greater vocabulary unfamiliarity would appear to hinder the process of semantic constructivity whereby subjects make inferences from and establish links between text items on the basis of their prior world knowledge (cf. Perkins, 1983). This was observed between the L2 text pairs analyzed previously. However, it would appear that a similar difference exists in more general terms between texts in an L2 and texts

in subjects' L1. In the latter, due to the greater familiarity of the linguistic cue system, semantic constructivity can function much more easily than in the L2, whose cue system is inevitably less familiar. This means that, when confronted with an L1 text subjects' semantic constructivity can function relatively unimpeded, allowing them to relate the text specifics in some meaningful manner to their past experience and world knowledge and, thereby, to create an interpretative context for the text. The differing levels of M.H. score obtained show a wide ability range, and one can assume that the interpretative contexts different levels of subject generated may often have differed from one another and were not all optimal. Nonetheless, it is likely that most subjects were able to gain at least some kind of perspective on the texts. The low and negative T-ratios occurring, especially the latter, would seem likely to have arisen out of a conflict occurring between subjects' personalized interpretative context and that provided by the organizer.

The L2 testing indicated that organizers facilited comprehension by aiding subjects to generate an interpretative context for texts for which, as a result of global difficulty or of topic/vocabulary unfamiliarity, they experienced difficulty in generating an interpretative context unaided. Organizers thus emerged as performing a function which subjects could often perform unaided but from which they were prevented by specific difficulty-related factors. Comparison of L1 and L2 results confirms this view, with the added insight that the process of spontaneous context formulation is much more difficult for subjects in an L2 than in their L1, with the result that there

is greater scope for the use of advance organizers as reading adjuncts in an L2 than an L1 context. Thus, the reading process in both L1 and L2 appears to be very much the same in all essential respects except that the greater level of text opacity resulting from reading texts in an L2 hinders the process of semantic constructivity and the consequent formulation of an interpretative context, leaving significant scope for organizer-based facilitation.

c. Refinement vs. survival level facilitation

Under the last sub-heading the results were surveyed in global terms. Under this sub-heading the focus will shift to the distribution of positive organizer effect within the body of L1 results gathered, reference being made largely to the subject level ordering given under sub-heading a. above.

Not only is what positive organizer effect there is gathered at the opposite ends of the ability/difficulty spectrum, but also the only two instances of significant facilitation are found in the two groups with the highest and the lowest mean cloze scores and the second highest and the second lowest M.H. scores. This result distribution recalls the frequent situation in the L2 results where positive or significant organizer effect was concentrated at the opposite ends of the difficulty spectrum, not only on single texts but also at the level of total results for a given subject level. It may be observed that the significant instance of refinement level facilitation occurs on E2, the easier text, and the significant instance of survival level facilitation occurs on E1, the more difficult text.

In 01 and U2 one observes a falling off of organizer effect between refinement and survival levels of significant facilitation. This is very apparent in the L1 results. Standard deviations were checked to assess whether these trends could be attributable to sampling factors but there was no evidence in this direction, either in L1 or in L2 testing. One must therefore assume that the terms of refinement and survival level facilitation reflect a real aspect of organizer functioning, albeit at very different levels and in very different ways. Since these terms have been defined previously together with the posited organizer usage they represent no more will be said currently in this respect. The implications of this aspect of the L2 results are twofold. Firstly, it lends substantial support to the reality of the refinement and survival levels of facilitation hypothesized to explain L2 result distribution. Secondly, it provides evidence that the way in which subjects perceive the potential of and utilize advance organizers in an L1 context is essentially the same as in an L2 context, the difference being that there is generally greater scope for their facilitative use in an L2 context.

ii. Text variable

While differences do exist in the result distribution between E1 and E2 these need to be viewed within the interpretative framework provided by the generally low or negative levels of organizer effect observed. One is therefore often discussing relative degrees of superfluity, which limits the value of what can be said above and beyond this fact itself. Subject level results, although more detailed, will be used less in this sub-section since pooled results facilitate the formation of a clearer overview of text-related trends. A breakdown of results per

text is provided on the following page.

The mean scores for E1 and E2 as well as the relative difference between the two texts are very much the same as those for their L2 versions, RU1 and RU2 (31.4% and 37.5% respectively). E1, the more difficult text, produces a greater frequency of positive group mean T-ratios, seven out of ten, against four out of ten in E2. Significance is attained only once on each text, however, on subject level ordering, and on pooled ordering significance occurs only in E2.

Pooled ordering results reveal that Upper and Lower group subjects were able to derive a limited level of assistance from the organizer on E1 and that the organizer did not impair the Middle group's performance very seriously. This is not wholly surprising, given the general trends noted so far in the data. As E1 is a relatively complex and specialized text, subjects may have experienced relatively greater difficulty in generating an appropriate interpretative context for it than for E2. Thus, not only was there more generalized scope for facilitation, albeit at low levels (Upper and Lower groups), but also subjects' own interpretative context for the text was likely to be less solid and, consequently, less likely to conflict with that supplied by the organizer. Thus, at a reduced level one can discern an inter-text functioning of the greater need-greater organizer effect factor in the more generalized facilitation observed in E1.

The high levels of negative organizer effect observed in E2 Middle and Lower would appear to reflect a serious conflict between the organizer and subjects' spontaneously generated interpretative context, the latter being probably more solid than

E1 (33.9%)**

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H. SCORE OF EXPT'L GROUP
H Upper	40.1%	-1.32	.80	34.7
U	39.3%	.50	.78	45.7
O Upper	33.1%	- .91	-1.12	27.7
H Lower	31.3%	.29	.33	25
O Lower	25.9%	1.31*	.34	15.9

E2 (38.2%)

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H. SCORE OF EXPT'L GROUP
U	49.2%	1.75*	.30	44.8
H Upper	45.3%	-1.31	-1.14	34.7
O Upper	40.1%	-1.42	-1.33	27.8
H Lower	29.3%	.26	.46	25
O Lower	26.8%	-1.81	-1.14	15.6

POOLED

E1

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H. SCORE OF EXPT'L GROUP
Upper	39.5%	.09	.05	44.2
Middle	34.7%	- .87	- .48	29.1
Lower	27.5%	.67	.31	18

E2

GROUP	MEAN GROUP CLOZE SCORE	MEAN T-RATIO: OS	CWS	MEAN M.H. SCORE OF EXPT'L GROUP
Upper	48.4%	.67	.99*	44.2
Middle	39.5%	-1.03	-1.55	28.9
Lower	28.3%	-2.05	-1.61	17.6

* = significance attained on at least one SS

** = total group text mean

that of E1 as a result of the greater accessibility of the topic. Upper group subjects would appear to have been able to overcome such confusion to derive refinement level facilitation, at a significant level on CWS.

Text specific factors may, therefore, be seen to play some role in determining level of organizer effect. These factors, overall, are obscured, however, by the general lack of scope for organizer facilitation on those texts among the subjects used.

iii. Organizers

It is part of organizer theory that the advance organizer used with a given text should be pitched at a level of abstraction appropriate to the intellectual sophistication of the subjects taking it. In the L2 testing organizers were written at different levels of abstraction relative to the subject level for which they were destined as well as to the target text itself. In the L1 testing all subjects received the same organizer. This raises the question whether the low levels of organizer effect observed might not be due to a mismatch between the level of abstraction at which the organizer was pitched and the intellectual level of the subjects. While no comparative data exist to answer this question appropriately, certain aspects of the results indicate that this is not likely to have been the case. The organizer of E1 is far more abstract than that of E2, and yet lower ability subjects were able to use it to positive or significant effect, which would not have been the case had it been beyond their processing abilities. This observation would imply that even lower ability subjects might be able to handle more abstractly

worded organizers than those used in the 'O' Grade and Higher experimentation. While this is not verifiable from the data it is a factor worth bearing in mind even if it has no specific relevance to the main line of interpretation.

C. Type of organizer effect*

The frequency of negative organizer effect limits the scope for meaningful analysis of type of organizer effect, the value of examining negative DSS's being at best dubious. For the sake of simplicity analysis will be limited to pooled ordering.

GROUP	MEAN GROUP CLOZE SCORE	DSS + DSS T-RATIO: OS		CWS	
E1 Upper	39.5%	Syn I	.29	Syn I	.72
E1 Middle	34.7%	Syn I	-.60	Exact	-.19
E1 Lower	27.5%	Syn II	1.48	Syn II	1.40
E2 Upper	48.4%	Disc.	1.35	Disc.	2.38*
E2 Middle	39.5%	Syn II	-.73	Syn I	-1.11
E2 Lower	28.3%	Disc.	-1.72	Disc.	- .84

Positive mean T-ratios in E1 are higher on OS than CWS. The opposite is the case with E2, though this applies to just one group. As was generally the case in L2 testing, OS-CWS trends on both texts correspond with syntactic-semantic trends, E1 giving evidence of principally syntactic facilitation while E2 gives evidence of principally semantic facilitation.

These results are much as one would have anticipated and reflect the trends operating in the L2 testing as a whole. E1, the more difficult text, posed content-related problems of a specialized nature. The L1 testing subjects were not economists and may not be assumed to have possessed as good a conceptual readiness for the text as RU1 Upper subjects. They thus appear to have adopted a

* cf. Appendix VII D. for inter-scoring system correlations.

primarily syntactic approach to organizer usage. In this respect it is significant to note that the second lowest SS in terms of T-ratio size in both E1 Upper and E1 Lower was Disc., and also that the lowest SS, negative in both texts, was Exact. Thus, the content difficulty of E1 forced subjects to approach the text via its more constrained and code specific features. This is precisely what was observed in the L2 testing.

E2 is a more accessible text not requiring any specialized background knowledge, and this would seem to have allowed Upper group subjects to adopt a semantic organizer usage strategy. This strategy was selective, as may be seen by the gap separating the highest and lowest CWS T-ratios, 2.38 vs. .05. This selectivity is a further reflection of the limited scope left for organizer facilitation on this text.

D. Conclusions

Two main sets of conclusions may be drawn from the L1 testing results discussed in this chapter. The first is that, on the basis of the subject population and elicitation techniques employed, advance organizers would appear to have substantially less facilitative potential as L1 than as L2 reading adjuncts. This would appear to arise from the greater facility with which subjects can make use of the linguistic cues present in an L1 text to generate their own interpretative context for that text. The relatively greater ease with which semantic constructivity may operate when subjects are reading in their L1 as opposed to an L2 would appear to be a significant factor in this respect. In other words, in their L1 subjects are more able to generate spontaneously from the interaction of text cues and prior knowledge the type of contextual perspective the organizer is designed to provide than is the case

when they are reading texts in an L2. Secondly, the factors governing level and distribution of organizer effect, as well as the type of organizer usage strategies subjects adopt in response to differing text types and text demands, appear to be very similar indeed in both L1 and L2, even if general level of facilitation is lower in the former. This clearly implies that the differences between the functioning of advance organizers in an L1 and an L2 context are relative and not absolute. Thus, while scope for the use of advance organizers in an L1 context with relatively short passages such as those used in the current experimentation may be limited, the results in no way imply that their usefulness would be equally limited in larger scale or more demanding tasks. Considerations of this nature, however, go beyond the scope of the current thesis.

One further set of implications arises from the current chapter, though less directly than the two previous ones. The observation that the conditions governing subjects' use of advance organizers and, indeed, the ways in which subjects go about actualizing their discourse potential, are essentially the same in both L1 and L2 contexts raises the question as to whether the components of the reading situation itself are not essentially the same in both L1 and L2. In other words, if subjects' organizer-induced text attack strategies are essentially the same in L1 and L2, why does a significant difference exist between L1 and L2 readers' habitual text attack strategies, as most recent research would suggest to be the case ? These considerations are related to the theoretical debate on the nature of the reading process in L2 learners outlined in Chapter II and will be discussed in section B. of the final chapter. The present chapter does, however, provide clear

indications that L1 and L2 reading should be viewed as essentially similar phenomena, distinguished more in terms of subjects' relative ability to apply strategies flexibly in response to text demands than in terms of some absolute linguistic firebreak preventing strategy transferability and application to L2 reading.

IX CONCLUSIONS

The purpose of the present and final chapter is to sum up and conclude the analysis conducted in the previous chapters and to derive a number of more general implications from the specifics of the current research. It would serve little purpose merely to repeat the conclusions reached at earlier stages of the analysis. The perspective adopted here will thus be more global in its orientation and will focus on the general trends present in and implications derivable from the data gathered. At the same time, it should be borne in mind that any conclusions drawn can be reliably maintained only with respect to the subject population actually used in the current experimentation. The possible applicability of any such conclusions to other subject populations or to alternative elicitation or teaching techniques are only suggestive and would consequently require experimentally based verification to be reliably maintained.

The present chapter will have four parts. The first will present an overview and assessment of the factors conditioning level and type of organizer effect. The second will examine the implications which these comments have with respect to materials development. The third part will shift the focus of attention to examine the implications which the current research may have for the understanding of the reading process in L2 learners. Finally, and very briefly, suggestions will be made as to certain interesting orientations for further research.

A. Factors conditioning level and type of organizer effect

i. General trends

The initial idea of experimenting with the use of advance organizers as adjuncts to L2 reading materials was derived from two sets of considerations. Firstly, recent research into the reading behaviour of L2 learners (cf. Chapter II B.iii (pp.47-56) has indicated that they tend to adopt a less than optimal approach

to their use of the different levels of contextual information present in texts. The reading strategy usage of L2 learners tends to be characterized by a reliance on lower-level text processing and by a failure to use higher-level information to guide the processing of lower-level information in texts. In other words, L2 learners tend to read in an insufficiently contextually sensitive manner. Secondly, although no experimental work had been conducted with advance organizers in an L2 context, there was reason to believe that the use of advance organizers with L2 reading materials might encourage learners to adopt a more contextually sensitive set of text attack and processing strategies. It was therefore proposed to investigate whether advance organizers could effect a qualitative improvement in L2 learners' text comprehension, with particular reference to their use of contextual information. This led to the formulation of the two experimental hypotheses given in Chapter III pp. 91-92 and which have provided the pivots around which the data has been analyzed in Chapters V to VIII.

While the results obtained may, in global terms, be seen as largely positive, it is clear that the factors which determine the potential facilitative value of advance organizers are very complex. Advance organizers by no means produce an equal level of facilitation on all texts or with all subjects. Nor do they produce in all contexts the largely semantic type of facilitation which was predicted. Thus, a generalized and indiscriminate use of advance organizers would not appear advisable. Indeed, there is clear evidence that they may, in certain circumstances, produce a negative effect on subjects' text comprehension. At the same time, the data provide very strong indications that advance organizers do have a significant pedagogical potential when used

in appropriate circumstances. In general terms, they are best suited for use with subjects who have a relatively high level of verbal proficiency and intellectual sophistication. They are also of greatest value when used with texts which, in absolute or in relative terms, place greater demands on subjects' L2 proficiency and discourse processing skills. In such circumstances they appear to give subjects access to a level of text comprehension which would otherwise be beyond their grasp. From these few very general remarks it is clear that the pedagogical use of advance organizers requires careful attention to be given to the subject and text variables. The two following sub-sections will look at each one of these in turn. In addition to this, however, consideration also needs to be given to the frequent observation in the data that a given organizer-text relationship may be exploited in very different ways by different subject groups. This aspect of organizer usage and functioning will receive attention in the fourth sub-section.

ii. Subject variable

The data indicates that three main factors need to be taken into account in assessing the degree to which subjects are likely to derive benefit from the use of advance organizers. These are their L2 proficiency, their verbal proficiency and their level of text-related background knowledge. In the subject population used in the current experimentation the first two factors often coincided, though this is by no means an inevitable situation and largely reflects the use of subjects at successive eliminative stages of the educational system.

Interestingly, L2 proficiency does not seem to be a significant conditioning factor on subjects' ability to actualize the

facilitative potential of an advance organizer. While no beginners were used, the L2 level of lower ability 'O' Grade subjects may at best be situated at lower intermediate level and these subjects' command of the L2 may reliably be assumed to have been very weak. The L2 proficiency of higher ability University subjects, on the other hand, was good in absolute terms, these subjects having a very solid command of the syntactic and semantic systems of the L2. The total L2 proficiency range of the subjects used was therefore a very wide one, even if it does not reach down to beginner level. All levels of subject, however, gave evidence of being able to make meaningful use of advance organizers and one cannot, from the current data, perceive the existence of a block on subjects' ability to manipulate advance organizers resulting from any given level of L2 proficiency, within those present in the subjects used at least.

Similar comments cannot be made with respect to verbal proficiency, as monitored by M.H. score. Indeed, level of verbal proficiency has emerged as being the factor which most strongly conditions subjects' ability to perceive and actualize the facilitative potential of advance organizers in an L2 context. At levels of verbal proficiency below that corresponding to a score of circa 20-25 on the M.H. test subjects' ability to make meaningful use of advance organizers is very limited. Furthermore, when the task is relatively more demanding in terms of subjective difficulty level or in terms of organizer-text interaction, higher levels of verbal proficiency than that mentioned above are required for subjects to actualize the

organizer's facilitative potential. In general terms, then, two points may be made in this connection. Firstly, there appears to be a lower limit of verbal proficiency beyond which subjects show very limited or no ability to make meaningful use of advance organizers in an L2 context. Secondly, all else being equal, subjects with a higher level of verbal proficiency have a much greater likelihood of making meaningful use of an advance organizer on a given text than those with a lower level of verbal proficiency. Although not immediately verifiable from the data, it is likely that similar remarks could be made about level of intellectual sophistication in general and of discourse skills.

