

Research in the supporting sciences

LINGUISTIC THEORY

84–600 Abraham, Werner (U. of Groningen). Die Unterscheidung von direktem und indirektem Objekt in den kasuslosen westgermanischen Sprachen und im Deutschen. [The distinction between direct and indirect object in the case-less West Germanic languages and German.] *Deutsch als Fremdsprache* (Leipzig, GDR), **20**, 5 (1983), 263–70.

Abraham examines the claim by M. Everaert (1982) that indirect objective passivisation is possible in Dutch. Everaert employs deep case theory (1981) and suggests it requires modification. Abraham takes issue with the analysis, and using Chomsky's \bar{X} theory accounts for German and English as well as Dutch passivisation. The three languages are shown to have similarities and differences with respect to their passivisation rules. Unlike Dutch, English has no IO-passivisation rule. Dutch has both IO- and DO-passivisation. Although there is an intransitive passive in German (which also occurs in Dutch) – e.g. *Ihm wird geholfen werden* – there is no indirect object passivisation. Numerous regional and register variations are also discussed for all three languages.

84–601 Chodorow, Martin S. (City U. of New York). What time do you presuppose it is? *Papers in Linguistics* (Champaign, Ill), **15**, 1 (1982), 51–7.

A prenominal participle in a definite noun phrase (e.g., *the broken toy*) is a presupposed description of the noun phrase. Its temporal properties are quite different from those of presupposed verb complements. The time of the presupposed participle can be linked either to the time of the main verb of the sentence or to the time of the statement's utterance. The link to the time of utterance seems to be mediated by the definite article of the noun phrase, while the link to the main verb depends upon the absence of an independent tense-bearing element in the noun phrase.

84–602 Culioli, Antoine. Sur le concept de notion. [On the concept of notion.] *BULAG* (Besançon), **8** (1981), 62–79.

Purely linguistic considerations relating to existential relations and the nature of negation and interrogation have led the writer to see the components of predications to be notions (rather than lexemes, concepts or semes) having certain points of contact with the extra-linguistic world (e.g. Subject, Time, etc.) and being defined in terms of complex systems of relationship. To account for the association of bundles of physico-cultural properties with such diverse linguistic categories as those of assertion, negation, interrogation and thematic organisation, each notional domain requires the establishment of a complementary component. Associated with each domain is a class of occurrences, both phenomenal and (meta-) linguistic, centred on a pole of attraction (Fr. *attracteur*) and characterised by a more-or-less degree of adherence to the domain. [Discussion of degrees of negation.]

84–603 Desselmann, Günther. Textlinguistische Erkenntnisse und Fremdsprachenunterricht. [The relevance of text linguistics for foreign language teaching.] *Deutsch als Fremdsprache* (Leipzig, GDR), **21**, (1984), 28–36.

Of the two main areas of text-linguistic research, the grammatical microstructure of texts and their communicative properties, the latter is considered of greater importance to language teaching. Texts must be understood in relation to their situation, and types of text can be further defined in terms of certain linguistic forms and social conventions. Students can be coached in the relevant use of texts if such factors are borne in mind in the preparation and application of materials. While grammatical factors enter into the consideration of the 'well-formedness' of texts, communicative aspects of text structure are relevant to their 'well-composedness' (*Wohlkomponiertheit*). General principles of this type are acquired during first-language acquisition, but the language-specificity of their realisation is a potential source of difficulty for the learner of a second language. A number of examples of teaching materials are criticised in this context and the recommendation is for the considered use of text-linguistic knowledge.

84–604 Dugast, D. Définition des notions de répartition et de localisation des vocables dans le discours. Pour une réhabilitation de la loi de Poisson. Essai de sémantique quantitative. [Defining the notions of distribution and localisation of words in discourse. Towards a rehabilitation of Poisson's Law. Essay in quantitative semantics.] *Cahiers de Lexicologie* (Paris), **42** (1983), 3–27.

This article studies word distribution in discourse from two points of view: in its usefulness for investigating themes, though one should be aware that the terms designating the theme of a text are not necessarily the most frequent ones nor are they always present in the text; secondly, in statistical applications, enabling one to quantify features of distribution or localisation. Due consideration is given to the normal law, which is rarely applicable, the Poisson distribution law based on the division of a text into equal parts, and the hypergeometric law applied to the intervals between occurrences. The Poisson law merits rehabilitation, making possible as it does the direct obtaining of distribution and localisation ratings, and the examination of text segments of unequal length. In a supplement, the recent utilisation by P. Vandebueque of the binomial law's probability tables makes it possible to test, without any calculation, the distribution of all text types, and the results are compared to the preceding calculations. There emerges an array of striking facts which would seem to open the door to semantic considerations.

84–605 Haiman, John (U. of Manitoba). Iconic and economic motivation. *Language* (Baltimore, Md), **59**, 4 (1983), 781–819.

The distance between linguistic expressions may be an iconically motivated index of the conceptual distance between the terms or events which they denote. But the length of an utterance may also correspond to the extent to which it conveys new or unfamiliar information. Reduced form may thus be an economically motivated index of

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familiarity. Much of the arbitrariness of grammatical structure arises where equally plausible motivations such as iconicity and economy are, in effect, competing for expression on the same linguistic dimension.

84-606 Haiman, John. Paratactic 'If'-clauses. *Journal of Pragmatics* (Amsterdam), 7, 3 (1983), 263-81.

In a number of unrelated languages with a rich conditional morphology, the structure S_1 (and) S_2 may be interpreted as *If* S_1 , S_2 . The systematic homonymy of such paratactic or conjoined structures arises not from any definitional properties that co-ordinate clauses and *if*-clauses may share, but from 'accidental' similarities which are apparently misinterpreted as 'essential'. Such misinterpretations are frequent, and call into question the linguistic significance of a rigid distinction between essential and accidental properties of grammatical categories.

84-607 Korzen, Hanne and others (U. of Copenhagen). PC-grammar: an alternative? *Acta Linguistica Hafniensia* (Copenhagen), 18, 1 (1983), 5-53.

A theory of grammar is described in which the notions of paraphrase and component are central: it is therefore to be called PC-grammar. A paraphrase is defined as a linguistic expression, in artificial symbols, equivalent to one or more expressions in a natural language; the grammar consists of an indeterminate number of juxtaposed units or components. These include 'sentence-nuclear' components, which deal with the subject and verbal constituent of a sentence; some proposals for the analysis of the nucleus are put forward. For example, one nuclear component paraphrases sentences by means of semantic roles such as 'Agent', 'Topos' and 'Locus'. Finally, a sample analysis of a sentence in PC-grammar is provided.

84-608 Norrick, Neal R. (Gesamthochschule Kassel). The role of extralinguistic knowledge in lexical relations. *Papers in Linguistics* (Champaign, Ill), 15, 4 (1982), 241-54.

