1. What is Linguistics?
Keith Allan

‘What is linguistics’ serves as an introduction to the handbook. It describes what linguistics is understood to be about and what linguists do, in part by surveying all the major topics covered in the volume. Inter alia, it will present a brief synopsis of each chapter and may, on occasion, point to alternative views.

The chapter also presents a short history of linguistics to serve as cohesive background to the material presented by other contributors to the Routledge Handbook of Linguistics. This history focuses on the western classical tradition that forms the basis for present day linguistics, but also notes the existence and current relevance of other traditions. It includes assessment of the beliefs of those who have practised linguistic analysis and been enthused by the scholarly investigation of language and languages from ancient times through to today.

**Key words:** linguistics, language analysis, the study of language(s), philology, history of linguistics
2. Evolutionary linguistics
James R. Hurford

Considering languages and the language faculty in the light of their evolution adds a dimension of explanation and understanding that is not possible from purely synchronic study. There are two different evolutionary processes to consider, the biological processes leading to the unique language-readiness of our species, and cultural processes leading to the range of languages we have today. In biological evolution, information is coded and transmitted via DNA, with small mutations which may or may not lead to more advantageous performance. Cultural evolution proceeds by successive acts of learning over generations, again with some small innovations along the way, which may or may not take root in the language concerned.

We can make indirect inferences about the biological evolution of the language faculty from a range of disciplines outside linguistics. Several of these disciplines have developed very substantially in recent decades, allowing insights that were not available earlier. The most promising progress has been made in genetics and neuroscience, though still only tantalizing glimpses can be seen of the genetic changes that have moulded our species' brains to give the special plasticity and computing power demanded by the use of languages. Comparative psychology, especially primatology, shows which abilities are shared with other animals, and which are unique to humans. Paleontology and archeology continue to find remains filling in the still very incomplete picture of our ancestry and the material culture of the most recent ancestors. Within broad linguistics, developmental linguistics and language typology shed light on what features of language come most naturally.

Developmental linguistics and language typology, in tandem with historical linguistics and creole studies, show the pathways by which complex features of languages can arise, and decline.

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Keywords: biology, culture, interdisciplinary, evolution, language
3 Gesture and Sign: Visible Action in Utterance

Adam Kendon

“Utterance” may be defined as any form of action that is deemed by participants in interaction to comprise explicit, wilful expression. Most typically, utterances involve the use of an articulate language of some kind, but this need not always be so. An exchange of waves in greeting at a distance is an exchange of utterances just as much as an exchange of turns at talk in a conversation. It is convenient to think of three kinds of utterance action: graphic, audible and visible. Utterance graphic action includes writing; utterance audible action includes what is referred to as “speech”; utterance visible action, which is the topic of this article, includes the various movements of body parts, such as hands, face and head, which may be used in conjunction with speaking, or which may be used on their own. When used on their own these actions often come to be shaped into forms that convey components of an articulate language, and are referred to as “signs”. When used in conjunction with speech, utterance visible actions are often called “gestures”. It is argued that these terms do not refer to categorically distinct forms of expression, but are labels for different segments of the semiotic spectrum into which utterance visible action is organised. Here the different semiotic features found in this spectrum are compared and the factors that appear to determine them are discussed. Utterance visible action is approached as a resource for utterance construction which may be used in different ways, according to whether it collaborates with other modalities such as speech, or is the sole means of utterance. When this is the case, as will be discussed, factors may come into play that bring about the development of relatively stable, socially shared systems, including various kinds of sign language.
4. Writing systems: methods for recording language

Geoffrey Sampson

Ideas about the significance of writing as a component of human culture. What is known of the origins of writing; monogenesis not a tenable hypothesis.

Diverse types (in some cases “ideal types”) of script:
   (i) Based/not based on a spoken language; based on sound units/units of meaning; based on syllables/segments/sound-features. The debate over whether full writing is invariably sound-based. Writing as a record of speech v. speech seen as an imperfect reflection of a written standard.
   (ii) Scripts reflecting surface v. underlying sound systems, and the historical evolution from former to latter – for European languages confusable with Classicizing, but observable also with other languages.
   (iii) Speech recorded to different degrees of completeness. Segmental phonetic contrasts sometimes ignored. Functions of punctuation, when present.
   (iv) Different degrees of visual contrastiveness among script elements.

Script used as political symbol or tool.

The psychology of reading – interest sparked by “no dyslexia in Japan”: large recent advances in understanding how far text-to-meaning decoding in (silent) reading is mediated by pronunciation. The work of the eyes. Psychology of literacy acquisition.

Script evolution as a compromise between learners’ and mature users’ interests. The changing balance of advantage.
6 Phonological systems