The third factor which determines the level of facilitation which an individual is likely to derive from an advance organizer accompanying a given text is that individual's degree of text-related background knowledge, or, to put it in more general terms, his degree of conceptual readiness for the text. The basic trend is that the greater the subject's conceptual readiness for a text the less scope there is for organizer facilitation. The reasons for this are not difficult to see. A high level of conceptual readiness allows a subject to integrate the semantic cues in a text into his mental schemata with relative ease and thereby to generate an interpretative context for the text spontaneously. When, however, a subject's conceptual readiness for a text is low, or, in Ausubel's terms, his possession of the relevant subsuming concepts is weak, he will experience relatively greater difficulty in spontaneously generating from the text cues an appropriate interpretative context, which leaves more scope for organizer facilitation. This would appear to be the case

in both L1 and L2, though the greater unfamiliarity of the L2 cue system seems to inhibit the establishment of associative links via the process of semantic constructivity. Consequently, advance organizers have greater scope in an L2 than an L1 context. These comments clearly assume a reasonable level of subject group homogeneity in terms of conceptual readiness for a given text and refer to relative differences within this context. If radical differences exist between subjects' possession of the relevant subsuming concepts alternative organizers would be required. For example, if a highly specialized economics text had to be read by a mixed group of economists and laymen, separate advance organizers would be required for the two groups accommodating their different levels of conceptual readiness. Within each group, however, all else being held constant, the subjects with relatively greater conceptual readiness for the task would still tend to derive less benefit from the organizer, for the reasons outlined above.

iii. Text variable

The main point in this respect is relatively straightforward. The facilitative potential of advance organizers is greatest with more difficult texts. The reasons for this are not hard to see and are much the same as those mentioned above with respect to subjects' level of conceptual readiness for a text. When a text poses higher processing difficulties, subjects' ability to generate an appropriate interpretative context is reduced. This means that subjects will tend to read the text in a less contextually sensitive manner, which is clearly less productive in terms of comprehension. Thus the presence of an advance organizer used with a more difficult text aids subjects to approach their text

processing with an appropriate mental set, which improves their text processing and, ultimately, their comprehension. This is part of the greater need-greater organizer effect factor frequently referred to in earlier chapters.

While the basic principle is relatively clear, care is necessary in assessing those factors which contribute to the difficulty level of one text with respect to another. Three factors have been identified as playing a significant role in determining the difficulty level of a text, in terms of organizer potential at least. These are topic complexity, topic familiarity and discourse structure. These factors, clearly, play a crucial role only in comparing texts of approximately equivalent difficulty level in terms of general language complexity. Exact Word score is a reasonably good indicator of the latter, but within a margin of about 10% it does not have a very accurate predictive ability with respect to those aspects of text difficulty which interact significantly with organizer effect. No simple formula can be given for the assessment of the three factors just mentioned and this has to be made on a single text basis in the light of the target subjects' conceptual and linguistic readiness. Topic complexity refers to the innate difficulty of the topic being dealt with. Topic familiarity refers to the degree of familiarity subjects are likely to have with the topic of the text. This factor may well influence the assessment of topic complexity, since subjects with a high level of conceptual readiness for a text will inevitably find a text-topic less complex than subjects with a lower level of conceptual readiness. Discourse structure, in the current context, is largely a matter of the degree to which a text provides internal discourse staging. A high level of

discourse staging clearly aids subjects to generate their own interpretative context for a text, which limits scope for organizer facilitation. The obvious difficulties involved in making an adequate assessment of these factors has implications for the pedagogical application of advance organizers which will be discussed in section B. below.

iv. Refinement and survival levels of facilitation

a. Main trends

In sub-sections ii. and iii. above, subject- and text-specific factors were discussed with the cautionary condition of "all other factors being held constant". While this aids discussion of the various component factors of organizer functioning it is clearly not representative of actual situations of usage. Albeit within the general interpretative framework provided by the subject- and text-specific trends outlined above, a substantial variation in level and type of organizer effect is discernible in the data, and this has very significant implications with respect to the practical utilization of advance organizers as well as to the theoretical understanding of their operation. One of the most interesting, and indeed unexpected aspects of the results is that a given organizer-text relationship may be exploited in very different ways by subjects depending on their level of preparedness for the text. While it was stated in sub-section ii. above that level of L2 proficiency did not appear to be a significant factor in determining subjects' ability to make meaningful use of advance organizers, as is the case with verbal proficiency, it appears that subjects' level of L2 proficiency relative to the text to be read does exert a significant influence on the

way in which subjects make use of the organizer accompanying that text.

Two main types or levels of organizer facilitation emerge from the data. The first, refinement level facilitation, is much like what was initially expected. This occurs in situations when, even without the assistance of an advance organizer, subjects would have gained quite a respectable level of text comprehension. It should be observed, however, that this level of facilitation would appear to be largely restricted to complex texts both as regards content and discourse structure. In these circumstances the organizer appears to give subjects an added level of text perspective which they use principally to aid them with passage-level semantic constraints. Hence the term "refinement" level facilitation, since in this instance subjects make use of the organizer to perfect or refine their text comprehension. This level of facilitation is generally observed at difficulty levels between 30%-50% on Exact Word score. It is generally characterized by a type of comprehension improvement which is greatest in terms of subjects' perception of the discourse constraints of a text. The second and more unexpected type of organizer facilitation is that referred to as survival level facilitation. The term "survival" was used since this type of facilitation generally occurs at difficulty levels of about 25% or under on Exact Word score, i.e. situations in which subjects would have experienced a considerable level of comprehension difficulty. It is generally characterized by a principally syntactic type of comprehension facilitation.

b. Evidence in the data

Two aspects of the results led to the creation of these terms. The first was the observation that subjects at very different subjective difficulty levels were able to derive significant benefit from the same organizer-text relationship. It was assumed that the way in which subjects with a mean Exact Word score in the region of 20% would have perceived a text in a very different way to subjects with a mean of 40% or more. On this basis it was assumed that their respective use of the organizer would have been different. There is also a trend for level of organizer effect to fall off somewhat between these extremes. This trend is not always clear, given the complexity of the data, but it is nonetheless a constant one. Indeed, it would appear that subjects who fail to use an organizer at refinement level, but whose unaided text comprehension is such that survival level facilitation, i.e. that operating at very high difficulty levels, does not come into operation, seem unable to make significant facilitative use of an organizer. The reasons for this situation are not clear, but it does appear strongly that subjects have these two main options in their use of an advance organizer, though clearly only one will be available to a given group of subjects at any one time. The second aspect of the data which points in the direction of the existence of different levels of organizer facilitation is the observation that the type of benefit subjects primarily derive from an advance organizer changes in a regular manner in response to task difficulty level. This means that refinement level facilitation is generally marked by subjects deriving benefit from the organizer

primarily in their use of discourse constraints, whereas survival level facilitation is generally marked by primarily syntactic benefit.

A third point exists which lends support to the two given above. When a given text pair had difficulty levels in the region of 40% or more, text characteristics often had a substantial determining effect on the level of organizer effect observed between the two texts, one text producing markedly higher levels of organizer effect than the other. When, however, the same text pair was given to lower L2 ability subjects for whom text difficulty levels were in the region of 20% on Exact Word score, level of organizer effect tended to be very similar on both texts. At high difficulty levels subjects' text sensitivity is greatly reduced and this leads to subjects perceiving texts which may be very different for more able subjects in a very similar manner. This, in turn, produces very similar levels of need for the organizer's facilitative potential, hence the observed similarity in levels of organizer effect at high difficulty levels. These observations indicate strongly that, at these two difficulty levels, subjects' text perception and their consequent organizer usage was very different. Thus, although the terms refinement and survival level facilitation are new and, indeed, represent an aspect of organizer functioning which was not anticipated, the data points very clearly to the existence of two main categories of organizer facilitation. The implications of these observations in a materials development context will be examined in section B. below.

c. Psycholinguistic considerations

The data obtained indicate that these two levels of organizer facilitation do exist, but the elicitation technique adopted does not provide direct evidence on the psycholinguistic processes involved. A number of reliable inferences may, however, be made. The way in which subjects make use of the facilitative potential of an advance organizer with respect to a given text seems to resemble the way in which fluent readers approach text in general terms. The first option in organizer usage would appear to be to use the interpretative context supplied by the organizer to gain a clearer view of and a stronger grasp on the passage-level meaning constraints of the text, i.e. to aid with the highest level of semantic constraints present in the text. This reflects the fluent reader's conceptually oriented or top-down approach to reading. When, however, the difficulty level of the text is high relative to subjects' L2 proficiency, they appear to use the increased textual perspective which the organizer provides to aid them in terms of more localized text features, local semantics and especially syntax, or, at least, it is in these areas of text comprehension that they derive greatest benefit from the organizer. This reflects the observation that a fluent reader will adopt a more decoding based reading strategy when his initial conceptually oriented strategy is frustrated, be it for reasons of topic unfamiliarity or text density or as a result of incorrect hypothesis formation.

The presence of an advance organizer prior to a given text thus would appear to provide a globally improved level of text comprehension which is generalized over all intra-textual relationships, both syntactic and semantic. In other words,

it reduces the general level of text opacity by a given degree. Subjects then appear to approach their text decoding in much the same way in which a fluent reader would normally do, decoding in conceptual terms insofar as possible but resorting to more detailed and localized text processing when the former approach is stymied. That subjects with lower levels of verbal proficiency do not seem able to use advance organizers in this manner is, in a sense, a further indication that the organizer induced text attack strategies of subjects are to a very large extent their normal reading strategies plus a given level of textual perspective. While this was not verified in the current experimentation, there is a strong likelihood that the measure of verbal proficiency used, the M.H. test, is a good indicator of subjects' reading proficiency, this test correlating at levels around .7 with most measures of reading ability. However, using the facilitative potential of the organizer at high difficulty levels, i.e. at survival level, requires a high level of verbal proficiency. This is not surprising, since making meaningful use of an organizer with a text which one finds very difficult calls for a considerable degree of discourse skill, subjects having to move from the very abstract interpretative framework provided by the organizer to an application of the resultantly improved text perspective to those text features within the reach of their limited L2 proficiency, limited with respect to text demands at least.

In conclusion, then, it would appear that advance organizers provide a globally improved level of text perspective, one which is generalized over all intra-textual relationships

and which can be actualized in a flexible and contextually sensitive manner in accordance with the users' level of L2 proficiency relative to text demands. Subjects', or rather high verbal proficiency subjects' organizer induced text attack strategies thus appear to strongly resemble those characteristic of fluent readers in most essential respects. The implications of these observations within the context of the reader behaviour of L2 learners will be discussed in section C. below.

B. Implications for materials development

i. General considerations

The opening section of Chapter III showed that, in a content subject context, there has been interest in the use of pre-instructional techniques for some considerable time. The basic idea underlying this research is that learners will be able to assimilate and retain their content learning materials better if they approach them with an appropriate mental set. A similar idea led to quite extensive use of and research into various "pre-reading" activities in an L1 reading context. In recent years many ESL and most EAP texts (cf. the Reading and Thinking in English series) have incorporated some sort of pre-reading activities. This trend reflects the feeling that, when confronted by a text in the L2, the learner will be able to make better use of his level of language competence and obtain a higher level of text comprehension if he approaches the text with an appropriate mental set. All of these pre-reading activities share the same general aim of activating subjects' predictive abilities in a manner appropriate to the demands of the

target reading materials. The materials writers responsible therefore implicitly acknowledge a belief in a psycholinguistic view of L2 reading, something which could not have been said from a survey of most L2 reading materials published even in the early 1970's. Despite this generalized use of various types of pre-reading activities in published materials there is a singular lack of serious data-based studies investigating precisely what they do achieve. Only one published study, that of Hudson, referred to previously, attempts to do this albeit, as is inevitable, in one specific context. The current research is clearly a further attempt to examine this aspect of the reading behaviour of L2 learners, albeit again in one specific context and with one type of pre-reading or pre-instructional technique.

In general terms the current research has yielded two sets of implications with respect to the subsequent pedagogical application of advance organizers in an L2 reading context, one being positive and the other being negative, or at least cautionary. On the positive side advance organizers may be seen to have a considerable potential as adjuncts to L2 reading materials, being able to produce a significant improvement in the text comprehension of the users. On the negative or cautionary side it is clear that the facilitative potential of advance organizers is not equal with all learner levels or on all texts and that considerable care is required in matching the advance organizer to the precise characteristics of both text and user. If this matching is not optimal not only may the organizer fail to produce a facilitative effect but it may also cause confusion, resulting in a deterioration in text comprehension. Modalities of usage will

be examined in subsequent sub-sections, but one point should be clear, namely that the indiscriminate use of advance organizers is not recommendable, which seriously limits their use in published materials aimed at a general and consequently ill-defined audience.

ii. Principal orientations in advance organizer usage

Sub-section iii. and iv. below will look into two very specific applications of advance organizers as L2 reading adjuncts, the present sub-section, however, will attempt to identify the main coordinates governing their use as emerges from the data gathered. Two negative conditions immediately emerge. The first is that learners with a low level of verbal proficiency or, in general terms, with only limited intellectual sophistication and discourse skills are not suitable recipients. Furthermore, it is unlikely that learners of less than about 16 years of age will be able to make meaningful use of advance organizers. The almost inevitable abstraction of the language used in advance organizers makes them unsuitable for the categories of learner just mentioned. In addition to this, it would appear that at least a reasonable level of verbal proficiency and intellectual sophistication are required if learners are to establish a meaningful link between an advance organizer, possibly written in their L1, and its accompanying L2 text. When L1 texts are used this organizer-text link-up seems to be much easier and also appears to be accessible to a wider range of subjects. With this general category of learner there is also less likelihood of them having to read the type of text for which advance organizers are most suitable, namely informative texts with a clear ideational

content and structure. These comments do not apply to other pre-reading or pre-instructional techniques, and younger or less sophisticated learners might be able to derive benefit from other, less abstract techniques. The second main negative condition has already been brifely alluded to. Writing materials incorporating advance organizers "blind", i.e. with no specific audience in mind is a risky undertaking. As was stated in Chapter III, advance organizers look forward to the text to be read but also look backwards to the conceptual readiness of the reader himself relative to the target materials. Thus, strictly speaking, advance organizers cannot be written unless at least some assumptions can be made about learners' conceptual readiness for the materials used. The strength of advance organizers is largely that they hook into the users' conceptual system and, on this basis, provide an optimal interpretative framework for materials to be read. The risks involved arise from the fact that if a mismatch arises between the assumptions on which the organizer is constructed and subjects' actual conceptual readiness for a task, confusion may arise, resulting in comprehension deterioration.

In positive terms, the main use to which advance organizers may be put is in "stretching" the L2 text range to which learners may be exposed. The current data, in line with what Hudson discovered, albeit using a very different type of variable and of experimental set-up, indicates that when they are used in the appropriate circumstances advance organizers give learners access to a level of language which their L2 proficiency alone would not allow. This would appear to result from the fact that they activate subjects' conceptual readiness for the reading task (cf. Mayer's terms of activation and availability in relation

to organizer functioning quoted on p. 71) in such a way that subjects are able to approach lower-level processing in a more contextually sensitive manner. In other words, by encouraging subjects to use their world knowledge in the reading of a text, advance organizers effectively add a level of text-relevant information which otherwise might be absent from subjects' text processing. As a result, the use of appropriately constructed advance organizers could allow a level of L2 text to be used with learners who normally would not be able to make meaningful use of this level of text. This has two main lines of potential benefit to commend it.

Firstly, aiding learners to gain access to a wider range of L2 reading materials can contribute to an expansion of their L2 resources in terms of syntax and semantics. Especially at the earlier stages of the L2 learning process the hesitancy of learners to approach texts in the L2 outside of a highly controlled, exercise-based format places limits on their resource development. The use of advance organizers, in particular if combined with a choice of reading materials of a high level of interest for subjects, could help learners to gain access to authentic materials relatively early in their learning careers, which would substantially enhance their L2 proficiency in all respects. Comprehension assessment might need to be defined in loose, global terms, but this is a fundamental aspect of any type of reading expansion method. Secondly, the frequent use of advance organizers could encourage learners to make a more active use of their own predictive abilities in the L2. To a very large extent organizers merely aid subjects to establish a meaningful link between what they know already and what is present in the text, and so, if learners became aware of this

they might be induced to approach their L2 reading with a greater awareness of the role conceptual readiness can play in facilitating the comprehension of texts in an L2. Very simply, the frequent use of advance organizers might produce in learners an internalization of the type of text attack strategies which advance organizers induce, their effect thus being generalized to learners' private reading, even at relatively early stages of their L2 learning career.

In general terms, then, these are the main ways in which the use of advance organizers could assume a meaningful place in an L2 reading skills program. Directly, they could increase the range of texts to which learners could be exposed and, indirectly, could serve to develop learners' reading and text attack strategies. The next two sub-sections will each look at one specific application of these general principles.

iii. Survival level usage

This is very much an extreme instance of the application of advance organizers outlined above but has certain particular features which merit its being discussed separately. Firstly, it would involve learners being exposed to texts at a level of language complexity very much higher than that which their level of L2 proficiency would allow for. Secondly, this type of organizer usage calls for a particularly high level of verbal proficiency and discourse skills on learners' behalf. Thirdly, at this level of organizer usage, when learners' ability to generate their own interpretative context for a text is severely limited, there is a greater degree of sturdiness in organizer usage. Given learners' limited text sensitivity, there is less likelihood of relatively subtle text features affecting

learners' ability to make meaningful use of the organizer. Furthermore, learners' marked need of the organizer is likely to generate a positive attitude, conducive to its effective utilization.