In addition to semantic lexical relations which can be represented by intersecting, hierarchically structured classes, relations between lexical entries within non-adjacent categories must be described. Semantic and pragmatic *via*-rules provide a natural account of such relations. A *via*-rule attached to a lexical entry identifies another entry related to it, and cites the semantic or pragmatic principle establishing the connection. Extralinguistic knowledge of an etymological, historical or object-specific type may be necessary for speakers to recognise certain lexical relations. *Via*-rules can include items of extralinguistic information which, along with the principle cited, lead deductively to the intended relation.

84-609 Riddle, Elizabeth and Sheintuch, Gloria. A functional analysis of pseudo-passives. *Linguistics and Philosophy* (Dordrecht), 6, 4 (1983), 527-63.

Pseudo-passives cannot be adequately characterised in terms of semantic unity and transitivity, affectedness, case relations, theme/topic, and conversational implicature. Rather, the crucial condition on the occurrence of any NP as a passive subject is that

its referent play the most prominent role in the eyes of the speaker within the situation described by the passive clause. Role prominence (in contrast to the notion of theme) should be considered first a psychological notion, and derivatively a property of subject NPs. The fact that it is not possible to offer an algorithm for determining what causes some entity or concept to be viewed as role-prominent does not weaken the analysis. What is important is that speakers have the extralinguistic cognitive ability to make decisions about prominence and that the grammar has access to such information to make it possible for a particular point of view to be conveyed.

PHONETICS AND PHONOLOGY

84–610 Connell, Bruce A. and others. (U. of Alberta, Edmonton). Experimental evidence of interaction between tone and intonation in Mandarin Chinese. *Journal of Phonetics* (London), 11, 4 (1983), 337–51.

This paper reports on an experiment designed to determine how far the shape of a tone in Mandarin Chinese can be changed before it is consistently recognised as a different tone. The pitch contour of naturally produced monosyllabic words was raised or lowered to simulate the effects of intonation on sentence-final syllables. These were then presented to a group of native Chinese speakers for tone identification. Results indicate that perceptual changes in tone can arise and that these changes correspond generally with expectations based primarily on production data. The recognition of tone appears to be stable over a wide range of pitch contour changes.

84–611 Couper-Kuhlen, Elizabeth. Intonatorische Kohäsion. Eine makroprosodische Untersuchung. [Intonational cohesion. A macroprosodic study.] *LILI: Zeitschrift für Literaturwissenschaft und Linguistik*, (Göttingen, FRG), 49 (1983), 74–100.

The role of intonation in text and discourse is examined. It is shown that text/discourse is segmented into parts and that the relationship between these parts is signalled by the interaction of two features: terminal low-to-bottom pitch level, and following high/mid/low onset height. Furthermore, the tone-units in each part are shown to cohere by means of prosodic cohesive devices such as reduplication and subordination, which create patterns with respect to onset level and to nuclear movement. Such macroprosodic devices serve both organisational and rhetorical functions.

84–612 den Os, E. A. Stress-timed and syllable-timed languages. *PRIPU* (Utrecht), 8, 2 (1983), 12–23.

Instrumental investigations have failed to find pure isochrony in either stress-timed or syllable-timed languages. Nevertheless, the tendency in stress-timed languages to stress one of a sequence of several normally unstressed syllables when these lie between two stressed syllables points to an underlying isochrony, as does the fact that the omission of syllables in speech errors tends to improve the rhythmic structures. The perception of isochrony, on the other hand, may relate to perceptual thresholds below which no durational difference is heard. In fact, the regularity of occurrence of stress

varies little from language to language, of whatever type. The perception of rhythmic differences between the two types may be attributed to three factors found in stress-timed languages: their more complex syllable structure, the relatively greater duration of their stressed syllables compared with unstressed syllables and the phenomenon of vowel reduction.

84-613 Flege, James Emil (U. of Alabama, Birmingham) and **Hammond, Robert M.** (Miami-Dade Community Coll.). Mimicry of non-distinctive phonetic differences between language varieties. *Studies in Second Language Acquisition* (Bloomington, Ind), **5**, 1 (1982), 1-17.

A delayed mimicry paradigm was used to assess speakers' awareness of non-distinctive phonetic differences which in part distinguish languages. The notion of 'phonological filtering' implies that second-language learners may not be able to perceive phonetic differences between their native language and a foreign language unless the phonetic differences are linguistically relevant in the native language. If cross-language phonetic differences are in fact perceived poorly, it is unlikely that phonetic modification will occur in the course of naturalistic second-language acquisition. In this study native English speakers familiar with Spanish-accented English attempted to read sentences with a Spanish accent. Acoustic measurements showed that the two phonetic characteristics of English – the long VOT values associated with /p, t, k/ and final-syllable lengthening – were altered in the direction of Spanish and Spanish-accented English. These results provide tentative evidence that non-distinctive phonetic differences between languages are detectable by language learners and thus do not present an insuperable barrier to phonetic learning in second-language acquisition.

84-614 Halle, Morris (Massachusetts Inst. of Tech.). On distinctive features and their articulatory implementation. *Natural Language and Linguistic Theory* (Dordrecht), **1**, 1 (1983), 91-105.

Phonological rules of the type seen in *Preliminaries to speech analysis* are expressed in terms of distinctive features that generalise particular associations of articulatory and acoustic features, whether these are in a one-to-one relationship or (as where labiality shows either negative formant transitions or falling burst spectrum, according to environment, or where either vocal cord stiffness or vocal cord spreading gives the acoustic effect of voicelessness) in a many-to-one relationship. In the present paper distinctive features are seen as controls in the central nervous system that are connected to the human motor and auditory systems; in speech production they activate the muscles that move the articulators.

A model for the production of articulatory configurations is presented that is compatible with phonological rules and (*contra* the separate IPA charts) is applicable to both vocalic and consonantal articulations; tentative circuit diagrams are also provided. The [high], [low] and [back] binary features control the body of the tongue and define six vowel articulations as well as four consonantal ones (as in *The sound pattern of English*). The tongue blade is controlled by [coronal] and the lower lip by

[labial]. Most features are to be associated with paired sets of agonistic and antagonistic muscles. Those controlling the tongue body, however, are associated with five distinct muscles [circuit modelling their excitation states]. Vowels require a further mechanism that restricts the degree of muscular contraction compared with that required for consonants.

84–615 Henton, C. G. (U. of Oxford). Changes in the vowels of received pronunciation. *Journal of Phonetics* (London), **11**, 4 (1983), 353–71.

A comparison of the formant frequencies for eleven pure vowels spoken by males from data bases for Received Pronunciation (RP) assembled 20 years apart reveals significant differences. The values for F1 and F2 for the majority of vowels, excluding the close back vowels, appear to have decreased by a perceptible amount, although those for F2 to a lesser degree.