Harry van der Hulst

We can define phonology as the study of the perceptible side of language. This includes the study of both speech and sign. Phonologists (and perhaps speakers as well) use abstract symbolic representations to cope with the endlessly variability in actual utterances. This chapter will focus on the phonology of spoken languages. The symbolic representations are foremost meant to capture phonetic properties that are distinctive. These representations are compositional, consisting of units called phonemes, as well as units that are smaller (features) and larger (syllables). Since phonemes are pivotal units in the symbolic representation, I will call this representation the phonemic representation. Given a distinction between symbolic units (features, phonemes etc.) and the actual perceptible signal, there must be an implementation system which relates the symbolic representations to articulations and to acoustic (or visual) events. Phonological analyses of languages often simplify this two-way relationship by formulating a set of rules which deliver a phonetic representation, which in addition to the distinctive properties of phonemes also contains properties that are predictable, usually called allophonic, limiting attention to those allophonic properties that are language-specific (rather than being derivable from universal phonetic processes). When phonetic representations have been reduced to phonemic representations (the first step), using criteria such as complementary distribution and phonetic similarity between allophones, the linguist determines the inventory of phonemes. The second step in the analysis is to define the set of phonemes, downward in terms of constraints on feature combinations and upward in terms of constraints on phoneme combinations (into syllables and larger units). This constitutes the phonotactic analysis. Then there is a third part to phonological systems. When morphemes are combined into complex words, we often see phonemic adaptations. The constraints on phoneme combinations, which are valid for simplex words, extend to at least a subset of the complex words and this means that the morphology can cause violations of the constraints on phoneme combinations. For example, if we assume that there is a constraint against the sequence /np/ in English, a combination of the morphemes in and possible creates a violation. However, instead of rejecting the complex form, there is a ‘repair rule’ which replaces the /n/ by an /m/ (or changes /n/ into /m/). This rule leads to allomorphy, i.e. phonemic form variation in morphemes. Some phonotactic constraints are without exceptions, while others allow exceptions. However, not all allomorphy is driven by phonotactic constraints. In some cases allomorphy is dependent on the presence of specific morphemes, irrespective of their phonemic make-up. Additionally, not all allomorphy can be analyzed by deriving the allomorphs from a single phonemic form. Rather the choice between allomorphs can be suppletive in nature. In this chapter I will discuss the various ingredients of phonological analysis as outlined in this abstract, drawing attention to certain different viewpoints, especially in relation to the phenomenon of neutralization. There will also be some discussion of cross-linguistically recurrent properties of phonological systems, so-called universals.
7. Morphology: the structure of words

Geert Booij

Morphology deals with the systematic correspondence between the form and meaning of words. The study of these regularities comprises the domains of inflection and word formation. Inflection concerns the expression of morphosyntactic properties, sometimes required by a specific syntactic context. Word formation deals with the creation of new (complex) words by various morphological mechanisms such as compounding, affixation, truncation, and segmental and tonal alternations.

The role of morphology in the grammar of natural languages is subject to theoretical debate. First, there are various ideas about the format in which morphological regularities should be expressed (rules or schemas?) Second, there are various models of the position of morphology in the architecture of grammar which will be discussed. Important issues are the interface between morphology and phonology (how does morphological structure influence the pronunciation of complex words?), and the interface between morphology and syntax (demarcation of word versus phrase, lexical integrity, phrases as building blocks of words). To what extent are morphological regularities and restrictions different from those found in syntax?

Morphology plays an important role in theories of the acquisition of language and in theories of language change. Hence, language acquisition and language change will also be discussed in this chapter.

Morphology is also very relevant for linguistic typology, which is partially morphology-based. Therefore, this chapter will also discuss the morphological classification of languages (analytic, (poly-)synthetic, agglutinative languages, etc.), and the conventions that are used in linguistic descriptions for representing the internal structure of complex words.
8 Syntax: putting words together
Kersti Börjars

Syntax is the study of the way in which words combine to form larger units; it is the study of the structure of language. Generally, the smallest unit in a syntactic analysis is the word and the largest is the sentence, but neither of these notions are without their difficulties. Words that act together as a unit are said to form a constituent, these complex constituents in turn form constituents with other units and in this way a hierarchical structure is built up. The structures represented as the syntax of a language tend to be those of the written variety. In spoken language, structures are often used that would be considered illicit by standard syntactic descriptions, and attempts have been made to provide separate grammars for spoken language.

There is great variety between languages as to the role of syntax; some languages include so much information in word structure that one word can capture what would require a sentence in English, and therefore a sentence may frequently only consist of one word. In other languages, though sentences do consist of many words, there can be more or less evidence for a highly articulated hierarchical structure. Word order may be quite free, with little evidence for constituents. Such languages are referred to as non-configurational. In other languages, like English, structure plays an important role in capturing information required to interpret an utterance.

The most common way of representing syntactic structure is by means of a tree in which a constituent is represented by a node which carries a label representing the category of the constituent. Some general principles for syntactic trees are captured by X-bar syntax, which defines notions such as headedness, complement, specifier and adjunct. Though X-bar syntax provides general principles for the representation of syntactic structure, it is implemented differently in different theories, some assume that all trees are binary branching, whereas others accept “flatter” trees in which a node may have more than two daughters. Theoretical approaches also differ with respect to how functional information is captured in the tree.

Keywords: syntax, tree, constituents, categories, configurationality, X-bar syntax
This chapter argues that linguistic theory needs to be re-set in a perspective reflecting real-time processing. Ever since the 1960’s, theorising about language has adopted a methodology inspired by the familiar formal languages of logic. The units to be captured are the well-formed sentences of the language, each to be associated with a triple: the phonological properties of the words made available by some underlying phonological system, the projection of fixed structure definable over those words (syntax), the meaning of the string defined over that syntactic structure (semantics). Attributes of language use in real time are treated as peripheral and explained by performance theories to be grounded in such grammars.