Extreme survival level use of advance organizers, e.g. exposing learners to authentic informative materials at an early stage of their L2 learning career, would probably not be advisable in a normal L2 resource development course or even in a non-intensive reading skills course. However, there are circumstances in which it would have a role to play. Firstly, if learners had, for better or for worse, to consult authentic materials in the L2 for professional reasons while their resource development was still at a relatively early stage, this use of advance organizers could help to provide at least some bridging effect between learners' L2 proficiency, their conceptual and discourse skills and the target materials. Secondly, if learners required the L2 exclusively to read texts in that language it would objectively enhance course quality and very likely raise motivational levels if learners were exposed to their ultimate target materials from a very early stage in the course. In these circumstances, organizers could significantly help to establish the essential link between subjects' conceptual skills and readiness and the target materials, something which is more difficult for learners reading in an L2 than for native speakers reading in their own language and which is particularly difficult when the language complexity of the target materials is substantially greater than learners' L2 proficiency. In view of the very limited L2 competence of this category of learner, the advance organizer would almost inevitably need to be written in learners' L1.

iv. Language for special purposes usage

This might be a specific instance of the last category of organizer usage, though equally it might not, and will therefore be discussed separately. The problems facing L2 learners who need to use the L2 as a medium of instruction have been discussed at such length in the literature (cf. Mackay and Mountford, 1978) that it would be superfluous to repeat them here. Such learners frequently need to read their specialized subject materials in a language which they only partially command. However, in many cases such learners already have a more or less advanced level of related subject-specific knowledge, acquired either through previous study or through the lecture component of their subject course. In other words they possess a good degree of conceptual readiness for their reading materials, even if their linguistic preparedness is inadequate in varying degrees. It is suggested that advance organizers could effectively be used in such contexts to help learners to monopolize on their strengths, in terms of their subject-specific conceptual readiness, to compensate, albeit partially, for their linguistic weaknesses. In this type of situation, however, very considerable care would be required in matching the content and level of abstraction of the organizer to both text content and learners' precise level and type of conceptual readiness. While this is always important in organizer construction it is of particular importance when specialized content is involved, since a mis-match between the organizer and either text content or user readiness could have serious negative effects on comprehension and learning.

This approach to reading skills development in a language for special purposes context appears to be considerably more promising than the manipulation of input material according to criteria

based on either a grammatical or a discourse-oriented analysis of target learning materials. Not only does it allow subjects to get to grips with the target L2 materials with a minimum of delay but it also encourages them to make active use of their subject knowledge in an L2 context. Apart from the fact that this is more satisfying in psycholinguistic terms, it also would be likely to increase learner motivation by establishing a meaningful link between L2 instruction and content learning, something which is frequently difficult to perceive, even in very recent materials. While this type of organizer usage may be one of the more promising, its practical application is very demanding and the difficulties inherent therein cannot be overlooked.

v. Alternative types of advance organizers

Only one organizer format was used in the current experimentation, the continuous prose format, and therefore inferences cannot reliably be made with respect to other formats, though two main alternative formats do exist. Advance organizers may take a question form and this might serve to engage users attention and participation to a greater extent than the continuous prose format, though this is not verifiable given the lack of comparative L2 data. A diagrammatic or pictorial format is also feasible and has been experimented with successfully in a content learning context (cf. Weisberg, 1970). Such organizer formats are generally used only within certain content areas, though they have one particular advantage in an L2 reading context. In the current experimentation the organizers were written in subjects' L1. In view of the fact that an advance organizer will almost inevitably employ a more abstract and denser type of language than the text it precedes, using advance organizers in the L2

might cause serious comprehension problems, thereby nullifying any potential value the organizer might have with respect to the text is accompanies. In survival level use of organizers this problem is particularly acute. Consequently it is advisable to use the subjects' L1 in constructing the organizer, as was done in the current experimentation. In a class of mixed language background, however, this might be extremely difficult if not impossible. Therefore, in such circumstances, a non-verbal organizer format would be advantageous. Experimentation into the operation of alternative organizer formats, as, indeed, into alternative pre-reading activities in general terms, would be most helpful. Above and beyond the fact that such research would be of value, there is little of significance that may be said in this respect on the basis of the current research.

vi. Potential effectiveness of advance organizers

Substantially greater research is required before any reliable assessment may be made of the general applicability and effectiveness of advance organizers as adjuncts to L2 reading materials. Nonetheless, the current research has shown them to have substantial potential and the suggestions put forward in this section illustrate the range of situations in which this potential might be realized, or at least made the object of further research. What does, however, seem clear is that advance organizers are most suited for use by the classroom teacher or at least by the materials writer who knows precisely which learner group will be using his materials, and who has a substantial degree of back-up information on the users. Advance organizers would not seem to be well suited for use by writers who have only a very general idea of those who will ultimately

be using the materials. With relatively small, homogeneous groups of L2 learners of above average verbal proficiency and sophistication, however, the facilitative potential of advance organizers in expanding subjects' L2 reading range and reading skills is significant, or would appear to be so on the basis of the current experimentation.

C. Implications for the understanding of the reading process in L2 learners

i. Limitations of current research

The elicitation technique chosen was designed to monitor differences between the cloze performance of the experimental and control groups in terms of their use of syntactic, semantic and discourse constraints. Thus, while data is available on the way in which the presence of an advance organizer altered experimental group subjects' use of these three types of contextual information, the present research cannot be said to provide a profile of the way in which the control group subjects used these three types of contextual information. The current research, then, is an investigation of L2 learners' reading strategy usage under the influence of a specific experimental variable, and does not contain a parallel analysis of L2 learners' normal or unmanipulated reading strategy usage. This fact places a serious restriction on what may be reliably inferred about the normal reading strategy usage of L2 learners, albeit those of the experimental population, on the basis of the data obtained. Nonetheless, the comparative data on experimental-control group performance obtained does allow a certain number of implications to be drawn with respect to the reading behaviour of L2 learners in general. While this departs slightly from the main orientation

of the current research it is anything but incidental since it refers back to and refines the theoretical understanding and analysis of L2 reading (cf. Chapter II) on which the current research was based. The main drift of the present section will be to modify Clarke's language competence ceiling view of the reading behaviour of L2 learners.

ii. The language competence ceiling hypothesis

As was mentioned in Chapter II, Clarke (1979, 1980) proposed that there exists a language competence ceiling which effectively short-circuits the ability of L2 learners to apply to their reading of the L2 the full range of reading skills they may possess in their L1. Cziko (1978, 1980) lends substantial support to this view by indicating that L2 learners of less than advanced level are unable to make use of the full range of contextual information present in texts, relying more on lower-level decoding and syntax. Both these writers adhere to the psycholinguistic view of reading but, in line with a great deal of previous L2 reading research, suggest that L2 learners' limited language competence adversely affects their reading not only in quantitative terms but also in qualitative terms. There is nothing inherently implausible in this proposal, and indeed, Clarke's writings probably represent the most significant recent attempt to provide a general theoretical framework for the reading behaviour of L2 learners. However, it is felt that while there is an element of truth in Clarke's language competence ceiling hypothesis it does not account fully for the reading performance of L2 learners and needs to be refined along certain lines.

A number of indications as to the way in which Clarke's ideas

need refining were present in the L2 literature survey provided in Chapter II and are derived from schema theory based studies of L2 reading. Johnson (1981) discovered that L2 learners' reading strategy usage altered, moving in a more conceptually oriented and context-sensitive direction, when their conceptual preparedness for a reading task was high, language complexity being held constant. Johnson arrived at similar conclusions in a second study (1982) controlling for level of language complexity and of background knowledge. These two studies strongly indicate the role played by non-language specific factors in L2 reading, the 1981 study making the significant observation that a sufficiently high level of conceptual readiness can override limited language competence in terms of the type of reading strategy usage adopted. Hudson (op.cit.) found that subjects responded positively to induced schemata, inferring from this that the frequent failure of L2 learners to read in a conceptually oriented manner may not be the result of an absolute block resulting inevitably from limited language competence but, in part at least, from a failure to realize the applicability in the L2 of text attack strategies they may command in their L1. Evidence derived from the current experimentation moves in the same direction.

iii. Contextual sensitivity of L2 readers

One of the main trends present in the data gathered in the current research is what has been referred to as the greater need-greater organizer effect factor, whereby organizer effect is greatest in those test groups who experienced greatest difficulty in generating an interpretative context for the text in question.

By implication, organizer effect is less marked when subjects were able to spontaneously generate the type of interpretative context which the organizer was designed to provide. The very abstract type of interpretative framework which organizers supply may reliably be considered to provide an indirect type of assistance as opposed to the situation which would have existed if an overview (cf. Chapter III p.63) had been provided or if a number of potentially unfamiliar words occurring in the text had been provided beforehand with their L1 equivalents. This indirect type of assistance is designed to effect, and from the data would appear to have done so, a qualitative change in subjects' text processing strategies, making them more context-sensitive. At the same time, this change largely involves aiding subjects to perceive the connection existing between their existing cognitive structures and the specifics of the text in question, and not the addition of any new information, hence the importance of matching organizers precisely to subjects' conceptual readiness relative to a given domain. The absence or limited level of organizer effect observed in easier texts would imply that, in these texts, subjects were able to spontaneously effect this link-up between the text specifics and their related mental schema. Since this process inevitably involves subjects working with and processing the semantic and, especially, the discourse constraints of the texts in question one must logically assume that the L2 subjects in the present experimentation give evidence of being able to make meaningful use of all levels of contextual information. If this observation is linked with the wide range of L2 proficiency levels present in the subject population, one must conclude that the data go to undermine the generalizability

both of the language competence ceiling hypothesis and of Cziko's (1978) "developmental order in the ability of L2 readers to use contextual constraints".

When the current research was begun the most authoritative assessments of the reading behaviour of L2 learners were those of Clarke and Cziko quoted above. These indicated that L2 learners of less than advanced level (e.g. University subjects in the current experimentation) were unable to make meaningful use of semantic and, even more so, of discourse constraints in their reading of texts. Thus it was anticipated that advance organizers would produce a more generalized facilitative effect than turned out to be the case, the need for them, presumably, being generalized. This did not prove to be the case, it being inferred for the reasons given above that L2 learners, even those of less than advanced level, are in fact able to make meaningful use of all levels of contextual information present in texts, or at least texts of a less demanding nature. The latter qualification will be taken up in the next sub-section, but the general trend of the evidence gathered indicates that Clarke's and Cziko's formulation as to the reading behaviour of L2 learners is too extreme.

The largest single chapter in this thesis, Chapter VI, is that which is devoted to an analysis of results in terms of the text variable, which indicates the significance of text-specific factors in determining level and distribution of organizer effect. In that chapter, text characteristics were studied under three headings: topic complexity, topic familiarity and discourse structure. These are worth mentioning in the current context

since they cast light on the factors influencing subjects' ability to work with texts in a meaningful, context-sensitive manner. When the topic of a text is relatively simple and/or is relatively familiar to subjects, they experience little or no need of an advance organizer (unless the global difficulty level of the text relative to their L2 competence is very high, thereby obscuring their text sensitivity, as was the case in the retests). The reason for this appears to be that subjects are able to recognize enough vocabulary items in the text to activate their relevant mental schema, which allows them to integrate the text into their ongoing knowledge system and to process it in a conceptually oriented and contextually-sensitive manner. Discourse structure factors work in a similar manner, a relatively transparent discourse structure with a high degree of internal staging allows the link-up to be made between subjects' own knowledge system and the text specifics. These comments indicate strongly that L2 learners do tend to adopt a conceptually oriented approach to text decoding as a first option, but, and this is the important point, that they regress to a non-contextually sensitive approach as difficulty levels rise, which is much what has been shown to be the case with native speakers reading their own language (cf. Olshavsky, op.cit.).

This observation leads on to another important aspect of the results. The organizer usage strategies identified in Chapter VII reveal a flexible and context sensitive use of the facilitative potential of the advance organizer. This is less marked at 'O' Grade, but this factor is more likely to arise from the limited verbal skills of this subject level than from their limited L2 proficiency. Thus, if L2 learners are able to adopt a contextually-sensitive set of organizer-induced text attack

strategies, there would appear to be no reason to believe that they are unable to use a similar type of text attack strategy unaided, or, more precisely, that there is no objective factor preventing them from doing so. The very considerable similarity between L1 and L2 organizer usage strategies observed in Chapter VIII indicates that the organizer-induced text attack strategies of both categories of subject are essentially the same, which raises the question as to whether the subjects' text attack strategies are radically different in the absence of an advance organizer.

The implications of the current sub-section should be reasonably clear, namely that the present writer does not believe that the reading strategy usage of L2 learners is necessarily characterized by a failure to make appropriate use of all available levels of contextual information. This is not to say that such a situation does not frequently exist, and the following sub-section will centre on examination of those circumstances in which L2 learners do appear unable to approach text in a sufficiently context-sensitive manner.

iv. Summing up

The markedly lower level of organizer facilitation observed in the L1 as against the L2 testing is a clear indication that subjects experience greater difficulty in generating an interpretative context for texts in an L2 than in their L1. The difference, however, is a matter of relative ability to generate an interpretative context in both L1 and L2 and not of a categorical opposition of two separate text processing systems. The clear trend in L2 results for subjects to derive greater benefit from the organizer on more complex texts shows that in

these instances the organizer fulfilled a function which subjects were unable to perform unaided. The fact that at low difficulty levels subjects were able to generate an interpretative context for a given text unaided whereas at high difficulty levels on the same text subjects had need of the organizer, indicates that level of L2 proficiency relative to a given reading task does influence the degree to which subjects are able to make meaningful use of discourse constraints and to integrate text specifics into their knowledge systems. These three points, the L1-L2 opposition, the inter-text difference and the subjective difficulty level difference, may all be accounted for in terms of the relative familiarity of the L2 code system and the resultant differences in the ease with which text cues may be processed.

In a study referred to previously, Perkins discovered that while L2 learners do exhibit semantic constructivity in the same way as native speakers, which clearly shows that L2 learners contribute actively to the reading process in conceptual terms, limited L2 proficiency may inhibit the associative and inferential processes involved in semantic constructivity. L2 learners may also find it more difficult to store and to recall textual information. In the current experimentation it would appear that when subjects are reading texts in the L2 their ability to form associative links both among textual vocabulary cues and between text cues and their own mental schemata is impeded by the general unfamiliarity of the code system. Similarly, when the text content is unfamiliar or when the language complexity of a text is high relative to subjects' L2 proficiency, semantic constructivity is impeded. This reduces subjects' ability to

establish a meaningful conceptual link between the text specifics and their mental schemata, preventing them from generating an appropriate interpretative context for the text unaided. Hence the high level of organizer facilitation observed in these circumstances. Thus, it is not that subjects are unable to use the full range of contextual information available to them in their reading of texts in an L2, but rather that they abandon a conceptually oriented approach to their reading of texts in the L2 relatively easily, regressing to the less contextually-sensitive reading strategies frequently observed in the literature. The essential point to observe at this juncture is that, if the very indirect non-L2 specific assistance provided by an advance organizer can alter this approach, then there is reason to believe a. that subjects abandon a conceptually oriented approach to reading in an L2 too soon, and, b. that they could spontaneously supply the level of contextual perspective externally induced by the organizer if they were sufficiently aware of the possibility or feasibility of doing so.

These remarks clearly echo those of Hudson, who claims that much of the poor reading behaviour of L2 learners is a result of their failure to realize the applicability in the L2 of the type of reading strategies they may command in their L1. All readers tend to shift from a conceptually oriented, top-down reading strategy to a more localized, decoding oriented and bottom-up reading strategy as text difficulty rises or as topic unfamiliarity increases. This is common to both L1 and L2. What distinguishes L1 from L2 reading strategies, then, would not appear to be the essential components of the reading situation or even global trends

in reading strategy usage, but rather the relative speed with which L2 learners abdicate the use of a conceptually oriented approach to reading in favour of a more decoding oriented approach. The results of the present research indicate that this need not be seen as an inevitable aspect of the reading behaviour of L2 learners, even those with a relatively low level of L2 proficiency.

It would appear that, with learners of lower-intermediate level and above at least, the essential components of the reading process and the array of reading strategies usable are the same for subjects reading in an L2 and in their L1. While differences do occur between the reading strategy usage characteristic of L1 and L2 subjects these are thus a matter of differential use of available resources. Indeed, similar differences exist in the reading behaviour of better and poorer L1 readers. The present research therefore indicates that deficient reading strategy usage need not be seen as an inevitable consequence of limited L2 proficiency. The evidence is that L2 learners can be induced to adopt a contextually sensitive approach to their reading of texts in the L2 via appropriate pre-instructional methods. A sufficiently high level of conceptual readiness would seem capable of overcoming the language competence ceiling effect and, thereby, of allowing learners to approach their L2 reading in a conceptually oriented manner. The current experimentation has revealed this to be feasible via the use of an externally induced conceptual framework and there is no theoretical reason to believe that this effect should not be generalizable via use of the appropriate instructional methods. At the same time, this is not verifiable and must remain a suggestion. The contribution of the current research, however, would seem to lie in the fact that it points

to the feasibility of such an approach to L2 reading instruction in psycholinguistic terms and provides specific means by which it might be realized within the wider context of an L2 reading skills program.

