ABSTRACT
        This annotated bibliography lists research published
between 1960 and 1980 in the field of vocabulary acquisition and word
handling in a second language. The bibliography is divided into two
sections. The first contains 280 entries listed alphabetically. A
short abstract is provided for each entry. The second section is a
supplementary bibliography that lists works that are less central to
the concern of the bibliography. No abstract is provided for these
entries. A glossary of terms, a subject index, and a language index
are appended. (JL)

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Specialised Bibliography 3

Vocabulary
in a second
language

Compiled and edited by P M Meara

Contents

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Introduction

This bibliography lists research published between 1960 and 1980 in the fields of vocabulary acquisition and word handling in a second language.

It is divided into two sections. The first section, which is the major one, contains some 280 entries listed alphabetically, and for each of these entries I have provided a short abstract. These abstracts are non-evaluative, and intended to give enough of an idea as to what the item contains so that interested readers will be able to work out for themselves whether it is worth their while to search out the original article or book.

In order to economize on space, certain technical terms which occur fairly frequently in a number of entries have not been explained in the text. Where these terms are expected to be unfamiliar to users of the bibliography, they have been marked with an asterisk (*), and all asterisked terms are discussed at some length in the glossary that comes at the end of the book.

Occasionally, an entry is listed without an abstract. This occurs where it proved difficult to get hold of a copy of the original work, but other authors cited the work sufficiently frequently for it to be obvious that the work ought to be included in the listing. A few articles without abstracts are written in languages which I am not familiar with, and could not reliably abstract. Again, these articles are cited often by other writers, and so it was obvious that they ought to be included. A small number of other entries have abstracts printed in brackets (...). This means that I was not able to obtain the original item, but I have produced an abstract from what appeared to be a reliable secondary source. In places where I have done this, the secondary source has been listed after the abstract.

Within the limits discussed later on, I have tried to be exhaustive in my coverage and choice of items for inclusion. Inevitably, however, some important items will have been omitted simply because my search methods did not bring them to light. Other items were generously sent to me by their authors but are not included in the bibliography because they arrived too late. To those whose work falls into either of these categories, I extend my apologies.

In addition to the main bibliography, there is also a short supplementary bibliography. This section lists works which I came across in the course of preparing the bibliography, but which seemed to me at the time not sufficiently central to my main concern to merit an abstract.

Despite the fact that learners themselves readily identify vocabulary acquisition as a major source of difficulty, it is an area which has largely been ignored by Applied Linguistics. There are no general theories of vocabulary acquisition, and most of what we know about the problem is based on work which is quite old and rather patchy. The only systematic work on vocabulary is the attempts makde during the 1940s and 1950s to produce limited vocabularies based on frequency counts, but this work - influential

though it still is - is best seen as an attempt to reduce the size of the learner's problem by requiring him to learn fewer words. It was not an attempt to work out why vocabulary acquisition is a problem, and it asked no questions about what the learner does to acquire the vocabulary presented to him, how he integrates it into the stock of words already in his head, or how he manages to use it once it has been acquired.

It is these questions which are the central concern of this bibliography. As a result, some topics which might reasonably have been assumed to be included in this work have actually been deliberately omitted. The principal area of omission comprises articles which deal solely with teaching methods. Items dealing with the question of what words should be taught have also been omitted, so that there is very little on vocabulary lists, frequency counts, special vocabularies and so forth. Finally, items dealing with contrastive semantic analysis and studies of the vocabularies of pairs of languages which were primarily linguistic in character have also been omitted. By and large, items in these three categories have been consigned to the supplementary bibliography, and no attempt has been made to provide an exhaustive coverage of these topics. The principal justification for this is that the items in the last two headings have been covered in other bibliographies, especially listings of teaching materials for specific languages. Items dealing with teaching methods have been included where they made some contribution to the understanding of what goes on when people learn vocabulary. Any item which included an empirical justification for its claims, however tenuous or incomplete, was automatically included in the main text. In practice, of course, it is often difficult to distinguish between one type of article and another, and where in doubt, I have adopted a lenient criterion for inclusion.

The bulk of the items in the main bibliography, then, all deal with what might loosely be called the psychology of word handling by non-fluent speakers. The emphasis is placed squarely on learners, how they behave with words in their L2, what can be inferred from this behaviour about the way they might have learned them, what they might have learned about them, and how this information is stored and accessed in the learner's head.

A cursory glance at the items appearing in the main bibliography will reveal that they fall into two main groups, of approximately equal size. The first group of items comprises entries which in the main are 'applied' in character, and deal explicitly with the learning of vocabulary in foreign languages. Most of these items discuss vocabulary acquisition and vocabulary use in fairly general terms, and rarely do they attempt to provide general, testable models of acquisition or use, or to provide empirical data to back up the claims made. The principal exception to this claim is the very large number of works appearing in the last few years which deal with the key-word method. The second type of item comes from a different source altogether, and comprises articles which deal with the verbal abilities of bilingual speakers. Typically these items deal with very specific models of a limited range of behaviour types, and they almost invariably make claims which are backed up by empirical evidence.

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At first sight, these two types of entry may seem to be unconnected and to lie uneasily together, but a moment's thought will reveal that this is a superficial view, and that there are considerable advantages to be gained from viewing all this disparate evidence and wide-ranging discussion as belonging to a single area of enquiry. There are two reasons for this. In the first place, the behaviour of fairly fluent bilingual speakers ought to be of considerable importance to language teachers and applied linguists, because it defines the goal towards which language teaching is aiming. Often we assume that language teaching is aimed at turning learners into quasi-native speakers, and to have them behave in all respects as if they were native speakers, but this aim is obviously misplaced. There is no reason why a person who speaks both English and Spanish should behave in the same way as a monolingual speaker of either language. Each language will interact with the other in a variety of ways, and might well be expected to produce behaviour unlikely to be found in monolingual speakers. It follows that the behaviour patterns of monolinguals might be an inappropriate model for language learners to aim at, and that the behaviour of bilingual speakers may have considerably more importance, both at the practical and at the theoretical level, than we have so far been accustomed to ascribe to it. Secondly, although many of the experimental papers apparently discuss the behaviour of 'bilinguals', in practice this term is ill-defined. Ways of assessing the relative abilities of speakers in their two languages vary. Often undergraduate students are used as subjects, and their competence in the foreign language is assumed to be at a fairly high level without any formal assessment being made of it. Frequently participants in experiments are asked to rate their abilities in both of their two languages on a simple 5 or 7 point scale, and estimates of language ability are made on the basis of these rather unreliable subjective judgements. In consequence, many of the experimental papers dealing with the psycholinguistics of 'bilingualism' often turn out on closer inspection to be investigations of the language behaviour of groups of more or less fluent learners - for the most part less fluent rather than more - and many of these papers are concerned with the behaviour of very ordinary language learners. In this way, the empirical papers provide a rich source of data from which it ought to be possible to produce testable hypotheses about vocabulary learning, and to supplement the striking lack of hard evidence to be found in the papers in the Applied Linguistics tradition.

Clearly, if any real progress is to be made in our understanding of what is involved in acquiring a viable L2 vocabulary and achieving fluency with it, some sort of synthesis needs to be achieved between these two approaches. So far there is little evidence of any such synthesis emerging. It would be good to think that this bibliography might serve as a step towards that goal.

Paul Meara
January 1982

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Abstracts

1. ALBERT, M and L K Obler
The bilingual brain: neuropsychological and neurolinguistic aspects of bilingualism. Academic Press, 1978.

This book is concerned with the psychology and neurology of bilingualism. Three chapters are of particular interest to users of this bibliography: Chapter 3 'Psychological studies of bilingualism' contains a long review section covering many of the classical studies and experiments. Chapter 4 'Neuropsychological studies of bilingualism' reviews studies of word perception and *dichotic listening in bilinguals, and includes a detailed account of some previously unpublished work with Hebrew-English bilinguals. Chapter 5 'Theoretical considerations' assesses some of the models devised to explain the behaviour of bilinguals in these experiments. The general conclusion drawn is that language is organized in the brain of a bilingual in a way that is different from what we expect with monolinguals. In particular, the authors interpret the evidence as showing that the right cerebral hemisphere makes a major contribution to the linguistic behaviour of bilinguals.

2. ALDERSON, C and G Alvarez
The development of strategies for the assignment of semantic information to unknown lexemes in text. Lenguas para Objectivos Especificos, 5 (1979), 2-13.

This article criticises traditional vocabulary teaching on the grounds that it was really only testing knowledge of discrete items, and did not encourage learners to infer the meanings of unknown words. Examples of exercises which do this by means of nonsense words are discussed.

3. AMER, A A M
A comparative study of English and Egyptian word associations and their implications for the teaching of English to Egyptian learners. Unpublished PhD thesis, London University Institute of Education, 1980.

The core of this thesis is a word association test of 250 words administered to 385 English children and a parallel test in Arabic administered to 387 Egyptian schoolchildren. The data in the two languages are compared in terms of similarity of form class, commonality of responses and different types of response, and there is a lengthy discussion of the cultural differences which emerge in the responses to certain words. Amer suggests a number of ways in which these differences could be exploited as a natural part of language teaching.

4. ANTHONY, E M
Lexicon and vocabulary: some theoretical and pedagogical aspects of word meaning. RELC Journal, 6, 1 (1975), 21-30.

Anthony outlines a theory of lexical meaning based on structural clusters of

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words. These clusters can vary from time to time within a single language, and vary very widely between languages. The implications of this approach to meaning for language teaching are discussed.

5. APELT, W
Zur Lexikarbeit im Englischunterricht. [Dictionary work in English teaching.] Fremdsprachenunterricht, 17, 5 (1973), 235-238.

6. APELT, W
Festigung und Aktivierung lexikalischer Kenntnisse im Englischunterricht. [Repetition and activation of lexical knowledge in English instruction.] Fremdsprachenunterricht, 18, 1 (1974), 13-17.

7. ARCAINI, E
L'interference au niveau du lexique. [Interference at the level of lexis.] Audio-Visual Language Journal, 5, 3 (1968), 109-123.

Arcaini discusses structural semantic mismatches between languages - principally Italian, French and German. There is also a brief consideration of the problems these mismatches cause for language learners.

8. ARKWRIGHT, T and A Viau
Les processus d'association chez les bilingues. [The process of association in bilinguals.] Working Papers in Bilingualism, 2 (1974), 57-67.

Arkwright and Viau compared the ability of *compound and coordinate bilinguals in English and French to recover *key concepts when presented with a list of associations most frequently elicited by these words. Monolingual and bilingual lists were used, but no significant differences between the groups were found. This result contradicts the results of Lambert and Rawlings (1969).

9. AS, A
The recovery of forgotten language knowledge through hypnotic age regression: a case report. American Journal of Clinical Hypnosis, 5 (1962), 24-29.

A case study of a single subject originally brought up speaking Swedish, but living in the USA. The subject scored very low on a test of Swedish vocabulary items, but after hypnotic age regression, he improved his score significantly, but not dramatically. As suggests that the causes of this improvement are not understood, and he asks others working with hypnotic age regression to try similar experiments.

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10.   ATKINSON, R C
Optimising the learning of a second language vocabulary.   Journal of Experimental Psychology, 96, 1 (1972), 124-129.

Atkinson describes an experiment comparing four ways of learning long vocabulary lists with the aid of a computer. Random presentation of items for testing is relatively inefficient; two selection methods based on simple learning theory models are much better, particularly one that takes account of the initial difficulty of words. Self-selection of items for testing is as good as a less effective selection method where all words are assumed to be equally difficult in the first instance.

11.   ATKINSON, R C
Mnemotechnics in second language learning.   American Psychologist. 30, 8 (1975), 821-828.

Atkinson briefly describes the *keyword mnemonic technique and results from experiments using this technique. He then discusses: (a) whether key words should be supplied by the teacher or left to the learner; (b) the effects of learning via this method on recognition speed for words; (c) the effects of imagery instructions on learning; (d) whether the keyword method aids retrieval of the foreign language words as well as their recognition; and (e) why some key words appear to be more effective than others. An application of the method to a Russian language course is described.

12.   ATKINSON, R C and M Raugh
An application of the mnemonic keyword method to the acquisition of Russian vocabulary. Journal of Experimental Psychology: Human Learning and Memory, 1, 2 (1975), 126-133.

A report of an experiment comparing the *keyword method with a *paired associate method of learning Russian vocabulary. On long lists of 40 words, the keyword method produces scores of 72 per cent, while the other method produces only 46 per cent accurate learning. Women score better than men in both conditions.

13.   BALHOUQ, S A
The place of lexis in foreign language acquisition. Unpublished MA thesis, University of Sheffield, 1976.

This thesis contains five chapters covering: (1) lexis as a formal level of descriptive linguistics; (2) psycholinguistic factors in second language vocabulary acquisition; (3) obstacles to second language vocabulary acquisition; (4) techniques of teaching second language vocabulary; and (5) the place of technological aids in teaching second language vocabulary.

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14. BARNARD, H
Advanced English vocabulary. Rowley, Massachusetts: Newbury House, 1971-75.

A set of workbooks designed to introduce students to the vocabulary necessary for reading English language textbooks in 'professional subjects'. A teacher's book is also included.

15. BARRIE, W B
Semantics and the teaching of vocabulary. Bulletin de la Commission Interuniversitaire Suisse de Linguistique Appliquée, 16 (1972), 28-44.

Barrie discusses the semantic analyses used by Galisson, and shows how they can be applied to solving some problems of meaning that arise in language teaching. The article also contains a brief discussion of related attempts to apply semantic theory to teaching vocabulary.

16. BARTER, A R
Learning languages: the comparative method. Newton Abbot: David and Charles, 1970.

This book argues that the many foreign words that have been incorporated into English vocabulary, and the links between English and other Indo-European languages, can be used as a basis for teaching and learning vocabulary in a number of foreign languages. The book contains two general chapters on comparative philology and register, amd specific chapters deal with the Latin, Greek and Arabic elements in English. The final chapters illustrate the extent of this borrowing from other languages into English.

17. BEARD, R
Dynamic glossing. Slavic and Eastern European Journal, 19, 1 (1975), 40-57.

18. BARTON, M, H Goodglass and A Shai
Differential recognition of tachistoscopically presented English and Hebrew words in right and left visual fields. Perceptual and Motor Skills, 21 (1965), 431-437.

An experiment comparing recognition thresholds of three-letter words in Roman or Hebrew script arranged vertically. The words are presented to either the right or the left *visual hemifield in a *tachistoscope, and the exposure length required for correct identification is measured. Both scripts show significantly lower thresholds for material presented in the right visual hemifield.

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19. BECKER, D
The etymological dictionary as a teaching device. Die Unterrichtspraxis, 10,
1 (1977), 70-77.

This article suggests that etymological dictionaries can be used effectively as
a way of arousing the curiosity in students at advanced levels about the words
of the language they are studying. Examples of exercises using such a
dictionary are provided and briefly discussed.

20. BESSE, H
Problèmes de sens dans l'enseignement d'une langue étrangère. [Problems of
meaning in teaching a foreign language.] La Langue Française, 8 (1970),
62-77.

A general discussion of the problems of teaching word meaning through
translation, and the implications of theories of the sign for language
teaching. Structural and transformational exercises are discussed in the light
of these theories.

21. BIALYSTOK, E and M Fröhlich
Oral communication strategies for lexical difficulties. The Interlanguage
Studies Bulletin, 5, 1 (1980), 3-30.

An experimental study of the strategies adopted by learners when they are
faced with a need to describe things that are not part of their vocabulary.
These strategies fall into clearly defined types, and vary systematically with
the proficiency of the learner.

22. BILLOWS, F
The teaching of vocabulary. Paper presented to the IVth International
Congress of Applied Linguistics, Stuttgart, 1975.

(This paper discusses: (a) the neglect of the importance of context in
vocabulary teaching; (b) the importance of intellectual 'tension' for the
acquisition of vocabulary and some ways of arousing this tension; and (c) the
relatively unimportant role of many content words.)

23. BLUM, S
The foundation word list of Hebrew and its applications - a critical appraisal
of Easy Hebrew. Paper presented to the IVth International Congress of
Applied Linguistics, Stuttgart, 1975.

(This paper gives a critical appraisal of the foundation word list of Hebrew
and the uses to which it has been put. It questions the suitability of any word
list to serve as a framework for the adaptation of materials for teaching, and
reports findings from a study designed to assess changes in the distribution of

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syntactical structures in adaptations claiming to be controlled mainly in terms of vocabulary.)

24. BLUM, S and E Levenston
Strategies of communication through lexical avoidance in the speech and writing of second language teachers and learners and in translation. Ontario Institute for Bilingual Education. Education Resources Information Center. ED139280, 1977.

25. BLUM, S and E A Levenston
Lexical simplification in second language acquisition. Studies in Second Language Acquisition, 2, 2 (1978), 43-64.

Blum and Levenston use a *sentence completion task to test five claims about lexical simplification: (a) that learners avoid words for which no direct translation exists in the mother tongue; (b) that learners avoid morphologically difficult words; (c) that they avoid phonologically difficult words; (d) that they tend to replace words with negative connotations by a negative prefix and a word with positive connotations; and (e) that they tend to overgeneralize in their use of words, particularly where relations of antonymy are concerned. Data from two experiments appear to support claims (a), (b) and (e), but not claims (c) and (d).

26. BLUM, S and E A Levenston
Universals of lexical simplification. Language Learning, 28, 2 (1978), 399-415.

Blum and Levenston argue that the lexical simplification strategies adopted by foreign language learners derive from universal principles, which also guide the simplifications found in simplified readers and native speakers' interactions with foreigners. This idea is discussed in terms of superordinate terms, approximations, synonymy, transfer, and circumlocutions or paraphrases.

27. BOGAARDS, P
Geheugen en woordverwerving in een vreemde taal. [Memory and the acquisition of words in a foreign language.] Levende Talen, 351 (1980), 272-83.

After a brief discussion of the difficulties involved in producing word lists based on frequency counts, Bogaards argues that there are many different ways of knowing a word. For example, we may recognize it but not know its meaning, or know its meaning but not be able to reproduce it accurately. He argues that different words impose quite different cognitive loads on learners. This idea is backed up by a discussion of recent work on the psychology of memory, and the implications of this work for theories of second language vocabulary acquisition are spelled out. He concludes that

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our understanding of the nature of vocabulary acquisition is rudimentary, and that given the complexity of the process, it is clearly inappropriate to look for a single correct method of teaching vocabulary.

28. BOL, E and J A M Carpay
Der Semantisierungprozess im Fremdsprachenunterricht: Lernpsychologie, Experimente und methodische Folgerungen. [The process of semanticization in foreign language teaching: the psychology of learning, experiments and methodological conclusions.] Praxis des Neusprachlichen Unterrichts, 19, 2 (1972), 119-133.

An account of an experiment using word associations made by native German speakers in foreign languages. The results of the investigation show that: (1) the more experience students have with the foreign language the less they respond with formal responses and translations; (2) students instructed according to the grammar-translation method are more likely to respond with formally similar responses; and (3) nearly 60 per cent of all responses are semantic responses, and these do not take a significantly longer time to produce than translations do.

29. BRETTSCHNEIDER, H
Zur Arbeit mit der Zeitung im Deutschunterricht auf fortgeschrittener Stufe: zur Erweiterung des Wortschatzes. [On working with newspapers in teaching German at advanced level: towards increasing vocabulary.] Deutsch als Fremdsprache, 11, 3 (1974), 172-180.

(Using newspapers in FL teaching gives pupils experience in reading original texts and offers possibilities for vocabulary building, though with German one has to be aware of vocabulary differences between east and west Germany, particularly when ideological areas are being touched on. Suggestions for building vocabulary drills based on newspaper material are provided.) Twomey 1979.

30. BROWN, D F
Advanced vocabulary teaching: the problems of collocation. RELC Journal, 5, 2 (1974), 1-11.

Brown discusses the importance of collocations in language teaching, arguing that they are an important factor in making students aware of contextual redundancy in language. She provides examples of ten different types of exercise through which collocations can be learned.

31. BUCHBINDER, W A
Voprosy obucheniya leksike. [Problems in teaching vocabulary.] Inostrannye Yazyki v Shkole, 6 (1972), 39-47.