Reasons for the overall apparent centralisation of the vowels are discussed, and possibilities examined include: physiological (increase in the height and weight of the population), phonological and articulatory-acoustic. Attention is drawn to the problems involved in each of these kinds of inference. However, simulated vocal tract cross-sections, produced from our acoustic data according to the model of Ladefoged *et al.* (1978), do seem to be in accordance with the centralisation hypothesis. Socio-phonetic influences are also explored and the future of RP as a dialect considered.

84–616 Ladd, D. Robert and others. Parametrische und kategorische Ansätze bei der Erforschung intonatorischer Funktion. [Parametric and categorical approaches in the investigation of intonational function.] *LILI: Zeitschrift für Literaturwissenschaft und Linguistik* (Göttingen, FRG), **49** (1983), 124–34.

Methodological differences between experimental psychology and linguistics in their approaches to the study of intonational function can be traced to differences in underlying theoretical assumptions about the nature of intonational cues. Psychological approaches presuppose parametric or gradient distinctions while linguistic approaches assume categorical ones. Since there is adequate evidence for both points of view, the two aspects of intonation need to be integrated in theoretical models and in research strategies. A new phonological model of intonation is summarised, and experiments based on it are described.

84–617 Ladd, D. Robert (Cornell U.) Phonological features of intonational peaks. *Language* (Baltimore, Md), **59**, 4 (1983), 721–59.

A new model of intonational phonology is here developed, based primarily on the 'tone sequence' approaches of Bruce and Gårding (1978) and Pierrehumbert (1980). As in those works, contours are seen as sequences of pitch accents composed of high and low tones. Unlike those works, this model uses cross-classifying features to represent the scaling (height) of tones, and the alignment of tones in time relative to their associated syllables. This form of representation permits both the specification of phonetic detail and the formulation of phonological generalisations. Three features –

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[delayed peak], [down-step], and [raised peak] – are introduced; to illustrate the type of description they make possible, largely familiar data from English, Dutch, Hungarian and Rumanian are reanalysed in these terms.

84-618 Leather, Jonathan (U. of Amsterdam). Speaker normalization in perception of lexical tone. *Journal of Phonetics* (London), **11**, 4 (1983), 373–82.

Listeners' decisions on vowel and consonant identity have been shown to depend upon inferences about the properties of the individual speech source, but little empirical attention has been given to (theoretically necessary) speaker-normalisation in the recovery of linguistically significant pitch information from voice fundamental frequency (F0). In the investigation reported here, two sets of synthetic Mandarin tone stimuli, some with lexically ambiguous F0 contours, were embedded in natural speech utterances of two native speakers with different but overlapping voice ranges, and presented in a lexical identification test. While individual listeners differed somewhat in the acoustic criteria by which they apparently decided lexical identity, all listeners significantly assigned 'ambiguous' stimuli with identical absolute F0 contours to different lexical categories depending on which of the speakers was heard to 'produce' them. These results indicate that in the perceptual processing of F0, phonetic decisions are indeed referenced to an inferred scaling of the source voice range.

84-619 Lodge, K. R. (U. of E. Anglia). The acquisition of phonology: a Stockport example. *Lingua* (Amsterdam), **61** (1983), 335–51.

The strategies of a child aged 3;9 in acquiring non-standard (Stockport) phonology are studied from connected speech data and a comparison made with the adult system. Contiguous consonantal harmony (or assimilation) is found to be similar to that in adult speech, while earlier processes of non-contiguous harmony are found only in unfamiliar forms or where a sound-type (viz. fricatives) has not yet been mastered. The substitutes for adult fricatives can be explained in terms of distribution within the syllable; adult 'overlapping' consonants (i.e. intervocalic consonants that may be assigned simultaneously to two syllables, as in [da₁[d]₂e]) tend to be treated by the child as syllable-final. His simplification of consonant clusters, interpreted in terms of dependency phonology, and application of nasal harmony do not entirely mirror the same processes in adult speech. Study of these aspects of the acquisition of phonology indicates that the child first gains motor control and then progressively learns where to apply it in accordance with the adult system. Complete motor control is not, however, attained even by some adults [discussion of the Stockport realisation of /r/ as [v]].

SOCIOLINGUISTICS

84–620 Fasold, Ralph W. (Georgetown U.). The amazing replicability of a sociolinguistic pattern. *Papers in Linguistics* (Champaign, Ill), **15**, 1 (1982), 1–13.

The interaction of linguistic variability and social factors has often been demonstrated in sociolinguistic research. Similar patterns have been found in studies done with different populations and even with more than one data set drawn from the same sample, but never have similar patterns been reported from repeated sampling from the same population. In the study reported here, the interaction between class and race and the pronunciation of the vowel nucleus in the word *nine* was found to be replicable at a high degree of statistical significance in twelve samples drawn from speakers in Washington, D.C. over a six year period. At the same time, no significant patterns were observed in the samples when sex and age were correlated with the same pronunciation.

84–621 Grünert, Horst. Politische Geschichte und Sprachgeschichte. Überlegungen zum Zusammenhang von Politik und Sprachgebrauch in Geschichte und Gegenwart. [Political history and the history of languages. Considerations on the relationship between politics and the use of language in history and contemporary life.] *Sprache und Literatur* [formerly *Linguistik und Didaktik*], (Munich), **17**, 2 (1983), 43–58.

Politics is inextricably linked with linguistic acts. Systems of authority differ in their forms, but all have in common the fact that language, or more exactly texts or discourses, function as instruments for maintaining and exerting power, or for gaining and restricting power. Language is always realised as text. The context in which a text can be situated is characterised as a 'language game', following Wittgenstein. Using this notion heuristically, the author describes how the relation between politics and language has changed over time. The history of language is deemed to be the history of language games – the history of the toleration and prevention of language games and the implementation and effect of language games.

Four types of 'language game' are illustrated by typical texts and analysed in terms of their development and the shift in their relative currency. The first is 'regulative' – typically decrees, laws, constitutions, etc. The second is 'instrumental' – these are defined as the converse of the regulative; petitions, demands, claims, etc., of an oppositional nature are analysed. The third category is the integrative. Its function is the creation of solidarity and community of belief and action; the texts through which it is realised include party manifestoes, etc. The fourth kind is the informative-persuasive language game, which has developed with the growth of public opinion in this century; its texts are both political theory and newspaper comment and parliamentary debate.

84–622 Holes, Clive D. (U. of Salford). Patterns of communal language variation in Bahrain. *Language in Society* (London), **12**, 4 (1983), 433–57.