This methodology omits any characterisation of two properties diagnostic of natural language: (i) natural languages are systems underpinning an activity that takes place in real time; (ii) their token structures and interpretation display systemic dependence on the context within which such activity takes place. Over the years, semanticists have increasingly addressed the context-dependence of language interpretation, but with the methodology never being questioned, explanations remain grounded in static sentence-sized units, bifurcated into those phenomena which fit within the remit of the grammar, and those which fall outside it, and hence are not explained. Yet this dependence on context is endemic to natural languages, a core property of language affecting all aspects of language understanding. A particularly striking display occurs in conversation. In conversational dialogue, sentence structures may emerge through fragmentary contributions, each participant able to add some fragment to a partial structure just uttered, a well-formed structure emerging bit by bit without any evidence of advance planning as to what that structure or interpretation might turn out to be. The success of this interaction depends on participants alternating being a hearer and a speaker. A grammar respecting the traditional sentence-based methodology is very poorly placed to explain the seamless fluency with which such interaction takes place, since the basis it provides for performance explanations is restricted to a characterisation of complete sentences. In consequence, all such interactions risk being characterised as outside the remit of grammar, hence performance dysfluencies. Given the high proportion of these in conversational dialogue, and the endemic nature of context-dependency, such characterisations of language risk failing to capture the essence of a natural language system.

However, by shifting to the assumption that syntax should reflect the dynamics of language processing, the patterns of dialogue can be shown to follow directly from the mechanisms of language, and an integrated account of context-dependent phenomena becomes available. This chapter accordingly introduces readers to Dynamic Syntax, a framework in which syntax is defined via concepts of structural underspecification and update; and shows how the occurrence of elliptical fragments in dialogue to yield interaction between participants follows as an immediate consequence of the framework. The chapter closes with reflections on the significance of characterising a natural language as a set of mechanisms for collaborative interaction in real time.
Semantics is the study of meaning communicated through language. Viewed through the lens of contemporary academic disciplines it is an important focus of enquiry in linguistics, philosophy, psychology, sociology and computer science, to name just the most evident. The aim of this chapter is to provide an overview of semantics within linguistics and to briefly outline some of the important current theoretical approaches. It will emerge how fundamentally semantic theories in linguistics are influenced by ideas in these other disciplines, while seeking to maintain the goal of linguistics: to characterize the full spectrum of human languages. The discussion identifies a broad division between two very successful research paradigms. The first is essentially philosophical in its genesis and proposes that notions of truth and compositionality are crucial in meaning. The second is psychological in orientation and is concerned with the cognitive status of processes and representations employed by speakers in communication. Each encompasses a broad spectrum and naturally there are significant areas of overlap. The first, often somewhat confusingly termed *formal semantics*, has its roots in Tarski’s truth definitions and is represented today in a large and heterogeneous field of enquiry, amongst which we focus on dynamic approaches such as Discourse Representation Theory and Dynamic Predicate Logic. The second approach is equally broad, and here I concentrate on the recent growth of interest in lexical semantics, for example in the approach known simply as cognitive semantics. Both approaches find themselves seeking to accommodate recent theoretical advances within pragmatics.
12 Lexicography: the construction of dictionaries and thesauruses

Pam Peters

Dictionaries and thesauruses represent the lexicon of a language in contrasting ways: the semasiological and the onomasiological, i.e. articulating lexical meaning via individual linguistic signs (words), or within the larger semantic concepts that they name. This dichotomy has entailed different structuring of the lexical material in dictionaries and thesauruses: the conventional alphabetic arrangement of words in the dictionary, and a set of high-level semantic categories, varying in number and scope according to the individual thesaurus. While the macro- and microstructure of dictionaries are very familiar, the actual content of dictionaries has diversified enormously in the last 50 years, with more specialized types of dictionary alongside the general language “desk” dictionary, and greater attention to the dictionary user, as in the monolingual and bilingualized “learners dictionary” (Marello 1998). Other contextual factors are the fresh articulation of lexicographical theory and the availability of new tools and techniques for dictionary-making, making use of large computerized reference corpora and the internet. The transition from print to online construction of dictionaries has enlarged their scope, raising questions as to far the dictionary’s traditional role as provider of linguistic information should expand into that of the mini-encyclopedia (Bergenholz & Tarp 2003). Thesauruses too have evolved with the turn of the third millennium, in association with computer technology and the numerous applications of thesaurus-like structures (ontologies) in information science and artificial intelligence. With C21 computer power, the online thesaurus lends itself to the enhancement of the online dictionary, and vice versa (Fernandez & Faber 2011). The integration of material from both in a single electronic output breaks down the distinction between semasiological and onomasiological ways of representing the lexicon.

References


Pragmatics is one of the most vibrant and rapidly growing fields in linguistics and the philosophy of language. It is also a particularly complex subject with all kinds of disciplinary influence, and few, if any, clear boundaries. The aim of this chapter is to provide an authoritative, comprehensive and up-to-date overview of the contemporary landscape of pragmatics. I start with the question of what is pragmatics. I then move to micro-pragmatics covering both Anglo-American and (European) Continental traditions, focusing on the Anglo-American component view, the debate between contextualism and semantic minimalism in the contemporary philosophy of language, the central topics in Anglo-American pragmatics, and the Continental perspective view of pragmatics. This is followed by a survey of macro-pragmatics and cognition, covering briefly cognitive, psycho- (including both developmental and experimental), computational, clinical, neuro- and the cognitive part of interlanguage pragmatics. Next, I present a review of macro-pragmatics and society and/or culture, dealing with socio-, cultural, cross-cultural, and the social part of interlanguage pragmatics. I shall then comment on those branches and research areas of macro-pragmatics that are not easily and/or neatly placed in the above two categories. These include historical, applied, corpus, literary, legal and feminist pragmatics. Finally, my discussion turns to some trends and directions for future development of both micro- and macro-pragmatics, concentrating on micro Anglo-American pragmatics, cognitively-oriented macro-, experimental pragmatics, and socially-oriented macro-, sociopragmatic research on politeness and impoliteness.