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32.   BUTLER, D, C Ott and R Blake
Cognitive scaffolding in the learning of foreign language vocabulary. Paper given at the Association of Educational Communications and Technology, Las Vegas, 1973.

33.   CALVE, P
Review of H. Holec: Structures lexicales et enseignement du vocabulaire. Canadian Modern Language Review, 33, 1 (1976), 87-88.

A highly critical review of Holec 1975. Calve finds this book old-fashioned and limited from the theoretical point of view, but of some practical interest.

34.   CARD, R D
Conditions related to paired-associate learning and their implications for foreign language learning. Unpublished PhD thesis, University of Utah, 1966.

(A study of some aspects of paired-associate learning which appear to have implications for the learning of foreign language words: viz. simultaneous versus sequential presentation; the effectiveness of audio-visual presentation compared with auditory or visual presentation alone; and the extent of cross-channel transfer. Artificially constructed foreign words based on English were used. The results showed: (a) both AV and V conditions were better than A alone; (b) simultaneous presentation was better than sequential, except that simultaneous auditory presentation was worst of all; and (c) generally, retention measured in the same modality as presentation was superior to learning measured in a different modality, but learning in simultaneous visual condition was equally good when tested in auditory or visual modality.) Dissertation Abstracts: 65.13047.

35.   CARROLL, F W
Cerebral dominance for language: a dichotic listening study of Navajo-English bilinguals. Paper presented at the Southwest Area Language and Linguistics Workshop, 1977. (Swallow VI.)

36.   CARROLL, F W
Cerebral lateralization and adult second language learning. PhD thesis, University of New Mexico, 1978. (University Microfilms 78-19272.)

The principal part of this thesis is a *dichotic listening task in English and Spanish. Subjects heard sets of six words which they had to recall immediately. Beginning, intermediate, and advanced learners all showed significantly higher left hemisphere scores for Spanish words than for English words, though a group of four native Spanish speakers reversed this finding. There was also some evidence that this difference between the languages was not found with learners who had acquired their Spanish before the age of six in a naturalistic environment.

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37.   CARTER, R M and B L Criscoe-Lanasa
Study of a compilation and analysis of writing vocabulary in Spanish of Mexican American children. Paper presented at the Vth International Congress of Applied Linguistics, Montreal, 1978.

(A large-scale study of the written vocabulary of Spanish/American children compared with the vocabulary of monolingual English speaking children. The results are discussed in terms of their application to bilingual education programs.) Language and Language Behavior Abstracts. 78S00064.

38.   CARVER, D J
'Idioms' and the teaching of an active vocabulary. English Language Teaching, 26, 1 (1971), 47-54.

A brief discussion of the importance of idioms as part of a learner's vocabulary repertoire, together with some suggestions for teaching idioms effectively.

39.   CELCE-MURCIA, M
Phonological factors in vocabulary acquisition: a case study of a two-year old, English-French bilingual. Working Papers in Bilingualism, 13 (1977), 27-41.

An account of the phonology and vocabulary of a single child bilingual in English and French at age 2:4. Four types of vocabulary use are illustrated: (a) the child knows and uses a word in both languages; (b) she is confused by words that are similar in both languages; (c) she knows a word in one language, but does not know its equivalent in the other language; and (d) she appears to know words in both languages, but systematically avoids one form. Phonological avoidance seems important in this last case.

40.   CEMBALO, M
Le vocabulaire des débutants. [Beginners' vocabulary.] Unpublished MA thesis, Nancy, Faculté des Lettres et des Sciences Humaines, 1969.

See below.

41.   CEMBALO, M
L'enseignement du vocabulaire aux débutants en anglais. [Teaching vocabulary to beginners in English.] Mélanges Pédagogiques, 1970.

A summary of Cembalo's MA thesis (see above). Five courses of English for beginners were studied. Cembalo comments on the choice of vocabulary, the lexical fields to which this vocabulary belongs and the way in which the vocabulary is introduced.

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42. CHAMPAGNOL, R
L'utilisation du vocabulaire: les fondements actuels de la pédagogie des langues, sont-ils insuffisants? [Using vocabulary: how satisfactory are the present bases of language teaching?] Psychological Laboratory, University of Poitiers, n.d.

43. CHAMPAGNOL, R

Conditions d'apprentissage du vocabulaire. [Factors affecting vocabulary acquisition.] Les Langues Modernes, 66 (1972), 413-426.

An account of three experiments comparing the learning of English words through direct reference or via a French translation. Experiment 1 compares words in context or isolation, presented with or without pictures. Recall tests were carried out one, four and twelve weeks after learning. All methods seem to be equally effective at one week, but in subsequent testing, presentation with pictures is substantially better. In addition, testing with pictures as a stimulus gives higher scores than testing via a translation. In experiment 2, students were given pictures of easily-recognizable objects whose names they did not know in either English or French. These names were then taught through a short definition and a translation: e.g. arénicole is the French word for lugworm. Knowledge was tested after one, five, thirteen and twenty two weeks. At all stages the L2 word (English) was better known than the French word. In experiment 3, twenty previously unknown words were taught to absolute beginners and non-beginners in English using different presentation methods. These groups were then compared on a series of tasks: viz how many words could they recall in one minute given the list of learning stimuli; were they able to sort the words into semantic categories? The results show that pictures produce better performance than words on their own, but actual objects were more effective than pictures.

44. CHAMPAGNOL, R

Organisation sémantique et linguistique dans le rappel libre bilingue. [Semantic and linguistic organization in the free recall of bilingual subjects.] Année Psychologique, 73 (1973), 115-134.

An experiment comparing clustering in free recall of monolingual and bilingual lists. French learners of English at four different levels of proficiency were tested on lists of words which were either monolingual English, or French, or mixed. Each list was presented twelve times, and recall tested after each presentation. The results show: French lists were better recalled than English lists; for more advanced subjects unilingual lists are better recalled than mixed ones. Later trials produced clustering of responses according to semantic categories, but this tendency was greatest for the French material.

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45. CHAMPAGNOL, R
Association verbale, structuration et rappel libre bilingues. [Word associations, structuring and free recall in bilinguals.] Psychologie Française, 19 (1974), 83-100.

An account of an experiment in which two groups of French schoolchildren learning English were tested on a word association task and a list-learning task. More associations were produced by the more advanced learners, and a greater number were produced by both groups when the language of response was French. For the list-learning task, fifteen learning trials were allowed, and measures of subjective organization were taken in addition to the number of words recalled correctly on each trial. Subjective organization was more consistent for the advanced subjects, but there were no significant differences associated with language. Greater subjective organization appears to correlate with better recall scores. Champagnol suggests that the correlations between number of associations and recall score are difficult to interpret: fluency with associations correlates negatively with recall scores in both languages.

46. CLIFTON, C, P Sorce, P Schaye and A Fiszman
'Translation between languages in memory search.' American Journal of Psychology, 91 (1978), 237-249.

Spanish/English bilinguals were tested for the speed with which they could recognize a word in one language as a member of a previously presented set of words in either language. The results showed that reaction time was greater with increased set size, but that this increase was larger for most subjects if the probe word was not in the same language as the test item in the original set. These data seem to support the view that language specific representations of items are stored in short term recall tasks, and that the translation effect reflects rehearsal processes.

47. COHEN, A D and E Aphek
Retention of second-language vocabulary over time: investigating the role of mnemonic associations. System, 8 (1980), 221-235.

Twenty-six learners of Hebrew were taught to generate associations to new vocabulary items, and their use of these associations to recall words was examined over one month. Examples of the associations produced are discussed. The associations were still playing an active role in recall at the end of the month, and words recalled via the original associations were better recalled than those with new associations or no associations at all.

48. COHEN, A D and E Aphek
Easifying second language learning, (1979) ERIC ED 163 753. Reprinted in Studies in Second Language Acquisition, 3, 2 (1981), 221-236.

A report of two informal studies of English learners of Hebrew, one of which concentrates on vocabulary learning. Seventeen subjects were given a series of tasks to help them learn new words over a period of 100 days. Study of the learning methods used showed that many of the students reported using associations. An analysis of these associations into eleven types is provided. There is some evidence that words learned via associations are more likely to be retained.

49. CORDER, S P
The teaching of meaning. In H Fraser and W R O'Donnell: Applied Linguistics and the Teaching of English. Longman, 1969.

Corder discusses the ways in which new words are acquired by children, and the importance of context in teaching new words to foreign language learners in order to allow them to develop their own working knowledge of words in the foreign language.

50. CORNU, A-M
First steps in vocabulary teaching. Paper presented at the Vth International Congress of Applied Linguistics, Montreal, 1978.

(Cornu criticises traditional methods of teaching vocabulary on the grounds that these do not encourage the development of organized semantic schematas. The notion of semantic fields is discussed, and the pedagogical implications of recent work in this area are drawn out.) CIRB AILA Abstracts, 1978.

51. COWIE, A P
Vocabulary exercises within an individualized study programme. ELT Oocuments, 103 (1978), 37-44.

Cowie outlines some of the problems that learners face when they are attempting to acquire lexical collocations, and the difficulties that need to be overcome if these problems are to be solved in a framework that uses individualized materials. Some exercises which achieve this aim are presented.

52. COWIE, A P
Vocabulary teaching in Dutch schools: a survey of some recently published materials. Levende Talen, 335 (1978), 477-484.

A brief critical review of seven books aimed at teaching English vocabulary to native Dutch speakers. The texts are assessed from five points of view: (1) the criteria for including the chosen vocabulary items; (2) whether the text is geared towards self-directed or teacher-directed work; (3) whether the text aims primarily at receptive of productive command; (4) how the items chosen

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for presentation are organized; and (5) the type of exercises presented.

53.   CROTHERS, E and P Suppes
Experiments in second language learning. Academic Press, 1967.

This book reports sixteen experiments investigating various aspects of second
language learning.   Chapter four concerns vocabulary learning and, in
particular, what is the optimum number of words to present at any one time.
A statistical model which predicts the optimum size of such blocks of
vocabulary is evaluated against the results of these experiments, and the
failure of the model to account for all the data satisfactorily is discussed.

54.   DAGUT, M B
Incongruities in lexical gridding - an application of contrastive semantic
analysis to language teaching. IRAL, 15, 3 (1977), 221-229.

Incongruencies in lexical gridding are cases where one language has a single
term to cover the same area that another language covers by two or more
terms.   Dagut argues that many vocabulary errors are due to such
incongruencies, and suggests that systematic contrastive analysis at a lexical
level ought to play an important part in the preparation of teaching
materials.   A number of incongruencies between Hebrew and English are
discussed and analyzed.

55.   DALE, E, T Razik and W Petty
Bibliography of vocabulary research.   Third revised edition. Ohio State
University, 1973.

Dale's original bibliography appeared in 1939, and this edition includes works
between 1874 and 1972. The bulk of the entries concern L1 acquisition and
use, but there are substantial sections on L2 acquisition; the coverage of the
earlier periods is exceptionally good.

56.   DALRYMPLE-ALFORD, E
Prestimulus language cuing and speed of identifying Arabic and English
words. Psychological Reports, 21 (1967), 27-28.

A report of two experiments in which the time required to name a word aloud
is measured. Words in English and Arabic were tested. Cuing the subjects
for language did not significantly reduce response time. Dalrymple-Alford
interprets this result as supporting the *single processing system position.

57.   DALRYMPLE-ALFORD, E
Interlingual interference in a colour naming task. Psychonomic Science, 10
(1968), 215-216.

A variation on the *Stroop test in which subjects were required to name colours in Arabic against different types of English interference. Greatest interference was caused by non-matching English colour words. Matching English colour words caused relatively less interference than was expected. Dalrymple-Alford argues that this evidence goes against the belief that Stroop interference is caused by semantic similarity.

58.   DALRYMPLE-ALFORD, E and A Aamiry
Word associations of bilinguals. Psychonomic Science, 21 (1970), 319-320.

Arabic/English bilinguals were given a word association test in which certain stimulus words were repeated either in the same language or in translation. Subjects were quite likely to give identical responses to repeated stimuli in the same language, but translation equivalents often elicited different responses, and the likelihood of stable responses across languages was thus low. The authors argue that the differences are too great to be explained merely in terms of random choice among a hierarchy of responses, and he sees this finding as evidence against the *single store hypothesis.

59.   DALRYMPLE-ALFORD, E and B Budayr
Examination of some aspects of the Stroop colour-word test. Perceptual and Motor Skills,23 (1966), 1211-1214.

A report of two experiments investigating technical aspects of the *Stroop technique. Experiment 1 is a bilingual task using English and Arabic. The results show that for the subjects used here, English responses are consistently slower than Arabic responses, and that interference from Arabic was greater than interference from English if the language of response is held constant.

60.   DANESI, M
Semantics in foreign language teaching. Canadian Modern Language Review, 31, 4 (1975), 320-324.

A brief discussion of the difference between lexemes and sememes, and the implications of this distinction for teaching vocabulary in a second language. Some empirical work making use of this distinction is alluded to, but is not discussed in detail.

61.   DAVIS, B J and M Wertheimer
Some determinants of associations to French and English words. Journal of Verbal Learning and Verbal Behavior, 6 (1967), 574-581.

A *word association test using the *continuous association method to stimulus words in English, French, and a set of ambiguous items. This study compares language of stimuli, language of instruction and part of speech

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across four groups of increasing proficiency. The results show that instructions in French produce a higher proportion of French responses, and that more fluent subjects gave a higher proportion of French words. The bulk of the responses were classified as *paradigmatic.

62. DEBYSER, F
Comparaison et interférences lexicales (Français-Italien). [Lexical contrasts and interferences in French and Italian.] Le Français dans le Monde, 81 (1971), 51-57.

A taxonomy of lexical error types with illustrations from interference errors between French and Italian. Debyser distinguishes six types of relationship between items in two languages. Four of these give rise to high probability of interference errors. The value of contrastive semantic analysis is discussed, and some pedagogical implications of this discussion are outlined.

63. DESROCHERS, A
Effects of an imagery mnemonic on acquisition and retention of French article-noun pairs. Unpublished PhD thesis, University of Western Ontario, 1980.

64. DESROCHERS, A
Les techniques mnémoniques liées à l'apprentissage des langues. [Mnemonic techniques and language learning.] Unpublished paper, 1980.

Desrochers describes the *hook word and the *keyword mnemonic techniques for learning second language vocabulary. He summarizes the empirical research carried out on the keyword method under five main headings: (a) does the method just produce passive recognition ability? (b) should keywords be provided by the teacher or generated by the learner? (c) does the method work equally well for all parts of speech? (d) is the value of the method constrained by the age of the learner? and (d) do classroom replications bear out the findings of laboratory studies?

65. DILLER, K C
Compound and co-ordinate bilingualism: a conceptual artifact. Word, 26, 2 (1970), 254-261.

A critical discussion of the *compound/co-ordinate bilingualism distinction. Diller argues that the terms are badly defined, that the experimental data which is believed to support the notion does not stand up to close scrutiny, and claims that if compound systems did exist, they would inevitably lead to lexical errors. He concludes that compound systems are incompatible with true bilingualism.

66. DILLON, R F, P D McCormack, W M Petrusic, M Cook and L Lafleur
Release from proactive interference in compound and co-ordinate bilinguals.
Bulletin of the Psychonomic Society, 2 (1973), 293-294.

An experiment using release from *proactive interference in the *Brown-Peterson paradigm in order to test for a difference between *compound and co-ordinate bilinguals. Changing language on the fourth trial produced better recall for both groups of subjects, irrespective of learning history. This evidence suggests that the compound/co-ordinate distinction may be an unsound one.

67. DONLEY, M
The role of structural semantics in expanding and activating the vocabulary of the advanced learner: the example of the homophone. Audio-Visual Language Journal, 12, 2 (1974), 81-89.

Donley discusses the importance of paradigmatic contrast as a way of learning new items, and suggests that such paradigms can be built not just on similarities and differences of meaning, but also on those of form, sound and spelling. He illustrates this by discussing ways of using homophones in order to draw attention to such contrasts.

68. DOYLE, A B, M Champagne and N Segalowitz
Some issues in the assessment of linguistic consequences of early bilingualism. Working Papers in Bilingualism, 14 (1977), 21-30.

This study looked at the effects of childhood bilingualism on the age at which a child's first word is reported, on vocabulary size in the two languages, and on general verbal fluency. It is reported that there is no significant difference between monolinguals and bilinguals in the emergence of their first word, that bilingual children show slightly smaller vocabulary in the dominant language than monolingual controls, but that scores on a measure of general fluency are slightly higher for the bilingual group.

69. DUŠKOVA, L
On sources of error in foreign language teaching. IRAL, 7 (1969), 11-36.

An account of the errors produced by fifty Czech scientists writing in English. A large number of the errors noted here are lexical errors, and these seem to fall into three classes: confusions between words which are orthographically or phonologically similar, mismatches between word meanings in English and Czech producing transfer errors, and the coining of non-existent neologisms. The influence of a previously learned foreign language was also apparent in these errors.

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70. DÜWELL, H
Informelle Wortschatztests für den Fremdsprachenunterricht: Möglichkeiten und Probleme ihrer Konstruktion. [Informal vocabulary tests for foreign language instruction: possibilities and problems in their construction.] Die Neueren Sprachen, 73, 2 (1974), 113-127.

71. DYER, F N
Colour naming interference in monolinguals and bilinguals. Journal of Verbal Learning and Verbal Behavior, 10 (1971), 297-302.

An account of two experiments using the *Stroop technique. In experiment 1, English, French, German, Greek and Italian stimuli were named by monolingual English subjects. Stroop interference occurred for the English stimuli where expected; interference was also found for the FL stimuli, and this was strongest where there was a close phonological resemblance between the FL words and English colour words. In experiment 2, the standard Stroop method was used with sixteen English/Spanish bilinguals, with stimuli in English and Spanish. Interference was found in all conditions, but naming was slowest when the naming language and the language of the colour names were the same.

72. EHRI, L C and E B Ryan
Performance of bilinguals in picture-word interference task. Journal of Psycholinguistic Research, 9, 3 (1980), 285-302.

Three experiments using a variation of the *Stroop test where subjects were required to name pictures with interfering words in English and Spanish. The results show that both English and Spanish words caused interference irrespective of which language the subjects were reporting in. Subjects operating in English showed greater interference from English words, but this pattern did not hold when the report language was Spanish.

73. ERVIN, S M
Learning and recall in bilinguals. American Journal of Psychology, 74 (1961), 446-451.

A group of Italian/English bilinguals were given a set of pictures to name in English or Italian, and were subsequently asked to recall the items in one of these languages. For Italian subjects, items named fastest in Italian were better recalled in Italian; items named fastest in English were better recalled in English. Learning and recall in the dominant language produced best recall, while learning in the dominant language with recall in the weaker language gave the worst results. The English dominant bilinguals (who are described as mostly *compound bilinguals) produced less clear patterns. A similar study with Navajo/English subjects is also briefly reported.

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74. ERVIN, S M
Semantic shift in bilingualism. <u>American Journal of Psychology,</u> 74 (1961), 233-241.

An experiment comparing colour naming by monolingual English, monolingual Navajo and bilingual speakers. Results showed that in the monolinguals, reaction time to colour chips depended on how closely the chip was related to a core colour in the language. Peripheral colours were generally slowly identified. Bilinguals show patterns of responding that are different from the responses of both bilingual groups. The differences appear to be related to competing high probability responses in the other language.

75. EVANS, I and J Townsendsen
Another view on the bilingual Stroop test. <u>Polyglot.</u> 1, 2 (1979), E13-G5.

An account of a *Stroop test experiment using stimuli in English and Welsh. Bilingual speakers who responded in either English or Welsh and monolingual English subjects took part and responded to six types of word lists and a non-verbal control. Using Neisser's (1976) work 'Cognition and Reality', a model is developed which predicts response time orderings from the three groups of subjects. This model makes 30 predictions, all but three of which are supported by the data.

76. FEENY, T P
Vocabulary teaching as a means of vocabulary expansion. <u>Foreign Language Annals,</u> 9, (1976), 485-486.