D. Further research

Given the limitations of the present research the most obvious line for subsequent research into the use of advance organizers in an L2 reading context would be to replicate the main lines of the current research with different subject populations and with different elicitation techniques. A longitudinal study of the potential carry-over effect of the use of advance organizers to learners' private reading behaviour would also be desirable. Above and beyond these relatively obvious orientations in subsequent advance organizer based research, however, two specific lines of investigation appear to merit particular attention.

The first would involve an investigation of the way in which subjects' level of topic-relevant background knowledge interacts with their level of text comprehension both with and without the presence of an advance organizer. This would require an accurate assessment to be made of each subject's background knowledge for subsequent comparison with text attack strategies employed and type and level of organizer effect obtained. A variety of text types should be used, both general interest and specialized. It would also be valuable to vary text difficulty levels relative to subjects' L2 proficiency. These recommendations would indicate a more intensive and probably smaller scale type of testing than that used in the current research, a tighter control being exercised over the subject and text variables.

The second main line of research would involve an investigation of different organizer formats, question and pictorial formats in

particular. This experimentation would benefit from particular attention being paid to subject characteristics in terms of verbal proficiency, intellectual sophistication and age and also level of topic-related background knowledge. The main point of interest would be to assess the way in which different learner types respond to different organizer formats. It would be of considerable interest to hold the learner characteristics mentioned above constant and to vary level of L2 proficiency, to assess the relative degree to which the former and the latter factors interact with subjects' organizer format preferences.

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Appendix I

Tests administered

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A.	Instruction sheet	2
B.	Cloze tests:	
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A. Instructions sheet

Notes

i. The instructions sheet on the following page is that given to experimental group subjects in the L2 testing.

ii. The control group subjects received an instructions sheet identical except for the omission of point 4.

iii. The instructions sheets given to subjects in the L1 testing were identical except that point 2 was omitted.

iv. The deletion rate given in the first line of the instructions sheet was always that used in the test in question.

v. The instructions sheet was stapled to the cloze tests, forming the first page of the text booklet.

DIRECTIONS

In the passage on the next page every 5th word has been left out. Therefore each space means that one word is missing. All spaces are the same size whatever the length of the word that has been left out.

1. Use the ideas you can get from the remaining words and from the passage as a whole to help you fill in the missing words.

2. Try to fill in the missing words in French. However, if you think you know what a missing word should be but do not know how to say it in French, write in the word in English.

3. If you are not sure of what a word should be, TRY TO GUESS WHAT THE WORD MIGHT BE. Do not leave any gaps empty.

4. Read the introductory passage in English before attempting the French passage; it may help you.

B. Cloze tests

Notes

i. Only the experimental group version of each test is given. The control group version was identical except for the omission of the advance organizer.

ii. The originally deleted text items are handwritten in the cloze tests given in the following pages.

SCHOOL: NAME:

Ordinary: Passage 1(E). TIME: 40 minutes.

The constant movement of the tides is potentially a vast source of energy, especially in places where the tide is strong. France is the first country in the world to have used the tides to produce electricity. However, actually building a power-station to convert the force of the tide into electricity was a long and difficult task, requiring careful preparation and much hard work.

Tous les enfants qui jouent au bord de la mer apprennent à connaître la marée. La mer monte, couvre la plage et détruit les châteaux qu'ils ont faits. Quelques heures plus tard la mer est redescendue et les travaux peuvent recommencer.

Le mouvement de la mer est une vaste réserve de force et l'homme rêve depuis des siècles de la possibilité d'employer la marée pour produire de l'énergie. C'est seulement au vingtième siècle qu'il a découvert les moyens techniques de transformer ses rêves en réalités.

Les marées ne sont pas pareilles partout dans le monde, et c'est dans la Manche, entre la France et l'Angleterre, qu'on trouve celles qui sont peut-être les plus fortes du monde. Plus la marée est

forte, plus on peut produire de l'électricité. C'est donc dans l'estuaire de la Rance, un fleuve qui se jette dans la Manche, que le gouvernement français a decidé de construire une usine pour produire de l'électricité à partir des marées.

La construction de cette usine présentait beaucoup de difficultés et on a passé plusieurs années à étudier les différents aspects du problème. Il fallait aussi éprouver les matériaux avec lesquels on devait construire l'usine pour savoir s'ils pourraient résister à la force de la mer.

Il fallait construire l'usine au milieu de l'estuaire. Afin de faire cela on devait couper l'estuaire avec deux enormes murs entre lesquels les ouvriers pouvaient construire l'usine elle-même. Cela était la partie la plus difficile des travaux et il a fallu 18 mois de travail pour le faire. Après avoir terminé l'usine, on a démoli les deux murs.

L'usine elle-même est un vaste tunnel. Elle contient des turbines qui transforment le courant de la mer en courant électrique. Cette transformation se produit sans arrêt, non seulement quand la marée monte, mais aussi quand elle descend.

SCHOOL: NAME:

Ordinary: Passage 2(E). TIME: 40minutes.

In our country almost everyone can read. However, in the poorer countries of the world, very many people are unable to read, and this is a very serious problem. There is an organization, the Unesco*, which does a lot of work in these countries in helping people to learn how to read. This work is varied and difficult and will need to continue for many years to come.

Dans notre pays il y a beaucoup d'écoles et tous les enfants peuvent aller à l'école pour apprende à lire. Pour cette raison, presque tout le monde sait lire. Nous lisons tous les jours des livres, des journaux, des lettres de nos amis; pour nous, savoir lire, c'est normal. Nous autres, alors, nous avons de la chance. Malheureusement, la situation est très différente dans d'autres pays.

Plus de 700 millions d'adultes, la moitié de la population mondiale, ne savent pas lire. Le nombre de personnes qui sont incapables de lire augmente de plusieurs millions chaque année. Dans certains pays ce problème est très grave puisque plus de 95% des habitants ne savent pas lire.

/2.

*Unesco: United Nations Educational, Scientific and Cultural Organization.

Il y ___a___ une organisation qui travaille dans ___les___ pays pauvres et qui essaie ___d'___ aider les gens à apprendre ___à___ lire. Cette organisation s'appelle ___l'___ Unesco. L'Unesco est une organisation internationale ___et___ les personnes qui travaillent pour ___l'___ Unesco viennent d'un grand nombre ___de___ pays.

Que fait l'Unesco dans ___les___ pays pauvres? La moitié des ___enfants___ qui devraient aller à l'___école___ et apprendre à lire ne ___peut___ pas le faire parce qu'___il___ n'y a pas assez ___d'___ écoles et d'enseignants. Les ___pays___ neufs ont besoin de l'___aide___ de l'Unesco pour former les ___enseignants___ et pour construire les écoles. ___Dans___ certains pays on parle une ___centaine___ de langues différentes et parfois ___on___ a même plusieurs alphabets différents ___pour___ ces langues. L'Unesco peut fournir ___les___ experts capables de décrire ces ___langues___ et d'organiser leurs alphabets.

___he.___ travail de l'Unesco aide beaucoup ___de___ gens dans les pays pauvres ___à___ apprendre à lire. Mais les ___problèmes___ sont grands et il faut ___que___ l'Unesco continue à travailler pendant ___bien___ des années si on veut ___voir___ s'améliorer le niveau de ___l'___ éducation dans les pays pauvres.

SCHOOL: NAME:

Higher: Passage 1(E). TIME: 40 minutes.

There are two main types of newspaper in France. Firstly, there are the Parisian newspapers. Though these differ a lot from one another, they all concentrate on important events in France and in the world in general. Provincial newspapers, on the other hand, are concerned mainly with one particular region of France. Their emphasis is on local events and the everyday life of the inhabitants of their region.

Il y a 12 journaux parisiens. les différences entre ces journaux sont très grandes: certains, comme "Le Monde" sont très sérieux, mais d'autres, comme "France-Soir" sont beaucoup moins sérieux. Il y a aussi des journaux qui publient les idées d'un parti politique particulier, comme "L'Humanité" qui est le journal du parti communiste.

Quand on voit les différences qui existent entre ces journaux et les différentes idées qu'on peut y trouver, on peut penser que les Parisiens ont de la chance: ils peuvent vraiment choisir le journal qui leur plaît. En fait, ce n'est pas entièrement le cas. Les journaux parisiens n'essaient pas de donner aux Parisiens des nouvelles de leur ville. Plutôt, ils donnent des nouvelles de la France et du monde en général, sans faire trop d'attention à ce qui se passe à Paris. Comme les autres Français, les Parisiens aimeraient peut-être avoir des nouvelles de leur région et de leur ville.

Mais on peut acheter d'autres journaux en France: ce sont les journaux de province, ceux qu'on publie dans les différentes régions de la France. Ces journaux contiennent beaucoup plus de nouvelles locales que les journaux parisiens. Les journaux de province informent leurs lecteurs de ce qui se passe dans leur région et dans leur propre ville ou village. On les lit pour y trouver des noms qu'on connaît.

Chacun de ces journaux s'intéresse à une région particulière. Mais, puisque ces régions sont souvent assez grandes, un seul journal ne peut pas donner des nouvelles de toutes les villes et de tous les villages dans sa région. Pour cette raison, les journaux sortent en plusieurs éditions, plusieurs journaux un peu différents. Certaines pages sont les mêmes (nouvelles du monde, nouvelles de la France, nouvelles de la région), d'autres sont différentes suivant le département où on achète le journal. De cette façon, tout le monde peut apprendre les nouvelles les plus importantes de la France mais aussi ce qui se passe dans son propre coin du monde.

SCHOOL: NAME:

HIGHER: PASSAGE 2(E) Time: 40 minutes

Hunger and starvation are probably the greatest problems facing our world. In many countries there are too many people and not enough food. We in the richer countries must share out the world's resources more fairly and help the poorer countries to produce enough food for their needs. These problems are urgent, because the situation in the poorer countries is getting worse day by day.

De nos jours on reconnaît à tous les hommes la liberté de penser, la liberté de religion et, de plus en plus, la liberté politique. Mais ces droits ne sont rien si l'homme n' a pas à manger. Plus de la moitié des habitants du monde souffre de la faim. Des millions meurent même de faim chaque année. Cela n'est pas juste, parce que les ressources de la terre sont assez grandes pour nourrir beaucoup plus d' habitants.

La différence entre les pays riches où les gens mangent assez (ou trop) et les pays pauvres où les gens ont faim grandit tous les jours. En l'an 2000 la population des pays riches n' aura pas beaucoup changé, mais il y aura presque deux fois plus d'habitants dans les pays pauvres. Donc le problème de la faim deviendra chaque année de plus en plus difficile.

Que faire pour que tous les hommes puissent manger à leur faim?

On peut essayer de mieux distribuer les ressources dans le monde. Cela paraît facile, mais il y a des problèmes d' argent et de politique. Si un pays n'a pas d'industrie, pas de produits naturels, il n'a pas d'argent pour acheter sa nourriture à l'étranger. Dans un pays pauvre il faut beaucoup de temps et d' efforts pour augmenter le revenu national.

On peut aussi aider les recherches scientifiques. Il y a beaucoup de régions dans le monde où la terre est bonne mais où on ne produit rien. C' est que les gens ne savent pas employer les meilleures méthodes. Mais il y a d' autres régions où même les méthodes les plus modernes sont insuffisantes: il y a trop de soleil, ou trop de pluie, ou la terre est trop pauvre.

Finalement, il y a le problème de la population. Le nombre de personnes dans le monde grandit sans cesse. Si on veut éviter qu'un plus grand nombre de gens meurent de faim chaque année, il faut donc limiter les naissances, surtout dans les pays les plus pauvres.

NAME:

UNIVERSITY : PASSAGE 1 (E) Time: 40 minutes

The popularity of provincial, as against national newspapers in France comes from the priority they give to local news and events. Their readers are drawn from all sections of the community in a given area, so their appeal needs to be broader than that of the main national dailies. As their potential readership is limited, they need to exercise great care in combining commercial efficiency with widespread local interest.

Le fait le plus important de la vie de la presse française depuis la fin de la deuxième guerre mondiale est l'expansion constante des journaux de province. Cette expansion a eu lieu, en partie au moins, au détriment des grands journaux de Paris. Avant 1939 les grands quotidiens de Paris avaient une edition à l' intention de la province. Cela n'existe plus. Mais même avant 1939 on pouvait déjà discerner les progrès des journaux régionaux.

La raison d'être des journaux de province est évidente : ils informent leurs lecteurs de ce qui se passe là où ils habitent. Ainsi, sans négliger les nouvelles les plus importantes de la vie politique et économique de la France et des pays étrangers, les journaux régionaux donnent la priorité aux nouvelles locales. Le reportage des événements de la vie locale est souvent très vivant, avec beaucoup de détails et beaucoup de noms.

La plupart des journaux de Paris ont une perspective politique assez bien définie: certains sont plus ou moins à droite, d'autres plus ou moins à gauche. Les journaux régionaux, au contraire, doivent exercer un attrait plus large, puisqu'ils sont lus par des gens dont l' éducation, les opinions politiques et la place sociale sont complètement différentes.

L'expansion de la presse régionale a entraîné la disparition d'un nombre de journaux de second rang, attachés à une ville de moindre importance. D'autres journaux ont dû devenir hebdomadaires pour ne pas disparaître entièrement. L'aire de diffusion des principaux quotidiens de province est passée de l'échelle du département à celle de la région. Cependant, pour compenser cette extension et pour maintenir l'intérêt local, les grands quotidiens régionaux sortent en plusieurs éditions, chaque édition destinée à un département particulier. De cette façon, les lecteurs peuvent apprendre ce qui se passe dans leur propre ville et leur propre département aussi bien que les nouvelles les plus importantes de la France et du monde en général.

UNIVERSITY : PASSAGE 2 (E) Time 40 minutes

The importance of aiding the development of emergent nations in the Third World is rarely questioned. However, the results so far obtained are extremely disappointing and so poverty and injustice in these countries are on the increase. This creates instability both within the poorer countries themselves and also in the world as a whole. Urgent measures are required to make aid more effective and, thereby, to raise the standard of living of all the inhabitants of the poorer nations.

L'aggravation de la misère et de la sous-alimentation dans la monde d'après-guerre, l'accession à l' independance de petites nations parfois primitives et souvent dénuées de ressources, de cadres et d' organisation ont fait de l' aide aux pays appelés d' abord sous-développés puis Etats en voie de développement, un des problèmes majeurs du monde actuel.

Le principe, l'obligation de cette aide ne sont pas contestés, publiquement du moins, mais la faiblesse des résultats obtenus face aux sacrifices consentis par les pays donateurs provoque des controverses passionnées et des critiques souvent très justifiées.

Dans une interview à "Jeune Afrique", M. Rene Dumont déclarait: "Dans quinze ans, ce sera la famine dans le tiers monde", et il ajoutait que "l' aide qui lui a été accordée jusqu'à présent a été trop faible, mal répartie et enfin mal utilisée, trop souvent au profit d'une minorité privilégiée qui vit dans le luxe et laisse les paysans dans la misère".

Il est certain que si dans certaines populations jusqu'alors égales dans la pauvreté un trop grand écart se produit entre une nouvelle classe dont l' origine de la richesse récente relève du scandale, et une masse de plus en plus pauvre, un danger social se crée qui peut en engendrer d'autres.

Mais si c' est tout le tiers monde qui s'apprauvrit et qui est menacé de famine alors que les nations riches et industrielles poursuivent leur expansion, c' est un autre danger, mondial celui-là, qui menace.

Enfin, sur le plan humain il n'est pas tolérable que des centaines de millions d' hommes aient faim et que des nations qui viennent d' accéder à l'independance voient, de ce fait, s' abaisser leur niveau de vie et s'aggraver les injustices sociales.

Si l'aide apportée aux pays en voie de développement, pour généreuse qu'elle ait été, a abouti à un résultat aussi contraire à celui qu'elle recherchait, elle doit d'urgence être révisée et réorganisée.

NAME:

PASSAGE RU1E TIME:40 minutes.

While oil-producing Third World States have certainly benefited from the rise in oil prices, overall results are not always positive. The increased State revenue derived from oil inevitably produces significant changes in the economic structure of the country concerned. While this may allow more ambitious investment in educational and social services, it also increases consumption and, thereby, raises inflation. Furthermore, it may weaken the growth of agriculture and domestic industry. Thus, if the wealth derived from oil is to produce positive and lasting results, it requires careful management and should aim at fostering solid domestic growth.

Au début des années 70, l' agriculture représentait à peu près 50% du PIB nigérian. Le service de la dette était peu important et, grace au développement rapide de l'industrie pétrolière, les problèmes de balance des paiements commençaient à s' atténuer et les recettes de l' État augmentaient.

La hausse des prix du pétrole a transformé la structure de l' économie. En 1972, l'or noir représentait déjà 83% des exportations nigérianes. À la suite de la première hausse des prix du pétrole, les termes de l' échange du pays se sont améliorés dans un rapport de 1 à 3%. La part du pétrole dans les recettes fédérales est passée de 67% en 1973-74 à 78% en 1976-77. Les dépenses publiques sont, quant à elles, passées de moins de 20% du PIB en 1970-73 à 35% environ en 1974-77. En 1976-77, le budget

Fédéral était en déficit.