Key words: pragmatics, Anglo-American pragmatics, Continental pragmatics, micro-pragmatics, macro-pragmatics, philosophy of language
Interest in politeness phenomena within contemporary linguistics was originally prompted by
the wish to explain (or, explain away) ‘illogical’ or ‘inefficient’ turns of phrase such as neg-
raising (I don’t suppose you could possibly...), indirect speech acts (Would you mind ...?)
and generally all sorts of departures from the shortest, clearest, and most succinct way of
expressing oneself. While this early perspective on politeness made it seem like an extra
burden, a sometime thing at best, and a ‘handicap’ at worse (van Rooij 2003), empirical
studies of politeness in different cultures increasingly suggested the omni-relevance of
politeness concerns coupled with the difficulty of circumscribing a closed set of expressions
whose utterance guarantees a polite effect in any single culture, much less universally. More
recent approaches, sometimes termed discursive, have therefore taken a different tack:
abandoning attempts at prediction, they seek, through painstaking analysis of real interactions,
to provide post facto accounts of how people negotiate their relative social standings through
language. After reviewing the pros and cons of both types of approaches, in this chapter, I
outline a third possibility, that seeks to establish theoretical generality by taking seriously the
one property of linguistic politeness that keeps getting confirmed in study after study, namely
that politeness (and impoliteness) constitutes the realm of convention par excellence. Taking
this finding to heart, I argue that politeness is indeed inherent in culturally ratified ways of
speaking, in the same way as it is inherent in culturally ratified ways of eating, sitting,
waiting, and so on. By adhering to these sociocultural conventions, which are enshrined in us
from an early age as simply the (right) way to say something— automatically making all
other ways of saying it wrong, or at least suspect—we are socialized into politeness systems
that, at the same time as allowing us to get things done, serve a paramount goal: that of
distinguishing in-group from out-group members. In this way, rather than a handicap, linguistic
politeness emerges as the most efficient solution to a basic (read: universal) human need, that
of distinguishing ‘friend’ from ‘foe’, and it is in this overarching motivation that its
universality also lies.
This chapter uses Form and Function as the two crucial perspectives from which to characterise a range of naturally-occurring verbal or predominantly verbal narratives. Verbal narratives can be regarded as a distinct text-type with no more than a couple of necessary conditions (situation-projection, and reported change) together with some typical conditions (e.g., a human protagonist, subjective evaluation). These I will outline drawing on the work of Labov and Waletsky, Prince, Eggins and Slade, Georgakopoulou and Fina, Schiffrin, and others, attending closely to form (and, especially, English linguistic form).

The functions of narratives are immensely varied, and only a representative selection of instances, in a variety of genres and styles, will be discussed here. While on occasion narratives are attractive by virtue of the mnemonic and encapsulatory qualities (e.g., in sciences, and history, and information transfer), most routinely they be seen to have a performative function that is bound up with some aspect of the identity of the teller, or the subject-matter, or the addressee (or some combination of these). A CV or a Facebook entry usually narrates the subject’s character and values so as to meet objectives such as employability or social attractiveness. Oral personal narratives are often an accounting—of an experienced tellable disruption of the habitual, or of the social order—and are used at every level of seriousness and a multitude of settings. The functions of a few exemplary cases, and the specific contributory formal features, will be discussed in detail: a serious car accident narrowly avoided, a comical personal reminiscence, and a courtship story.
Anthropological linguistics and field linguistics form a natural synergism and have done so ever since their origins in the descriptive work of the missionaries in colonial America in the sixteenth century. This was revitalized and given a more scientific footing in the work of Franz Boas and his students in the late nineteenth and early twentieth century, as they raced to document as much of the linguistic and cultural knowledge of the native peoples of North America before it was lost. In many ways, the Boasian articulation of this synergism still holds sway today. In order to undertake truly deep ethnographic work, it was believed that a thorough grounding in the native language was a sine qua non, and for this the procedures of field linguistics as developed by Boas were necessary. While today many anthropologists would argue that competence in the local lingua franca is all that is required for successful ethnography and indeed that is often their modus operandi, no one would argue that serious work in the ethnography of the native language spoke by a community can be carried out in such a lingua franca, so still the procedures of field linguistics are necessary to acquire competence in the native language for its ethnographic study to proceed. Anthropological linguistics is concerned with the place of language in its wider social and cultural context, its role in forging and sustaining cultural practices and social structures. Anthropological linguistics needs to be distinguished from a number of neighboring disciplines with overlapping interests, particularly its close sister, sociolinguistics. Anthropological linguistics views language through the prism of the core anthropological concept, culture, and, as such, seeks to uncover the meaning behind the use, misuse or non-use of language, its different forms, registers and styles. It is an interpretive discipline, peeling away at language to find cultural understandings. Anthropological linguistics studies how humans employ communicative cultural practices or semiotic practices as meaning bearing resources to forge and maintain large and small, transient or permanent, social groups. Sociolinguistics, on the other hand, views language as a social institution, one of those institutions within which individuals and groups carry out social interaction. It seeks to discover how linguistic behavior patterns with respect to social
groupings and correlates differences in linguistic behavior with the variables defining social groups, such as age, sex, class, race, etc.