A brief account of an informal experiment in which subjects taught Spanish vocabulary items to other students in their class. This produced very high levels of learning on the part of the 'teachers', and this high level was maintained over twelve days.

77. FIRGES, J
Fremdsprachenunterricht ohne Vokabellernen? Eine empirische Unter-suchung. [Foreign language teaching without vocabulary learning] <u>Der Fremdsprachliche Unterricht,</u> 8, 1 (1974), 57-63.

78. FISHMAN, J and R Cooper
Alternative measures of bilingualism. <u>Journal of Verbal Learning and Verbal Behavior,</u> 8 (1969), 276-282.

A series of tests in English and Spanish was given to a group of English/Spanish bilinguals; these tests included word naming, word associations, word frequency estimation, subjective self-assessment, and a series of phonologically oriented elicitation tests. Interrelationships between these variables, demographic variables, assessments of accentedness, English

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ability, Spanish ability and reading were computed, and seven principal factors were extracted. Self-assessment emerged as one of the best predictors on the last four variables, but the vocabulary tests also account for a large proportion of the total variance.

79. FLEMING, G
Meaning, meaningfulness and association in the context of language teaching media. Praxis des Neusprachlichen Unterrichts, 13, 2 (1966).

80. FORD, J C
Analysis of a particular audio-visual method for teaching French vocabulary. French Review, 45, ii (1972), 842-845. (Special Issue.)

A brief account of an informal experiment comparing the presentation of vocabulary via slides and pictures with an unspecified non-audiovisual approach. Ford claims that the slide method increases learning, improves motivation, but fails to increase gender awareness.

81. FORRAI, E
Theory and practice in language teaching. Canadian Modern Language Review, 24, 3 (1968), 49-50.

A brief article discussing the importance of forgetting new words in a foreign language, and how this can be avoided. Forrai argues that forgetting can be slowed down by effective use of deliberate rehearsal, and suggests that words should be relearned at intervals according to the formula: $T = t^n$ where t equals the time between the initial presentation and the initial recall; n equals the number of the relearning trial; and T equals the time elapsing between successive recall sessions.

82. FRENCH, P L
Cognitive storage of word meaning in bilingualism. Paper presented to the IVth International Congress of Applied Linguistics, Stuttgart, 1977.

83. FUENTES, E J
An investigation into the use of imagery and generativity in learning a foreign language vocabulary. Unpublished PhD thesis, Stanford University, 1976.

A study of the *keyword method in a real class situation. 135 native English speakers studying Spanish learned 115 Spanish words over a six-week period, and those trained in the keyword method were compared with a rote-rehearsal group. Neither supplied nor self-generated key words made any difference to overall performance, and the three groups were not significantly different. There was some indication that the rote-rehearsal

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group use key words spontaneously anyway.

84.   GALISSON, R
L'enseignement du vocabulaire par les textes. [Teaching vocabulary through texts.]   Bureau pour l'Enseignement de la Langue et de la Civilisation Françaises à l'Etranger, Paris, 1966.

85.   GALISSON, R
Vers un apprentissage systématisé du vocabulaire.   Bureau pour l'Enseignement de la Langue et de la Civilisation Françaises à l'Etranger, Paris, 1968.

Galisson argues that current practice is right to stress grammatical structure at the expense of vocabulary in the early stages of learning, but he feels that more systematic attention needs to be paid to vocabulary acquisition in the later stages of learning a language. He shows how this can be done via systematic analysis of texts, and a number of such texts and developments are presented. In Part II, Galisson discusses the distinction between presentation of a word and its consolidation.. He is in favour of a carefully spaced revision of words. A series of exercises designed to aid memorization are discussed and exemplified.

86.   GALISSON, R
L'apprentissage systématisé du vocabulaire. [A systematic way of learning vocabulary.] Hachette, 1970.

A second edition of Galisson 1968.

87.   GALISSON, R
Pour une méthodologie de l'enseignement du sens étranger. [Towards a methodology for teaching the meaning of foreign words.] In: P Charaudeau and R Galisson (eds): L'enseignement du sens en française, langue maternelle et étrangère. Etudes de Linguistique Appliquée, 11, (1973).

In this article, Galisson summarizes theories of the sign and shows how these theories have influenced the way vocabulary has been taught to learners of foreign languages. He discusses global methods of teaching meaning (e.g. by ostensive definition), and compares these with more analytical methods based on a proper semantic analysis of the words to be taught. Galisson argues that though the analytical approach has many advantages, it needs to be supplemented by an understanding of the psychological aspects of vocabulary learning and of the ethnographic considerations that make it so difficult to produce exact translations of even the simplest concepts.

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88.   GALISSON, R
Un nouvel instrument didactique sur le marché de l'enseignement des langues:
le thème de prédilection. [A new tool for the foreign language teacher: the
favourite subject.] In: A Abbou (ed): Principes et méthodologies des
techniques d'expression. Etudes de Linguistique Appliquée, 14, (1974), 96-99.

Galisson outlines the idea of a thème de prédilection - a subject of some
importance to an individual student - as a vehicle for learning new
vocabulary. He argues that this idea is better than a teacher-imposed choice
of topics based on an intuitive (and often erroneous) idea of usefulness. He
also compares the idea with traditional centres of interest, which he feels
often had no intrinsic interest, and were vague and irrelevant to most
students. Galisson's research on thèmes de prédilection is briefly discussed.

89.   GALISSON, R
Thèmes de prédilection et vocabulaires thématisés à charge incentive.
[Favourite subjects and motivating structured vocabularies.] Etudes de
Linguistique Appliquée, 18 (1975), 59-114.

Galisson argues that it is inappropriate to try to teach a common vocabulary
to all learners. It is inefficient and boring to the learners. He suggests that
it would be better to teach vocabulary through thèmes de prédiliction, ie
centres of interest which would provide intrinsic motivation for learners to
acquire the necessary words. In order for this to be possible, considerable
research at the lexical level and at the psychosocial level is needed, so as to
establish what themes would be appropriate for particular target groups and
what words comparable native speaker groups use to talk about such themes.
In the second part of the article, the research outlined in Part I is discussed
more fully.   Two whole questionnaires are reproduced, and examples of the
research into thematic vocabularies are provided.   Galisson concludes by
discussing the pedagogical relevance of this work.

90.   GALISSON, R
Lexicologie et enseignement des langues.   [Lexicology and language
teaching.] Hachette, 1979.

A collection of papers by Galisson, including numbers 87, 88, 89 of this
bibliography. The other articles included deal mainly with lexicography, but
some attempt is made to relate this work to questions of teaching vocabulary
to foreign language learners.

91.   GAZIEL, T, L K Obler and M Albert
A tachistoscopic study of Hebrew English bilinguals. In: Albert, M L and LK
Obler: The bilingual brain. Academic Press, 1979.

An account of two experiments involving *tachistoscopic recognition of
stimuli by bilingual English/Hebrew speakers. Experiment 1 used straight line

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stimuli, which subjects were required to describe. Few significant differences were found which related to visual field preferences. This finding contrasted with previous work which found a strong right *visual field effect for lines which were easily describable in words. Experiment 2. compared recognition of Hebrew and English words of three letters and three digit numbers, presented vertically or horizontally. Three significant differences were recorded: (i) English dominant subjects showed a right *visual field effect for Hebrew; and (ii) a left *visual field effect for English when the words were presented vertically; and (iii) Hebrew dominant subjects showed a right *visual field effect for Hebrew words presented horizontally.

92.   GEKOSKI, W
Associative and translation habits of bilinguals as a function of language acquisition context. Unpublished PhD thesis, University of Michigan, 1969.

(A study of free and *restricted word associations in English and Spanish, with special reference to the level of proficiency and type of bilingualism of the subjects. Compound bilinguals gave higher proportions of equivalent responses to equivalent stimuli in the two languages, but there were no significant differences associated with proficiency level and this variable. Native English speakers produced a higher percentage of response equivalents than native Spanish speakers, and also responded faster. All subjects responded fastest when stimulus and response language were the native language, and slowest when both were in the foreign language. Restricted associations produced faster response times and higher levels of response equivalence.) Dissertation Abstracts: 30. 1b. 404.

93.   GEKOSKI, W
Effects of language acquisition contexts on semantic processing in bilinguals. Proceedings of the American Psychological Association, 5 (1970), 487-488.

A brief account of the work reported more fully in Gekoski (1969).

94.   GENESSEE, F, J Hamers, W E Lambert, L Mononen, M Seitz
       and P Starck
Language processing in bilinguals. Brain and Language, 5 (1978), 1-12.

Three groups of English/French bilinguals were distinguished by the time at which they acquire their second language. The groups were a childhood group, an adolescent group and an adult group. These subjects listened to strings of words in English or French presented to either the left or right ear, and after each word they were required to indicate whether it was an English one or a French one. *EEG activity and reaction times were measured. The EEG records indicated that for childhood bilinguals, words presented to the right ear produced shorter latencies, while for the other two groups, words presented to the left ear produced shorter latencies than those

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heard in the right ear. Reaction times were not significantly different from each other.

95.   GLANZER, M and A Duarte
Repetition between and within languages in free recall. Journal of Verbal Learning and Verbal Behavior, 10 (1971), 625-630.

An experiment comparing *free recall of word lists in English and Spanish in which some items are repeated either in the same language or as a translation in the other. The probability of recalling a repeated item depends on the distance between repetitions; between language repetitions produce better recall than within language repetitions. Spanish appears to produce better recall than English. The results are interpreted as showing that words are held in short term storage as a semantic representation, and not just a phonetic one.

96.   GLICKSBERG, D H
A study of the span of immediate memory among adult students of English as a foreign language. Unpublished PhD thesis, University of Michigan, 1964.

A series of short term memory experiments using Spanish and English and English-speaking learners of Spanish. The main findings are: (1) memory span in a foreign language depends on the material presented; (2) memory for contextual material in the foreign language seems to increase with proficiency; (3) memory span and language context awareness seem to be separate factors; and (4) there is a correlation between memory span for FL and NL digits, but this increased significantly with concentrated instruction in the FL.

97.   GOGGIN, J G and D D Wickens
Proactive interference and language change in short term memory. Journal of Verbal Learning and Verbal Behavior, 10 (1971), 453-458.

An experiment using the *Brown-Peterson paradigm with 96 bilingual English/Spanish subjects. Changing the language of the stimuli on the fourth trial producd as much release from *proactive interference as changing the category of the stimuli; changing both category and language of stimuli produced even greater recovery. The results further suggest that greater release from proactive interference is found with bilinguals whose languages are more evenly balanced.

98.   GONZALES, S
Coding processes in bilingual word recognition. Unpublished PhD thesis, University of New Mexico, 1977.

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99. GUEHO, R
Fautes de vocabulaire: l'ironie involontaire. [Vocabulary errors: involuntary irony.] Die Neueren Sprachen, 73, 1 (1974), 68-76.

Guého comments on a number of lexical errors produced by German learners of French, and shows how they can be ascribed to the learners' ignorance of the evaluative aspects of the words' meaning.

100. GÜNTHER, K
Die Sicherung lexikalischer Kenntnisse alls wichtige Voraussetzung für die rationelle Entwicklung sprachlicher Fertigkeiten und Fähigkeiten. [The consolidation of lexical knowledge as an important prerequisite for rational development of linguistic skills and abilities.] Fremsprachenunterricht, XV, 10 (1971), 425-438.

101. HADLICH, R
Lexical contrastive analysis. Modern Language Journal, 49 (1965), 426-429.

Hadlich argues that contrastive lexical analysis causes difficulties for learners in that it draws attention to pairs of words which are related in terms of the mother tongue and thus induces confusion. He suggests that pairs such as ser-estar, conocer-saber, which typically cause confusion, should be treated separately and not in a contrastive fashion in order to avoid lexical confusion and to reduce interference.

102. HALL, J W
Keyword method effects on university students learning of foreign language vocabulary. Paper presented to the annual meeting of the American Educational Research Association, San Francisco, 1979.

103. HAMERS, J, and W Lambert
Bilingual interdependencies in auditory perception. Journal of Verbal Learning and Verbal Behaviour, 11 (1972), 303-310.

An experiment using an auditory version of the *Stroop test in English and French. Subjects heard high or low pitched stimuli and were required to indicate whether the pitch was high or low. Sixteen balanced English/French bilinguals were tested. Stroop interference was found when spoken words were used and the pitch of these was incongruent with their meaning (e.g. haut spoken at low pitch). Some interference between languages was also recorded.

104. HAMERS, J, and W E Lambert
Visual fields and cerebral hemisphere preferences in bilinguals. In: S J Segalowitz and F A Gruber (eds): Language development and neurological

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theory. Academic Press, 1977.

Fifteen balanced bilinguals were shown words in English or French presented in the right or left *visual hemifield, and asked to indicate which language the word belonged to. The results showed that both languages were recognized equally quickly, and both languages were recognized fastest when presented in the right visual hemifield. There were no interactions between language and visual hemifield. There was some indication that individual subjects did not show the same dominance effects, in that there was a marked preference for words for one language to be better recognized in one visual hemifield for a small number of the subjects.

105. HAMMER, P, and M Monod
The role of French-English cognates in listening comprehension. Audio-Visual Language Journal, 16 (1978). 29-32.

A group of grade ten students was taught the phonetic correspondences between English and French words, and subsequently given a multiple choice test in which they were required to match English words to their French cognates spoken aloud. The findings show that such training makes it easy for students of this age to recognize cognates. The authors suggest that given the large number of cognates in English and French, practice of this sort should be an integral part of early language training.

106. HAMMERLY, H
Teaching of second language vocabulary. Proceedings of the Pacific North West Conference, (1975), 131-138.

A report of a workshop on vocabulary learning which covered the following main points: (a) the need to learn vocabulary in context; (b) the need for vocabulary selection; (c) active vs. passive vocabulary; (d) ways of presenting meaning; (e) the optimal rate of presentation of new words; and (f) vocabulary expansion exercises.

107. HARDYCK, C
Recognition memory processes and language dominance in bilingualism. Journal of Psycholinguistic Research, 7, 1 (1978), 25-34.

In this experiment, subjects were exposed to a list of English and Hungarian words and were asked to indicate whether a member of a second set of words had appeared in the first list. The second set contained some new words, some old words and some old words translated into the other language. Hungarian words were recognized more accurately than English words, but old English words appearing in Hungarian produced a large number of partial responses (muscle reactions not strong enough to register a response). Hardyck argues that this evidence suggests the subjects may have been accessing English words through Hungarian, which was their native language.

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108. HARTWIG, R J
Teaching French vocabulary. French Review, 47, 4 (1974), 720-726.

A general discussion of the principles of vocabulary teaching within an audio-visual framework. Hartwig argues that vocabulary is a greater stumbling block for most students than structural problems, and suggests some ways in which new vocabulary can be introduced naturally into teaching.

109. HEILENMAN, L K
Foreign language vocabulary learning and native language processes. In: R Schultz (ed): Personalizing foreign language instruction: learning styles and teaching options: selected papers from the 1977 Joint Meeting of the Central States Conference and Ohio Modern Language Teachers Association. Skokie, Illinois: National Textbook Co, 1977.

A general discussion of the problems of vocabulary teaching. Heilenman briefly mentions some of the psychological work on the mental dictionaries of bilinguals, the value of using the mother tongue in teaching, the uses and limits of ostensive methods. She concludes that there is no single best method, that vocabulary learning is poorly understood and that learning words in context with other related words is important.

110. HENNING, G H
Remembering foreign language vocabulary: acoustic and semantic para-meters. Language Learning, 23, 2 (1973), 185-196.

Four groups of learners of English at different levels of proficiency heard a passage read aloud and were subsequently given a vocabulary test. This consisted of 60 items from the passage, each with a set of distractors, some semantically related to the correct word, others phonetically related, and a third set not related in any obvious way. The subjects were required to indentify which item had actually occurred in the passage. The results showed that less proficient subjects tended to make acoustic errors, while more proficient learners tended to make a high proportion of semantic errors. A similar study using Farsi is also briefly mentioned.

111. HEUER, H
Wortassoziationen in der Fremdsprachendidaktik. [Word associations in foreign language teaching.] In: W Hüllen (ed): Neusser Vorträge zur Fremdsprachendidaktik. Cornelsen-Velhagen & Klasing, 1973.

A large scale study of the associations produced in English by 1400 German schoolchildren. Heuer describes association tests and criticizes the use that has been made of them. The responses of the subjects are analysed in some detail, particularly in terms of the proportion of responses that account for the primary and secondary responses of the groups, and the habit strength of the principal responses. The responses are also compared with those produced by American schoolchildren of a comparable age. The author

concludes by suggesting that an association dictionary using key words which are congruent between native and foreign speakers might be produced.

112. HINOFOTIS, F B
Lexical dominance: a case study of English and Greek. In: J E Redden (ed): Proceedings of the Ist international conference on frontiers in language proficiency and dominance testing. Carbondale, Ill, (1977).

A study of two Greek children resident in the United States. Three tests were used to assess lexical dominance: (1) a picture vocabulary test, where naming of pictures was required; (2) a continuous word association test, where the number of responses produced was scored; and (3) a *restricted word association test which was scored in the same way. The adolescent boy subject scored practically identically in both languages for all tests. The younger girl subject showed strong English dominance, and there was some evidence that she had lost control of a large part of her native Greek vocabulary.

113. HOFFMAN, W L
Wie sichern wir dauerhafte und anwendungsbereite lexikalische Kenntnisse? [How can lexical knowledge be consolidated in a permanent and adaptable way?] Fremdsprachenunterricht, 16, 9 (1972), 407-442.

114. HOLDEN, L
An experiment with bilingualism. Alberta Modern Language Journal, 14, 1 (1975), 17-23.

115. HOLEC, H
Structures lexicales et enseignement du vocabulaire. [Lexical structures and vocabulary teaching.] Mouton, 1974.

This book comprises three parts. Part 1 deals with structural semantics. Holec extracts from this discussion fifteen principles which ought to affect the way vocabulary is taught and learn. Part 2 deals with lexical fields and problems encountered in attempting to define words. Part 3, 'Application pédagogique', criticises the choice of words typically taught to beginners and the way these words are introduced. Holec argues that linguistic criteria should play a greater part in the selection of items for teaching. He discusses the importance of definition, translation, contextualization and extralinguistic situations for learning new words.

116. HOLLEY, F M
The acquisition of German reading vocabulary in the advanced foreign language class. Unpublished Masters thesis, University of Texas, 1970.

117. HOLLEY, F M
The mental lexicon: vocabulary acquisition as a problem of linguistics and human memory. Proceedings of the Pacific North West Conference on Foreign Languages, 1971, 266-276.

118. HOLLEY, F M
The effects of immediate testing and new word density in German reading materials upon vocabulary learning and other selected variables. Unpublished PhD thesis, University of Texas, 1971.

Holley criticises the standard *paired-associate models of vocabulary learning. She reports an experiment which tested the idea that there might be an optimal density for unknown FL words in reading materials. This claim was not supported by the data, and Holley suggests this indicates that new words might be introduced at rates exceeding one new word per 30 known ones. Immediate testing of new vocabulary appears to enhance recall one week later.

119. HOLLEY, F M
A study of vocabulary learning in context: the effect of new word density in German reading materials. Foreign Language Annals, 6, 3 (1973), 339-347.

An experiment designed to test the idea that the density of new words in a text affects the acquisition of these words. New words were introduced to groups of German language learners at rates that varied between one new word in 150 to one in fifteen. The results showed that density did not affect learning, in that a fairly constant percentage of the new words was remembered, irrespective of density.

120. HOLLEY, F M, and J K King
Vocabulary glosses in foreign language reading material. Language Learning, 21 (1971), 213-219.

An experiment which examines the effects of different types of glosses on texts with different densities of new words. The results show that more words were learned by subjects who read material with a high level of new words, but the different types of gloss had no effect and did not interact with new word density.

121. HONEYFIELD, J
Word frequency and the importance of context in vocabulary learning. RELC Journal, 8 (1977), 35-42.

Honeyfield argues that language learners need to develop strategems for coping with unfamiliar words in the L2, since they cannot rely on knowing all the words they will meet in running text. He suggests that cloze tests,

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word-in-context exercises and context-enrichment exercises can help to induce strategies of this sort.