The Arabic-speaking speech communities of the Persian Gulf state of Bahrain are undergoing a special kind of sociolinguistic change which requires the recognition of both dialectal and supradialectal prestige systems. Variation can be accounted for in terms of the articulation/conflict of these two systems. Although it appears at first sight that all of the observed variation could be explained at the phonological level, a closer analysis of the data suggests that, psycholinguistically and sociolinguistically, a lexical explanation fits part of it better.

84–623 Rubin, Donald L. (U. of Georgia) and **Nelson, Marie Wilson** (George Mason U.). Multiple determinants of a stigmatised speech style: women's language, powerless language, or everyone's language? *Language and Speech* (Hampton Hill, Middx), **26**, 3 (1983), 273–90.

Previous research identifies a number of factors associated with a socially stigmatised speech style known initially as 'women's language' and subsequently as 'powerless language'. This study examines the effects of speaker sex, socio-economic status, ability, communication apprehension, rigidity, and question type on the incidence of 16 style markers and on verbosity in simulated job interviews. Results reveal limited evidence of the impact of social and psychological factors, but pervasive potency for question type. Open questions constitute an element of interaction structure that engenders expressions of tentativeness and uncertainty. Under these circumstances, it is more reasonable to change dysfunctional linguistic stereotypes than common, contextually induced language behaviours.

84–624 Tanaka, Shigenori and Kawade, Saiki (Columbia U.). Politeness strategies and second language acquisition. *Studies in Second Language Acquisition* (Bloomington, Ind), **5**, 1 (1982), 18–33.

The two studies reported here investigated the notion of 'politeness' as perceived by native speakers of English and advanced learners of English. The questions which concerned us included: (1) Are native speakers of English really aware of the varying degree of politeness conveyed by a given English sentence? (2) Is there a high correlation between native speakers of English and advanced learners of English in their politeness judgements? (3) Do native speakers of English really use different politeness strategies in different situations? (4) Is there a high correlation between native and non-native speakers of English in the use of politeness strategies? From a theoretical point of view, Study I was concerned with Lakoff's claim that politeness increases with decreasing imposition; Study II was concerned with the distance-politeness hypothesis which predicts that one will use polite strategies in situations where he perceives himself as psychologically and/or socially distant from his addressee. From a pedagogical point of view, the comparison of the two studies here suggested that the learner's ability of judging politeness in the target language does not necessarily mean that he can use politeness strategies appropriately in actual communication situations.

84–625 Witkowski, Stanley R. and Brown, Cecil H. (Northern Illinois U.). Marking-reversals and cultural importance. *Language* (Baltimore, Md), **59**, 3 (1983), 569–82.

Unmarked terms in the lexicon, compared to marked ones, are typically more frequent in use, less complex in form, and acquired earlier by children learning a language. Terms which are unmarked in single languages are often unmarked in all languages; however, marking is not always invariable across languages, or through time within individual languages. The present work focuses on variation in cultural importance as a factor which influences marking. As the importance of a referent changes within a speech community, the marking value of its label alters, often resulting in lexical change. Introductions of previously unknown referents in culture contact situations – e.g. domestic plants and animals – frequently have led to shifts in cultural importance. Such examples illustrate how cultural factors, by influencing the assignment of marking, often play an important role in lexical change.

PSYCHOLINGUISTICS

84–626 Abramovici, Shimon (U. of Edinburgh). Lexical information in reading and memory. *Reading Research Quarterly* (Newark, Del), **19**, 2 (1984), 173–83.

One of the fundamental issues on which different theories of reading and memory disagree is whether lexical information is retained in memory. This study investigated this question by comparing the performance of two groups of subjects on a modified cloze test; one of these groups read the story from which the test was constructed before attempting the test whereas the second group did not. Approximately one week later both groups were retested. The performance of these groups demonstrated that lexical information was retained in memory, thus supporting the claim that lexical information persists in memory representations of meaning.

84–627 Bernstein, Lynne E. (J. F. Kennedy Inst., Baltimore, Md). Perceptual development for labelling words varying in voice onset time and fundamental frequency. *Journal of Phonetics* (London), **11**, 4 (1983), 383–93.

The speech waveform is highly redundant, providing the listener with ensembles of potentially informative acoustic characteristics. Although it can be demonstrated that adults can respond differentially to independently varied acoustic-phonetic cues, it is likely that perceptual learning (Gibson, 1966) during childhood is required in order to achieve this level of speech processing. The voicing distinction in English (e.g. /g/ versus /k/) provides an excellent context for studying developmental changes in the perception of acoustic-phonetic information. It was hypothesised that among the acoustic cues to the prevocalic voicing distinction, voice onset time (VOT) would take priority as an effective cue over fundamental frequency (F0). A speech perception test was administered in which words that varied phonemically in their initial consonant (i.e. *gate* v. *Kate*) were presented in a two-alternative forced choice labelling procedure

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to four- and six-year-old children and adults. The stimuli were synthesised and varied factorially in terms of VOT and F0. Results shows that, in contrast with adults, for children even at age six years, F0 is not a factor in judging the voicing of the prevocalic stops /g/ and /k/. Results contribute to growing evidence that speech perception undergoes significant change during childhood.

84–628 Bowerman, Melissa (Max-Planck Inst. for Psycholinguistics, Nijmegen, The Netherlands). How do children avoid constructing an overly general grammar in the absence of feedback about what is not a sentence? *Papers and Reports on Child Language Development* (Stanford, Calif), **22** (1983), 23–35.

The paper examines a current innatist approach to the problem of ‘no negative evidence’ in the light of some child language data. The problem is that although Chomsky saw children as using incoming language data, together with innate linguistic knowledge, to formulate hypotheses about grammatical rules, which they then test against further data and revise or discard as necessary, it seems that children do not in fact receive the kind of negative evidence which they would need to allow them to revise over-inclusive rules. Braine (1971) argued therefore that Chomsky’s hypothesis-testing approach could not be correct. The child must acquire language with procedures for which positive evidence alone is sufficient.

Baker (1979) suggested that not all overgeneralisation need to be troublesome with respect to a theory of language acquisition. He distinguished between ‘benign’ and ‘embarrassing’ rule exceptions. He takes the no-negative evidence problem as strong evidence that children are innately constrained. The lexicalist approach to grammatical theory calls for a reduction in the power of the syntactic component in favour of a richer lexicon. It proposes that rules with lexical exceptions should not be viewed as syntactic rules at all. If there are no general syntactic rules, the child does not have to learn the (embarrassing) exceptions to those rules. He waits for positive evidence that the form can appear in a given syntactic context, and only then enters it in his lexicon.

Close observation of children’s speech, however, shows that children make many mistakes involving embarrassing exceptions. If at least some genres of these exceptions are rule-governed and not mere analogies, we must credit children with some procedure(s) for eventually identifying the exceptions. It may be that children do get the necessary corrective feedback, but it cannot tell the child what is wrong. Children may possibly keep track of the contexts in which particular forms do *not* occur, along with those in which they do, unlikely though this is.