Field linguistics is still largely understood in the terms articulated by Boas and his students, although, of course, the technological resources available have developed exponentially since then, as has a reflexive concern with the ethical dimensions of fieldwork. Still, the basic principle and procedures are much the same. The chapter will provide a synopsis and illustration of these procedures. It will also highlight the importance of documentary linguistics, the need to document the full range of language forms, registers and styles used across a wide range of genres and contexts as possible. This is, of course, essential to any ethnographic study of a language, but also provides a needed corrective to normative pressures as a result of language description and documentation, unavoidable as some might be.
This chapter offers an introduction to the methods used to study the role of language in society. It will provide an overview of the findings of researchers on language change and variation over the past five decades, with a focus on research in the quantitative, or variationist, paradigm. The variationist research paradigm grew out of the work of Uriel Weinreich and his students William Labov and Martin Herzog. The focus of the paradigm is observing language change as it happens, through close examination and quantification of linguistic variables that are correlated with social characteristics of speakers and aspects of the interactions between speakers. One of the guiding principles of this sociolinguistic research paradigm is the “use of the present to explain the past,” (Labov 1978) based on the assumption that at least some of the linguistic variation that can be observed today is evidence of change in progress. Thus this chapter will explore the connections between the variation that we see in language today and historical linguistic change, as well as the methods that linguists use to explore language change in progress (such as real time studies and apparent time studies that use age as a proxy for the passage of time).

A second guiding principle of sociolinguistic research is the importance of the speech community, which Labov (1972) defined as a group of speakers with a set of shared norms of usage. Although sociolinguists differ on the definition of a speech community, all researchers in this vein place importance on the interrelationship between the social groups that individual speakers belong to, the social context of language use, and linguistic variation within and between groups. This chapter will discuss some of the social and cultural characteristics of speakers and speech communities that have been shown to correlate with inter-speaker linguistic variation, including, but not limited to, sex, social class, and social network. Ethnicity as a social factor will also be discussed from the perspective of linguistic variation and change in language contact situations. With respect to intra-speaker variation, different models of style-shifting that involve varying focus on the role of the individual speaker will be discussed alongside a description of stylistic variation as a focus of study.

The methodology used in sociolinguistics often parallels that used in linguistics more widely, although sociolinguistics tends to focus on the community rather than the individual as the object of study (albeit with speech and/or judgments collected from individual speakers). One special focus of sociolinguistic research has been a concern with capturing the vernacular, or a speaker’s most natural and un-monitored speech. Some of the methodology that has been developed to do this will be discussed, followed by a discussion of possible directions in the future of sociolinguistic research.

Finally, some of the practical applications of the study of sociolinguistics will be considered, including the role that sociolinguistic knowledge can play in the recognition of dialect diversity and linguistic diversity in the classroom, and sociolinguistic aspects of language policy and planning.
Psycholinguistics sits at the intersection of linguistics, cognitive psychology, neuroscience, computer science, and related disciplines. A key aspect of the psycholinguistic approach is the use of observable, repeatable outcomes as the standard to which theoretical propositions are held. Human experimentation is the cornerstone of this enterprise. This review will focus on three domains in which psycholinguistic methods have produced new insights about language. First, the paper reviews studies investigating the degree to which speakers engage in audience design while formulating and producing utterances. Second, it reviews the degree to which comprehenders use the production system to anticipate upcoming material during comprehension. Third, it reviews evidence for syntactic underspecification during language comprehension. These three examples show how experimental methods can be used to identify key components of the language production and comprehension systems, as well as linkages between them.
Neurolinguistics is the branch of cognitive neuroscience that focuses on language, and it has been progressing at a very rapid pace since the early 1990s, due primarily to advances in brain mapping methods such as lesion analysis, functional neuroimaging, electrophysiology, and transcranial magnetic stimulation. This chapter briefly introduces these methods and then provides a general overview of how they have led to new insights about the neural substrates of the representation and processing of three domains of linguistic structure: speech sounds, word meanings, and sentences. Regarding speech sounds, emphasis is placed on a network of temporal, parietal, and frontal regions that interact to support both the perception and the production of utterances. Regarding word meanings, recent research favors a model in which high-level sensory and motor areas of the brain store the corresponding modality-specific features of concepts, while more integrative cortical regions conjoin and systematize those features. And regarding sentences, numerous widely distributed but mostly left-lateralized brain areas have been associated with syntactic computation, thematic role assignment, and working memory; moreover, several electrophysiological markers have been linked with different aspects of the comprehension process as it unfolds dynamically on a millisecond time scale.
20. First Language Acquisition

Eve V. Clark and Marisa Casillas

Children start to learn language early in infancy. Although they don’t produce their first words until the end of their first year, they can recognize some properties of their native language within hours of birth. In their first year, they begin to adjust their attention to linguistic signals, developing skill in discriminating phonological contrasts in their native language. Infants can use structural cues from the speech around them to begin learning words, first with some terms for objects and then also terms for events, properties and relations. Before their first birthdays, they also begin to develop critical interactional skills with their caregivers: they attend to gaze and gesture as cues that mark interest and desire, and they establish routines for interaction through touch, gaze, smiling, and vocalization. By age one, children begin to supplement earlier expressions (points, gestures, and vocalizations) with their first words. From that point on, children must simultaneously learn the forms of language — words and the constructions they appear in — and how to use such forms to communicate with others.