122. HOROWITZ, L M, and A M Gordon
Associative symmetry and second language learning. Journal of Educational Psychology, 63, 3 (1972), 287-294.

The authors argue that the goal of vocabulary learning is for the NL words to evoke the TL words quickly and effectively. In a paired associate paradigm, however, it should be easier to learn the NL words evoked by the TL stimuli. They suggest that words should be taught in this way, and that this learning should be followed by independent study of the TL words. This serves to make the TL words more available, and thus automatically enhances the availability of the NL-TL connections. Two experiments where subjects learned short lists of Japanese words broadly support this claim.

123. HUYBRECHTS, I
Zur Sicherung der Wortschatzkenntnisse im Fach Französisch. [On strengthening vocabulary knowledge in French.] Fremdsprachenunterricht, 18,1 (1974), 17-21.

124. JAKOBOVITS, L, and W E Lambert
Semantic satiation among bilinguals. Journal of Experimental Psychology, 62 (1961), 576-582.

62 bilingual English/French subjects performed a series of *semantic satiation tasks: (1) a standard test in both English and French; (2) a test in which a word was satiated and a translation was then rated on the *semantic differential; (3) a test in which after satiation an unrelated word in the other language was tested; and (4) a test in which after satiation a different word in the same language was tested. Subjects were divided into a *compound group and a *coordinate group. Results suggested that compound bilinguals show cross language satiation, while this is not the case for coordinate bilinguals.

125. JOHANSSON, S
Studies of error gravity. Native reactions to errors produced by Swedish learners of English. Gothenburg Studies in English, 44, Gothenburg, 1978.

A study of native speaker reactions to different types of errors made by learners. Chapter four contains two comparisons of the gravity of lexical and grammatical errors. Passages were constructed containing typical errors of each type, and these were submitted to native speakers for assessment. Passages containing lexical errors were marked significantly less favourably than parallel texts containing only grammatical errors.

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126. JOHNSON, D B
Computer frequency control of vocabulary in language learning reading materials. Instructional Science, 1, 1 (1972), 121-131.

Johnson describes the frequency characteristics of vocabulary in texts, and argues that it is unreasonable to expect learners to recognize low frequency words which may occur only rarely in the texts they read. He suggests that a target vocabulary can be established, consisting of some 5000 words, and that words outside this target should be given marginal glossings in texts, as a way of helping students to work out which words they need to learn.

127. JONES, B F, and J W Hall
School applications of the keyword method by 8th graders. Paper presented to the annual meeting of the American Psychological Association, Toronto, 1978.

128. JONES, R M
Situational vocabulary. IRAL, IV, 3 (1966), 165-173

Jones discusses the idea that vocabulary should be taught in 'situations', and argues that we need a better understanding of what 'situation' means. He distinguishes two main types, open and closed situations, and within the latter, positioned and unpositioned situations. He suggests that a progression from closed (positioned) to closed (unpositioned) to open situations might have some pedagogical advantages.

129. JUDD, E L
Vocabulary teaching and TESOL: a need for reevaluation of existing assumptions. TESOL Quarterly, 12, 1 (1978), 71-76.

Judd criticises the assumption that syntax is more important than vocabulary for the learner of foreign languages, and argues for a massive input of relevant vocabulary from the very earliest stages of learning a language.

130. KARLIN, A L
Zur Frage der Bekämpfung der externen Interferenz auf lexischer Ebene. [On the problem of combatting external interference on the lexical level.] Deutsch als Fremdsprache, 10, 5 (1973), 309-315.

131. KELLERMAN, E
Giving learners a break: native language intuitions as a source of predictions about transferability. Working Papers in Bilingualism, 15, (1978), 59-92.

A series of experiments investigating transfer of native language items into the target language. Two experiments using a rating task and a card sorting

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task established a set of core meanings for the English word BREAK as used in a set of idiomatic sentences. Native Dutch speakers were then asked whether Dutch idioms using BREKEN would transfer into English. The results suggest that learners tend to transfer core meanings but avoid transferring more peripheral meanings. Similar results were found using Dutch and German.

132. KERSHNER, J, and A Jeng
Dual functional hemispheric assymetry in visual perception: effects of ocular dominance and postexposural processes. Neuropsychologia, 10 (1972), 437-445.

English words, Chinese words and geometrical shapes were presented *tachistoscopically to 40 Chinese/English bilinguals. Words were presented to the left or the right *visual hemifield or to both simultaneously. The results showed: (a) with simultaneous presentation of two words, both English and Chinese were better recognized in the right visual hemifield; (b) the same results hold for words presented singly in both English and Chinese; and (c) there was some evidence that subjects with right eye dominance scored better than subjects whose left eye was dominant.

133. KINTSCH, W
Recognition memory in bilingual subjects. Journal of Verbal Learning and Verbal Behavior, 9 (1970), 405-409.

Nineteen English/German bilinguals were given a continuous *recognition memory test in which items were presented twice in either the same language or translated. Subjects were required to respond in a variety of ways to repeated items. The results show that both language coding and semantic coding can be effective in this task, and there were only minimal differences associated with the different response conditions. The results are analyzed in terms of signal detection theory.

134. KINTSCH, W, and E Kintsch
Interlingual interference and memory process. Journal of Verbal Learning and Verbal Behavior, 8 (1969), 16-19.

An account of two experiments. In experiment 1, eight bilingual English/German subjects learned lists of paired associates in which the digits one to eight were paired English and German adjectives. In control lists, English and German words were randomly paired with the digits. In the experimental lists, the English words used were translations of the German items. The results showed that experimental lists were harder to learn than the control lists. The authors interpret this as showing that translated word pairs produce poor performance in a task that is principally making use of *secondary memory. In experiment 2, subjects learned lists of adjectives in English and German. Some of these lists contained translation equivalents in

both languages. Each list was presented once, and at the end of the list a probe word was presented. The subjects' task was then to produce the next word in the list. This method was repeated until each position had been probed twice. There was no difference between control lists and experimental lists using this method. Kintsch and Kintsch conclude that translated words do not interfere with each other in *primary memory tasks.

135. KINZEL, P
Lexical and grammatical interference in the speech of a bilingual child.
Seattle: University of Washington Press, 1964.

A study of a French/English bilingual child between the ages of 6.3 and 7.2 years. The data is principally based on diary records. One chapter deals with lexical interference. Examples seem to fall into two types: (i) loan words; and (ii) loan shifts; instances of each type are extensively discussed.

136. KOCH, G
Intensive Wortschatzarbeit ist eine Voraussetzung für bessere Hör- und Sprechleistungen. [Intensive work on vocabulary is a prerequisite for better performance in hearing and speaking.] Fremdsprachenunterricht, 19, 2 (1975), 88-94.

137. KOLERS, P A
Interlingual word associations. Journal of Verbal Learning and Verbal Behavior. 2 (1963), 291-300.

Bilingual English/German, English/Spanish and English/Thai subjects were given a word association task in which they responded to 55 English words and their NL equivalents in both English and their NL. Results showed that only about one third of the responses in one language translated those in the other. Of these, about two thirds were lexically similar in the interlingual tests. The proportions were higher with concrete nouns than with abstract words. Roughly parallel patterns of responses were found in English.

138. KOLERS, P A
Bilingualism and bicodalism. Language and Speech, 8 (1965), 122-126.

Bilingual English/French subjects were presented with long lists of words for immediate recall. Some lists were printed in red or black, and contained only English or French words. 'Mixed' lists contained words in both English and French, written in black or red. In 'doubled' lists, each word appeared both in black and in red print, and in English and French. Results showed that when words were arbitrarily coded by colour, recall was only half as good as in the linguistically mixed lists. Kolers argues that this shows colour is not a natural coding dimension for words and that bilinguals can accomodate to verbal systems with no apparent loss of efficiency.

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139. KOLERS, P A
Reading and talking bilingually. American Journal of Psychology, 79 (1966), 357-376.

A report of a series of experiments using English, French, 'alternating' and 'mixed' language passages for reading. The alternating passages used both English and French sentences alternately. The mixed passages consisted of English passages containing a high proportion of French lexical items, or French passages with a large proportion of English lexical items replacing the original French ones. Subjects were tested for comprehension, and for their ability to read aloud and to précis this material, and to speak freely in 'mixed' style. Results show that comprehension was unaffected by the form of the passages. Performance on other tasks was twenty to forty per cent worse with mixed material than with alternating or unilingual passages. Kolers interprets this as showing that encoding and decoding language are not symmetrical operations.

140. KOLERS, P A
Bilingualism and information processing. Scientific American, 218 (1968), 78-90.

An informal account of the experiments reported more fully in the three previous entries.

141. KOLERS, P A, and E Gonzales
Memory for words, synonyms and translations. Journal of Experimental Psychology: Human Learning and Memory, 6 (1980), 53-65.

An account of three experiments. Experiment 1 is a monolingual English experiment which showed that occurrences of synonyms in a list aids recall but not as much as a straight repetition of an item. In experiment 2, twenty bilingual English/Spanish subjects saw long lists of words in English and Spanish in which some items were repeated, and others were repeated in the second language in synonym form, once, twice or three times. Their task was to write down all they could remember from each list. The results show that multiple translations affect bilingual recall in the same way as exact repetitions in the same language do. In experiment 3, the same lists were presented to twelve Spanish/English bilinguals. After each list they were given a longer printed list and asked to mark items which had occurred in the experimental list. The results seem to suggest that exact repetition and repeated translations have broadly similar effects. Kolers argues that learning an L2 may produce looser connections between words than is the case in an L1, and he argues against the traditional interpretation of some experiments on bilingual memory.

142. LADD, M
Audio-visual vocabulary building. Proceedings of the Pacific North West Conference on Foreign Languages, XXVIII, 2 (1977), 88-89.

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Ladd argues that presenting pictures on slides together with a tape of a voice naming the object portrayed has some advantages over other methods of vocabulary learning. The paced presentation seems to increase motivation, and the ear is exposed only to correct pronunciations.

143. LADO, R, B Baldwin, and F Lobo
Massive vocabulary expansion in foreign language beyond the basic course: the effects of stimuli, timing and order of presentation. United States Office of Education. Bureau of Research. Project 5.1095, 1967. (ERIC ED 103 046.)

A report of a series of nine experiments in which subjects learned lists of 100 Spanish words under varying conditions of presentation combining listening and reading. In experiment 1, simultaneous reading cum listening proved superior to other methods. In experiment 2, best performance was obtained from the condition where subjects saw a slide of the TL word and its meaning for three seconds and this was followed by three repetitions of the TL word on a tape. In experiment 3, the best method of experiment 2 was used with variations on how the meaning of the TL words was presented. Best results were obtained from slides with the meaning of the TL word and a supporting picture. In experiment 4, listening to the meaning of the TL word at the same time as watching a picture proved marginally superior to other methods. Experiment 5 compared the best methods from experiments 3 and 4. Reading proved more effective than listening, but not all subjects fitted this pattern. Experiment 7 showed that presenting the meaning of a TL word twice was apparently more effective than more sophisticated contexts. Experiment 6 tested various combinations of reading in the TL and the NL combined with pictures. Experiment 8 studied the effects of mnemonic techniques and coherent textual contexts. Experiment 9 looked at the effects of different types of response made by subjects. No significant differences were recorded in these last three experiments.

144. LADO, R, F Aid, and M Kruvant
Massive vocabulary expansion phase two: the effect of oral and orthographic stimuli on the memorization and pronunciation of basic dialogs. Washington DC: Institute of International Studies (DHEW/OE), 1970.

A report of a study in which beginning learners of Spanish learned a series of dialogues under various conditions of presentation. Retention of the dialogue was scored in a number of ways, mostly relating to the number of words reproduced and the accuracy of their pronunciation. Lado interprets this data in terms of the findings from Phase One of this study (Lado et al. 1967) in which words in isolation were tested.

145. LAMBERT, W E
Measurement of linguistic dominance of bilinguals. Journal of Abnormal and Social Psychology, 50, 2 (1955), 197-200.

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Two groups of advanced learners of French and a group of balanced bilingual English/French subjects were given a reaction time task in which they responded to simple commands in either English or French by pressing appropriate buttons. The results showed that the difference between reaction times for French and English instructions was related to the relative level of proficiency in the two languages. Proficiency was assessed partly on a group standard basis, but also by counting the number of associations that each subject produced in 45 seconds to stimuli in English and French.

146. LAMBERT, W E
Developmental aspects of second language acquisition. Journal of Social Psychology, 43 (1956), 83-104.

A series of experiments investigating the linguistic behaviour of three groups of subjects: undergraduates and graduates in French and native French speakers. Using *continuous associations to French and English words, it was found that (1) stimulus words in French elicited more words in response as proficiency in French increased; (2) given a choice of languages to respond in, subjects respond in proportion to the relative strength of their languages; (3) greater proficiency in a language produces response patterns that are closer to those of native speakers; and (4) more proficient subjects respond with rarer words. *Stereotypy and form class of responses and pronunciation were also investigated, but failed to produce significant differences that were related to proficiency. Lambert suggests that the results should be seen on two dimensions - a factor representing vocabulary knowledge and a factor corresponding to cultural awareness.

147. LAMBERT, W E
Behavioral evidence for contrasting forms of bilingualism. Georgetown University Monograph Series in Language and Linguistics, 14 (1963), 73-80.

An informal account of Lambert's work on the *compound/coordinate bilingualism idea. Lambert's work with Jakobovits (1962), Fillenbaum (1959), Havelka and Crosby (1958) and Olton (1960) is discussed.

148. LAMBERT, W E
Psychological studies of the interdependencies of the bilingual's two languages. In: J Puhvel (ed): Substance and structure of language: lectures delivered before the Linguistic Institute of the Linguistic Society of America, 1966. University of California Press, 1969.

An informal account of a series of experiments on the linguistic performance of bilinguals. (For details see other entries under LAMBERT.) These experiments include Lambert's work on word associations, semantic rating scales, aphasia in bilinguals and *semantic satiation. Two experiments - immediate recall of word lists and a *Stroop test - are reported in detail.

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149. LAMBERT, W E, J Havelka, and R C Gardner
Linguistic manifestations of bilingualism. <u>American Journal of Psychology,</u>
72 (1959), 77-82.

Differences in the linguistic behaviour in English and French of bilingual
subjects were tested in a series of experimental tasks. Speed of word
recognition, facility in word completion, facility in word detection, facility in
reading and verbal *response set all produced significant differences and
these differences correlated with a test of bilingual dominance. (cf Lambert
1955.) Facility in translation does not appear to be related to dominance.

150. LAMBERT, W E, M Ignatow, and M Krauthamer
Bilingual organization in free recall. <u>Journal of Verbal Learning and Verbal</u>
<u>Behavior,</u> 7 (1968), 207-214.

An account of two experiments, one using Russian/English, the other
French/English bilinguals. Subjects were given ten forty-item word lists
which were either mixed by language or consistently in one language,
*categorized or not, and with the categories corresponding to the languages
or not in the bilingual lists. Subjects were required to recall as many items
as possible from each list. Results showed that (1) categorized lists produced
higher recall than uncategorized ones; (2) categorized lists in two languages
were recalled better than monolingual uncategorized ones, and this
improvement was not lost when the categories and languages used were in
conflict.

151. LAMBERT, W E, R C Gardner, H C Barik, and K Tunstall
Attitudinal and cognitive aspects of intensive study of a second language.
<u>Journal of Abnormal and Social Psychology,</u> 66 (1963), 358-368.

As part of a larger study of the effects of intensive summer courses on
language acquisition, the authors took the *semantic differential ratings of
seven English and seven French words at the beginning and the end of a
six-week course. Results showed that there was a degree of rapprochement
between the ratings in the two languages, with changes occuring in both L1
and L2 ratings. There was some evidence that this was greater in more
proficient students, and that maintenance of semantic distinctiveness led to
poor achievement.

152. LAMBERT W E, and N Moore
Word association responses: comparisons of American and French
monolinguals with Canadian monolinguals and bilinguals. <u>Journal of</u>
<u>Personality and Social Psychology,</u> 60 (1966), 376-83.

Lambert and Moore compare the word associations produced by a group of
bilingual French Canadians and two groups of monolingual Canadians with the
previously published *norms for American and French subjects, using a

translation of the Kent-Rosanoff List. Results showed that (1) in general, English responses were more *stereotyped than the French ones; (2) there was a high degree of overlap in the responses of English Canadians and Americans (78 per cent), but that the other possible pairings showed a very low degree of overlap; and (3) American and French monolingual groups were highly distinct in their responses, and that English Canadians and French Canadians were also relatively dissimilar. The bilingual group makes different responses in each of its two languages, but these responses are quite similar to those of the appropriate monolingual control group.

153. LAMBERT, W E, and C Rawlings
Bilingual processing of mixed language associative networks. <u>Journal of Verbal Learning and Verbal Behavior</u>, 8 (1969), 604-609.

Twenty English/French bilinguals were placed into *compound and *co-ordinate groups and given a *key concepts test with stimuli in English, in French, or in both languages mixed. The results showed that compound bilinguals score better than coordinates on the mixed language lists, but this difference is reduced if the items from each language are blocked in sublists.

154. LA VALVA, M P, and V Röllecke-Maraghini
Der Schülerwortschatz und seine Verfügbarkeit im Fremdsprachenunterricht. [The student's lexicon and its availability in foreign language instruction.] <u>Bielefelder Beiträge zur Sprachlehrforschung</u>, 5 (1975), 21-59.

155. LEHMANN, V
Einige linguistische und methodische-didaktische Anmerkungen zum potentiellen Wortschatz. [Some linguistic and methodological comments on passive vocabulary.] <u>Praxis des Neusprachlichen Unterrichts</u>, 23, 4 (1976), 429-432.

156. LEREA, L, and R LaPorta
Vocabulary and pronunciation acquisition among bilinguals and monolinguais. <u>Language and Speech</u>, 14 (1971), 293-300.

An experiment comparing monolinguals and *coordinate or *compound bilinguals (from a variety of language backgrounds) in their ability to learn Hebrew words containing [x]. Monolinguals learned the words more quickly when presentation was visual, but the compound bilinguals performed better when the presentation was auditory.

157. LEVENSTON, E A
Second language vocabulary acquisition: issues and problems. <u>The Interlanguage Studies Bulletin</u>, 4, 2 (1979), 147-160.

Levenston draws attention to the very great neglect of work on vocabulary acquisition. He lists five fundamental issues which urgently need to be investigated: (a) how far are the processes whereby L2 vocabulary is acquired parallel with those by which L1 vocabulary is acquired? (b) what personality characteristics, if any, affect learning and use of vocabulary? (c) by what stages, influenced by what factors, does the lexical stock of a L2 learner grow and expand? (d) what is the relationship between active/productive and passive/receptive knowledge of vocabulary? and (e) what kinds of research in lexical acquisition are required? These questions are discussed in some detail, and the article concludes with a further eight questions which arose in discussion of the paper at its original presentation.

158. LEVENSTON, E A, and S Blum
Aspects of lexical simplification in the speech and writing of advanced adult learners. In: S P Corder, & E Roulet (ed): The notions of simplifications, interlanguages and pidgins and their relation to second language pedagogy: actes du 5ème colloque de linguistique appliquée de Neuchâtel. Geneva: Droz, 1977, 51-71.

The first part of this paper discusses the idea of lexical simplification and argues that it is probably a universal feature of L2 learning. The authors suggest that the effects of sequence and intensity of acquisition on simplification, avoidance motivated by voids, by morphology and by phonology, and the communicative effects on native speakers of simplification by learners, would all be worthwhile looking into. Part II describes an experiment using a sentence completion task in Hebrew. Compared to native speakers, learners: (a) tend to generalize inappropriately; (b) use words of more general meaning; and (c) failed to respond to the constraints of register and collocation.

159. LEVENSTON, E A, and S Blum
Discourse-completion as a technique for studying lexical features of interlanguage. Working Papers in Bilingualism, 15 (1978), 2-13.