84–629 Brown, Roger and Fish, Deborah (Harvard U.). The psychological causality implicit in language. *Cognition* (Lausanne), **14**, 3 (1983), 237–73.

The authors are concerned with the causality implicit in English verbs that name interactions, either mental or behavioural, between two persons, verbs such as *like*, *notice* (mental), and *help*, *cheat* (behavioural) in such a context as *Ted – Paul*. Using four different methods, it is shown that adult native speakers think of causality in such verbs as unequally apportioned between interactants. For behavioural (or action)

verbs greater causal weight is given to the Agent argument of the verb (e.g. *Ted in Ted helps Paul*) than to the Patient argument (*Paul*). For mental (or state) verbs greater causal weight is given to the Stimulus argument of the verb (e.g. *Paul in Ted likes Paul*) than to the Experiencer argument (*Ted*). For English verbs of the type studied, derivational adjectives often exist (e.g. *helpful, cheating, likeable, noticeable*). Such adjectives are attributive to one or the other arguments of the verb base (Agent or Patient; Stimulus or Experiencer). It is shown that the direction of causal attribution in the adjective (e.g. *helpful* is attributive to *Ted* the Agent; *likeable* is attributive to *Paul* the Stimulus) predicts the primary causal weightings assigned in our experimental tasks. In the English language adjectives derived from action verbs are almost attributive to the Agent and adjectives derived from state verbs to the Stimulus. Because certain facts about English morphology predict certain ways of thinking about causality. The authors' main finding may seem to be a Whorfian one, a demonstration that language affects thought. However, it is not that but rather a demonstration that two modes of thought (the Agent–Patient Schema and the Stimulus–Experiencer Schema) affect language use. The schemas are universals of human thought.

84–630 Chabot, Robert J. and others (U. of Missouri). The speed of word recognition subprocesses and reading achievement in college students. *Reading Research Quarterly* (Newark, Del), **19**, 2 (1984), 147–61.

Relationships between the speeds of word encoding, lexical access, semantic memory access processes, and reading achievement were investigated using college undergraduates as subjects. In Experiment 1 subjects made decisions about pairs of words using visual, name, or semantic information. In Experiment 2, subjects used semantic information to make categorical decisions about word or picture pairs. Reading achievement was measured for all subjects using the Nelson–Denny Reading Test and a prose comprehension task. The speed of word recognition subprocesses accounted for significant proportions of the variance in reading achievement. However, reading achievement was most strongly related to the speed of semantic memory access for both words and pictures. These results suggest reading deficiencies may occur as a result of either slow semantic memory access speeds or a lack of organisation of information in semantic memory.

84–631 Chiat, Shulamuth (City U., London). Why 'Mikey's' right and 'my key's' wrong: the significance of stress and word boundaries in a child's output system. *Cognition* (Lausanne), **14**, 3 (1983), 275–300.

The systematic errors children make in the course of phonological development, like adult production errors and adult phonological processes, can provide evidence of language production mechanisms. A detailed investigation of the environments in which velar stops are fronted by a phonologically delayed child reveals that fronting is dependent on both word stress and word boundaries; that it shows lexical exceptions; and that it occurs in output only. This distribution suggests that the child has output lexical representations which are independent of input lexical representations, and that the fronting error occurs in these output representations. It also

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suggests that prosodic features are crucial to the identification of articulatory features within these representations. Such an analysis has implications for theories of lexical access, and for the development of lexical access in children.

84–632 Deutsch, Werner (Max-Planck-Inst. für Psycholinguistik) and **Ludwig, Nancy** (U. of California, Berkeley). Form and function in the development of possessives. *Papers and Reports on Child Language Development* (Stanford, Calif), **22** (1983), 36–42.

Contrasting views of child language acquisition are the ‘descending approach’ which measures children’s production and comprehension of language by the rules and conventions which apply to the adult form of the language, and the ‘ascending approach’, which emphasises the uniqueness of child language as a system with its own typical rules. Research which exemplifies the ascending approach is described here, the aim being to reconstruct how the relations between forms, functions and meanings of possessives in two children appeared in certain phases of language development, and how these relations changed during the course of development; also to investigate to what degree the developing relations were constructed by the children themselves, or whether they should be regarded as a reflection of the linguistic input.

The children used both nominal and pronominal forms to refer to themselves as possessors throughout the 11-month period of the study. The nominal form neither completely disappears when the pronominal form appears, as might be expected, nor fades out in favour of the pronominal form with time. Further analysis showed that use was not clearly determined by the type of possession. Functional analysis distinguished two functions: indicative and volitional. The indicative function is used to indicate that the possessor is a sort of attribute of the object or to pick out a specific object when several exist and is expressed by using the child’s own name (e.g. *what kind of truck? Adam truck*); the volitional is used to request an object that the speaker does not possess but would like to, or to maintain possession of an object believed to be his/her own, and is expressed by using the pronominal form (e.g. *Dat no Mommy knife. Dat a my knife*).

Both children appear to construct a form–function relationship that does not exist in the language they are acquiring and continue to use their own rational construction for a fairly long time in a systematic and predictable way.

84–633 de Villiers, Jill (Smith Coll.). Patterns of verb use in mother and child. *Papers and Reports on Child Language Development* (Stanford, Calif), **22** (1983), 43–8.

The contexts of use of particular verbs in parental speech were studied to discover whether some verbs occurred in a greater variety of contexts than others, and then to determine whether the child allowed those verbs different privileges of occurrence in his developing rule system. Transcripts of Adam and his mother were used for the analysis. Thirteen different ‘contexts’ for verb use were identified, defined by their immediately adjacent morphemes.

Results showed that the pattern of use in the mother’s speech was closely mirrored

in Adam's speech. Comparison with the speech of another mother revealed substantial similarity both between the two mothers and between Adam and the two mothers on the variety-of-use variable, but Adam's mother was nevertheless a significantly better predictor of his pattern of verb use than the unacquainted mother. This matching of use is greater than that predicted by the language as a whole, or even by the language of adults to small children. The reason for this cannot be singled out by the present data, but the possibilities are imitation or, more likely, monitoring of the various verb uses as an index of their potential for participation in new constructions. This latter solution is proposed as a bridge between the classical and lexicalist approaches.

84–634 Galloway, Linda M. (U. of California at Los Angeles). *Études cliniques et expérimentales sur la répartition hémisphérique du traitement cérébral du langage chez les bilingues: modèles théoriques.* [Clinical and experimental studies on hemispheric dominance in language processing in bilingual speakers: theoretical models.] *Langages* (Paris), **72** (1983), 79–113.