They acquire the meanings and uses of such forms from interacting with more expert speakers. The latter offer extensive feedback on errors, and also promote practice in language use — two elements central to the learning of language. In terms of forms, children must master the phonology and prosody of their language as they learn its vocabulary; they must work out how to use whatever morphological inflections are present, and also how to construct new words (with derivation or compounding, or both) when they need them. They need to master the constructions relevant to different words and word-types, and how to manage the multiple form/meaning mappings available as they learn how to express specific intentions in context.

Caregivers, as the experts, offer children new words along with information about how these words are connected with other words in the same domain. During communicative interactions, caregiver feedback helps to guide children’s decisions in making references and conveying communicative goals. Caregivers shape interaction by asking questions, giving feedback and responding selectively. This impels children to track relevant information so that their turns at talk are both relevant and accomplished in a timely manner. They guide children as they learn how to use language to refer and to express their communicative goals in an exchange in a timely manner. As children acquire more linguistic structure and develop fluency in expressing themselves and in accessing and retrieving linguistic forms, caregivers continually put their linguistic knowledge to test in the conversational arena. Children’s emerging skill in conversation depends on their recognition of what is and is not in common ground, and their assessment of what to say and how to mark the relation of their utterance to prior discourse.

As they get older, children learn how to express their intentions following the conventions of the language being acquired, and so master both an increasing repertoire of forms in the language and growing skill in using those forms to cajole, persuade, negotiate, tell jokes and stories, give explanations, justifications, and instructions — just some of the myriad skills we tend to take for granted in our everyday uses of language. Finally, even though children have become quite skilled by age six, say, like adults, they still rely on resources that emerged early in their pre-linguistic development of communication — gaze, gesture, body-posture,
and facial expression. This symbiotic development of language mastery and general communicative skill results in our unique ability to access and to communicate information about people, objects, and ideas in the world around us.

**Keywords:** Acquisition, interaction, feedback, practice, usage
Second language acquisition (SLA) is a multi-disciplinary field that refers to the study of how languages are learned following learning of a first language. It covers child and adult second language learning, but, as a discipline, does not deal with simultaneous (bilingual) acquisition. Many fields contribute to an understanding of how second languages are learned, including linguistics (broadly construed), psychology, sociolinguistics, to name a few. The history of SLA has moved the discipline from one relying on early theories of language with a focus on transfer and the need to develop pedagogically-sound materials to a stand-alone discipline with the goal of understanding the nature of language and cognition. With an early emphasis on linguistic systems, SLA has continued that emphasis, but has expanded its scope to include emphasis from sociocultural theory and psycholinguistics, the latter incorporating issues of processing and working memory capacity. To understand how individuals learn language, whether in a classroom context or in a so-called natural setting, one must further understand the role of age as well as numerous individual factors, such as motivation, attitude, and aptitude. This chapter will also deal with the substantial area of research that goes under the name of instructed second language learning to examine how the classroom context shapes learning.

The relationship between SLA and Applied Linguistics will also be considered. Applied Linguistics is generally defined as the field that considers solutions to language-related real world problems. This being the case, there are some areas of SLA that can more easily fit under the umbrella of Applied Linguistics and others that do not.
This chapter looks at the branch of linguistics that studies the shifts and mutations of languages over time — historical (or diachronic) linguistics. It considers the general nature of change in specific languages and in language more generally. Though historically the focus of the discipline has been on sound change, research now focuses on describing and explaining changes at all levels (lexical, semantic, phonological, morphological, syntactic); it also addresses the spread and interaction of these changes in the linguistic system itself. One of the most exciting developments within historical linguistics has been research into synchronic variation and the social factors that promote language change, at the level of both the individual and the speech community.

An important branch of historical linguistics deals with the history of languages, including the reconstruction of aspects of their prehistory. Hence, historical linguists have to consider not just linguistic diversity but also stability; in other words, longstanding aspects of the linguistic system that are less prone to shift over time. An important part of this study is comparative; it takes account of the connexions between languages (both genetic relatedness and contacts among languages), with the view to the grouping and subgrouping of languages into language families.

In order to understand where languages have come from and where they might be heading, historical linguistics necessarily draws on many aspects of the study of living languages. Hence the discipline embraces a range of different subfields within linguistics — including those core areas that handle the structural features of language (e.g., sounds, words, sentences etc.), those that deal with different aspects of language and communication (e.g., pragmatics and discourse), language and society (sociolinguistics) and the mental makeup of human beings (psycholinguistics). More recently, historical linguistics has accommodated new topics to do with language endangerment, language change and new media, corpora and computational applications.

Key words: diachrony, borrowing, etymology, reconstruction, comparative method
It is a truism that languages change their structure over time. The question is what factors keep that change going and whether there are general constraints or at least tendencies that operate on it.

The article will start with the distinction of language internal and language external factors that determine linguistic change. As for internal factors, it will briefly discuss the classical aspect of phonological change (sound laws with their motivation by properties of the vocal tract) and then go on to morphosyntax and semantics and their dependency on first language acquisition, cognitive factors and on the needs of speakers and hearers in discourse and communication. An important part of that discussion will deal with the role of Universal Grammar on the one hand and competing motivations and research on grammaticalization as it is motivated by semantic/pragmatic mechanisms of metaphor and metonymy on the other hand.