The authors give a brief critical account of the methods which have been used to study lexical acquisition in an L2. As an alternative, they propose a discourse-completion test, in which learners are required to fill in gaps in a text which have been constructed so that only one item can satisfactorily appear in the blank. They claim that this method allows specific hypotheses about lexical avoidance to be tested, and makes it possible to compare different populations. Discourse-completion tests are basically easy to administer and analyse, but some difficulties in discourse design and analysis of results are discussed.

160. LEVIN, J R
The mnemonic 80's: keywords in the classroom. Madison: Wisconsin Research and Development Center for Individualised Schooling: Theoretical paper 26, 1980.

161. LEVIN, J R, M Pressley, C B McCormick, C B Miller, and L K Shriberg
Assessing the classroom potential of the key-word method. Journal of Educational Psychology, 71 (1979), 583-594.

A series of experiments designed to test Fuentes' claim that the *keyword method is not suitable for classroom use. The experiments broadly confirm Fuentes' argument, but two experiments with young children and carefully controlled presentation did produce an advantage for the keyword method.

162. LIEPMANN, D, and J Saegert
Language tagging in bilingual free recall. Journal of Experimental Psychology, 103 (1974), 1137-1141.

An experiment in which subjects were required to remember lists of words which were either all in English, or contained both English and Arabic words. There was a high degree of overlap from one list to the other so that recall scores fall with successive lists. Bilingual lists produced greater interference than unilingual lists, but this difference disappears when a correction for guessing is made. The authors argue that this supports the view that items are stored independently of language of input.

163. LINNARUD, M
Lexis in free production: an analysis of the lexical texture of Swedish students written work. Swedish-English Contrastive Studies Report No. 6. 1975. Lund.

36 essays in English produced by a group of native Swedish speakers were analysed for length, *lexical density, *lexical variation, and error types. The results showed that the lexical density of the essays was significantly lower than that expected of native speakers. Swedes also had markedly less lexical variation than native speakers of English. The error types produced are briefly discussed.

164. LINNARUD, M
Swedish-English contrastive studies and a study of lexical density. Paper presented at the IVth International Congress of Applied Linguistics, Stuttgart, 1975.

165. LINNARUD, M
A performance analysis of Swedish students' English. Symposium report, Hanasaari, 1979.

166. LIPPMAN, M Z, and M W Shanahan
Pictorial facilitation of paired-associate learning: implications for vocabulary training. Journal of Educational Psychology, 64, 2 (1973), 216-222.

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Two experiments on the learning of *paralog word lists by children. Experiment I compares word pairs printed normally, words printed with pictures representing their meaning, and words accentuated by including their meanings visually in their written form. Condition C where word and picture interact produces the best learning and this holds up over short periods of time. Experiment 2 extended this comparison to include verbal context and picture interaction. Interaction seems particularly effective for young children.

167. LOBO, F
A 10,000 Spanish word vocabulary expanded from 3000 English cognates. Unpublished PhD thesis, Georgetown University, 1966.

(Lobo argues that much has been made in the past of the differences between languages, and the effects these differences have on learning. He suggests that the importance of these differences may have been overplayed, and argues that presenting similarities before presenting differences, particularly at the lexical level, can be advantageous. The dissertation provides, for a native speaker of English learning Spanish, a 10,000 word vocabulary expanded from 3,000 English cognates.) Dissertation Abstracts: 3030-A 66.12, 825.

168. LÖFGREN, H
Försök med en- oc' trasprákiga ordlister. [Research with monolingual and bilingual glossaries.] Malmö: School of Education Report no. 29, 1966.

(Compares the learning of German words by Swedish students using either bilingual or monolingual glossaries. Students who use bilingual glossaries learn new words much better than those using monolingual glossaries, and this difference holds up over time.) Oskarsson, 1975.

169. LÖFGREN, H
Försök med två olika typer av ordlister. [Research with two different types of glossary.] Malmö: School of Education, 1968.

(An experiment comparing Swedish children's learning of German words either through contextual word lists or native language translations (i.e. bilingual word lists). Bilingual word lists yielded significantly better learning. Students using this method were better able to produce the words, were better at spelling and better able to use the words in sentences of their own.) Oskarsson, 1975.

170. LOPEZ, M, R Hicks, and R Young
Retroactive inhibition* in a bilingual A-B, A-B[1] paradigm. Journal of Experimental Psychology, 103 (1974), 85-90.

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The subjects in this experiment learned a list of *paired associates with items in English or Spanish. They next learned a similar set of paired associates consisting of the same stimulus words with either: (a) the same responses translated into the other language; or (b) the same responses but paired with different stimuli; or (c) the same responses, paired differently and translated into the other language; or (d) a completely unrelated set of stimuli and responses. Condition (a) produced the best results, and (c) the worst. The authors interpret this as supporting an interdependence model of the bilingual lexicon.

171. LOPEZ, M, and R K Young
The linguistic interdependence of bilinguals. Journal of Experimental Psychology, 102 (1974), 981-983.

An experiment testing immediate *recall of lists of words in either English or Spanish by Mexican Americans. Subjects find this task easier if successive lists contain translations of items previously presented in the other language, than if they contain unrelated items. The authors see this as supporting the view that the bilingual's word stores are interdependent.

172. LORD, R
Learning vocabulary. IRAL, 12, 3 (1974), 239-247.

Lord criticises applied linguists for concentrating on the development of syntax at the expense of vocabulary learning. He discusses some experimental and observational studies of vocabulary development in children learning their first language - particularly Leopold's work (1948) on semantic learning in infant language. He concludes that study of L1 semantic development should throw light on the acquisition of vocabulary in general, though the relevance of this work for L2 learning is questionable.

173. LUDWIG, J M
Vocabulary acquisition and use by learners of French. Unpublished PhD thesis, University of Michigan, 1977.

This thesis contains two principal experimental chapters, both based on the performance of 42 university students who were learning French. Chapter III contains an analysis of the lexical errors made by these students in a piece of written French and a translation from French to English. Each phrase of the translation is discussed in detail, and a taxonomy of the errors is provided. Measures of error gravity, amount of information conveyed and level of interference from L1 are also discussed. Chapter IV gives details of a *restricted associations task for sixteen French words. Subjects were asked to find superordinates, contrasts, appropriate verbs, appropriate adjectives, and parts for each stimulus. The principal finding of this work was that lexical intrusions related to L1 are present even with advanced learners, though their frequency declines a little. The total range of responses was

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high, but did not appear to be related to proficiency, and no obvious relationship between proficiency and the probability of a subject producing a *primary response was recorded.

174. MACAULAY, R K S
Vocabulary problems for Spanish learners. English Language Teaching, 20, 2 (1966), 131-136.

Macaulay distinguishes eight different situations which cause vocabulary problems for learners: (a) cognates with different reference; (b) the range of a NL item is less than that of its TL cognate; (c) the range of a TL item is less than that of its NL cognate; (d) partial confusion caused by cognates with overlapping reference; (e) confusion caused by lack of a common NL equivalent for a TL item; (f) confusion caused by lack of a common TL equivalent for an NL item; (g) structural change associated with TL items; and (h) confusion caused by inappropriate transfer of meaning from an NL word to its most common TL equivalent. These problems are illustrated with examples from English and Spanish.

175. MACLEOD, C M
Bilingual episodic memory: acquisition and forgetting. Journal of Verbal Learning and Verbal Behavior, 15 (1976), 347-364.

An account of two experiments with bilingual English/French subjects, some childhood bilinguals, the others with a minimum of two years university French. Experiment 1 used the *savings method. Mixed lists of French and English words were learned initially, and in the subsequent learning lists, words in the original list were either the same as the first, a translation of the first, or unrelated items in one of the two languages. Significant savings are found for meaning changes, but not for language changes. Experiment 2 required subjects to classify words either according to language or according to a semantic category. Subsequently they were given an unexpected recall and recognition test. Greatest *incidental learning was produced when the subjects had classified the items by language.

176. MACNAMARA, J
The effects of instruction in a weaker language. Journal of Social Issues, 23 (1967), 121-135.

An informal account of a series of studies on reading and problem-solving in a second language, principally in English and French, but with some discussion of English and Irish, and English and Afrikaans. A fairly detailed account of work which involves word perception in English and French is given. This work is also reported in Macnamara (1970).

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177. MACNAMARA, J
The linguistic independence of bilinguals. Journal of Verbal Learning and Verbal Behavior, 6 (1967), 729-736.

An experiment in which several different types of English/Irish bilinguals were compared on word naming, *language switching and translation tasks in Irish and English. Significant differences between the groups were recorded, and these were related to the degree of proficiency in the two languages. The switching tasks produced much bigger differences.

178. MACNAMARA, J
Comparative studies of reading and problem-solving in two languages. TESOL Quarterly, 4, 2 (1970), 107-116.

An informal account of a series of experiments investigating the performance of bilinguals on reading tasks and simple problem-solving tasks. The main findings of interest are: (a) that single words in English and French had equal recognition thresholds, although French was the subjects' weaker language; (b) the time required to translate a word into the other language was significantly greater when the word was presented in French than when it was presented in English; (c) subjects took longer to pronounce individual French words than the English ones.

179. MACNAMARA, J, M Krauthamer, and M Bolgar
Language switching in bilinguals as a function of stimulus and response uncertainty. Journal of Experimental Psychology, 78 (1968), 208-215.

An account of an experiment in which bilingual French/English speakers were required to name numbers or to add one to a displayed number. This task was performed in English or French, or with various patterns of switching between the two languages. The latency of the responses was measured. Results suggest that switching languages takes an observable amount of time, and that this time is reduced if regular patterns of switching allow anticipation. Switching times seem to be a function of response uncertainty.

180. MACNAMARA, J, and S Kushnir
Linguistic independence of bilinguals: the input switch. Journal of Verbal Learning and Verbal Behavior, 10 (1971), 480-487.

An account of four experiments in English and French using childhood bilingual subjects and native English speakers with more than nine years of school French. These experiments compare performance on monolingual passages and passages made up of mixed sentences in both languages. Mixing languages reduces performance on reading and assigning truth values. The fall-off is greatest with more frequent switches, each switch adding about 0.2 seconds to reaction time.

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181. MARTIN, A
Teaching academic vocabulary to foreign graduate students. TESOL Quarterly, 10, 1 (1976), 91-98.

Martin argues that foreign graduate students in American universities need to acquire special technical and academic vocabulary. This vocabulary falls into three parts: (i) words dealing with the research process; (ii) words dealing with analysis; and (iii) words with an evaluative function. The article discusses some ways of teaching each of these three types of vocabulary.

182. MARTIN, H
Cognates and false friends. Proceedings of the Pacific NorthWest Council for Foreign Languages, XXIX, 2 (1978), 75-82.

This article comprises a brief discussion of cognates and their usefulness in language teaching, together with a list of some 150 false friends in English and German.

183. MARTON, W
Foreign language vocabulary learning as problem number one of language teaching at the advanced level. The Interlanguage Studies Bulletin, 2, 1 (1977), 33-57.

Marton discusses the neglect that has characterized the study of vocabulary, despite its obvious importance, especially to advanced learners. He argues that individual vocabulary items are not very much of a problem, in fact, but that at the advanced level considerable difficulty is caused to learners by idioms and figurative use of language.

184. MASSAD, C, K Yamamoto, and O Davis
Stimulus modes and language media: a study of bilinguals. Psychology in the Schools, 7 (1970), 38-42.

Eleven English/Spanish bilinguals produced single word association responses to line-drawings and words in English and Spanish. The results were classified as 'sense-impression' responses or not, and the number of such responses evoked was observed. More sense-impression responses were evoked by words than by pictures, and more were recorded when the response language 'as Spanish than when it was English. These differences were not significant, however.

185. McCORMACK, P D
Bilingual linguistic memory: independence or interdependence: two stores or one? In: S T Carey (ed): Bilingualism, biculturalism and education. Edmonton: University of Alberta, 1974.

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A brief review of some experimental studies relevant to the independence issue. The five papers summarized are Goggin and Wickens (1971), Dillon (1973), Tulving and Colotla (1970), Saegert et al (1973) and Glanzer and Duarte (1971).

186. McCORMACK, P D
Language as an attribute of memory. Revue Canadienne de Psychologie, 30, 4 (1976), 238-248.

187. McCORMACK, P D
Bilingual linguistic memory: the independence/interdependence issue revisited. In: P A Hornby (ed): Bilingualism: psychological, social and educational implications. Academic Press, 1977, 57-66.

McCormack reviews a large body of experimental studies that have attempted to test the claims that bilingual speakers have two separate lexicons, or a single integrated one. These experiments are principally concerned with *short term memory for lists of words in two or more languages. He concludes that the evidence mainly supports the single store position, but not entirely so.

188. MEARA, P M
Schizophrenic symptoms in foreign language learners. UEA Papers in Linguistics, 7 (1978), 22-49.

Meara draws attention to some similarities between the abnormal language behaviour of schizophrenics and the behaviour of language learners when they perform in their second language. These similarities include peculiar word associations, low *type-token ratios, speech that is unpredictable and a lack of sensitivity to syntactic structure.

189. MEARA, P M
Learners' word associations in French. The Interlanguage Studies Bulletin, 3, 2 (1978), 192-211.

This paper discusses the associations made by a group of 75 English learners of French to the 100 words of the Kent-Rossnoff list. The responses show very low *stereotypy and a large number of *clang associations. Most of the responses that appear to be native-like can be accounted for in terms of translations of English primary responses.

190. MEARA, P M
Vocabulary acquisition: a neglected aspect of language learning. Language Teaching and Linguistics: Abstracts, 13, 4 (1980), 221-246.

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This article reviews recent trends in the study of vocabulary acquisition and vocabulary teaching. There is a short section on vocabulary control, a critical account of the recent work on mnemonics, and detailed sections on bilingual recall and semantic tests, especially word associations of bilingual speakers. The article concludes with a set of questions that the author feels would be worthwhile investigating in some detail. The bibliography comprises 150 entries, with a slightly wider coverage than this bibliography.

191. MEARA, P M
Syntactic structure and its effects on performance in a second language. Unpublished D Phil thesis, University of York, 1981.

This thesis describes four sets of experiments comparing the linguistic behaviour of native speakers and learners. The experiments concern: (i) memory for *statistical approximations; (ii) *click placement; (iii) *recognition thresholds for phrases; and (iv) *probe latencies. These are all syntactic effects, but it is argued that the differences between learners and native speakers can be better described in terms of a basic word-handling deficiency in learners.

192. MEDINA TELLO, R
El concepto sociolinguistico de 'dificultad' y la ensenanza del vocabulario de un idioma extranjero. [The sociolinguistic concept of 'difficulty' in teaching the vocabulary of a foreign language.] Lenguaje y Ciencias, 13, 1 (1973), 31-40.

Medina Tello discusses five factors which contribute to the difficulty of a word in a foreign language: (1) intrinsic difficulty - i.e. complexity on the semantic or phonetic level; (2) the way a word interacts with words that have already been learned; (3) interactions within a group of words all learned at the same time; (4) interactions between groups of words learned one after the other; and (5) the effects of repetition.

193. MESKO, S
O semantizacii leksiki v prepodavanii inostrannyx jazykov. [On the semanticization of the lexicon in the teaching of foreign languages.] Russkii Yazyk za Rubezhom, 3 (1974), 68-71.

194. MEYER, D E, and M G Ruddy
Bilingual word recognition: organization and retrieval of alternative lexical codes. Paper given at the Annual Meeting of the Eastern Psychological Association, Philadelphia, 1974.

(Meyer and Ruddy compared the relative speeds with which German/English balanced bilinguals could classify pairs of letter-strings as words and non-words. Letter-string pairs were either semantically associated or unassociated words from the same or opposite languages, or one or both were

non-words. They found that associated word pairs from the same language were classified fastest, and semantically related pairs from different languages were classified more rapidly than any semantically unrelated pairs.) (Ehri and Ryan 1980.)

195. MICHEL, J, and P Patin
Some techniques for teaching vocabulary. ERIC Focus Reports on the Teaching of Foreign Languages No. 27, 1972.

A small pamphlet which discusses: (a) what it means to know a word; (b) vocabulary selection; (c) teaching methods for vocabulary at an elementary level; and (d) vocabulary expansion at advanced levels.

196. MILLER, G E, J R Levin, and M Pressley
An adaptation of the keyword method to children's learning of verbs. Journal of Mental Imagery, 4 (1980), 57-61.

197. MISHIMA, T
An experiment comparing five modalities of conveying meaning for the teaching of foreign language vocabulary. Unpublished PhD thesis, Georgetown, 1967.

Five methods of learning Japanese words are compared. These provided: (a) a translation into the NL; (b) a definition in the NL; (c) a TL context; (d) a synonym in the TL; or (e) a synonym in the NL. 100 words were presented by means of slides in each condition to a total of 50 learners. The results showed that information in the TL was less effective than information in the NL.

198. MYINTSU
The analysis of lexical errors. Unpublished M Litt thesis, Edinburgh University, 1971.

The main section of this thesis is a detailed analysis of the errors produced by Burmese learners of English. Ten lexical sets are studied: speak, say, tell; lend, hire borrow; rent, let; take, keep, bring; give, pay; alone, lonely, only; pay, salary, allowance, wages; consist, contain, take part in; difficult, hard, hardly, with difficulty; group, crowd, bundle, bunch; learn, study.

The errors produced in a translation test and a sentence production test are discussed in terms of a contrastive semantics of English and Burmese.

199. NATION, I S P
Teaching vocabulary in difficult circumstances. English Language Teaching

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Journal, 30, 1 (1975), 21-24.

Nation outlines a series of individualised exercises that can be used in situations where text books are not available, where absenteeism is high and where there is a wide range of proficiency in a class.

200. NEUFELD, G
The bilingual's lexical store. Working Papers in Bilingualism, 1 (1973), 35-65.

An account of four experiments in which mixed language material was presented to 40 balanced English/French bilinguals in order to test the idea that bilinguals have a *language switch mechanism. In experiment 1, true/false judgements of monolingual and mixed language sentences were required. No evidence of switching time was found. In experiment 2 monolingual and mixed passages were read aloud. No switching time was recorded for L1 texts with L2 substitutions, but L2 texts with L1 substitutions took longer to read. Experiment 3 was an oral replication of experiment 1, and an effect ascribed to switching time was observed. In experiment 4, single word substitutions at different syntactic positions were introduced into monolingual material. No effect of switching time was recorded. Neufeld concludes: (1) if input switching does occur, it is primarily at the phonological and syntactic levels, and does not occur with single words; (2) the switch mechanism seems to operate mainly at the output stages; and (3) bilinguals possess only one basic internal dictionary.

201. NIEDZIELSKI, H, and R Hadlich
Contrastive and non-contrastive approaches to the teaching of target language lexical pairs. Recall, 2, 3 (1972), 70-87.

An experiment comparing contrastive and non-contrastive programs for teaching lexical pairs such as savoir-connaître in French, or dejar-salir in Spanish. No advantage for the contrastive program was found, but a combination of contrastive and non-contrastive teaching gave better results than either method on its own.

202. NILSEN, D L F
Contrastive semantic vocabulary instruction. TESOL Quarterly, 10, 1 (1976), 99-104.

Nilsen argues that, notwithstanding the effectiveness of teaching vocabulary in context, vocabulary out of context can also be a useful technique. He suggests that a paradigmatic contrastive approach which deals with limited lexical fields would be useful, and illustrates this from the fields of clothing in Spanish.

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203. NOTT, C R, and W E Lambert
Free recall of bilinguals. Journal of Verbal Learning and Verbal Behavior, 7 (1968), 1065-1071.

Nott and Lambert report an experiment in which subjects recall lists of words forty items long. Subjects recall more words in their dominant language, but have considerable difficulty with *categorized lists in their weaker language or in bilingual lists. Blocking the categories produces improved scores, but still leaves scores in the weaker language depressed. The authors argue on the basis of error patterns, that language tagging is a serious problem in categorized lists, and this reduces recall scores on bilingual lists.

204. OBANYA, P A I
Lexical and structural error in the written French of Nigerian pupils. Audio-Visual Language Journal, 12 (1974), 29-32.