Les dépenses d'investissement de l'État ont augmenté de 2% du PIB en 1973-74 à près de 20% en 1975-79. Le Governement fédéral, les États, les collectivités locales et les entreprises publiques ont absorbé au moins 70% des investissements du pays entre 1974 et 1977. La répartition des dépenses courantes dénotait l'importance accordée aux services sociaux, et notamment à l'éducation. En 1960, le taux de scolarisation primaire était de 36%; en 1976, il s'établissait à 60%, et d'ici à 1985, la quasi-totalité des jeunes devrait etre scolarisée.

L'accroissement de la demande a stimulé l'inflation, d'où une appréciation du taux de change en valeur réelle. De ce fait, la part des exportations non pétrolières dans le marché mondial a diminué: celle des exportations traditionnelles a regressé d' un tiers, et celles des exportations non traditionnelles de produits primaires et de produits manufacturés ont respectivement baissé de 44% et 71%. En 1976, la consommation avait augmenté à un point tel que le solde des transactions courantes était à nouveau déficitaire, et le pays a dû recourir à d'importants emprunts à l'étranger.

La production agricole n'a pas progressé de façon notable dans les années 70. Beaucoup de ruraux ont quitté la terre pour s'établir dans les zones urbaines ou pour se consacrer à des activités rurales non agricoles, et en particulier la construction.

Malgré d'importants investissements à gestation lente dans l'infrastructure, le PIB nigérian a progressé au rythme annuel de 8% entre 1974 et 1977. Le très vaste programme d' investissement du secteur public excédait toutefois la capacité administrative du pays. Comme à ces contraintes s'ajoutaient des goulets d' étranglement dans l'économie, certains projets ont été trop hâtivement conçus, d'où une perte de ressources.

Après les augmentations du prix du pétrole de 1979-80, les dépenses d'investissement de l'État ont à nouveau brutalement augmenté. Des dispositions ont été prises pour encourager les investissements dans le secteur agricole, et le prix intérieur du petrole a été augmenté. Au rythme actuel de production, les réserves prouvées de pétrole ne dureront que 15 ans. Mais si la consommation intérieure continue à progresser aussi rapidement que dans les années 70, les exportations de pétrole seront réduites d'ici moins de 10 ans.

NAME:

PASSAGE RU2E Time: 40 minutes.

The climate, often combined with certain geographical factors, is probably the main obstacle to the agricultural and economic development of Africa. The soil is poor, mining difficult and the climate frequently unhealthy. The greatest single difficulty, however, is the lack and unreliability of adequate rainfall. This gives rise to the disastrous droughts which, in recent years, have become an increasingly frequent and disquieting phenomenon and which have crippled the growth of many areas of Africa.

L'Afrique est un continent presque entièrement tropical, coupé en deux par 1'équateur. Ce seul fait est un obstacle au développement. Premièrement, l' interaction du climat et de la géographie est telle que la plupart des sols africains sont pauvres en matières organiques et ne sont, en général, que modérément fertiles. Les régions bien arrosées ne représentent qu' un quart du total. Ailleurs le volume des précipitations est insuffisant et extrêmement irrégulier. De plus, l'absence de gelées "le grand bourreau de la nature" facilite la prolifération de plantes adventices et des ennemis des cultures. Deuxièmement, la prospection des minéraux est plus difficile sous les tropiques que dans les zones tempérées où les formations rocheuses sont bien exposées. Il y a 20 ans encore, les techniques de prospection se limitaient à quelques forages superficiels, car on ne savait guère comment chercher des gisements de minéraux dans des emplacements où les terrains de couverture sont substantiels. Enfin le climat tropical favorise particulièrement les affections bactériennes et parasitaires telles que le paludisme, qui amoindrissent l' énergie et la

productivité des Populations .

L'analyse des problèmes climatiques et géographiques serait incomplète si l'on ne parlait pas de la sécheresse. En effet, la mauvaise performance des années 70 s'explique en partie par le caractère défavorable des conditions climatiques. À la fin des années 60 et en 1973-74, le Sahel a connu coup sur coup plusieurs années de sécheresse, séparées par une ou deux années de précipitations normales. La région a traversé au milieu des années 70 une période de temps favorable, suivie malheureusement par plusieurs mauvaises années à partir de 1977-78, tant au Sahel qu'au nord-est de l'Afrique. Ces sécheresses se sont traduites par une chute brutale des récoltes et de lourdes pertes de bétail.

Depuis la sécheresse du début des années 70, les milieux autorisés, se demandent s'il s'agit là d'une évolution à long terme du climat, avec les changements écologiques que cela entraîne, une "avancée du désert." Mais les indices dont en dispose ne corroborent pas l'hypothèse d'une tendance séculaire des conditions climatiques. Il semble en fait que, dans certains endroits, la végétation naturelle ait été dégradée par le surpâturage et que le défrichage exerce des effets négatifs sur l'évaporation et la pluviosité. Mais ce sont là les conséquences de la présence de l'homme (surpopulation et surpâturage relatifs dans des zones semi-arides sous la pression de l'augmentation de la population humaine et animale) et non pas de changements autonomes du climat.

NAME:

PASSAGE E1E Time: 25 minutes.

While oil-producing Third World States have certainly benefited from the rise in oil prices, overall results are not always positive. The increased State revenue derived from oil inevitably produces significant changes in the economic structure of the country concerned. While this may allow more ambitious investment in educational and social services, it also increases consumption and, thereby, raises inflation. Furthermore, it may weaken the growth of agriculture and domestic industry. Thus, if the wealth derived from oil is to produce positive and lasting results, it requires careful management and should aim at fostering solid domestic growth.

In the early 1970's agriculture provided about 50% of GDP. The debt-service burden was light, and a rapidly developing oil industry was starting to relieve balance of payments pressures and boost government revenues. GDP increased at 7% a year between 1970 and 1973, considerably more rapidly than in the 1960's.

Higher oil prices transformed the pattern of the economy. By 1972 oil already constituted 83% of Nigerian exports. The first oil price rise led to a threefold improvement in Nigeria's terms of trade - a windfall gain equal to about 15% of GDP. Oil's share in federal government revenues rose from 67% in 1973-74 to 78% in 1976-77. Total public spending rose from less than 20% of GDP in 1970-73 to about 35% in 1974-77. By 1976-77 the federal budget was in deficit.

Government capital spending increased from 2% of GDP in 1973-74 to almost 20% in 1975-79. Federal, state and local governments together with public enterprises accounted for at least 70% of total domestic investment in 1974-77. Current spending emphasized social services, notably education. In 1960 the primary school

enrollment rate was 36%; by 1976 it had risen to 60% and by 1985 primary education is expected to be almost universal.

Extra demand boosted inflation, and the exchange rate adjusted for Nigerian relative to US prices, was allowed to appreciate (by about 50% between 1973 and 1978). This contributed to the decline in the world market share of non-oil exports. The world market share of traditional exports declined by one-third, while the shares of nontraditional primary exports and manufactured exports declined by 44% and 71%. By 1976 the pressure of increased domestic absorption of resources led the current account back into deficit, and the country started borrowing heavily abroad.

Agricultural output did not rise appreciably during the 1970's and the urban-rural income differential rose from 2.6 in 1960 to 4.6 in 1977. People left the land for the urban areas or to go into nonfarm rural activities, notably construction.

Despite substantial slow-gestating investment in infrastructure, Nigerian GDP grew at an annual rate of 8% during 1974-77. However, the very large public sector investment program strained the country's administrative capacity. This, together with physical bottlenecks in the economy, produced some projects which were hastily conceived and resulted in some loss of resources.

After the 1979-80 increases in oil-prices, the government again raised its capital spending sharply (current expenditure less so). Attempts have been made to encourage investment in agriculture, and domestic petroleum prices have been raised. Nigeria's proven oil reserves are sufficient for only 15 years' production at current rates. But if domestic consumption goes on rising as rapidly as it did in the 1970's, it promises to reduce oil exports in less than 10 years.

NAME:

PASSAGE E2E Time: 25 minutes.

The climate, often combined with certain geographical factors, is probably the main obstacle to the agricultural and economic development of Africa. The soil is poor, mining difficult and the climate frequently unhealthy. The greatest single difficulty, however, is the lack and unreliability of adequate rainfall. This gives rise to the disastrous droughts which, in recent years, have become an increasingly frequent and disquieting phenomenon and which have crippled the growth of many areas of Africa.

Africa is pre-eminently tropical. The equator bisects The continent, a fact which creates special obstacles to development. First, the interaction of climate and geography is such that most African soils are delicate, deficient in organic materials, and in general only moderately fertile. Well-watered areas are only about one quarter of the total; elsewhere, rains are inadequate in volume and highly variable in time. Moreover, the absence of frost,"the great executioner of Nature", creates especially burdensome problems of weed and pest control. Second, the search for minerals is more difficult in the tropics than in temperate zones, where rock formations are well exposed. Until two decades ago, prospecting technology was largely restricted to surface probing; little was known about how to explore for mineral formations where soil overburdens are substantial. Finally, because the tropical climate is especially hospitable to bacterial and parasitic diseases and to endemic diseases such as malaria, human energy and productivity are adversely affected.

Drought has also played a role: some of the poor performance of the 1970's has certainly been due to bad weather. The Sahel experienced a quick succession of

drought years between the late 1960's and 1973-74, with only one or two years of recovery in between. A period of satisfactory weather in the mid-1970's was then followed by a number of poor years, starting in 1977-78, in both the Sahel and North-Eastern Africa. These occurrences resulted in a sharp drop in crop production and severe losses in livestock.

Since the drought of the early 1970's, there has been extensive discussion as to whether this indicates long-term changes in the climate with ensuing changes in the ecology - an" advance of the desert." Present evidence provides inconclusive support for the hypothesis of a secular trend in climatic conditions. Instead, there are indications that in some locations the natural plant population has been degraded through overgrazing, and that the expansion of cleared land areas has negatively influenced evaporation and rainfall. But these were the result of acts of man - a relative overpopulation and overgrazing in semi-arid areas under the pressure of human and animal population increases - and not to autonomous changes of climate.

C. Sources of texts

01: Downes, P.J. and Griffith, E.A. Le Français d'Aujourd'hui 3'ème partie. English Universities Press Ltd, 1973. pp. 82-83 (adapted).

02: As above p.59 (adapted).

H1: Blondel, M. Les Journaux Français : textes en français facile. Hachette, Civilisation. 1975. pp.21-24 (adapted).

H2: Nouet, M. Pour ou Contre : textes en français facile. Hachette, Civilisation. 1977. pp.14-17 (adapted).

U1: Manue, G-R La Revue des Deux Mondes. 1er février, 1966.

U2: From Le Figaro, published in : Nott, D.O. and Trickey, J.E. Actualités Françaises : Part II. Hodder and Stoughton. 1978.

RU1: Développement accéléré en Afrique au sud du Sahara. World Bank, Washington D.C. 1981. p.105.

RU2: As above pp.11-12.

E1: Accelerated Development in Sub-Saharan Africa. World Bank, Washington D.C. 1981. pp.97-98.

E2: As above pp.12-13.

APPENDIX II

Scoring difficulties

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A. Introduction

i. Rationale

The interpretation and conclusions contained in Chapters V - IX, particularly with respect to the second experimental hypothesis (cf. pp.91-92), are heavily dependent upon the results obtained from the five scoring systems used in marking the cloze tests which form the initial input data to the current research. The aims of these scoring systems and the criteria governing them are provided in Chapter IV, pp.101-106 and will not be repeated here. As mentioned in Chapter IV, most cloze items could be scored with relative ease, though certain instances raised problems. The purpose of the present appendix is not to supply a compendium of such items but to give examples of the type of problem encountered and of the way in which the writer approached these problems. This appendix is thus designed to provide the reader with an indication of the way in which the criteria governing each scoring system were applied to the specifics of the cloze tests as completed by subjects taking part in the experimentation. The reader is referred to Appendix VI for an assessment of the reliability of the scoring systems in terms of levels of inter-scoring system correlation.

ii. Methods

The Exact Word scoring system is very straightforward and no illustration need be given of its operation above and beyond what is stated in p.102. Furthermore, instances in which the application of the criteria outlined in pp.101-106 is evident will not be discussed. Discussion will be restricted to instances which raised difficulties in one way or another.

The discussion will take the form of an extract from a subject's cloze test and a commentary on the problems encountered and on the way in which they were approached. Finally the scores accorded to the item in question on each SS will be provided, X indicating the response was scored incorrect and ✓ that it was scored correct. For the discussion to be meaningful reference will need to be made to pages 101-106, where the criteria governing each SS are provided, and to the completed tests contained in Appendix I. The words underlined in the examples are the cloze items as attempted by subjects.

B. Discussion of examples

Ex.1 02 : parag. 1

"Nous lissons, alors, nous avons de la ability"

Commentary

"lissons" is clearly a misspelling of "lisons" and "ability" is an English word, though neither of these factors need cause difficulties. The problems arising with respect to these two items are related to an assessment of their discourse acceptability.

Taken in isolation, this sentence is quite acceptable in semantic terms. It is less clear, however, whether it should be taken as acceptable in the context of the paragraph in which it occurs and, thereby, in the text as a whole. The main problem arises with respect to "ability". The presence of "malheureusement" in the next sentence and the tone this gives to the "us-them" contrast underlying the passage requires that something more positive than "ability" be used. In this item, then, there is little scope for anything other than the originally deleted word "chance" in terms of discourse acceptability. Consequently, while "ability" was scored correct on Sem., it was scored incorrect on Disc. "lissons", however, was scored correct on both counts, since it produces a semantic sequence acceptable within the passage as a whole.

One point may be made with respect to "lissons". While this response is not of the same grammatical class as the originally deleted word it does produce an acceptable grammatical sequence. Such cases are relatively rare. However, as what is presumably intended to be "lisons" is misspelt, the response cannot be scored as fully grammatically correct.

Scoring

lissons:		ability:	
Syn I	: X	Syn I	: X
Syn II	: ✓	Syn II	: ✓
Sem.	: ✓	Sem.	: ✓
Disc.	: ✓	Disc.	: X

Ex.2 02 : parag. 2

"Dans notre pays ce problème est très high puisque ..."

Commentary

In grammatical terms "notre" is fully acceptable. It also produces a sequence which, within its sentence, is perfectly acceptable in semantic terms. However, when written by a British subject this response not only contradicts what was stated in paragraph 1, but also goes against common knowledge, a factor which needs to be taken into account in an assessment of discourse acceptability. Thus, while "notre" is scored correct on Sem., it is scored incorrect on Disc.

The second response, "high", poses a different type of scoring problem. This centres on whether one should accept a problem being described as "high" when something like "serious" or "bad" is clearly called for. It was decided to accept "high" as correct on both Sem. and Disc., it being felt that the response reflects the subject's awareness of the seriousness of the problem being referred to. "high", being an English (L1) word, was incorrect on Syn I but correct on Syn II, being of the correct grammatical class.

Scoring

notre:		high:	
Syn I	: ✓	Syn I	: X
Syn II	: ✓	Syn II	: ✓
Sem.	: ✓	Sem.	: ✓
Disc.	: X	Disc.	: ✓

Ex.3 02 : parag. 5

"Mais les enfants sont grands et ..."

Commentary

The three following items were left uncompleted and the final item had "former" as a response, which is incorrect on all counts. These remarks are not without relevance to the discussion of the response given above.

The subject's choice of "enfants" shows an appropriate use of the syntactic constraints present in the surrounding words: "les" indicates a plural noun, and "grands" indicates a plural noun of masculine gender ("enfant" is susceptible of masculine agreement). Thus, this response was scored as fully grammatically acceptable. In semantic terms, however, the subject's response is quite unacceptable and indicates a complete failure to perceive the semantic constraints operating either in the text as a whole or even in the sentence. The subject's failure to complete the following three items is further evidence of his failure to achieve any noteworthy level of comprehension of this sentence. It is not without interest, however, that the subject was able to function to some extent on the syntactic level, even without any real semantic awareness.

Scoring

enfants: Syn I : ✓

Syn II : ✓

Sem. : X

Disc. : X

Ex. 4 02 : parag. 4

"Les écoles neufs ont besoin de l'enseignant de l'Unesco pour former les enfants et pour construire les écoles."

Commentary

These responses present not inconsiderable problems on the semantic level. In terms of syntax, with the exception of "écoles" failing to agree with "neufs" in gender, the responses are acceptable, however.

The presence of "écoles" in the sentence itself (final word) makes the subject's choice of "écoles" in the first item unacceptable in semantic terms. One could, however, perceive an acceptable interpretation for the next two responses in semantic terms within the sentence in isolation, even if there are certain slightly implausible aspects to it. In view of this, "enseignant" and "enfants" were scored as correct under Sem. since they do indicate that the subject was able to make at least some level of use of the semantic constraints operating at sentence level. Within a wider context, however, even these responses are unacceptable in semantic terms and indicate that the subject has failed to make meaningful use of discourse constraints in his attempt to provide responses for these three items.