The external factors of language change depend on social and cultural factors that motivate contact-induced change. This type of change is not limited to languages, it may affect linguistic varieties in general (including e.g. dialects or sociolects) that offer a pool of variation from which speakers select linguistic structures based on the identity they want to adopt in a given situation. The article will briefly introduce classical models such as social network theory, leaders of language change and the invisible-hand model. External factors are typically accompanied by additional mechanisms of change such as code-switching, code alternation, passive familiarity, negotiation, bilingualism and 2nd language acquisition.

For a linguistic change to be successful, it needs to be adopted by a whole speech community. As is shown by the S-curve model, a linguistic change starts to be spread rapidly within a speech community as soon as it has passed the threshold of 20 – 30% frequency. The factors that enhance frequency are both internal and external and they crucially interact in processes of language maintenance/borrowing and language shift. They also interact in specific ways in processes of grammaticalization. Moreover, this situation makes the task of discovering general constraints of linguistic change difficult. What may look like a universal tendency of change motivated by human cognition may be the result of socially motivated contact-induced changes that spread over a large geographic area and languages. The article will thus conclude that we know various factors of linguistic change but that it is very hard to unearth universals or at least tendencies of change. For that purpose, it will briefly discuss more recent approaches developed in linguistic typology.
This chapter concerns the concept of language universals in the context of linguistic typology. Four different types of language universal are discussed and how language universals are explained structurally, historically or functionally is illustrated. Also included for discussion is the derivative concept of implicational hierarchies. Particular attention is paid to how the concept of language universals has over the decades evolved from discovering ‘what is possible, as opposed to impossible, in human language’ to ‘what is probable’ and then to ‘what’s where why’. Drawing on important cross-linguistic research, the chapter also discusses linguistic typology as a theoretical approach to the study of language. To that end, some of the theoretical and methodological issues, including cross-linguistic comparability, implicational typology, language sampling, etc. are discussed, with examples drawn not only from morphosyntax but also phonology, semantics and other levels of linguistic research. Moreover, the different stages of linguistic-typological research are described in order to demonstrate how research is carried out in linguistic typology with a view to formulating language universals.
Language Documentation (or Documentary Linguistics) has emerged in the past 15 years as a new sub-field of Linguistics that deals with the ‘creation, annotation, preservation and dissemination of transparent records of a language’ (Woodbury 2011). It is concerned with recording and analysing instances of language use in their social and cultural context, along with understanding the conscious and unconscious knowledge, ideas and beliefs that speakers have about their languages. It draws on theory and practice from descriptive and theoretical linguistics, ethnography, psychology, media and information sciences, recording and performing arts, archiving, ethnomusicology, and other areas. It has been particularly concerned with the documentation of endangered languages and cultures. A cognate development is application of documentary linguistics theory, practice and outcomes to supporting language communities, especially through language management, including language revitalisation and maintenance.

This chapter covers the following issues:

- defining language documentation
- language documentation versus description
- kinds and components of documentation projects, with examples
- workflows – the role of data management, archiving and dissemination
- metadata and meta-documentation
- applied documentation and support – putting theory and practice to work to deal with real world problems and issues
- social approaches to archiving
- mobilising documentation materials for community use

Keywords: language documentation, archiving, endangered languages, mobilization, language revitalization
26 Translating between languages

Anthony Pym

Interlingual translation is often forgotten by the various linguistics of language systems. A strict structuralist application of Saussure’s synchrony, for example, might make translation seem impossible. And yet translations are performed, and used, in countless different ways.

The purpose of this chapter will be to offer a historical survey the problematic relations between linguistics and translation, and to propose to linguists that translation is worthy of serious attention as an object of study.

“Translation” is taken as general term for written translation, spoken interpreting, cross-cultural mediation (in medical encounters, for example), localization (notably of software and websites) and machine translation (especially the systems based on statistics). This range of modes and contexts is important, since it directly challenges assumptions that translation is about no more than pairing sentences.

The historical survey will consider the absence of translation from Saussure, Chomsky, Halliday and Sperber and Wilson, and the attempts nevertheless to apply major linguistic theories directly to interlingual translation (in Vinay and Darbelnet, Nida, Malone, Catford, Bell and Gutt), all of which can be grouped together as theories of “equivalence”, at one level or another. This predominance of equivalence can also be traced through the work done in Russian, German and Czech. A similar but far less successful attempt to apply systemic linguistics is found in the search for “universals” in translated language, which in fact turn out to be widespread features of translationese.

A survey will then be made of the various critiques of this tradition by translation scholars (Skopos theory, Descriptive Translation Theories, deconstruction, localization theory, intercultural approaches to language learning). These positions fact comprise a complex critique of systemic linguistics itself, but would not sit too uncomfortably with the more fragmentary, situated, pragmatics-based orientation within linguistics. Examples will be given of types of translation that are performed successfully in social terms (including approximate machine translations) but would be judged to be unsuccessful in terms of traditional equivalence.

The final challenge will be a call to rethink language systems from the perspective of translation – starting from the phenomena that were previously excluded.