A brief account of lexical (and other) errors found in the written work of native Yoruba speakers learning French. Most of the errors fall under three headings: (a) confusion of similar sounding words; (b) English words used in place of French ones; and (c) words used in the wrong context.

205. OLTON, R M
Semantic generalization between languages. Unpublished MA thesis, McGill University, 1960.

('Bilinguals learned a mixed list of English and French words and were later presented with a longer list and asked to pick out the words memorized from among new words and translation equivalents of the old words learned on the original list. (Both *compound and *coordinate) bilinguals showed cross language generalization on this test.')

206. ORBACH, J
Visual fields as a function of cerebral dominance and reading habits. Neuropsychologia, 5 (1967), 127-134.

46 English/Hebrew bilingual subjects were required to recognize English and Hebrew words presented in a *tachistoscope. The words appeared in either the right or the left *visual hemifields. English words were invariably recognized best when presented in the right visual hemifield. Hebrew words were best recognized in the left visual hemifield by left-handers, and in the right visual hemifield by right-handers.

207. OSKARSSON, M
On the role of the mother tongue in learning foreign language vocabulary: an empirical investigation. Gothenburg: Gothenburg University; Language

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Teaching Research Centre, 1974.

208. OSKARSSON, M
Monolingual and bilingual vocabulary learning: an empirical investigation.
Paper presented at the Joint TIT/IATEFL conference, Budapest, 1974.

209. OSKARSSON, M
On the role of the mother tongue in learning foreign language vocabulary: an empirical investigation. ITL, 27 (1975), 19-32.

An experiment comparing the learning of English words by Swedish students using either monolingual or bilingual glossaries for texts. Bilingual glossaries produce better learning, even when the tests are framed in a way that ought to favour the monolingual glossaries.

210. OTT, C E, R S Blake, and D C Butler
The effect of interactive-image elaboration on the acquisition of foreign language vocabulary. Language Learning, 23, 2 (1973), 197-206.

Four groups of subjects learned 24 one-syllable words in German. Two groups used a method similar to the *keyword method while the other groups used methods that did not rely on imagery. The two imagery groups performed significantly better than the other groups, and this difference persisted over a two-week period. Furthermore, self-report data indicated that most of the words that were recalled were reportedly learned by mnemonic methods involving imagery.

211. OTT, C E, R S Blake, and D C Butler
Implications of mental imagery for the acquisition of foreign language vocabulary. IRAL, 14, 1 (1976), 37-48.

This paper briefly reviews some studies on the effects of mental elaboration on list learning. It is suggested that this work has obvious bearing on the acquisition of foreign language vocabulary, and a series of specific questions, that in the authors' opinion would be worth investigating, are enumerated.

212. PAIVIO, A, and A Desrochers
Effects of an imagery mnemonic on L2 recall and comprehension. Canadian Journal of Psychology, 33 (1979), 17-28.

Paivio and Desrochers describe the *hook word mnemonic technique and an experiment that tested its effectiveness for learning second language vocabulary against a rote learning repetition method. On a 96 word list, the hook word system produced 75 per cent correct learning - three times as much as the rote learning method. The method also produced higher scores

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on a subsequent translation test.

213. PAIVIO, A, and W Lambert
Dual coding and bilingual memory. Journal of Verbal Learning and Verbal Behavior, 20 (1980), 532-551.

Two experiments which look at the effects of different types of coding on recall in French/English bilinguals. In experiment 1, subjects were shown a list of pictures, French words and English words which they have to name in English, translate or copy respectively. They are then required to recall the English words produced. In experiment 2, English words are presented, and the subjects have either to sketch them, translate, or copy them as instructed. They are then required to recall the English words presented. In both experiments copying produced worst recall, and the non-verbal coding was best. The results are interpreted as supporting Paivio's dual coding theory of memory.

214. PALMER, M
Effects of categorization, degree of bilingualism and language recall of select monolinguals and bilinguals. Journal of Educational Psychology, 63 (1972), 160-164.

An experiment testing free recall of word lists in English and Spanish by bilingual children. Lists were either *categorial or not, and in either English, or Spanish or mixed. Categorial lists produced greater recall in all groups, but all groups performed best in English. It is suggested that this may be due to English being the language of formal education for these children.

215. PAPALIA, A
Students learning styles in ascribing meaning to written and oral stimuli. Hispania, 58, 1 (1975), 106-108.

A brief account of a study where high school students were asked to assess different ways of having new vocabulary presented to them. Clear preferences emerged, related principally to educational experience, and there was some evidence that preferences tended to change with age.

216. POLITZER, R B
Paradigmatic and syntagmatic associations of first year French students. In: V Honsa and M J Hardman-de-Bautista (eds): Papers on Linguistics and Child Language: Ruth Hirsch Weir Memorial Volume. Mouton, 1978, 203-210.

An account of the word associations of 203 first year college students to twenty French and twenty English words. Politzer shows that the ratio of *paradigmatic to *syntagmatic responses is considerably higher in English than in French. This finding is related to other aspects of language

proficiency, in particular, a high number of paradigmatic responses is associated with a high level of grammatical skills. Politzer argues that drills and pattern practice may be conducive to a high level of syntagmatic responses.

217. PRESSLEY, M
Children's use of the keyword method to learn simple Spanish vocabulary words. Journal of Educational Psychology, 69, 5 (1977), 465-472.

An experiment testing learning of Spanish words by second and fifth grade children using the *keyword method. Subjects taught to use the method and provided with appropriate images learned better than those left to their own devices, but they also performed better than subjects who were given the key word as a pronunciation guide but not given an image as well. This finding suggests that, with children, imposed images may be necessary for high levels of learning, and this conflicts with the findings for adults.

218. PRESSLEY, M, and J Dennis-Rounds
Transfer of a mnemonic keyword strategy at two age levels. Journal of Educational Psychology, 72 (1980), 575-582.

A group of twelve year old and a group of eighteen year old subjects were required to learn a list of cities and their major products using the *keyword method or left to their own devices. Subsequently, both groups learned a list of Latin nouns. Some of the original keyword subjects were reinstructed in the use of the technique, others were told to learn the Latin nouns in the same way as the cities, and a third group was left to its own devices. Results showed that older students were able to generalize from their use of the keyword method, but such generalization was not found in the younger subjects.

219. PRESSLEY, M, and J R Levin
Developmental constraints associated with children's use of the keyword method of foreign language learning. Journal of Experimental Child Psychology, 78, 26 (1978), 359-372.

Pressley and Levin report an experiment using a number of variations of the *keyword method with young children learning Spanish vocabulary. Sixth graders using the method did better than their controls, but second graders did better only when they were given pictures where the key word and translation interacted. These results are in line with previous speculations about the development of children's imagery strategies.

220. PRESSLEY, M, and J R Levin
The keyword method and recall of vocabulary words from definitions. Journal of Experimental Psychology: Human Learning and Memory, 7, 1 (1981), 72-76.

Three experimental studies of the *keyword method are reported, in which the ability of subjects to recall English words given a definition is tested. The keyword method produces better results than the control only when the shape of the word is already well-known: e.g. in learning unfamiliar meanings for familiar words. The implications of this finding for L2 vocabulary learning are briefly discussed.

221. PRESSLEY, M, J R Levin, J W Hall, and G E Miller
What makes the keyword method tick? An analysis of its components with special attention to foreign word acquisition. Madison: Wisconsin Research and Development Center for Individualized Schooling, Working Paper 249, 1979.

222. PRESSLEY, M, J R Levin, J W Hall, G E Miller, and J V Berry
The keyword method and foreign language acquisition. Journal of Experimental Psychology: Human Learning and Memory, 6, 2 (1980), 163-173.

Five experiments investigating the effect of the *keyword method on the production of target language. Experiment 1 compared the keyword method against a series of random controls on the learning of 24 Spanish nouns. The usual keyword superiority emerged for recognizing Spanish words, but there were no significant differences between the groups when subjects were asked to produce the Spanish words given their English equivalent. Experiment 2 compared the keyword and other methods using recognition as test criterion. Subjects learned fifteen French or Spanish words and were subsequently required to point to the foreign word when given its English equivalent. No differences between the groups were found. Experiment 3 showed that giving keyword students practice in producing a Spanish word to a key word did not facilitate the production of Spanish words to English translations. (Twelve words were used in this test.) Experiment 4 repeated this experiment four times with feedback to the students. Though there was no overall difference between groups, keyword subjects appeared to be improving their scores slightly faster than control groups. Experiment 5 repeated experiments 3 and 4 with college students learning twenty Latin words. No overall significant differences were found, but there was again a suggestion that keyword groups were learning at a faster rate.

223. PRESSLEY, M R, J R Levin, and C B McCormick
Young children's learning of foreign language vocabulary: a sentence variation of the keyword method. Contemporary Educational Psychology, 5 (1980), 22-29.

A series of experiments, using a variation of the *keyword method, which involved generating interactive sentences rather than visual images. In experiment 1, eight Spanish words were taught to fifth graders, and the keyword method emerged as superior to the control. In experiments 2, 3 and 4, lists of six words were presented to second graders using the same

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sentence image method and control. Again the keyword method groups outperformed the controls. The authors argue that the earlier failures to demonstrate the effectiveness of the keyword method for young children are due to children's inability to generate visual imagery.

224. PRESSLEY, M, J R Levin, and G E Miller
The keyword method and children's learning of foreign language vocabulary with abstract meanings. Madison: Research and Development Center for Individualized Schooling, Working Paper 282, 1980.

225. PRESSLEY, M, J R Levin, G V Nakamura, D J Hope, J G Bispo
      and A R Toye
The keyword method of foreign vocabulary learning: an investigation of its generality. Journal of Applied Psychology, 65, 6 (1980), 635-642.

A report of a series of experiments using the *keyword method to learn lists of Latin words. Experiment 1 graded subjects into three groups on their ability to learn foreign words in a non-keyword paradigm, and tested the effects of keyword instruction on half the subjects of each group. Results showed that the keyword method produced high scores for all groups of learners, but the improvement was greatest with the weaker learners. Experiment 2 compared very good and very bad learners on very long lists using the keyword method. This experiment showed that both high and low ability subjects benefited from the method, but poor learners were still worse than good ones. Experiment 3 compared three groups, two using the keyword method but one of these producing its own key words, the other with key words supplied. Both keyword groups performed better than the control, but did not differ from each other. Similar results were found in experiment 4 which used Latin words with multiple meanings. Experiment 5 showed that if the spelling of supplied key words differs markedly from the spelling of the of the foreign language word, there may be an adverse effect on the spelling of the FL word in a subsequent test.

226. PRESTON, M and W E Lambert
Interlingual interference in a bilingual version of the Stroop colour-word task. Journal of Verbal Learning and Verbal Behavior, 8, (1969), 295-301.

Three experiments using variations on the *Stroop test. Experiment 1 compared English/Hungarian and English/French bilinguals on a standard Stroop test. It was found that both groups show interference, even when responses are not made in the interfering language. Experiment 2 studied English/German bilinguals and compared stimuli that closely resembled each other in both languages with stimuli that are distinct in both languages. E.g. blau and blue, but schwarz and black. Strong Stroop effects were found, only slightly reduced when the translations of the colour words have different characteristics. Experiment 3 studied the effects of a Stroop task on English-dominant learners of French. A rather different pattern of results

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emerged here, suggesting that Stroop effects are to some extent affected by bilingual dominance.

227. PURCELL, E T, S Madigan and L Bruce
The mnemonic keyword approach to the teaching of first year Russian. Los Angeles: University of Southern California, Department of Linguistics, 1978.

228. RANDALL, M
Word association behaviour in learners of English as a second language. Polyglot, 2, 2 (1980), B4-D1.

26 EFL students produced multiple associations to 50 words from the Kent-Rosanoff list, and repeated this task after nine weeks of an intensive English course. Changes in association patterns were observed. Results showed that the *stereotypy scores of the group as a whole increased and there was some evidence to suggest that the learners' responses are more native-speaker like at the end of the nine-week period than at the beginning. These changes may also be related to increasing proficiency.

229. RATTUNDE, E
'Aha, eine Birne!' - zum Problem einsprachiger Worterklärungen. ['Aha, eine Birne!' - on the problem of monolingual vocabulary explanations.] Die Neueren Sprachen, 70, 11 (1971), 571-576.

230. RAUGH, M R
Teaching a large Russian vocabulary by the mnemonic keyword method. Psychology and Education Series, Technical Reports, 256, 1975.

231. RAUGH, M R and R C Atkinson
A mnemonic method for the acquisition of a second language vocabulary. Psychology and Education Series, Technical Reports, 224, 1974.

232. RAUGH, M R and R C Atkinson
A mnemonic method for learning second language vocabulary. Journal of Educational Psychology, 67 (1975), 1-16.

An account of four experiments in which the *keyword method is compared with more traditional methods of learning vocabulary lists. In experiments 1 and 2, minor variations of the keyword method were used to compare the learning of 60 Spanish words by 30 subjects. In both cases the keyword method was greatly superior to the rehearsal methods used by the control subjects. Experiment 3 is also a variation on the basic keyword method, the main difference being that this experiment was a computerised version of experiments 1 and 2, and that testing took place over four days, not just a

single session. 120 Spanish words were used in total, with 32 subjects. Recall was tested two days after the final session. The results showed a clear superiority for the keyword method. Students' self reports on how they memorized the words were also examined, and showed that most of the words recalled, even in the control condition, were mediated by some sort of image. Experiment 4 copied experiment 3, but contained a third condition in which subjects could ask for a key word if they wanted it. Keyword and free choice conditions both produced significantly better learning than the control method of rehearsal. The effectiveness of particlar key words is also examined.

233. RAUGH, M R, R D Schubach and R C Atkinson
Teaching a large Russian language vocabulary by the mnemonic keyword method. Instructional Science, 6 (1977), 199-221.

An account of a study in which thirteen students learned 675 Russian words over a period of nine weeks by means of a computer program that used the *keyword method. The subjects were instructed in the method, and the program allowed them to call for a key word if they required one. The results are discussed principally in terms of the probability of a keyword request leading to a correct response on a subsequent test. They show: (a) that subjects request key words relatively frequently; and (b) that they typically requested key words for words that were difficult to learn. The subjects also answered a brief questionnaire which tested their reactions to the method and the program. This showed that reactions were very positive.

234. RICHARDS, J C
Word lists - problems and prospects. RELC Journal, 5, 2 (1974), 69-84.

An account of the methods, both subjective and objective, by which words are chosen for inclusion in courses and syllabuses. West's 'A general service list' is discussed, together with notions of coverage, availability and familiarity; and the advantages of word lists based on these ideas over pure frequency counts are pointed out. A list of 300 experimentally determined 'familiar' words is appended.

235. RICHARDS, J C
The role of vocabulary teaching. TESOL Quarterly, 10 (1976), 77-89.

From a basic assumption that vocabulary expands throughout life, Richards goes on to discuss seven other assumptions, viz: that knowing a word involves: (1) being sensitive to its probability of occurrence; (2) knowing the limitations on its use; (3) knowing how it functions symbolically; (4) its derivation; (5) its network of associations; (6) its semantic value; and (7) its different meanings. Richards considers the implications of these assumptions for vocabulary teaching.

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236. RIEGEL, K F
Some theoretical considerations of bilingual development. Psychological Bulletin, 70, 6 (1968), 647-670.

In the first part of this paper, Riegel develops a mathematical model of the development of two languages in individual speakers. The model is a word-based one which assumes that relations between words develop at a rate that is affected by the number of words available to the network and the rate at which new words are acquired. The effects of introducing a second language at different times are studied. In the second part, he distinguishes five levels of bilingual development. Levels I and II are basic, in that the FL words in the total network are minimal; levels III and IV show the FL words beginning to form relationships among themselves, but allow only relationships of equivalence between items in the FL and the NL; at level V the words of both the FL and the NL form proper interconnections. Riegel suggests that few bilinguals actually get beyond stage IV. He further argues that some of these claims can be tested empirically using word association tests. Part three discusses the above arguments in the light of the data found in the Michigan *restricted association norms.

237. RIEGEL, K, R Ramsey and R Riegel
A comparison of the first and second languages of American and Spanish students. Journal of Verbal Learning and Verbal Behavior, 6 (1967), 536-544.

24 native English speakers and 24 native Spanish speakers performed seven restricted association* tasks in both languages, using 35 words from the Kent-Rosanoff list. The main findings show that fewer responses were made in the subjects' L2 and that for both groups, response variability was greater in Spanish than in English. Spanish subjects used the same words more often in different tasks, and the authors interpret this as showing a lack of conceptual clarity, which they ascribe to lack of exposure to formal language training.

238. RIEGEL, K F and I W M Zivian
A study of inter- and intralingual associations in English and German. Language Learning, 22, 1 (1972), 51-63.

24 English-speaking learners of German were required to produce free *word associations and eight types of *restricted associations to 40 nouns. Stimuli and responses were either in English or in German. Results showed that German responses were more varied than English responses - despite the fact that German was the second language of the subjects. Response variability is lower for interlingual conditions than for intralingual conditions. Intralingual responses are more varied under restricted associations, but this does not hold for interlingual conditions. Intralingual responses were primarily *paradigmatic while a higher proportion of interlingual responses were *syntagmatic.

239. RINGBOM, H
The influence of the mother tongue on the translation of lexical items. The
Interlanguage Studies Bulletin, 3, 1 (1978), 80-101.

This paper reports an analysis of lexical errors produced by 577 Swedish and
577 Finnish learners of English. The errors of the two groups differ in kind in
that Swedes tend to guess when they do not know a word, and produce
attempts at English words which are heavily influenced by the semantic and
phonological structure of Swedish words. A detailed analysis of the errors is
provided, and the results are discussed in terms of their implications for
theories of contrastive analysis and interlanguage.

240. RODGERS, T S
On measuring vocabulary difficulty - analysis of item variables in learning
Russian-English and Japanese-English vocabulary pairs. Stanford California:
Institute for Mathematical Studies in Social Sciences, Technical Report 124,
1967.

241. RODGERS, T S
On measuring vocabulary difficulty: an analysis of item variables in learning
Russian-English vocabulary pairs. IRAL, 7, 4 (1969), 327-343.

An informal account of the work of Crothers and Suppes (1967) followed by a
semi-formal account of a series of experiments investigating the effects of
stimulus and response characteristics on vocabulary learning. Form class of
items proved important, giving the following hierarchy of difficulty: verbs,
adverbs, adjectives, nouns. A second experiment using pseudo-translations
failed to support this claim, however. There was some indication that items
least well-learned were hard to pronounce, but that this was related to
specific clusters of consonants rather than to word length as measured by
number of syllables. This last idea was tested by giving specific training in
Russian phonetics. Such training had the effect of producing higher scores.

242. ROSE, R and J Carroll
Free recall of language lists. Bulletin of the Psychonomic Society, 3 (1974),
267-268.

Bilingual English/Spanish subjects were given mixed language word lists and
asked to recall as many words as they could, guessing the language of an item
if necessary. Results showed that repeating items in a list led to greater
probability of recall, and that words were generally recalled in the correct
language.

243. ROYER, J R
Memory for test-like events during acquisition of foreign language
vocabulary. Psychological Reports, 32, 1 (1973), 195-198.

Three groups of twenty subjects learned a list of twenty Turkish words and their English equivalents. One group was instructed to use a *self-test procedure, while the other two groups were prevented from doing so. Self-testing produced marginally quicker learning, and significantly higher scores than the controls.

244. RŪĶE-DRAVIŅA, V
Word associations in monolingual and multilingual individuals. Linguistics, 74 (1971), 66-85.

Swedish, Latvian and bilingual subjects carried out a continuous association task to four words (the Swedes in Swedish, and the other two groups in Latvian). The responses of each group are compared and contrasted, and a number of striking differences noted. The author argues that many of these differences are determined by the structure of the two languages. There was some evidence that the bilingual group produced chains of responses that switched languages randomly. Whenever the monolingual groups switched languages, e.g. to German or French, this usually involved a translation of the preceding stimulus.

245. SAEGERT, J, E Hamayan and H Ahmar
Memory for language of input in polyglots. Journal of Experimental Psychology: Human Learning and Memory, 1 (1975), 607-613.