A critical review of 100 studies on the neuropsychology of bilingualism and reports of 400 cases of aphasia in polyglots leads to several conclusions and the formulation of theoretical models for future research. Variables not usually controlled for are taken into account (e.g. language type, writing system, experimental task, personal characteristics, degree and mode of learning). Greater right-hemisphere (RH) dominance is found in fluent bilinguals than in monolinguals. Greater left-hemisphere (LH) dominance is found in beginning second-language learners than in more advanced ones for reading tasks and in those taught by formal and/or reading methods than in those learning informally and/or orally. Deprived social minorities show greater RH dominance. No greater dominance is found for particular first languages. The LH predominates for the processing of phonetically based scripts, the RH for ideographically based ones. The RH is used for non-linguistic tasks in languages learnt at or after puberty, while the LH is used in languages learnt before puberty.

A model emerges: LH dominance is associated with matters of linguistic competence; RH dominance with skills related to communicative competence. Future research should use monolingual control groups and evaluate inter-sex differences. [Tabular appendices list and annotate major studies and reports.]

84–635 Garnham, Alan (U. of Sussex). What's wrong with story grammars. *Cognition* (Lausanne), **15**, 1/3 (1983), 145–54.

A number of current theories of story understanding are based on the idea of a mentally embodied story grammar. Recent discussions of the adequacy of such theories have been inconclusive. Story grammarians have omitted to specify their theories in sufficient detail, and both they and their critics have, therefore, failed to notice certain fundamental inadequacies in those theories. In particular, there has been little discussion of how story structures are computed, and it has been noted that stories cannot be parsed in the same way as sentences. The reason is that there can be no finite lexicon of story elements containing information about the node categories to which those elements belong. No alternative suggestion about the computation of

story structure has been made. A different account of story comprehension is outlined, which dispenses with the parallel between sentence processing and story processing, and which assumes that almost none of the stored knowledge used in story understanding is specific to stories.

84-636 Gordon, Harold W. and Weide, Robert (U. of Pittsburgh). La contribution de certaines fonctions cognitives au traitement du langage, à son acquisition e à l'apprentissage d'une langue second. [The contribution of certain cognitive functions to language processing, language acquisition and second-language learning.] *Langages* (Paris), **72** (1983), 45-56.

The localisation of language functions in one or other cerebral hemisphere is a misleading and false concept. For example, performance by Japanese aphasics in processing the phonetically or the ideographically based script varies according to the task (real or invented, one- or two-character words). Hemispheric dominance in second-language tasks changes from right to left with increasing familiarity with the language. In general, tasks involving sequential, analytic and phonetic processing skills call on the left hemisphere (LH); pattern-identification and memory tasks call on the right hemisphere (RH). Mother-tongue structure may influence perception of the task; phonemic analysis favours the LH, acoustic analysis the RH. [Extended discussion of tests.] Students finding second-language learning easy perform better in tests of LH function; those finding it difficult perform better in tests of RH function. Students performing well in Michigan reading and oral comprehension tests showed positive correlation with LH function tests; results in grammatical (multiple-choice) tests showed correlated with RH competence. There is doubt as to whether members of different language groups differ in cerebral organisation.

For monolinguals most cognitive functions appear to be localised in the LH; certain languages and the demands of learning a second language also call on functions in the RH. More data are needed to determine the interaction of cognitive functions in language acquisition in relation to the environment and the processes of maturation.

84-637 Hatano, Giyoo (Dokkyo U.) and Osawa, Keiko (U. of Tokyo). Digit memory of grand experts in abacus-derived mental calculation. *Cognition* (Lausanne), **15**, 1/3 (1983), 95-110.

Three abacus-derived mental arithmetic experts were given various memory tasks. They had a much larger digit span than the average, but their span for letters of the alphabet or fruit names was not unusual. They could reproduce digits, but not object names, backwards as quickly as forwards; their memory for digits, but not for letters, was to some extent compatible with a preloaded memory for fruit names; their digit memory was disrupted more by concurrent visual-spatial tasks than by aural-verbal tasks, while the reverse was true for their memory for letters. In these characteristics their digit memory differed significantly from that of the control subjects who had had negligible experience in abacus operation, while there was no difference in the memory for non-digit materials. After other series had been memorised, the experts could not recall any part of the preceding series, nor could they recognise it, though

they could retain completely a near-span digit series for 30 seconds. They seemed to have a 'mental abacus' or specific device to represent visuo-spatially a number comprising many digits just long enough for calculation.

84-638 Karmiloff-Smith, Annette. Language development as a problem-solving process. *Papers and Reports on Child Language Development* (Stanford, Calif), **22** (1983), 1-22.

Models of language acquisition must include a higher level of description which attempts to cut across domains rather than being restricted to the specific domain of language. Children's narratives display three developmental phases in the solving of problems such as mapping between linguistic terms and their referents and generating cohesive narrative units; these linguistic tasks, however, can be related to more general strategies in which children can be seen to move from data-driven to top-down control processes. The results from a non-linguistic experiment, in which children were required to make balanced arrangements of blocks, support this view.

84-639 Kimmel, Susan (St John's U.) and MacGinitie, Walter H. (U. of Victoria). Identifying children who use a perseverative text processing strategy. *Reading Research Quarterly* (Newark, Del), **19**, 2 (1984), 162-72.

The purpose of this study was to identify children who employ a perseverative text processing strategy and to explore effects of this strategy on recall and comprehension of text. A screening test requiring subjects to choose the main idea of 24 deductively structured (main idea first) and 24 inductively structured (main idea last) paragraphs was administered to 255 children in grades 5 and 6. The 16 students with the largest deductive-inductive differences were matched with a comparison group of 16 children who performed as well overall, but whose scores did not show such differences. The two groups completed four listening and reading tasks dealing with inductively and deductively styled materials. The students with large difference scores on the screening test performed on all tasks as if they were using perseverative strategies. Paragraph styles confusing to students using perseverative strategies are commonly found in school texts.

84-640 Lapointe, Steven G. (Johns Hopkins U.). Some issues in the linguistic description of agrammatism. *Cognition* (Lausanne), **14**, 1 (1983), 1-39.

In recent work on the aphasic syndrome of agrammatism, Kean (1980) has argued that a description of the impaired *v.* retained elements can be provided only at the linguistic level of representation that mediates between syntactic and phonological structures. In this paper it is shown that a plausible alternative description can in fact be given which is stated in terms of the morphological properties of items inserted into syntactic structures within a unified theory of morphology, and that this alternative description can lead to a more detailed account of the processing mechanisms impaired in this syndrome.

84-641 Levelt, Willem J. M. (Max-Planck-Inst. für Psycholinguistik). Monitoring and self-repair in speech. *Cognition* (Lausanne), **14**, 1 (1983), 41–104.