Scoring

ecoles:	Syn I : X	enseignant:	Syn I : ✓	enfants:	Syn I : ✓
	Syn II : ✓		Syn II : ✓		Syn II : ✓
	Sem. : X		Sem. : ✓		Sem. : ✓
	Disc. : X		Disc. : X		Disc. : X

Ex. 5 02 : parag. 1

"Malheureusement, la situation est très the same dans d'autres pays"

Commentary

This is an instance of a double word L2 response. While obviously unacceptable under Syn I, this response cannot even be accepted under Syn II. The subject may have had the expression "very much the same" in mind, but the response as it stands does not produce an acceptable sequence, as would have been the case had the subject used "similar",

which would have been scored correct under Syn II. In terms of Disc. the response is also unacceptable since it shows a failure to perceive the opposition between the positive situation attributed to "notre pays" and the negative situation described subsequently. However, it is felt that, within the context of the sentence, the response does give some evidence of the subject's ability to perceive a certain level of semantic constraints: that he chose "sameness" instead of "difference" reveals an awareness that this semantic opposition was in operation. Consequently, this response was scored correct on Sem.

Scoring

the same: Syn I : X

Syn II : X

Sem. : ✓

Disc. : X

Ex. 6 01 parag. 4

"Il avait aussi éprouver les matériaux avec qui on devait construire l'usine aussi savoir s'ils pourraient résister all la force de la mer."

Commentary

These responses raise a number of scoring problems. The first, "avait", is a finite verb, as was the deleted item, "fallait". However, it was decided that a distinction needed to be made between lexical and auxiliary verbs and since "avait" would appear to have been used as the latter in this instance it was scored as incorrect even on Syn II. In semantic terms it is plausible that the subject may have been thinking of the construction "avoir à" which can mean the same as "falloir". The writer was therefore inclined to accept this item in semantic terms but eventually decided that this interpretation relies too heavily on inference, and was therefore rejected, "avait" being therefore scored incorrect on semantic counts as well as syntactic.

The second response, "qui", is a simple case. While it is not fully acceptable, it is of an acceptable form class and is also perfectly acceptable in semantic terms. This is the type of cloze item in which there is little conceivable scope for discrepancies between Sem. and Disc.

The third response, while possibly not arbitrary in the subject's mind, could not be accepted on any SS.

The fourth response, "all", is clearly unacceptable under Syn I. It was difficult to assess its acceptability under Syn II. While "résister" requires "à", numerous verbs could be followed by "toute". It was decided that "résister à" is a unit of semantic nature and that the combination finite verb + adjective is as acceptable in the current context as that of finite verb + preposition. This clearly requires the component words being viewed only in terms of their grammatical class. Thus, "all" was judged as acceptable under Syn II. There is little doubt that this response should be accepted in terms of Sem. and Disc.

Scoring

avait:	Syn I	: X	qui:	Syn I	: X	aussi:	Syn I	: X
	Syn II	: X		Syn II	: ✓		Syn II	: X
	Sem.	: X		Sem.	: ✓		Sem.	: X
	Disc.	: X		Disc.	: ✓		Disc.	: X
all:	Syn I	: X						
	Syn II	: ✓						
	Sem.	: ✓						
	Disc.	: ✓						

Ex. 7 01 : parag. 5

".. il a fallu 18 mois de construire pour le faire."

"Après avoir la construction l'usine, on a démoli les deux murs."

Commentary

Comments will be limited to "construire" and "la construction". These responses were taken from different subjects' tests but are dealt with together since they raise very similar problems. Both responses are unacceptable in syntactic terms, being of an incorrect grammatical class. However, in semantic terms both are acceptable under both Sem. and Disc. These are instances of subjects being able to use the semantic and discourse constraints of the text successfully even when they are unable to use the syntactic constraints of the text effectively.

Scoring

construire:		la construction:	
Syn I	: X	Syn I	: X
Syn II	: X	Syn II	: X
Sem.	: ✓	Sem.	: ✓
Disc.	: ✓	Disc.	: ✓

Ex. 8 01 : parag. 6

"Cette transformation se produit sans électricité, non seulement quand la marée monte, mais aussi quand elle descend."

Commentary

"monte" is the originally deleted word and needs not be discussed. The only problem in this case is in assessing the discourse acceptability of "électricité", a response which is correct under Syn I. It was also judged acceptable under Sem. since it produces a perfectly acceptable semantic sequence. The response is, of course, quite unacceptable outside of the sentence viewed in isolation and shows that the subject has completed the cloze items in this sentence in full accordance with the relevant syntactic constraints and also with the sentence-level

semantic constraints, but has failed to use the discourse constraints of the text in selecting his response to the first item.

Scoring

électricité: Syn I : ✓

Syn II : ✓

Sem. : ✓

Disc. : X

Ex. 9 H1 : parag. 2; parag. 4

"Les journaux parisiens n'essaient pas de donner aux Parisiens des journaux de leur ville."

"... ne peut pas donner des nouvelles de toutes les villes et de tous les villages dans sa publication size."

Commentary

Comments will be limited to "journaux" in the first and to "publication size" in the second part of this example, all other responses being fully acceptable. These two extracts were taken from different subjects' cloze tests but illustrate similar problems. Both are quite unacceptable even in local semantic terms and both signal that the subjects concerned have failed to make any meaningful use of the semantic or discourse constraints operating in the environment of these responses. However, both subjects show the ability to make use of the syntactic constraints present. This is the opposite situation to that found in Example 7 above.

"journaux" is fully acceptable syntactically and "publication size" is of the correct grammatical class. These are instances of the way in which the two levels of syntactic acceptability adopted make it possible to monitor a variety of types or levels of comprehension.

Scoring

journaux:	Syn I	: ✓	publication size:	Syn I	: X
	Syn II	: ✓		Syn II	: ✓
	Sem.	: X		Sem.	: X
	Disc.	: X		Disc.	: X

Ex. 10 H1 : parag. 2

"comme les autres Français, les Parisiens aimeraient d' avoir des nouvelles de leur pays et de leur ville."

"... les Parisiens aimeraient plutôt avoir des nouvelles..."

Commentary

Comments will be limited to responses "d'", "pays" and "plutôt". The first of these responses, "d'" is clearly incorrect syntactically. However, French does allow the sequence finite verb + preposition in sequences where finite verb + adverb is equally possible. The decision whether to accept "d'" under Syn II involves similar considerations to "all" in Example 6 above. It was decided that since "d'" produced a sequence of form classes which is possible in French it would be accepted under Syn II. It was also accepted in terms of Sem. and Disc. since the response produces a sequence which, although not correct grammatically, is coherent and which does not conflict with the semantic constraints of the sentence or with the wider discourse constraints of the text.

The situation with respect to "plutôt" is different. This response is fully correct in syntactic terms and produces a sequence which is perfectly acceptable in semantic terms, within the sequence at least. There would be a case for accepting this response under Disc. too. However, it was felt that "plutôt" overstates the case in a way which is not warranted either from the preceding text or from what follows. In other words it produces a sequence which is not fully consonant with the discourse constraints of the text. Much the same applies to

"pays". This is syntactically correct and, within its sentence, does not produce an unacceptable semantic sequence. It does not fit in with the preceding text, however, unless the interpretation were stretched a great deal. Consequently it was scored as incorrect under Disc.

Scoring

d' :	Syn I	: X	pays:	Syn I	: ✓	plutot:	Syn I	: ✓
	Syn II	: ✓		Syn II	: ✓		Syn II	: ✓
	Sem.	: ✓		Sem.	: ✓		Sem.	: ✓
	Disc.	: ✓		Disc.	: X		Disc.	: X

Ex. 11 H1 : parag. 4

"Pour cette raison, les journaux publient en plusieurs editions."

Commentary

The only question which this response raises is whether it should or should not be scored correct under Syn II. "publier" would be grammatically correct in this context only if it were in the passive. It was decided to accept this response under Syn II, errors of voice not being required under this SS since they were felt to be at least partially a matter of usage. If the subject was able to recognize that a finite verb was appropriate in a given item this was taken as sufficient evidence of his ability to recognize the operation of syntactic constraints to merit the response being scored as correct under Syn II. In semantic terms the response is clearly acceptable.

Scoring

publient:	Syn I	: X
	Syn II	: ✓
	Sem.	: ✓
	Disc.	: ✓

Ex. 12 H1 : parag. 3

"Ces journaux contiennent beaucoup plus intéresse nouvelles locales que les journaux publish"

Commentary

The second response, "publish", was scored incorrect on all accounts. While a noun phrase may be followed by a finite verb, in the context of the present sentence this would need to be preceded by "ne". The subject would appear to have made his choice on the basis of the two preceding words alone, and this, while it does show some level of use of syntactic constraints, is inadequate for the response to merit acceptance even under Syn II. It did not seem productive to accommodate such a limited use of syntactic constraints in the marking scheme. The response also fails to produce a sequence which is acceptable in semantic terms.

The first response "intéresse" is unacceptable even under Syn II, appearing to be a finite verb form, a form class not acceptable in this context. The semantic sequence it produces is certainly acceptable within the sentence, and it was therefore scored correct under Sem. Problems arose with respect to Disc. since the presence of "intéresse" might imply that the Paris press did contain local news, but not the interesting local news, which would clearly be erroneous. This response was therefore judged unacceptable under Disc.

Scoring

interesse:	Syn I	: X	publish:	Syn I	: X
	Syn II	: X		Syn II	: X
	Sem.	: ✓		Sem.	: X
	Disc.	: X		Disc.	: X

Ex. 13 H2 : parag. 4; parag. 5

"de mieux et les ressources dans le country."

"Mais il y a trois autres régions où .."

Commentary

The first response is so obviously unacceptable that nothing need be said about it. The next two pose similar problems. While each is acceptable in accordance with the semantic constraints of the sentence in which it occurs, each fails to satisfy the discourse constraints of the text. "country" limits the scope of the discussion more than is acceptable and "trois" introduces an unwarranted level of specificness. Both are thus judged unacceptable under Disc. The assessment of their syntactic acceptability posed no problems.

Scoring

country:	Syn I : X	trois:	Syn I : ✓
	Syn II : ✓		Syn II : ✓
	Sem. : ✓		Sem. : ✓
	Disc. : X		Disc. : X

Ex. 14 U2 : parag. 4

".. un danger social sera crée qui peut en causer d'autres.

Commentary

Only "sera" will be discussed, "causer" being perfectly acceptable. The subject, with many others, assumed that "crée" was a past participle, which is not the case. This response was therefore judged unacceptable in syntactic terms. However, in semantic terms "sera créée" could serve a similar function to "se crée" and therefore attempts to produce the former were accepted under Sem. and Disc., reflecting as they do an accurate assessment of both local and discourse level semantic constraints.

Scoring

sera: Syn I : X

Syn II : X

Sem. : ✓

Disc. : ✓

Ex. 15 U2 : parag. 6

"... elle a d'urgence être révisée et réorganisée."

Commentary

"et" is the originally deleted word and therefore requires no commentary. In Example 6, "avait" when used for "fallait" was not judged acceptable under Syn II since it appeared that the subject had used "avait" as an auxiliary verb. In the current response it is less clear quite which way the subject meant to use "a" and therefore it was accepted under Syn II, it being viewed simply as a finite verb, which creates an acceptable form class sequence. This is, however, a difficult case. Problems also arise in the assessment of the semantic acceptability of this response. The subject may have wished to signal necessity, which is what is required, but this is anything but clear and so the response was not accepted under Sem.

This response is of the type in which it was very difficult to arrive at a decision.

Scoring

a: Syn I : X

Syn II : ✓

Sem. : X

Disc. : X

Ex. 16 U2 : parag. 2

"..la faiblesse des résultats obtenus face aux sacrifices miniscules par les pays donateurs cause des controverses passionnees et bien critiques .."

Commentary

Only "miniscules" and "bien" will be discussed. Both responses are unacceptable in syntactic terms. "miniscules" indicates that the subject has perceived some part of the semantic constraints operating in this sentence. However, the response is unacceptable since it casts a negative light on "sacrifices", which is not warranted. The situation with respect to "bien" is more complex. The subject may well have had the expression "bien des.." in mind, which would produce an acceptable sequence. This interpretation, however, requires a considerable amount of inference to be made and it was decided not to accept this response.

In assessing the acceptability of a response it was often necessary to make inferences from what was written to what the subject probably meant. With respect to "bien" the inferred intention "bien des" may well have been the subject's real intention, especially in view of the fact that he was an able student who was likely to command this construction. However, a line had to be drawn as to the degree of inference permissable and this response fell on the wrong side of this albeit somewhat subjective line.

Scoring

miniscules:	Syn I	: X	bien:	Syn I	: X
	Syn II	: X		Syn II	: X
	Sem.	: X		Sem.	: X
	Disc.	: X		Disc.	: X

Ex. 17 RU1 : parag. 1

"Le taux de la dette était très important et, grace au weakening rapide de l'industrie domestique, les problèmes de balance de paiements commençaient a s'accroître et les recettes de l'Etat augmentaient."

Commentary

Responses "de" and "l'" need not be discussed. Details of the level of syntactic acceptability of the remaining responses are easy to assess. What is interesting in this example is that the subject has produced a perfectly coherent sentence which is fully acceptable in semantic terms but which completely misses the point. The subject has constructed a very coherent interpretation for this sentence, even if ".. les recettes .. augmentaient" might indicate that all is not right. However, all four responses are incorrect in discourse terms because the subject misinterpreted the role which the sentence plays in the passage as a whole. These items are instances in which specifics can only be correctly completed in the light of passage level discourse constraints. This situation was not infrequent in RU1, which is a specialized text in which a clear general view of the issues involved is often required to clarify the meaning of individual cloze items.

Scoring

taux:	Syn I	: ✓	tres:	Syn I	: ✓	weakening:	Syn I : X
	Syn II	: ✓		Syn II	: ✓		Syn II : ✓
	Sem.	: ✓		Sem.	: ✓		Sem. : ✓
	Disc.	: X		Disc.	: X		Disc. : X
domestique:	Syn I	: ✓	s'accroitre:	Syn I	: ✓		
	Syn II	: ✓		Syn II	: ✓		
	Sem.	: ✓		Sem.	: ✓		
	Disc.	: X		Disc.	: X		

APPENDIX III

MILL HILL TEST

N.B. Time allowance fixed : 10 minutes.

AME :

SET A

In each group of six words below underline the word which means the same as the word in heavy type above the group, as it has been done in the first example :

Begun.....

1 **CONTINUE**
clash clutter
tilt keep on
read bewail

2 **STARTLE**
offer begin
dimple trim
tailor frighten

3 **PERFUME**
scent box
ledge oath
tower pouch

4 **MALARIA**
basement tune
theatre fruit
ocean fever

5 **MINGLE**
interfere mix
declare press
gamble remark

6 **FASCINATED**
ill-treated modelled
poisoned charmed
frightened copied

7 **BRAG**
choose stone
boast hope
lag jerk

8 **PROSPER**
imagine propose
trespass beseech
succeed punish

9 **ANONYMOUS**
applicable nameless
magnificent fictitious
insulting untrue

10 **VERIFY**
dedicate correct
chastise change
confirm purify

11 **RUSE**
limb paste
colour burn
rude trick

12 **FORMIDABLE**
tremendous unexpired
feasible orderly
ravishing remembrance

13 **IMMERSE**
frequent hug
reverse dip
rise show

14 **DOCILE**
passionate meek
dominant homely
careless dumb

15 **VIRILE**
demanding familiar
barbarous concise
vulgar robust

16 **SULTRY**
instinctive severe
sulky muggy
trivial solid

17 **STANCE**
partition fixed
position slope
glance grief

18 **EFFACE**
rotate adjoin
disgust mark
delete ascend

19 **SENSUAL**
controversial carnal
necessary crucial
rational careful

20 **CONSTRUE**
interpret scatter
contradict collect
prophesy anneal

21 **CONCILIATE**
congregate reverse
pacify radiate
compress strengthen

22 **GARRULOUS**
ridiculous daring
massive ugly
talkative fast

LATENT
potential discharged
overburdened delayed
ingenious hostile

24 **OBDURATE**
formidable permanent
hesitant obsolete
exorbitant stubborn

25 **CRITERION**
superior critic
certitude standard
clarion crisis

26 **PALLIATE**
regenerate qualify
alleviate imitate
stimulate erase

27 **ADULATE**
increase waver
admire prosper
flatter inflate

28 **FELICITOUS**
sincere faithful
valedictory altruistic
voracious opportune

29 **AMBIT**
talisman confines
armature arc
camber ideal

30 **RECONDITE**
brilliant effervescent
vindictive abstruse
indifferent wise

31 **CACHINNATION**
guffaw succour
conclave conjunction
cunning controversy

32 **EXIGUOUS**
exhausting prodigious
indigenous esoteric
scanty expedient

33 **PUTATIVE**
punishable computable
supposed worthless
aggressive reconcilable

34 **MANUMIT**
manufacture liberate
enumerate emanate
accomplish permit

Ended.....

SET B

Write down in a few words the meaning of each of the following words as it has been done for the first word

Begun.....

1. Connect Link up
2. Provide
3. Stubborn
4. Schooner
5. Liberty
6. Courteous
7. Resemblance
8. Thrive
9. Precise
10. Elevate
11. Dwindle
12. Lavish
13. Whim
14. Surmount
15. Bombastic
16. Recumbent
17. Envisage
18. Trumpery
19. Glower
20. Perpetrate
21. Levity
22. Libertine
23. Amulet
24. Querulous
25. Temerity
26. Fecund
27. Abnegate
28. Traduce
29. Vagary
30. Specious
31. Sedulous
32. Nugatory
33. Adumbrate
34 Minatory

Ended.....