A report of two experiments using mixed language lists. In experiment 1, trilingual Arabic/English/French subjects were given a single presentation of a mixed English-French word-list, and were required to recall it. Then an Arabic list was presented, and subjects were required to state whether the Arabic word had appeared in English or in French in the original list. No differences associated with language of input were found, and language of input did not interact with imagery. In experiment 2, the basic procedure was as in experiment 1, except that for the experimental groups the target words were presented in sentences. For one group these were in English or in French, for a second group mixed language sentences were used. Recognition of words presented in Arabic was required. The results showed that recognition was worse than in the previous experiment, and significantly worse than in a control group who repeated the procedure of experiment 1. Words presented in monolingual sentences were better recalled than items in bilingual sentences.

246. SAEGERT, J, S Kazarian and R K Young
Part/whole transfer with bilinguals. American Journal of Psychology, 86 (1973), 537-546.

Two experiments using the *part/whole transfer paradigm. In experiment 1, English/Spanish bilinguals were tested with word-lists in either English or Spanish, ten words in the first list, twenty in the second. Six trials were

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allowed for list one, eleven for list two. In experiment 2, English/Arabic bilinguals learned sixteen- and thirty-two-wordlists. The main finding was that the usual part/whole transfer effects were found whenever both lists were in the same language. When list one was in the weaker language, and list two in the stronger, positive transfer was found. When this situation was reversed, and the second list was presented in the weaker language, larger than usual negative transver was recorded.

247. SAGVALL, A-L, B Brännström and A Berghem
MIR: a computer based approach to the acquisition of Russian vocabulary in context. System, 4, 2 (1976), 116-127.

The authors describe the establishment of a 'basic vocabulary' in Russian for Swedes consisting of 300 words. They argue that new texts for college students should be introduced in an order which takes into account how much richer their vocabulary is than this basic one. They suggest that this can be done easily using the size of a text's vocabulary, relative to its length, as an index of difficulty. Computer programs which do this are described, and a realization of the program on a sample of Russian text is discussed in detail.

248. SARAGI, T, I S P Nation and G F Meister
Vocabulary learning and reading. System, 6, 2 (1978), 72-78.

Part one of this paper shows that the number of words which a group of learners all know declines dramatically as lower frequency words are tested. Part two describes an informal experiment in which learners' ability to pick up words incidentally through reading was studied. Subjects read Burgess' A Clockwork Orange and were subsequently tested on their understanding of *nadsat words. The results show that words appearing about ten times in the whole text were well learned by all the subjects. Part three describes some simple exercises that might be used in individualized vocabulary learning.

249. SCHROEDER, H
Vocabulary building in German by derivation. Unpublished PhD thesis, University of Colorado, 1969.

(Part one of this thesis consists of a vocabulary count of 15,467 words with a core vocabulary of 2320 highly frequent items based on a corpus of German narratives. Part two deals with the principles of vocabulary building in an L2, and particularly, the importance of affixation. Schroeder demonstrates that 357 simple verbs can be combined with 322 prefixes so as to increase the total list of derived words by a further thousand.) Dissertation Abstracts. 30.2516A 69.19,571.

250. SEGALOWITZ, N and W E Lambert
Semantic generalization in bilinguals. Journal of Verbal Learning and Verbal

Behavior, 8 (1969), 559-566.

Twenty balanced English/French bilinguals were trained to press a button in response to words in English and French which did not belong to a particular semantic category. They were then tested on a mixed language list which contained the original examples of the semantic class, unrelated words, and English and French synonyms of the class. Results showed the subjects generalized their responses to synonyms in both languages, but there was some evidence that semantic properties of words were more important for *coordinate than for *compound bilinguals.

251. SETZLER, H H and R E Clark
Research briefing: recent research on mnemotechnics for learning foreign language vocabulary. Educational Technology, 16, 8 (1976), 43-44.

A brief, fairly uncritical review of some of the main works using the keyword* method for learning vocabulary and related mnemonic methods up to 1975.

252. SINGER, J G
Enjoying vocabulary learning in junior high: the keyword method. Canadian Modern Language Review, 34 (1977), 80-87.

An account of a series of informal experiments using the *keyword method in a classroom situation. The basic method was used and proved 85 per cent effective for 25 words taught over four days. In later experiments, students agreed their own key words and repeated the French words aloud. When they were tested after a short vacation, subjects showed good retention, and very quickly made good any loss. The results also showed that the subjects were able to retrieve the French word, given its English equivalent, and that with a judicious choice of key words French pronunciation could also be enhanced.

253. SKALMOWSKI, W and M van Overbeke
Computational analysis of interference phenomena at the lexical level. ITL, 5 (1969), 92-103.

A study of the written texts in Dutch produced by monolingual Dutch authors and bilingual Dutch/French speakers. Bilinguals use twice as many French derived words as their monolingual counterparts; the number of French derived items increases markedly with text length. These phenomena are discussed in terms of *Zipf's Law and a model which explains the use of French words by bilingual speakers is developed.

254. SMITH, P
Vocabulary teaching. Modern Language Journal, 53, 8 (1969), 531-537.

A general discussion of the vocabulary difficulties of EFL learners in American colleges. Smith comments on the size of the problem in actual cases, and considers a number of ways in which students can be encouraged to work at increasing their own vocabulary.

255. SOTIROFF, S and N Pratt
Computer assisted vocabulary drill. Paper presented at the Vth International Congress of Applied Linguistics, Montreal, 1978.

(An informal account of the use of some simple computer programs as an aid to vocabulary acquisition.) (AILA Abstracts.)

256. STEDJE, A
Tredesprakinterferens i fritt tal - en jämförande studie. [Trilingual inter-ference in free speech: a comparative study.] In: R Palmberg and H Ringbom (eds): papers from the Conference on Contrastive Linguistics and Error Analysis. Ab Akademi Foundation, 141-158, 1977.

257. STRICK, G J
A hypothesis for semantic development in a second language. Language Learning, 30, 1 (1980), 155-176.

A comparison of the *semantic space generated by a group of English and Iranian students for a set of address terms in English and Farsi. The results show that the dimensions of the space produced by the Iranians in English differ strongly from the dimensions for the Farsi words, and from the dimensions of the space produced by native English speakers to English words. Strick argues that these differences are related to native culture. It is suggested that learners rely rather more heavily on perceptual dimensions in their L2, and only later begin to use abstract cultural ones.

258. TARNOCZI, L
Wortbestand, Wortschatz, Wortfrequenz. [Lexical inventory, vocabulary and word frequency.] IRAL, 9 (1971), 297-318.

(Tarnoczi distinguishes between 'lexical inventory' i.e. all the words belonging to a given language, and 'vocabulary' i.e. all the words known to a given individual. The article criticises the way minimal lexical inventories are drawn up, and questions the claims made for them. It is often claimed that a vocabulary of one to two thousand words enables one to understand 75 per cent of a text in a given language. This claim is refuted. Adequate minimal vocabularies will vary according to teaching objectives appropriate to the case in hand.) Twomey 1979.

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259. TAYLOR, I
How are words from two languages organized in bilinguals' memory?
Canadian Journal of Psychology, 25 (1971), 228-240.

An account of French/English bilinguals' performance on a word association
task using *continuous association to eighteen English and French words.
Experimental conditions varied by allowing students to respond in only one
language, to switch response language as they pleased, or requiring them to
switch language frequently as instructed. Rapid obligatory switching
produced fewest associations, free switching produced performance as good
as monolingual responding. In the free switching condition, the probability of
changing language was relatively low.

260. TAYLOR, I
Similarity between French and English words - a factor to be considered in
bilingual language behaviour. Journal of Psycholinguistic Research, 5, 1
(1976), 85-94.

A study of the word association responses made by bilinguals to words in
English and French, using the *continuous association method. The findings
show that when an English word and its French equivalent are physically
similar (e.g. animal/animal, or comfortable/confortable) there is a tendency
for similar responses to be produced in both languages. When the words are
dissimilar (e.g. church/église, or sad/triste) the responses do not show the
same degree of overlap.

261. TAYLOR, M
Speculations on bilingualism and the cognitive network. Working Papers in
Bilingualism, 2 (1976), 68-124.

Taylor outlines a theory of cognitive networks which describes how ideas are
related to each other, and the ways in which the network as a whole can
grow. The way the cognitive network interacts with language is discussed,
and Taylor argues that this approach makes good sense of some of the
differences between children acquiring two languages simultaneously, and
older learners acquiring a second or third language.

262. THEVENIN, A
Accroissement du vocabulaire chez les enfants bilingues. [Vocabulary growth
in bilingual children.] Le Français dans le Monde, 64 (1969), 18-25.

An account of eight bilingual tests carried out on a group of 72
French/Spanish bilingual children. The tests comprised: (i) two tests of
contrary adjectives; (ii) a cloze test; (iii) a test of memory span for digits; (iv)
a test of colour naming; (v) a test of verb naming; and (vi) two tests involving
the naming of professions and substances. The results showed that all the
subjects were retarded relative to monolingual norms, and in particular,

French language ability was considerably behind. The tests show that scores in the two languages tend to run parallel on all the tests, and Thévenin argues that less gifted children may be severely handicapped if a poor level of performance in the second language retards their development in their L1.

263. TULVING, E and V A Colotla
Free recall of trilingual lists. Cognitive Psychology, 1 (1970), 86-98.

Trilingual English/French/Spanish subjects were asked to recall lists of words in either one, two or all three of these languages. Words recalled were classified as *primary or *secondary memory words. Results showed that for primary memory words, recall from the unilingual and multingual lists was identical; for secondary memory words, unilingual lists produced greatest levels of recall, and trilingual lists produced lowest levels. Recall in a stronger language was adversely affected by presentation of bilingual lists, but weaker languages were not affected in this way. There was a significant tendency for subjects to block their responses according to language.

264. TWADDELL, F
Vocabulary expansion in the ESOL classroom. TESOL Quarterly, 7 (1973), 61-78.

Twaddell argues that vocabulary acquisition is much more important than language teachers usually believe, and it is especially important in the middle stages of learning a language. He comments on the frequency distribution of words, and argues that it is impossible to teach learners all the words they need to know. Instead, emphasis needs to be placed on guessing strategies that will enable learners to lose their reliance on dictionaries when they are faced with unfamiliar words.

265. TWOMEY, E
A bibliography of research carried out in the field of vocabulary learning in second languages. Unpublished MA thesis, Birkbeck College, University of London, 1979.

A bibliography comprising some 300 items, about half of which are also abstracted. The coverage is much the same as the present work, for which Twomey's thesis served as a pilot study. The main differences are that her coverage of the psychological literature is weak, but her listing of language teaching sources and general works is fuller than the present work (see introduction). The work contains a brief introduction and an index.

266. VIELAN, A
Kognitive Wortschatzdidaktik. [Cognitive vocabulary teaching.] Die Neureren Sprachen, 74, 3 (1975), 248-264.

267. VOINESCU, I, E Vish, S Sirian and M Maretsis
Aphasia in a polyglot. Brain and Language, 4 (1977), 165-176.

An account of the linguistic behaviour of a quadrilingual aphasic whose native
language was Greek, but who also spoke Rumanian, Russian and German.
Standard interviews were given in all four languages, and the results
compared, with an emphasis on vocabulary. The principal findings were that
the total number of words used was least in Greek and German, and
vocabulary was widest in Russian. Interference from words in other
languages was not very marked, but occurred least in Russian.

268. WALTERS, J and R Zatorre
Latency differences for word recognition in bilinguals. Brain and Language, 6
(1978), 158-167.

English/Spanish bilinguals were required to recognize words in one or other
language presented tachistoscopically in the right or left *visual hemifields.
Both languages produced a significant left hemisphere advantage, regardless
of which language was learned first. There was some evidence, however, that
bilinguals are less heavily lateralized than monolingual subjects.

269. WEBBER, J
An investigation into the effect of degree of competence in a language on the
type token ratio. Unpublished MA thesis, Birkbeck College, University of
London, 1977.

A report of an experiment which studied the *type-token ratios found in short
extracts of essays produced by learners at different levels of competence in
French. Subjects who scored high marks in public examinations were
characterized by reliably low type-token ratios, indicating that they used a
wider vocabulary than less proficient learners.

270. WESTPHAL, P B
In search of a systematic way with words. French Review, 51, 1 (1977), 59-64.

An account of an informal study using individualized flash cards as a means
of increasing learners' vocabulary in an L2. The apparent advantages of this
approach are discussed and the results of a short questionnaire administered
to the students, who used the cards, are also reported.

271. WICKLOW, C K
Review of H Barnard: Advanced English vocabulary, (1972). Language
Learning, 24 (1974), 167-170.

A generally favourable review of Barnard's book. Wicklow comments on the
general tediousness of vocabulary learning, and the haphazard inadequacy of

standard methods. In contrast, Barnard's book works outwards from individual words, explores the varied meanings of these words and only gradually introduces them into comprehension exercises. Wicklow praises this approach.

272. WIKBERG, K
Lexical competence and the Swedish learner's problems with English vocabulary. In: B Hammarberg (ed): Kontrastiv Lingvistik och Sekundär-spraksforskning, Stockholm: 1979.

Wikberg discusses Richards' eight assumptions about vocabulary learning in the context of Swedes learning English. In particular, it is argued that errors seem to arise from three principal sources where English and Swedish diverge. These are: (i) compound words; (ii) derivatives; and (iii) false friends.

273. WIKBERG, K
Lexical errors made in English by Finnish and Swedish speaking secondary school students: a comparison. Helsinki: Report to the First Nordic Symposium on Interlanguage, 1979.

274. WIKBERG, K
Lexical semantics and its application to second and foreign language vocabulary learning and teaching. In: K Sajavaara, A Rasanen and T Hirvonen (eds): AFinLA Year Book, 1980 Papers in Language Learning and Language Acquisition. Jyväskylä: 1980, 119-130.

A brief discussion of some recent work on vocabulary learning in an L2. Topics touched on include: (a) Palmer's algorithm for presenting vocabulary; (b) a short critique of the choice of vocabulary in the Council of Europe threshold level materials; (c) lexical structure and its relation to vocabulary learning; and (d) word association studies.

275. WILLERMAN, B and B Melvin
Reservations about keyword mnemonic. Canadian Modern Language Review, 35 (1979), 443-453.

This paper begins with a critique of the experiments on the *keyword method run by Raugh and Atkinson, by Pressley and by Singer. The main faults with these experiments are: (a) they are laboratory experiments, and do not use real language learners; (b) only passive recall of the TL word is tested; and (c) the choice of key words is inconsistent and not motivated by any real understanding of the structure of the TL. Part II describes an experiment in which the keyword method is compared with rote learning of 40 French words in a beginners French class. Both recognition and recall of the French words was required. The results show that there was no significant difference associated with the keyword method, and there was also no significant

difference between conditions on a post-test a month after the experiment. There was some indication that scores correlated with scores on a scholastic aptitude test, irrespective of how the French words were learned. Girls also performed significantly better than boys.

276. WILLERMAN, S B
The effect of the keyword mnemonic on the recall of French vocabulary. Paper presented at the 5th International Congress of Applied Linguistics, Montreal, 1978.

(An account of a study using the *keyword method which differs from previous work in that: (a) it uses French; (b) it tested recall of target language words, not recognition; (c) it used both aural and visual presentation; (d) items chosen reflected the frequency of parts of speech in French; and (e) real language learners were used. The results do not completely square with those reported in earlier published experiments.) AILA Abstracts.

277. YOSHIDA, M
The acquisition of English vocabulary by a Japanese speaking child. In: E Hatch (ed): Second language acquisition: a book of readings. Newbury House, Rowley, Mass, 1978.

A study of a three and a half year old child learning English, mainly devoted to vocabulary. Data was collected via recordings and regular elicitation methods, and analysed in terms of rate of acquisition, grammatical categories and semantic categories. The child learned some 260 new words in seven months. Most of these were general nominals (sixty per cent). Verbs made up thirteen per cent and adjectives ten per cent. Food and drink accounted for twenty-five per cent of the new vocabulary, vehicles eleven per cent and 'wild animals and outdoor objects' eight per cent.

278. YOUNG, R K and I Navar
Retroactive inhibition with bilinguals. Journal of Experimental Psychology, 77 (1968), 109-115.

40 English/Spanish bilinguals learned two lists of paired associates using an *A-B, A'-B'r paradigm, in which the first list was either in English or Spanish, and the second list comprises a translation of the first list but with the items paired differently. Subjects then relearned the first list, and the level of interference caused by the second list was calculated. The results show that marked interference occurred, but this was not linked to either the dominant language of the subjects, nor the order of presentation of the lists. The authors interpret this finding as showing clearly that associations made in one language interfere strongly with associations made in another one.

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279. YOUNG, R K and J G Saegert
Transfer with bilinguals. Psychonomic Science, 6 (1966), 161-162.

English/Spanish bilinguals learned one of two lists of words, one in English,
one in Spanish. They then learned a second list in the other language. In this
list, words were either in an order identical to that of the first list, reordered
randomly, or consisted of a set of totally unrelated words. Results showed
that, generally, Spanish lists were harder to learn than English lists, and that
the same order condition was much easier to learn than either of the two
control conditions.

280. YOUNG, R K and A Webber
Positive and negative transfer with bilinguals. Journal of Verbal Learning
and Verbal Behavior, 6 (1967), 874-877.

An experiment in which 35 English dominant Spanish/English bilinguals
learned two lists of words in an *A-B, A'-B'r paradigm. The results showed
that learning word pairs in one language facilitates learning the same pairs in
another language, and that interference in the second language is found if the
words are paired in a different order.

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in foreign language teaching.] Zielsprache Deutsch, 3, 17-215.

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Zum Gebrauch von Key Words im Englischunterricht. [On the use of key
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What's this in English... Ein kommunikativer Ansatz der Vokabeleinführung.
[A communicative approach to introducing new words.] Englisch, 12, 2, 67-8.

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Un exemple d'approche notionelle dans le cadre du français fondamental. [An
example of a conceptual approach within the framework of 'Le français
fondamental'.] Le Français dans le Monde, 129, 8-14.

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TESOL Quarterly, 8, 4, 389-399.

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Aphasia in polyglots and bilinguals. Brain and Language, 1, 15-27.

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USA: Prentice-Hall.

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Language Learning, 10, 3-4, 185.

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of Russian reading texts. Russian Language Journal, 31, 109, 25-33.

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Welke Franse worden leren wij? [Which French words should we teach?]
Levende Talen, 335, 470-477.

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3-14.

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The lexical impact of Russian upon English. Russian Language Journal, 25,
91, 41-50.

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3, 487-492.

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The role of structural semantics in expanding and activating the vocabulary
of the advanced learner: the example of the homophone. Audio-Visual
Language Journal, 12,2, 81-89.

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Französischunterricht der zweiten Stufe. [Analysis of units of meaning as

a basis for systematic vocabulary development in teaching level two.] Der Fremdsprachliche Unterricht, 8, 1, 38-56.

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The use of Hebrew loanwords in spoken German in two bilingual communities. Linguistics, 140, 69-78.

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Welche Wörter gehen miteinander Verbindungen ein? [Which words can be combined into compounds?] Russisch, 10, 2, 17-25.

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meaning.] Deutsch als Fremdsprache, 10, 5, 292-301.

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Glossary

This glossary explains terms in the main text which have been asterisked.

A-B,A'-B'r PARADIGM
A technique used in verbal learning experiments to investigate the way lists are stored and structured in memory. It consists of three stages. In stage one, a list of paired associates is learned. In stage two, a new list of paired associates is learned, and in the final stage, the first list is relearned. The point of interest is usually the degree of interference caused by the second list, and this tends to vary with how closely the first and second lists are related. E.g. if list two consists of exactly the same words as list one, but they are all paired differently, a great deal of interference is caused, and the third stage is extremely difficult. In many of the experiments reported here, the second list contains items which are translations of those in the first list.

BROWN-PETERSON PARADIGM
A method used in verbal learning experiments to investigate forgetting. It consists of three stages. First a small number of items to be remembered are presented (usually three). Secondly, a distraction task is carried out. This is usually not related to the original learning task, and counting backwards in threes is commonly used. Finally the original items are recalled. Typically, the number of items recalled varies according to the length of time that the distraction task is carried out for. cf. also proactive interference.