Making a self-repair in speech typically proceeds in three phases. The first phase involves the monitoring of one's own speech and the interruption of the flow of speech when trouble is detected. From an analysis of 959 spontaneous self-repairs it appears that interrupting follows detection promptly, with the exception that correct words tend to be completed. Another finding is that detection of trouble improves towards the end of constituents. The second phase is characterised by hesitation, pausing, but especially the use of so-called editing terms. Which editing term is used depends on the nature of the speech trouble in a rather regular fashion: speech errors induce other editing terms than words that are merely inappropriate, and trouble which is detected quickly by the speaker is preferably signalled by the use of *uh*. The third phase consists of making the repair proper. The linguistic well-formedness of a repair is not dependent on the speaker's respecting the integrity of constituents, but on the structural relation between original utterance and repair. A bi-conditional well-formedness rule links this relation to a corresponding relation between the conjuncts of a co-ordination. A similar relation holds also between question and answer. In all three cases the speaker respects certain structural commitments derived from an original utterance. The editing term plus the first word of the repair proper almost always contain sufficient information for the listener to decide how the repair should be related to the original utterance. Speakers almost never produce misleading information in this respect.

Speakers have little or no access to their speech production process; self-monitoring is probably based on parsing one's own inner or overt speech.

84-642 Levy, Yonata (Hebrew U., Jerusalem). It's frogs all the way down. *Cognition* (Lausanne), **15**, 1/3 (1983), 75–93.

This paper challenges the major theoretical motivation underlying a stage model for language development (Gleitman, 1981), namely, that early grammars are exclusively of a semantic nature. Data concerning the development of gender systems in a variety of languages are presented. Particularly, the development of the use of referential pronouns and inflected verb forms and the role of the animate/inanimate distinction in the development of linguistic gender are seen to involve strictly formal non-semantic generalisations from their first appearances in children's language, ages 2 years and on. Early two-word stage grammar cannot then be exclusively 'semantic'. Since it already involves semantic as well as non-semantic generalisations, the more highly developed grammars of later phases need not trigger any qualitative changes that will warrant a stage model for language development.

84-643 Obler, Loraine K. (U. of Boston). La neuropsychologie du bilinguisme. [The neuropsychology of bilingualism.] *Langages* (Paris), **72** (1983), 33–43.

Pre-1970, research concentrated on the question of which language was recovered first by bilinguals suffering from aphasia and why. Towards the end of the period emerged

an interest in how bilinguals organised their two languages; two types, compound and co-ordinate bilingualism, were distinguished. This now appears to be a false dichotomy: a bilingual may organise different aspects of language in different ways. The right hemisphere of the brain seems to play a larger role in the way language is used by bilinguals. Whether the second language is learned formally or informally may be a factor here.

Key concepts in understanding language loss and recovery are: attrition (*détérioration*), the gradual loss of a language through lack of use; potency (*intensité*), or how is it that a language is represented in the brain with sufficient intensity that it is stable enough not to be lost even when the brain has suffered damage; and parsimony (*parcimonie*), the explanation of several phenomena by a single principle.

Bilinguals have been found to maximise the differences between their two languages in their speech. By combining a relatively unified system of perception with a relatively differentiated system of production they are able to pass as native speakers of either language.

84-644 Paradis, Michel (McGill U.) and Lebrun, Yvan (Free U., Brussels). La neurolinguistique du bilinguisme: représentation et traitement de deux langues dans un même cerveau. [The neurolinguistics of bilingualism: two languages in one brain.] *Langages* (Paris), **72** (1983), 7-13.

The authors of this introductory article to a special number of *Langages* devoted to the structure of the brain and bilingualism review research in this field over the past five years, recapitulate hypotheses generally current and briefly summarise the viewpoints of the other contributors to the issue.

It is evident that bilinguals differ markedly among themselves. The Department of Linguistics of McGill University, Montreal, has devised a standard form of interview for bilingual patients suffering from aphasia, comprising a detailed questionnaire designed to reconstruct the language history of the patient and a series of tests covering every aspect of language; tests now exist for 30 languages and will facilitate comparative studies.

84-645 Shatz, Marilyn and others (U. of Michigan). The acquisition of mental verbs: a systematic investigation of the first reference to mental state. *Cognition* (Lausanne), **14**, 3 (1983), 301-21.

It is generally recognised that the ability to contemplate and communicate about the knowledge, beliefs, and goals of oneself and others is a benchmark of human cognition. Yet little is known about the beginnings of this ability, in large measure because methods for accurately assessing very young children's ability have been unavailable. Here the authors present the results of using a method of convergent analyses of naturally occurring speech to assess the young child's ability to contemplate and communicate about mental state. The first study describes the frequency and function of verbs of mental reference such as *think* and *know* in the speech of one child from 2;4 to 4;0. The second examines shorter samples of speech collected from 30 two-year-olds over a 6-month period. Results from both studies suggest that the

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earliest uses of mental verbs are for conversational functions rather than for mental reference. First attempts at mental reference begin to appear in some children's speech in the second half of the third year. Since most of the children studied exhibited the linguistic knowledge necessary to make reference to mental states, we conclude that the absence of such reference earlier suggests that still younger children lack awareness of such states, or at the very least, an understanding of their appropriateness as topics of conversation.

84-646 Treiman, Rebecca (Indiana U., Bloomington). The structure of spoken syllables: evidence from novel word games. *Cognition* (Lausanne), **15**, 1/3 (1983), 49-74.

Several linguists and psycholinguists have proposed that the syllable has a hierarchical internal structure. Its primary constituents, according to the model, are the onset and the rime. The onset contains the initial consonant or consonant cluster. The rime contains the peak (vowel nucleus) and coda (final consonant or cluster). The psychological validity of this model was tested in seven experiments involving novel word games. The results provided strong support for the validity of onset and rime. Adults preferred rules that referred to these units over rules that referred to other units. Further, they learned rules that kept the onset and the rime intact more easily than rules that divided these units. The experiments did not find strong support for the notion that the rime is subdivided into peak and coda. Taken together, the results show that there is at least one level of structure intermediate between the syllable and the phoneme. Implications for several aspects of speech processing are discussed.

84-647 Tunmer, William E. and others. The development of young children's awareness of the word as a unit of spoken language. *Journal of Psycholinguistic Research* (New York), **12**, 6 (1983), 567-94.