APPENDIX IV

Experimental-control group T-ratios

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Notes:

i. The T-ratios obtained on the five scoring systems are ordered on the basis of size of T-ratio.

ii. Levels of significance are for a two-tail test.

A. Initial tests

01

F.P. ordering

	OS		CWS	
Upper	Syn I	1.7*	Syn I	1.57
	Sem.	1.39	Sem.	1.25
	Disc.	1.29	Disc.	0.9
	Syn II	1.28	Syn II	0.54
	Exact	0.84	Exact	0.13
Middle	Syn II	-0.32	Syn I	-0.31
	Disc.	-0.59	Syn II	-0.50
	Sem.	-0.68	Exact	-0.80
	Syn I	-0.80	Disc.	-0.90
	Exact	-1.34	Sem.	-1.15
Lower	Exact	4.19**	Sem.	1.61
	Sem.	2.06**	Disc.	1.46
	Disc.	1.88*	Exact	1.24
	Syn II	1.63	Syn II	1.21
	Syn I	0.94	Syn I	0.36

M.H. ordering

OS		CWS	
Syn II	1.49	Sem.	1.64
Sem.	1.46	Syn II	1.50
Disc.	1.42	Disc.	1.43
Syn I	0.87	Syn I	1.26
Exact	0.16	Exact	0.27
Syn II	0.17	Sem.	0.17
Sem.	0.13	Syn II	0.14
Disc.	0	Syn I	-0.04
Syn I	-0.16	Disc.	-0.16
Exact	-0.37	Exact	-0.56
Exact	-0.10	Exact	0.16
Syn I	-0.31	Syn I	-0.66
Disc.	-0.72	Disc.	-0.87
Sem.	-0.80	Syn II	-0.93
Syn II	-0.85	Sem.	-1.04

* = significant at .10

** = significant at .05

** = significant at .001

02

	F.P. ordering				M.H. ordering			
	OS		CWS		OS		CWS	
Upper	Exact	0.34	Syn II	0.55	Exact	-0.32	Disc.	0.57
	Sem.	-0.15	Sem.	0.17	Syn I	-0.69	Exact	0.45
	Syn II	-0.24	Disc.	0.08	Syn II	-0.70	Sem.	0.40
	Syn I	-0.33	Exact	0.05	Sem.	-0.73	Syn II	0.24
	Disc.	-0.77	Syn I	-0.19	Disc.	-0.76	Syn I	-0.05
Middle	Disc.	1.05	Disc.	1.70*	Exact	1.13	Disc.	0.89
	Sem.	0.84	Exact	0.91	Sem.	1.07	Exact	0.88
	Syn II	0.80	Sem.	0.74	Syn II	0.92	Sem.	0.84
	Exact	0.40	Syn I	0.58	Syn I	0.80	Syn I	0.76
	Syn I	0.29	Syn II	-0.07	Disc.	0.76	Syn II	0.60
Lower	Sem.	0.88	Exact	1.91*	Sem.	2.01*	Syn I	2.35**
	Syn II	0.66	Sem.	1.89*	Syn II	1.93*	Sem.	2.16**
	Syn I	0.44	Syn II	1.70*	Syn I	1.57	Disc.	2.05*
	Exact	0.06	Syn I	1.67	Exact	1.22	Syn II	2.02*
	Disc.	0.05	Disc.	1.23	Disc.	1.06	Exact	1.76*

* = significant at .10

** = significant at .05

H1

	F.P. ordering				M.H. ordering			
	OS		CWS		OS		CWS	
Upper	Sem.	-1.54	Sem.	-1.52	Disc.	-1.67	Disc.	-1.99
	Disc.	-1.63	Disc.	-1.66	Exact	-2.46	Exact	-2.82
	Syn II	-2.04	Syn II	-2.11	Sem.	-2.49	Syn II	-2.90
	Exact	-2.22	Exact	-2.41	Syn II	-2.53	Sem.	-3.05
	Syn I	-2.40	Syn I	-3.11	Syn I	-2.78	Syn I	-3.54
Middle	Disc.	1.7	Disc.	1.64	Sem.	1.08	Sem.	0.96
	Sem.	0.56	Syn II	0.50	Syn I	0.58	Disc.	0.75
	Syn II	0.47	Sem.	0.44	Disc.	0.52	Exact	0.19
	Exact	0.07	Exact	0.21	Syn II	0.41	Syn I	0.02
	Syn I	-0.29	Syn I	-0.65	Exact	0.10	Syn II	-0.11
Lower	Syn I	1.37	Syn I	1.07	Disc.	1.05	Disc.	1.33
	Exact	0.91	Exact	0.87	Sem.	0.56	Sem.	1.03
	Disc.	0.62	Disc.	0.72	Exact	0.44	Exact	0.81
	Sem.	0.55	Sem.	0.57	Syn II	0.29	Syn I	0.26
	Syn II	0.18	Syn II	-0.36	Syn I	0.27	Syn II	0.12

H2

F.P. ordering

	OS		CWS	
Upper	Disc.	3.62**	Disc.	3.33**
	Exact	3.25**	Exact	3.06**
	Syn I	3.16**	Syn I	2.78**
	Syn II	3.11**	Sem.	2.78**
	Sem.	2.81**	Syn II	2.71**
Middle	Syn II	1.47	Syn II	1.37
	Disc.	1.46	Syn I	1.35
	Sem.	1.24	Sem.	1.18
	Syn I	1.07	Disc.	0.57
	Exact	0.59	Exact	0.34
Lower	Syn II	0.96	Exact	1.07
	Disc.	0.91	Syn II	0.93
	Exact	0.85	Disc.	0.80
	Sem.	0.84	Sem.	0.71
	Syn I	0.49	Syn I	0.39

M.H. ordering

OS		CWS	
Syn II	2.39**	Syn II	2.47**
Disc.	2.26**	Disc.	2.31**
Sem.	2.24**	Sem.	2.15**
Syn I	1.65	Syn I	1.50
Exact	1.62	Exact	1.46
Disc.	0.84	Sem.	0.82
Syn II	0.77	Disc.	0.80
Sem.	0.73	Exact	0.80
Exact	0.64	Syn II	0.73
Syn I	0.43	Syn I	0.54
Syn II	0.57	Syn II	0.34
Syn I	-0.14	Syn I	0
Sem.	-0.15	Sem.	-0.55
Disc.	-0.42	Exact	-0.91
Exact	-0.86	Disc.	-1.22

** = significant at .05

** = significant at .01

U1

	F.P. ordering				M.H. ordering			
	OS		CWS		OS		CWS	
Upper	Sem.	0.62	Disc.	0.70	Exact	-0.73	Disc.	-0.11
	Disc.	0.55	Sem.	0.63	Disc.	-0.91	Exact	-0.43
	Syn II	0.46	Exact	0.62	Syn I	-0.98	Sem.	-1.10
	Exact	0.22	Syn II	0.45	Syn II	-1.01	Syn II	-1.12
	Syn I	0.02	Syn I	-0.31	Sem.	-1.11	Syn I	-1.49
Lower	Disc.	0.71	Disc.	0.75	Exact	0.67	Syn I	1.16
	Exact	0.45	Syn I	0.47	Disc.	0.47	Disc.	0.94
	Syn I	0.38	Exact	0.43	Syn I	0.26	Exact	0.87
	Sem.	-0.15	Sem.	-0.46	Sem.	0.24	Sem.	0.72
	Syn II	-0.61	Syn II	-0.94	Syn II	0.02	Syn II	0.11

U2

Upper	Syn I	2.09*	Syn I	2.67**	Syn II	1.15	Syn II	1.14
	Disc.	1.90*	Disc.	1.64	Sem.	0.93	Disc.	0.90
	Sem.	1.58	Syn II	1.57	Disc.	0.86	Sem.	0.89
	Syn II	1.53	Sem.	1.12	Syn I	0.45	Syn I	0.65
	Exact	1.38	Exact	0.87	Exact	0.07	Exact	-0.10
Lower	Syn II	0.35	Sem.	1.44	Syn I	0.41	Syn I	0.98
	Sem.	0.27	Disc.	1.27	Disc.	0.41	Sem.	0.80
	Disc.	-0.03	Syn II	0.85	Sem.	0.30	Disc.	0.64
	Syn I	-0.65	Syn I	0.07	Syn II	0.19	Exact	0.60
	Exact	-1.26	Exact	-0.27	Exact	-0.03	Syn II	0.52

* = significant at .10

** = significant at .05

B. Retests

H1 (R)

	F.P. ordering				M.H. ordering			
	OS		CWS		OS		CWS	
Upper	Exact	0.28	Exact	0.72	Disc.	1.40	Disc.	2.36**
	Disc.	0.23	Disc.	0.55	Syn II	1.40	Syn II	2.27**
	Syn I	0.14	Syn I	0.08	Exact	1.21	Sem.	1.71*
	Syn II	0.09	Syn II	-0.18	Sem.	1.08	Exact	1.67
	Sem.	-0.08	Sem.	-0.18	Syn I	1.03	Syn I	1.17
Lower	Disc.	-0.11	Disc.	0.16	Disc.	-0.30	Sem.	-0.64
	Sem.	-0.25	Sem.	-0.13	Sem.	-0.31	Exact	-0.66
	Syn II	-0.29	Syn II	-0.38	Exact	-0.45	Disc.	-0.71
	Exact	-0.33	Exact	-0.42	Syn II	-0.52	Syn II	-1.01
	Syn I	-0.72	Syn I	-1.01	Syn I	-0.54	Syn I	-1.03

H2 (R)

Upper	Disc.	0.94	Disc.	1.20	Disc.	1.20	Disc.	1.35
	Sem.	0.31	Sem.	0.89	Sem.	0.86	Sem.	1.07
	Syn I	0.29	Syn II	0.75	Syn II	0.69	Exact	0.95
	Syn II	0.28	Exact	0.71	Exact	0.45	Syn II	0.90
	Exact	0.23	Syn I	0.69	Syn I	0.18	Syn I	0.45
Lower	Syn II	-0.95	Syn II	-0.92	Exact	-0.49	Syn II	-0.42
	Sem.	-1.00	Sem.	-0.96	Syn I	-0.50	Sem.	-0.62
	Disc.	-1.18	Disc.	-1.36	Syn II	-0.51	Exact	-0.71
	Exact	-1.25	Exact	-1.55	Sem.	-0.69	Disc.	-0.73
	Syn I	-1.57	Syn I	-1.88	Disc.	-0.71	Syn I	-0.78

* = significant at .10

** = significant at .05

U1 (R)

	F.P. ordering				M.H. ordering			
	OS		CWS		OS		CWS	
TOTAL	Syn I	1.88*	Syn I	1.95*	Syn I	1.71*	Syn I	1.79*
	Sem.	1.54	Sem.	1.40	Sem.	1.36	Sem.	1.30
	Disc.	1.44	Syn II	1.21	Disc.	1.18	Syn II	1.15
	Syn II	1.20	Disc.	1.18	Syn II	1.14	Disc.	0.88
	Exact	1.18	Exact	0.76	Exact	0.90	Exact	0.43

U2 (R)

TOTAL	Syn II	2.29**	Syn II	2.54**	Sem.	2.16**	Syn II	2.08**
	Sem.	2.20**	Sem.	1.97*	Disc.	2.08**	Sem.	1.99*
	Disc.	2.13**	Disc.	1.72*	Syn II	2.08**	Disc.	1.74*
	Syn I	1.98*	Syn I	1.61	Syn I	1.86	Syn I	1.44
	Exact	1.22	Exact	0.50	Exact	1.22	Exact	1.04

* = significant at .10

** = significant at .05

RU1

	F.P. ordering				M.H. ordering
	OS		CWS		
Upper	Disc.	3.34**	Disc.	3.44**	NOT APPLICABLE
	Exact	3.05**	Exact	3.43**	
	Sem.	2.14**	Sem.	2.30**	
	Syn I	1.61	Syn II	1.88*	
	Syn II	1.44	Syn I	1.78*	
Lower	Syn I	1.41	Syn I	1.71	
	Sem.	0.94	Syn II	1.41	
	Disc.	0.70	Sem.	1.07	
	Exact	0.70	Disc.	0.52	
	Syn II	0.38	Exact	0.30	

RU2

Upper	Disc.	1.01	Disc.	1.95*	NOT APPLICABLE
	Syn I	0.03	Syn I	0.33	
	Sem.	-0.08	Sem.	0.04	
	Syn II	-0.10	Syn II	0	
	Exact	-0.16	Exact	-0.26	
Lower	Sem.	1.21	Sem.	1.66	
	Disc.	1.08	Disc.	1.41	
	Syn I	0.56	Syn I	0.89	
	Syn II	0.45	Syn II	0.29	
	Exact	-0.09	Exact	0.09	

* = significant at .10

** = significant at .05

** = significant at .01

APPENDIX V

F.P./M.H. score-cloze score correlations

Inter-group discrimination

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Notes:

i. As these statistics were introduced in Chapter V within a subject-level framework, this is maintained in their presentation here.

ii. Only control group statistics are given, experimental group statistics possibly reflecting the presence of the experimental variable.

iii. Only OS statistics are given, this being the primary or unmarked data format.

A. 'O' Grade

F.P./M.H. score-cloze score correlations

		01C		02C	
		F.P.	M.H.	F.P.	M.H.
Upper	Exact	.46*	.24	.33	.22
	Syn I	.37*	.20	.47*	.04
	Syn II	.31	.29	.42*	.11
	Sem.	.35*	.31	.36	.12
	Disc.	.42*	.30	.38	.09
Middle	Exact	.51*	.19	.42*	-.16
	Syn I	.59*	.17	.53*	-.16
	Syn II	.57*	.16	.47*	-.08
	Sem.	.63*	.07	.58*	-.09
	Disc.	.63*	.16	.48*	-.11
Lower	Exact	.36	.17	.26	-.11
	Syn I	.43*	.13	.20	.07
	Syn II	.28	.21	.27	0
	Sem.	.26	.12	.26	-.10
	Disc.	.16	.22	.30	-.09

		H1(R)C		H2(R)C	
		F.P.	M.H.	F.P.	M.H.
Upper	Exact	.53*	.22	.27	-.05
	Syn I	.49*	.30	.33	-.03
	Syn II	.18	-.01	.39*	-.11
	Sem.	.41*	.17	.37	-.03
	Disc.	.48*	.15	.47*	0
Lower	Exact	.68*	.34	.60*	.53*
	Syn I	.62*	.41	.64*	.54*
	Syn II	.72*	.33	.65*	.69*
	Sem.	.75*	.32	.61*	.60*
	Disc.	.64*	.24	.58*	.64*

* = significant at .05 (at least)

Inter-group discrimination

		01C		02C	
		F.P.	M.H.	F.P.	M.H.
Upper-Middle:	Exact	1.99*	0.60	3.76**	1.87*
	Syn I	1.45	0.49	3.79**	1.94*
	Syn II	2.49**	0.52	4.22**	2.05*
	Sem.	2.44**	0.51	4.21**	2.19**
	Disc.	3.05**	0.78	5.1 **	1.98**
Middle-Lower:	Exact	3.62**	2.11**	3.11**	2.45**
	Syn I	3.95**	1.77*	2.91**	2.04*
	Syn II	4.75**	1.41	3.1 **	2.02*
	Sem.	5.14**	1.46	3.36**	1.85*
	Disc.	5.07**	1.63	2.91**	2.26**

		H1(R)C		H2(R)C	
		F.P.	M.H.	F.P.	M.H.
Upper-Lower:	Exact	4.08**	1.30	4.94**	1.23
	Syn I	4.04**	1.27	4.63**	1.45
	Syn II	3.80**	1.44	5.64**	1.28
	Sem.	3.92**	1.75*	5.40**	1.20
	Disc.	3.80**	1.59	5.57**	1.04

* = significant at .10

** = significant at .05

** = significant at .01

** = significant at .001

B. Higher

F.P./M.H. score-cloze score correlations

		H1C		H2C	
		F.P.	M.H.	F.P.	M.H.
Upper	Exact	.37*	-.16	.05	.01
	Syn I	.45*	-.09	.10	-.08
	Syn II	.61*	-.15	.07	-.01
	Sem.	.55*	-.23	.12	-.04
	Disc.	.55*	-.28	0	.03
Middle	Exact	-.03	-.08	-.18	.02
	Syn I	.02	-.08	-.26	.23
	Syn II	-.07	-.04	-.21	.06
	Sem.	-.01	-.02	-.13	-.09
	Disc.	-.05	-.10	-.29	-.35
Lower	Exact	.37	.44	-.09	.23
	Syn I	.30	.47	-.03	.26
	Syn II	.04	.27	-.20	.27
	Sem.	.31	.36	-.14	.18
	Disc.	.30	.24	.01	.04

		U1(R)C		U2(R)C	
		F.P.	M.H.	F.P.	M.H.
TOTAL	Exact	.43*	.54*	.42*	.27
	Syn I	.44*	.53*	.45*	.32*
	Syn II	.39*	.44*	.32	.13
	Sem.	.42*	.43*	.38	.26
	Disc.	.34	.45*	.36	.29

* = significant at .05 (at least)