CATEGORIZED LISTS
Lists of words which are thematically related are said to be categorized. In the experiments reported here, there are usually two or three categories of words in a single list, and these are usually semantic categories, e.g. animals, plants and items of furniture. In monolingual experiments on memory, categorization increases recall, and there is a tendency for items in a single category to be recalled in a block, irrespective of the order in which they appeared in the original list.

CLANG ASSOCIATIONS
See paradigmatic responses.

CLICK PLACEMENT
An experimental technique in which a subject listens to a sentence and marks on a script the place where a superimposed click sound actually occurs. This task is surprisingly difficult, and there is a strong tendency for the click's apparent position to occur before its objective location. This phenomenon is usually explained in terms of the click moving to the edge of the linguistic constituent in which it appears.

COMPOUND BILINGUALISM

The distinction between compound and co-ordinate bilingualism was first made in 1954 by Ervin and Osgood. They argued that different types of learning experience might produce types of bilingualism that were essentially distinct from each other. In particular, they distinguished two main types of bilingual. The compound bilingual, it was suggested, had a single meaning system linked to two different decoding and encoding systems, one for each of the two languages. The compound bilingual was typically someone who had learned two languages simultaneously, usually in early childhood. The co-ordinate bilingual on the other hand, was seen as having two separate meaning systems; typically, such individuals are produced by learning a second language (usually in adulthood) in an environment which is not the same as the L1 environment.

CONTINUOUS ASSOCIATION

See word association tests.

CO-ORDINATE BILINGUALISM

See compound bilingualism.

DICHOTIC LISTENING

In dichotic listening tasks, verbal stimuli are presented via sterophonic earphones in such a way that one set of stimuli is presented to the right ear, and a different set to the left ear. The auditory system is similar to the visual system, in that material presented to the right ear is processed principally by the opposite hemisphere of the brain, in this case the left hemisphere. Material presented to the left ear is processed principally by the right hemisphere. cf. also visual hemifield.

EEG

Abbreviation of electroencephalogram. By placing electrodes at certain places on the skull, it is possible to obtain an indication of the electrical activity in the brain. Although these indications are fairly crude, the results suggest that certain types of task cause increased electrical activity in certain parts of the brain. It is assumed that where this activity occurs marks the sites where the processing related to the task in question is actually carried out.

FREE RECALL

In verbal learning tasks, subjects are typically required to read or listen to a long list of words, and then, after a suitable interval, they are required to recall as many of the original items as possible. In free recall conditions, the items can be recalled at any rate and in any order. This contrasts, for example, with serial recall, where the subject is required to reproduce the words in the same order as their presentation.

HOOK WORD MNEMONIC

A mnemonic system for learning long lists of words. Each of the ten digits is associated with a letter of sound. Thus, for example, $1 = t$, $2 = n$, $3 = m$, $4 = l$, $5 = s$, $6 = d$, $7 = f$, $8 = b$, $9 = g$, $0 = p$. Then a list of words is made up which incorporate these sounds, and this list is learned by heart. With the choice given above, $20 = nip$, $31 = mat$, $42 = lane$, $53 = sum$, $64 = dell$, $79 = fog$, $86 = bed$, and so forth. These are hook words. After this initial leaning, any long list of items can be learned rapidly by pairing the items with the numbers, and making an association between each item and its appropriate hook word. Thus, if item 86 were cow, 31 horse, 42 elephant, and 53 camel, then appropriate images might be a cow in a bed, a horse on a mat, an elephant in a lane and a camel doing sums. The more bizarre the imagery, the better the likelihood of recalling the item subsequently.

INCIDENTAL LEARNING

A technique used to investigate aspects of memory which are not influenced by attention or overt rehearsal. Typically, subjects are asked to perform a simple task which does not involve memory, such as sorting a pile of cards into groups on some appropriate criterion. At the end of this task, an unexpected test of recall or recognition is given. A typical experiment would then compare how much material is recalled by groups of subjects who performed different types of initial task.

KEY CONCEPTS

Sometimes also called 'core concepts'. This term is used in connection with experimental tasks involving word associations. Typically, the subjects are given a set of word associations that have been produced by a single stimulus word and they are required to work out what the original word was. E.g. from moth insect wing bird fly yellow net pretty flower, you should be able to recover the stimulus word BUTTERFLY. All these words are frequent associates to this word. Or, in French, given creux mer puits trou noir sombre abîme eau, you should recover PROFOND.

KEYWORD METHOD

A mnemonic technique which has recently been applied to the learning of foreign language vocabulary. The technique consists of two stages. In stage one, a foreign word is presented together with a key word, i.e. a word in the native language that resembles it or part of it in sound or appearance. In stage two, the meaning of the foreign word is presented together with the key word. The learner then forms a mnemonic link between the key word and the native language word that expresses the meaning.

Thus:	stage one		stage two		image
	caballo	cab	cab	horse	a horse pulling a cab
	reloj	loch	loch	watch	a watch sinking in a loch

It is claimed that the keyword method produces vastly superior learning of

vocabulary than any other comparable method.

LANGUAGE SWITCHING
An experimental technique used to investigate the degree of separateness of
a bilingual's two languages. Stimuli are presented in one language, and then
unexpectedly change to the other. The degree of disruption this causes is
believed to give some indication of how far the two languages operate as a
single system.

LEXICAL DENSITY
A measure of vocabulary richness: it is calculated by working out the
proportion of lexical words (nouns, verbs, adjectives and adverbs) to function
words in a text.

LEXICAL VARIATION
See type-token ratio.

NADSAT WORDS
A Burgess' novel A Clockwork Orange contains a large number of 'words'
based on Russian which are used as a form of slang by the characters in the
book. They are thus words that cannot be looked up in a dictionary of
English. They can, nevertheless, have their meaning inferred from a close
reading of the text, and thus are well suited to be used in studies of inference.

NORMS OF WORD ASSOCIATION
A collection of word associations taken from a large group of subjects and
tabulated according to frequency of response. A good example of norms in a
variety of languages is to be found in Postman and Keppel (1970) Norms of
Word Association (Academic Press), which also discusses the theory behind
the norms, and some of the changes that have taken place over the last 50
years since norms were first collected. Many of the widely used norms are
based on a standard list of stimuli known as the Kent-Rosanoff List. This list
was first used by Kent and Rosanoff in a study of the associations made by
mental patients. Because of the enormous amount of work involved in
counting word associations, this list has developed a certain inertia and
continues to be used as the standard in a large number of studies. It is not
well suited for use in word association research with language learners,
however.

PAIRED ASSOCIATE LEARNING
This term comes from the psychology of verbal learning, and is used to
describe experiments in which subjects learn by heart lists of word pairs. In
these experiments the task generally involves bwing able to recall one word
of a pair on being presented with its partner. Pairs of words typically consist

of two words in the native language, but sometimes one or both words can be nonsense, or a foreign language item. Paired associate learning thus appears to resemble one of the traditional ways of learning foreign language vocabulary where the target language word and its translation are paired in lists. There is a vast literature on paired associate learning, most of which is vaguely relevant to vocabulary learning if you use this method. (cf. A Baddeley: The Psychology of Memory. Harper and Row, 1976.)

PARADIGMATIC RESPONSES
Word association responses are traditionally divided into two classes: (i) paradigmatic responses which are responses which belong to the same part of speech as the stimulus word, e.g. dog/cat, dog/animal, dog/friend; and (ii) syntagmatic responses which are responses that form a phrase (or syntagma) with the original word: e.g. dog/bark, dog/fierce, dog/bite, dog/friendly. In practice it is not always easy to distinguish these two types, and the two classes always fail to account for a large proportion of the responses made by any group. Adults' responses tend to be more paradigmatic than syntagmatic. Children produce a higher proportion of syntagmatic responses than adults, but they also give a high proportion of CLANG associates, i.e. responses which are primarily influenced by the form of the stimulus rather than its meaning.

PARALOG WORD LISTS
Lists of nonsense words which conform to the phonology of a real language: e.g. in English: snike, pilt, wark, loster.

PART-WHOLE TRANSFER
In this experimental technique, a subject learns a list of words or word pairs, and subsequently learns a second longer list which includes all the items on the first list. Surprisingly this second task is rather difficult, and often harder than learning a completely new longer list.

PICTURE WORD INTERFERENCE TASK
A variation of the Stroop test, where pictures and captions are presented as stimuli. In some conditions, the pictures and the captions match, while in others they do not match. In all cases, subjects are required to name the pictures. As in the Stroop test, when pictures and captions do not match, interference is produced.

PRIMARY MEMORY
Current theories of memory suggest that there may be a number of different memory stores, each of which has rather special properties. The names given to these stores vary according to different schools of thought, but there are three main distinctions to be made: (a) peripheral memory (sometimes called echoic or iconic memory) is a brief storage which seems to occur when

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information is presented to the ears or eyes. It stores the physical characteristics of a signal long enough for it to be interpreted by higher level cognitive faculties; (b) primary memory (sometimes called working memory) is the relatively superficial storage which makes it possible to store and recall items for short spaces of time (a couple of seconds) before they are actively brought under attention. Items which are retrieved from primary memory are transferred to (c) secondary memory, a longer term store that seems to operate in terms which are semantic rather than sensory, and where the physical characteristics of words are not generally stored.

PRIMARY RESPONSE
A term used in word association research. The primary response is the most common response produced by a group of subjects to a given stimulus word.

PROACTIVE INTERFERENCE
If a subject is required to learn several lists of words in quick succession, then it becomes increasingly difficult to keep the lists separate from each other, and performance rapidly drops off, the number of items recalled from each list declining steadily. This decline in performance is ascribed to 'proactive interference', i.e. confusion caused by earlier lists. This type of interference can be dramatically lessened if the characteristics of the lists being learned are suddenly changed. E.g., if a set of lists of animal names are followed by a list of flower names, the flowers will be easily learned with very little interference from the animal lists.

PROBE LATENCY TEST
In this technique the subject hears or reads a list of words or a sentence, and immediately after this, one of the words is presented again. The subject is required to say the next word in the list or sentence after this probe word. The latency of the response (i.e. how long it takes the subject to reply after the probe word is presented) is used as a way of inferring how the list or the sentence has been structured in memory.

RECALL
See free recall.

RECOGNITION MEMORY TEST
A type of test used in verbal learning experiments. Subjects are presented with a list of words which they study for a set length of time. They are then presented with a second list of words, one at a time, and are required to indicate whether each of these new words was part of the original list or not.

RECOGNITION THRESHOLDS
The minimum length of time for which a word must be displayed in order for

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it to be perceivable. (See also <u>tachistoscope.</u>)

RESPONSE SET
A response set is a tendency for subjects to respond in a particular way. Response sets can be induced by manipulating sequences of responses. A simple example of this is the children's game which asks you: What does T-O-O spell? What does T-W-O spell? What does T-U-N-E spell? What does T-O-O-T spell? What is the second day of the week? Most people reply TUESDAY because of the response set induced by the spellings. In the papers reported here, response set is usually related to a tendency to reply in one of a bilingual's two languages rather than the other. E.g. read the following words aloud: NOIR, VERT, CHIEN, CANARD, TABLE, PAIN, MAIN, SENTIER. The items 5-7 are actually ambiguous, and could be read as English words. The surrounding French items make it unlikely that naïve subjects would read them as English words, however.

RESTRICTED WORD ASSOCIATIONS
See <u>word association tests.</u>

SAVINGS METHOD
A technique used in verbal learning experiments to estimate the amount of material retained in memory by measuring how difficult it is to relearn it. Typically the method consists of presenting a list of words to a subject and, after a certain delay, asking them to relearn the same list. In many of the papers reported in this bibliography, a variation of this method is used where the second list is only partially identical to the first. E.g. the first list might be presented in English, while the list for relearning might be presented in another language.

SECONDARY MEMORY
See <u>primary memory.</u>

SELF-TEST PROCEDURE
A way of learning paired-associate lists. After initial familiarisation with the list, subjects test themselves by covering up one word of each pair, and trying to recover it from the other half of the pair.

SEMANTIC DIFFERENTIAL
A technique used to assess the subjective meanings and connotations of words. In this technique, an individual word is assessed on a number (usually 20-30) of bipolar seven-point scales. E.g. the word <u>STONE</u> might be assessed on the scales:

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HARD    /_/_/_/_/_/_/_/_/_/    SOFT
KIND    /_/_/_/_/_/_/_/_/_/    CRUEL
SWEET   /_/_/_/_/_/_/_/_/_/    SOUR
WISE    /_/_/_/_/_/_/_/_/      FOOLISH
etc.
```
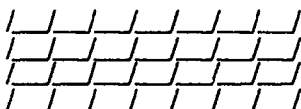
The scores on these scales are then subjected to a factor analysis which extracts from the disparate descriptors a set of factors which account for the variation in simple terms. Osgood suggested that most networks can be described economically in terms of three factors. These factors are usually labelled POTENCY (roughly corresponding to strong, weak), EVALUATION (roughly corresponding to good, bad) and ACTIVITY (roughly corresponding to active, passive).

SEMANTIC SATIATION
A task used to investigate the degree of closeness between words in a speaker's semantic space. It consists of three stages. First, a single word is rated on a series of semantic differential scales. Next, the word is repeated over and over again for a specified length of time, usually one minute. Thirdly, the word is then retested on the semantic differential. Typically, the semantic differential ratings are significantly less extreme on the second testing, tending towards the neutral value on all scales. In the experiments summarized here, the second testing sometimes involves a translation of the word presented in stage one.

SEMANTIC SPACE
A way of talking about the relationships between words in an individual's mental lexicon, and usually associated with some method that involves a graphic representation of this, e.g. the semantic differential.

SENTENCE COMPLETION TASK
A task in which subjects are presented with the first half of a sentence and are required to produce a second half that makes sense. Sometimes, a whole sentence is provided, with just one word deleted, and subjects are required to provide the missing word.

SHORT-TERM MEMORY
See primary memory.

SINGLE PROCESSING SYSTEM
See compound bilingualism.

SINGLE STORE HYPOTHESIS
See compound bilingualism.

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STATISTICAL APPROXIMATIONS

Strings of words or letters which are constructed on the basis of short term constraints so as to resemble real language more or less closely. For letters, 0-order approximations are strings of letters selected at random; 1-order approximations, to English, for example, reflect the probability of occurrence of each letter in an English word; 2-order approximations reflect the probability of occurrence of each adjacent pair of letters in English words; 3-order approximations reflect the probability of occurrence of each triplet of letters, and so on.

The following examples are from Miller (1951):

0-order:	xfoml rxklrjffjuj ff.....
1-order:	tocro hli rgwr nmiel.....
2-order:	on ei antsoutinys ar.....
3-order:	in no ist lat why cr.....

STEREOTYPY

A measure used with word association tests, which gives an indication of how varied are the responses of a group of subjects to a set of stimuli. Ways of calculating stereotypy vary, but one commonly used method is to count the number of different responses to each stimulus, and divide this figure by the total number of responses to the stimulus. Thus, if 100 subjects produce fifteen different responses to a word, then the stereotypy measure would be 0.15. With 70 different responses, the stereotypy measure would be 0.70. Generally non-native speakers seem to be less stereotyped than native speakers and produce a wider range of responses.

STROOP TEST

The Stroop test is used as a way of distinguishing between the superficial characteristics of words and their meanings. The test comes in a variety of forms, but at its simplest, it comprises three stages. In stage one, each subject is shown a card (A) which contains colour patches, and the subject is required to name the colours. The time this requires is measured. In stage two, a second card (B) containing colour words printed in the appropriate colour ink is presented. Again, subjects are required to name the colours used for printing. B typically takes less time than A, as the colour names make it easier to name the colours. In stage three, a further card is presented. This card contains colour names printed in the wrong colour ink, e.g. 'red' printed in blue ink, 'blue' printed in green ink, 'black' printed in purple ink, and so on. In this condition, naming the colours of the inks is very difficult, and takes much longer than either task A or task B. Task C also produces high error rates. These effects are usually ascribed to interference from the irrelevant colour names.
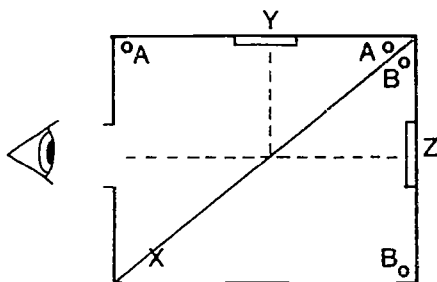
SYNTAGMATIC ASSOCIATION
See <u>paradigmatic associations</u>.

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TACHISTOSCOPE

(Greek: _tachi_ - as in tachometer meaning speed, and _scope_ as in telescope, periscope, etc.)

A device which makes it possible to present visual material to an observer for a controlled length of time.

Typically, a tachistoscope consists of a box painted black on the inside, and containing two sets of lights (A and B) together with a half-silvered mirror (X). In the starting position, the lights (A) are on, and the observer will see whatever is placed at (Y) reflected in the mirror. When a button is pressed, lights (A) go out, while lights (B) come on. When this happens, the mirror acts as a sheet of plain glass, and the observer sees whatever is placed at (Z). The length of time for which (Z) is illuminated can be controlled to very high levels of accuracy, generally in the region of a few thousands of a second. With the development of microcomputers, tachistoscopes are now used less frequently.

TYPE-TOKEN RATIO (TTR)

A figure which describes the richness of vocabulary in a text. The TTR is calculated by counting the total number of different words in a text, and dividing this figure by the total number of words in the text. Thus, a text of 100 words with 70 different words in it would have a TTR of 0.7. TTRs range from 1.00 (indicating that no word in the text is repeated) to a figure that approximates 0.0 (indicating that the text consists of a single word repeated indefinitely). For normal language samples, TTRs vary between 0.8 and 0.5, but the figure depends on the length of the passage, and more sophisticated work includes a correction for this. TTRs are also dependent on the language tested to some extent: e.g. French tends to produce higher TTRs than comparable English passages, because of the complex morphology in the former language.

VISUAL HEMIFIELD

The neural pathways between the eyes and the brain are so constructed that only objects which are positioned directly in front of the perceiver send signals to both halves of the brain. Objects (or words) positioned to the right of the observer as he looks straight ahead (i.e. objects in the right visual

hemifield) send signals to the left hemisphere of the brain, but not directly to the right hemisphere. Similarly, objects to the left of the observer (i.e. in the left visual hemifield) send signals to the right hemisphere of the brain, but not directly to the left hemisphere. The left hemisphere is usually believed to be responsible for processing language, and one might therefore expect that verbal material might be more accurately perceived if it was presented in the right visual hemifield, and less well perceived if it were presented in the left visual hemifield. The same sort of argument, mutatis mutandis, applies to verbal material presented to the left and right ears.

WORD ASSOCIATION TESTS
Word association tests are a way of finding out some of the ways in which words are linked together by individual subjects, or (more typically) by large groups of similar subjects. There are three main types of test. In the basic association test, each subject is presented with a list of stimulus words, and for each stimulus, the subject produces a single response, ideally, 'the first word that comes into your head'. Two other variants are in common use. The continuous association method requires subjects to produce a continuous chain of responses to a single word for a specific length of time, usually one to two minutes. It is sometimes claimed that this method tends to produce very similar responses to the basic method, but it has the advantage that reliable results can be obtained with a relatively small number of subjects. Restricted associations are used chiefly by Riegel and his colleagues in Michigan. The method is the same as the basic association test, but subjects are required to produce specific types of response - e.g. a superordinate, an appropriate adjective, etc. See also norms of word association, and paired associate learning.

WORD FREQUENCY ESTIMATION
A method of investigating people's implicit knowledge of the structure of their vocabulary. Subjects are asked to provide subjective judgements about how frequent particular words are in their language. This is done either by rating words directly on a seven-point scale, or by asking subjects to rate pairs of words relat ve each other.

ZIPF'S LAW
Zipf worked on the statistical structure of language and discovered a number of important relationships between the frequency of a word and the way it is used in texts. Zipf's law states (among other things) that if words are ranked in order of frequency, there is a direct relationship between this rank order and the number of words found at each rank.

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