Young children's awareness of the word as a unit of spoken language was investigated in a series of five experiments that required children aged from 4 to 7 years to segment spoken language strings into words. The results of the first three experiments suggest that young children have considerable success in segmenting spoken language materials, regardless of the grammaticality of the strings, and regardless of the grammatical form class, plurality, or syllabic length of the component words. The basis of such successful segmentation ability was considered further in a fourth experiment, which indicated that children may use stress as a basis of response. A fifth experiment therefore manipulated syllabic stress and morphemic structure to determine what response strategies are employed by children of different ages in segmenting speech. The results suggest that 4- to 5-year-old children respond primarily on the basis of acoustic factors such as stress, whereas somewhat older 5- to 6-year-old children respond on the basis of (unbound) morphemic structure. By age 7, most children have abandoned such strategies and now respond on the basis of word concept. Implications of these findings for reading acquisition are briefly indicated.

84-648 Zatorre, Robert J. (McGill U.). La représentation des langues multiples dans le cerveau: vieux problèmes et nouvelles orientations. [The representation of multiple languages in the brain: old problems and new orientations.] *Langages* (Paris), **72** (1983), 15–31.

Considerable research evidence indicates that language activities in the brain are lateralised to the left hemisphere. The research critically reviewed here has centred on the hypothesis that some of the language functions of bilingual or multilingual speakers are located instead in the right hemisphere. Multilingual aphasics have been found to suffer different types of impairment in their different languages. Much of the previous experimental research (tachistoscopic word presentation, dichotic listening, simultaneous tasks) is vitiated by failure to take account of all the relevant variables (e.g. matching of male and female subjects, age of acquisition of the languages, varying writing systems), or by faulty statistics, or is not directly comparable because of variations in tasks or stimuli.

There is little evidence at present to suggest a significantly different role for the right hemisphere in multilingual language processing. A pressing question for immediate research is whether different languages are represented in different areas of the *left* hemisphere. The most promising new group of research techniques available appear to be those which establish a topography of functional areas by measuring, for example, the level of oxygen consumption or blood flow when different cerebral areas are activated.

PRAGMATICS

84-649 Aston, Guy (U. of Bologna). An approach to some features of dialogue between competent and incompetent speakers of English. *Analysis Quaderni di Anglistica* (Pisa, Italy), **1**, 1 (1983), 143–162.

Much of the discourse presented in FL teaching material is based on native speaker models, yet dialogues in which non-native speakers participate are significantly different in such respects as the non-assumption of mutual understanding, reduced expectations concerning face-maintenance, and less well-coordinated turn-taking. These observations support the increasing emphasis in FLT on communicative strategies, in which the negotiation of meaning is of prime importance, since, though it may not appear so in native-speaker dialogue, it is crucial in non-native-speaker interaction.

84-650 Creider, Chet A. (U. of Western Ontario). Sectional and non-sectional organising strategies in discourse. *Papers in Linguistics* (Champaign, Ill), **15**, 1 (1982), 15–34.

Examination of spontaneous conversational (East Africa) and musical (Southern Spain) materials shows the existence of two distinct modes of discourse construction. One mode proceeds in a non-structural fashion (locally connected topical developments

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and transitions). The other mode involves the use of a higher level of formal organisation.

84–651 Davison, Alice. Linguistic or pragmatic description in the context of the performadox. *Linguistics and Philosophy* (Dordrecht), **6**, 4 (1983), 499–526.

A purely pragmatic account of the use of quantifiers and adverbials with speech acts cannot capture their arbitrary and near-regular linguistic aspects. At least some of the properties of sentences-as-speech-acts are shown to be syntactic or semantic. Boër and Lycan's performadox threatens the pragmatic account of such phenomena no less than the syntactic-semantic account, and thus offers no justification for preferring the former. The solution does not necessarily require a return to any strict form of the performative hypothesis.

84–652 Dry, Helen Aristar (U. of Texas). The movement of narrative time. *Journal of Literary Semantics* (Heidelberg, FRG), **12**, 2 (1983), 19–53.

Certain sentences in narratives trigger a perception of time movements; no morphological or syntactic account of this phenomenon can be provided, however. Such sentences make reference to temporal points, rather than spans of time, and these points are usually the endpoints of situations. This enables a more precise definition of narrative foreground: the foreground is composed of sentences which refer to sequenced points on a timeline. In this way several descriptions of foreground and event line put forward by discourse analysts and literary critics can be united.

84–653 Hoey, Michael (U. of Birmingham). A tentative map of discourse studies and their place in linguistics. *Analysis Quaderni di Anglistica* (Pisa, Italy), **1**, 1 (1983), 27–53.

Discourse is constructed and interpreted not only using cohesive links between adjacent clauses, but also with reference to a macrostructure. Some monologues can be usefully understood as having hierarchical structures, but in addition may be examined as if they were dialogues. As each sentence is processed, the reader develops changing expectations about what will follow and modifies his interpretation of what has gone; these expectations can be thought of as questions put by the reader to the writer, who can, in turn, manipulate his reader's expectations. Linguists who have claimed that there are a limited number of discourse structures are probably responding to the limited range a given culture actually uses frequently; the existence of such 'culturally popular patterns' may lead to over-simplified discourse analyses.

84–654 Jacques, Francis (U. of Rennes). La mise en communauté de l'énonciation. [The co-operative nature of discourse]. *Langages* (Paris), **70** (1983), 47–71.

Three problems are examined in the light of the postulate that any utterance has meaning only in so far as it is the result of a collaborative effort between 'utterers' in an interlocutory relationship: how such a relationship is recognised and

established; the conditions under which dialogue (rather than monologue) takes place (sharing of the here-and-now, establishment of semantic frames by shared presuppositions, assignment of discourse roles); how a consensus of understanding may be reached. Propositional content and illocutionary force are determined by a joint attempt to define the context, verbal and non-verbal, in which particular utterances are to have meaning. [Plea for the inclusion of pragmatics within an extended linguistics.]

84–655 Loffler-Laurian, Anne-Marie (CNRS, Paris). *Typologie des discours scientifiques: deux approches*. [Classification of scientific discourse: two approaches.] *Études de Linguistique Appliquée* (Paris), **51** (1983), 8–20.

It is possible to subdivide the category of scientific discourse according to subject-matter, e.g. astronomy, mathematics, medicine, etc. More useful from the point of view of the language used is a division based on the sender (specialist, journalist, teacher) and the recipient (fellow-specialist, educated public, wider public) of the message. If how items are defined (by description, equivalence, characterisation, analysis or function) is used as a criterion, four sub-categories of scientific discourse can be distinguished: specialised, semi-specialised, popularisation and didactic.

84–656 Popa-Burcă, Liana (Inst. for Ethnology and Dialectology, Bucharest). *Games, finite automata and speech acts*. *Revue Roumaine de Linguistique* (Bucharest), **28**, 4 (1983), 299–306.

Speech acts, being social actions involving two or more participants, may be modelled in game theory. The idealised speech act of asking – an instance of a co-operative, non-zero-sum game – is modelled here, using a generalised sequential machine which recognises strings of moves as belonging or not belonging to the game and keeps track of the participants' gains/losses.