Inter-group discrimination

		H1C		H2C	
		F.P.	M.H.	F.P.	M.H.
Upper-Middle:	Exact	3.32**	2.32**	2.38**	1.07
	Syn I	3.44**	2.26**	2.08**	0.77
	Syn II	2.45**	2.00**	1.31	1.07
	Sem.	2.67**	2.37**	1.66	1.11
	Disc.	3.62**	2.27**	2.68**	1.13
Middle-Lower:	Exact	2.78**	2.33**	0.77	0.89
	Syn I	3.12**	2.16**	0.98	1.19
	Syn II	3.35**	2.73**	1.28	0.87
	Sem.	3.41**	2.82**	1.00	0.95
	Disc.	2.80**	2.80**	0.94	1.25

** = significant at .05

** = significant at .01

C. University

F.P./M.H.score-cloze score correlations

		U1C		U2C	
		F.P.	M.H.	F.P.	M.H.
Upper	Exact	NOT CALCULABLE	.44	NOT CALCULABLE	.55*
	Syn I		.37*		.53*
	Syn II		.26		.60*
	Sem.		.29		.63*
	Disc.		.44*		.69*
Lower	Exact		.36*		-.16
	Syn I		.17		-.06
	Syn II		.30		-.06
	Sem.		.37*		.02
	Disc.		.43*		0

		RU1C		RU2C	
		F.P.	M.H.	F.P.	M.H.
Upper	Exact	NOT CALCULABLE	.05	NOT CALCULABLE	.14
	Syn I		.18		.24
	Syn II		.22		.67*
	Sem.		.17		.19
	Disc.		.13		.14
Lower	Exact	.60*	.09	.73*	.22
	Syn I	.51*	.22	.74*	-.05
	Syn II	.50*	.15	.60*	-.02
	Sem.	.49*	.31	.60*	.03
	Disc.	.39	.28	.39	.02

* = significant at .05 (at least)

Inter-group discrimination

		U1C		U2C	
		F.P.	M.H.	F.P.	M.H.
Upper-Lower :	Exact	5.69**	2.60**	4.13**	2.45**
	Syn I	7.25**	2.17**	4.61**	2.24**
	Syn II	5.02**	2.54**	5.88**	1.84*
	Sem.	5.79**	2.75**	6.05**	1.88*
	Disc.	5.59**	3.10**	5.26**	2.42**

		RU1C		RU2C	
		F.P.	M.H.	F.P.	M.H.
Upper-Lower :	Exact	7.76**	NOT APPLICABLE	9.32**	NOT APPLICABLE
	Syn I	6.71**		8.57**	
	Syn II	4.78**		4.11**	
	Sem.	6.33**		8.03**	
	Disc.	5.66**		8.11**	

* = significant at .10

** = significant at .05

*** = significant at .01

**** = significant at .001

APPENDIX VI

Inter-scoring system correlations

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Notes:

i. As mentioned in Chapter IV, p.117 the purpose of this set of statistics is largely to monitor the reliability of the scoring systems used. Consequently, only the most unmarked data format will be used, namely FPOS.

ii. In view of the fact that experimental group results may reflect the presence of the advance organizer, only control group statistics will be used.

A. Statistics

Notes:

i. Unless indications to the contrary are given, all correlation coefficients provided in the following pages are significant at .05 at least.

i. Initial tests

	01C			02C		
	Upper	Middle	Lower	Upper	Middle	Lower
Exact-Syn I	.79	.92	.85	.88	.70	.73
Exact-Syn II	.56	.67	.59	.76	.58	.61
Exact-Sem.	.66	.43	.64	.71	.70	.63
Exact-Disc.	.76	.58	.66	.63	.76	.66
Syn I-Syn II	.62	.69	.73	.80	.81	.80
Syn I-Sem.	.69	.50	.76	.73	.82	.70
Syn I-Disc.	.68	.63	.74	.62	.89	.65
Syn II-Sem.	.85	.72	.93	.85	.86	.89
Syn II-Disc.	.71	.78	.81	.69	.79	.80
Sem.-Disc.	.85	.74	.86	.80	.89	.90

	H1C			H2C		
	Upper	Middle	Lower	Upper	Middle	Lower
Exact-Syn I	.86	.88	.93	.77	.92	.66
Exact-Syn II	.52	.57	.47*	.56	.63	.68
Exact-Sem.	.55	.70	.84	.61	.66	.61
Exact-Disc.	.64	.84	.89	.62	.48	.70
Syn I-Syn II	.68	.61	.51*	.70	.71	.67
Syn I-Sem.	.67	.66	.82	.73	.69	.57
Syn I-Disc.	.67	.75	.82	.57	.46	.56
Syn II-Sem.	.85	.83	.68	.87	.83	.82
Syn II-Disc.	.70	.68	.59	.75	.51	.79
Sem.-Disc.	.76	.85	.90	.80	.65	.82

* = fails to reach significance at .05

	U1C		U2C	
	Upper	Lower	Upper	Lower
Exact-Syn I	.68	.70	.89	.71
Exact-Syn II	.61	.67	.60	.64
Exact-Sem.	.73	.90	.49	.68
Exact-Disc.	.85	.84	.66	.66
Syn I-Syn II	.69	.75	.72	.67
Syn I-Sem.	.69	.70	.51	.71
Syn I-Disc.	.67	.54	.74	.78
Syn II-Sem.	.82	.75	.72	.78
Syn II-Disc.	.70	.57	.77	.51
Sem.-Disc.	.81	.82	.67	.70

ii. Retests

	H1 (R) C		H2 (R) C	
	Upper	Lower	Upper	Lower
Exact-Syn I	.58	.94	.75	.93
Exact-Syn II	.37*	.91	.27*	.88
Exact-Sem.	.54	.94	.53	.89
Exact-Disc.	.75	.89	.63	.97
Syn I-Syn II	.34*	.91	.52	.98
Syn I-Sem.	.59	.90	.77	.96
Syn I-Disc.	.52	.83	.74	.95
Syn II-Sem.	.68	.96	.75	.94
Syn II-Disc.	.51	.84	.62	.90
Sem.-Disc.	.74	.88	.74	.89

	U1 (R) C	U2 (R) C
	TOTAL	TOTAL
Exact-Syn I	.82	.83
Exact-Syn II	.74	.63
Exact-Sem.	.80	.75
Exact-Disc.	.82	.80
Syn I-Syn II	.77	.75
Syn I-Sem.	.77	.87
Syn I-Disc.	.66	.83
Syn II-Sem.	.84	.75
Syn II-Disc.	.72	.71
Sem.-Disc.	.78	.90

* = fails to reach significance at .05.

	RU1C		RU2C	
	Upper	Lower	Upper	Lower
Exact-Syn I	.72	.88	.61	.73
Exact-Syn II	.62	.91	.33*	.51
Exact-Sem.	.61	.67	.49	.70
Exact-Disc.	.75	.67	.63	.57
Syn I-Syn II	.85	.83	.33*	.80
Syn I - Sem.	.76	.59	.56	.76
Syn I-Disc.	.69	.59	.51	.62
Syn II-Sem.	.71	.62	.46	.79
Syn II-Disc.	.66	.62	.43	.71
Sem.-Disc.	.68	.93	.79	.81

* = fails to reach significance at .05

B. Commentary

i. General considerations

It is generally maintained in the literature that a high level of correlation should be expected when the same cloze tests are marked according to different scoring systems. The results given in the preceding pages, overall, lend support to this assertion. However certain correlations are lower than might be expected. This, it is proposed, is largely the result of the writer's decision to accept responses in subjects' L1 as well as in the L2, something which is not customary in L2 cloze test usage. The reasons for this decision have been given elsewhere and need not be repeated here. In what follows a brief analysis will be made of those instances in which inter-scoring system correlations are lower than would normally be expected.

ii. Analysis of low correlation coefficient occurrence

Out of a total of 260 correlations given in the preceding pages, 44 have coefficients of less than .60. It is suggested that the vast majority of these instances may be reliably attributed to the allowance of L1 responses in addition to L2 responses. This suggestion is made on the basis of the observation that correlations of less than .60 are most frequent between those SS's which monitor syntactic correctness, Exact and Syn I, and those which either do not require syntactic correctness, Sem. and Disc., or that which requires only correct form class, Syn II, and which allows responses in the L1. A breakdown is given below to facilitate reference.

Correlation coefficients of less than .60

Exact - Syn II	:	11 instances
Exact - Sem./Disc.	:	9 instances
Syn I - Syn II	:	4 instances
Syn I - Sem./Disc.	:	14 instances
TOTAL		38 instances

The allowance of L2 responses inevitably produced an effect on the subject ability characteristics underlying cloze performance. In particular, it favoured subjects of high verbal ability whose productive knowledge of the L2 may have been limited and who, had L2 responses alone been allowed, would have been less able to signal their level of text comprehension. The purpose of allowing L1 responses was essentially to monitor the way in which the experimental variable affected the performance of such subjects. It does mean, however, that cloze results on the various SS's reflect a wider range of subject ability characteristics than would have been the case had L2 responses alone been allowed, hence the occurrence of low coefficients in certain circumstances.

One point which is difficult to explain is the relatively high rate of occurrence of low coefficients in RU2C. In this test 56% of the coefficients are below .60 whereas in the other tests taken together the ratio is only 17.5%. Furthermore, 7 out of the 9 instances of coefficients below .60 occurring in RU2C are found in the Upper group. No apparent explanation for this phenomenon exists other than suggesting that the way in which subjects apprehended this text differs from that which occurred with other texts. In support of this it may be observed that experimental group subjects made use of the organizer on RU2 in a very specific and selective manner. However, the inter-SS correlations for RU2E Upper are all superior to .60. It is thus difficult to offer any reliable explanation for the frequent occurrence of low coefficients in RU2C Upper.

Overall, however, the level of inter-SS correlations observed is satisfactory and most exceptions which do occur can be accounted for in a coherent manner.

APPENDIX VII

L1 testing statistics

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A. Inter-group discrimination

Notes:

i. Only control group statistics are given, experimental group statistics possibly reflecting the presence of the advance organizer.

ii. Only OS statistics are given, this being the primary or unmarked data format.

i. Subject level

'O' Grade

		E1C	E2C
Upper-Lower:	Exact	2.79**	4.17**
	Syn I	2.18**	4.14**
	Syn II	2.17**	3.38**
	Sem.	2.50**	4.41**
	Disc.	3.05**	4.44**

Higher:

		E1C	E2C
Upper-Lower:	Exact	3.02**	3.57**
	Syn I	0.90	1.91*
	Syn II	0.71	1.64
	Sem.	1.38	2.25**
	Disc.	1.99*	2.01*

ii. Pooled

		E1C	E2C
Upper-Middle:	Exact	1.88*	3.39**
	Syn I	0.08	2.87**
	Syn II	0.04	2.58**
	Sem.	0.69	3.08**
	Disc.	1.38	3.24**
Middle-Lower:	Exact	3.47**	3.66**
	Syn I	2.65**	3.32**
	Syn II	2.47**	2.53**
	Sem.	3.05**	3.35**
	Disc.	3.45**	3.96**

* = significant at .10 ** = significant at .01

= significant at .05 *= significant at .001

B. M.H. score-cloze score correlations

Notes:

i. For the sake of simplicity, statistics obtained on Pooled ordering only will be given. This is, in any event, more intuitively satisfying since Pooled ordering is based on subjects' M.H. score.

ii. Only control group statistics are given, experimental group statistics possibly reflecting the presence of the experimental variable.

iii. Only OS statistics are given, this being the primary or unmarked data format.

	E1C	E2C
Upper: Exact	-.06	.14
Syn I	.09	.19
Syn II	.03	.15
Sem.	.08	.05
Disc.	.21	.15
Middle: Exact	.37*	.56*
Syn I	.07	.27
Syn II	.06	.25
Sem.	.14	.36*
Disc.	.25	.58*
Lower: Exact	.34*	.16
Syn I	.46*	.30
Syn II	.53*	.25
Sem.	.45*	.20
Disc.	.37*	.16

* = significant at .05 (at least)

C. Experimental-control group T-ratios

Notes:

i. The T-ratios obtained on the five scoring systems are ordered on the basis of size of T-ratio.

ii. Levels of significance are for a two-tail test.

i. Subject level

	E1				E2			
'O' Grade	OS		CWS		OS		CWS	
Upper	Syn I	-0.72	Syn I	-0.95	Syn I	-1.12	Syn I	-1.07
	Syn II	-0.72	Syn II	-0.98	Syn II	-1.23	Syn II	-1.20
	Sem.	-0.79	Sem.	-1.03	Sem.	-1.38	Sem.	-1.20
	Exact	-1.00	Exact	-1.31	Disc.	-1.62	Disc.	-1.32
	Disc.	-1.30	Disc.	-1.35	Exact	-1.77	Exact	-1.87
Lower	Syn I	2.21**	Sem.	1.69	Disc.	-1.42	Disc.	-0.29
	Syn II	2.17**	Syn II	1.05	Syn I	-1.63	Syn I	-0.86
	Sem.	1.83*	Syn I	0.74	Sem.	-1.90	Sem.	-1.38
	Disc.	1.03	Disc.	0.34	Syn II	-1.96	Syn II	-1.45
	Exact	-0.68	Exact	-2.14	Exact	-2.13	Exact	-1.73

	E1				E2			
Higher	OS		CWS		OS		CWS	
Upper	Sem.	-0.84	Syn I	-0.40	Disc.	-0.29	Disc.	-0.03
	Syn I	-0.97	Syn II	-0.48	Syn II	-1.20	Syn II	-1.10
	Syn II	-1.01	Sem.	-0.73	Syn I	-1.28	Sem.	-1.21
	Disc.	-1.65	Disc.	-1.15	Sem.	-1.37	Syn I	-1.30
	Exact	-2.12	Exact	-1.26	Exact	-2.41	Exact	-2.04
Lower	Sem.	0.52	Sem.	0.66	Disc.	0.50	Disc.	0.84
	Disc.	0.30	Disc.	0.32	Exact	0.30	Sem.	0.48
	Syn II	0.29	Syn II	0.32	Sem.	0.25	Syn I	0.42
	Syn I	0.18	Exact	0.19	Syn I	0.15	Exact	0.40
	Exact	0.14	Syn I	0.18	Syn II	0.11	Syn II	0.18

University	E1				E2			
	OS		CWS		OS		CWS	
	Syn I	0.70	Syn I	1.01	Disc.	2.63**	Disc.	1.49
	Syn II	0.65	Syn II	0.95	Sem.	2.08**	Sem.	0.45
	Sem.	0.56	Sem.	0.85	Syn II	1.55	Syn I	-0.10
	Disc.	0.33	Disc.	0.60	Syn I	1.44	Syn II	-0.15
	Exact	0.28	Exact	0.48	Exact	1.05	Exact	-0.20

* = significant at .10

** = significant at .05

ii. Pooled

	E1				E2			
	OS		CWS		OS		CWS	
Upper	Syn I	0.29	Syn I	0.72	Disc.	1.35	Disc.	2.38**
	Syn II	0.24	Syn II	0.66	Sem.	0.73	Exact	1.15
	Sem.	0.20	Sem.	0.59	Syn II	0.43	Sem.	1.12
	Disc.	0.03	Disc.	0.42	Syn I	0.42	Syn I	0.25
	Exact	-0.31	Exact	0.11	Exact	0.41	Syn II	0.05
Middle	Syn I	-0.60	Exact	-0.19	Syn II	-0.73	Syn I	-1.11
	Sem.	-0.61	Sem.	-0.31	Syn I	-0.74	Syn II	-1.16
	Syn II	-0.63	Syn I	-0.35	Sem.	-0.93	Sem.	-1.36
	Exact	-1.17	Syn II	-0.40	Disc.	-1.20	Disc.	-1.68
	Disc.	-1.35	Disc.	-1.14	Exact	-1.56	Exact	-2.46
Lower	Syn II	1.48	Syn II	1.40	Disc.	-1.72	Disc.	-0.84
	Syn I	1.37	Syn I	1.10	Syn I	-1.99	Syn I	-1.44
	Sem.	1.16	Sem.	0.96	Exact	-2.06	Exact	-1.91
	Disc.	0.23	Disc.	-0.12	Sem.	-2.21	Sem.	-1.92
	Exact	-0.87	Exact	-1.81	Syn II	-2.26	Syn II	-1.96

** = significant at .05

D. Inter-scoring system correlations

Notes:

i. For the sake of simplicity, statistics obtained on Pooled ordering only will be given.

	E1C			E2C		
	Upper	Middle	Lower	Upper	Middle	Lower
Exact-Syn I	.57	.42	.77	.40	.52	.66
Exact-Syn II	.57	.42	.70	.37	.50	.64
Exact-Sem.	.58	.58	.77	.43	.67	.63
Exact-Disc.	.67	.71	.88	.53	.83	.74
Syn I-Syn II	.94	.93	.93	.85	.96	.90
Syn I-Sem.	.93	.80	.85	.76	.82	.80
Syn I-Disc.	.78	.61	.80	.68	.66	.69
Syn II-Sem.	.92	.81	.84	.89	.81	.86
Syn II-Disc.	.72	.59	.73	.73	.64	.66
Sem.-Disc.	.78	.80	.81	.81	.79	.78

N.B. All correlations significant at .05 (at least).

Note:

Correlation coefficients of less than .60 occur only in Middle and Upper groups, and 11 out of 13 such instances involve correlations between Exact and Syn I, Syn II or Sem. The reasons for this are not clear. Overall, however, levels of inter-SS correlation appear to be satisfactory.