Key words: translation, interpreting, localization, mediation, equivalence
27 Structural linguistics

John E. Joseph

1. The *Cours*: main points
   a. Langue and parole (and langage)
   b. Langue as socially shared system of signs
   c. Arbitrariness
   d. Difference and value
   e. Linearity
   f. Immutability
   g. Paradigmatic and syntagmatic axes
   h. Diachrony and synchrony

2. Jakobson’s structuralism

3. Other structuralist approaches
   a. Bally and stylistics
   b. Meillet’s students
   c. Hjelmslev
   d. London: Palmer, Jones, Firth

4. Developments in America
   a. Boas, Sapir and anthropological linguistics
   b. Bloomfield and neo-Bloomfieldians
   c. Chomsky

5. Other paths
   a. Sociolinguistics
   b. Halliday
   c. Neo-Firthian phonology
   d. Neo-Jakobsonian trends

6. Structural linguistics today
   a. Generalized structuralism and post-structuralist critiques of structural linguistics
   b. Relative complexity of language systems: A return to structuralist principles?
This chapter reviews the emergence and development of the 'biolinguistic enterprise', a research program initiated by Noam Chomsky, Eric Lenneberg, and others in the 1950s. Biolinguistics seeks to uncover the biological origins of the human language faculty---the capacity to acquire at least one natural language. The existence of such a biological substrate is not subject to doubts, but the nature of it is (is it specific to language? specific to humans? how rich is it?) Although such questions were raised right from the start of the biolinguistic enterprise, they quickly receded into the background in linguistics, only to be revived and explored more fully in the last decade. A good part of this chapter will look into the factors that led to this revival, highlight some of the most outstanding obstacles that current research faces, and mention a few promising lines of investigation for the future.

Keywords: nativism, language faculty, universal grammar, learning, genetics, brain, mind
Cognitive Linguistics

John R Taylor

1. Some historical background to the emergence of Cognitive Linguistics as a distinctive research programme in the last decades of the 20th century, with comments on Langacker’s Cognitive Grammar as a specific brand of Cognitive Linguistics.

2. To some extent, Cognitive Linguistics defined itself (and for some scholars, still defines itself) in opposition to Chomskyan generative grammar and to formalist grammar more generally. This is manifest in

- Scepticism with regard to the existence of a special language faculty. The default position is to assume that linguistic abilities are embedded in more general cognitive abilities, such as perception, attention, memory, categorization, abstraction, entrenchment, creativity, theory of mind, symbolic thought, etc.
- Scepticism with regard to abstract underlying structures which diverge in their content and organization from the surface forms which are actually encountered, and with regard to mental operations over these underlying forms.
- Scepticism with regard to the role of a genetic blueprint in language acquisition. Languages are acquired from exposure to situationally embedded utterances, in interaction with general cognitive abilities. Hence the slogan ‘usage-based grammar’.

3. Distinctive themes of cognitive linguistic research

- Case studies of the semantics of individual lexical items, investigating their acquisition, their polysemy, and their idiomatic uses.
- Metaphor and metonymy have loomed large.
- Case studies of grammatical constructions, with a view to motivating their structure from their semantics/pragmatics, and from other structures in the language.
- Attempts to provide cognitively motivated accounts of supposedly innate and purely formal constraints, such as binding principles, extraction, anaphora, etc.
- Due no doubt to the preferred focus on semantic issues, there has been a relative neglect of phonology.

4. More recent trends

- The rise of the construction as the basic element in language description – not only in syntax, but also in morphology (and, to a lesser extent, phonology).
- Increased interest in corpus-based studies (in line with the usage-based orientation of the approach)
- Application of Cognitive Linguistic notions to phonetics/phonology, to the gestures which accompany (or replace) speech, also to sociolinguistic variation, literary texts, and discourse.

5. Cognitive Linguistics is now mainstream, and the polemics which characterized its early developments have now largely dissipated. In searching for a cognitively grounded account of language, its structure, and mental representation, cognitive linguists are cooperating with scholars in a range of disciplines: cognitive psychology, developmental psychology, anthropology, computer science, literature studies, brain science, etc.
The notion of Functional Linguistics is associated in many linguists’ minds with a dichotomy between formal and functional approaches. Newmeyer (1998) begins with an imagined dialogue that pits a formalist against a functionalist (cf. Carnie & Mendoza-Danton 2003). Yet in practice there is not a true dichotomy but rather a continuum or even a multi-dimensional space (Gonzálvez-García & Butler 2006). For example, Kuno’s and Bresnan’s work are generally formalist in inspiration yet labelled functional; functional interpretations of formalist arguments have been around since Langacker (1974) and Heath (1978). In addition, a functionalist stance need not exclude formalization (Hengeveld 1999).

Functionalism has deep roots in linguistics, arguably tracing its origins to Paul (1880) or even to Von Humbold. In the European structuralist tradition, functionalism is strongly associated with the Prague School (Sornicola 2011), but also with movements in France, Spain and the Netherlands (Martinet; Alarcos Llorach; De Groot). Allan (2010) stresses the importance of De Saussure, the champion of structuralists and many formalists, for functional linguistics. Newmeyer (2001) sets out the relevance of Prague for contemporary US functionalism, while Vykypěl (2009) argues that current work adds little to, and indeed ignores, achievements of earlier decades.

Functional linguists share the conviction that language phenomena, especially in syntax and morphology, but possibly also in discourse and/or phonology, must be studied with explicit regard to their instrumentality in interpersonal communication. Language users, with their cognitive capacities and limitations and their sociocultural embedding, are axiomatic to functional linguistics. The scholarly emphasis may be more diachronic, examining how language forms have evolved to fit communicative needs, or more synchronic, seeing producers and comprehenders as operating with their language as a tool for successful interaction. Bates, Thal & MacWhinney (1991) are at pains to deconstruct six straw men – false beliefs attributed to functionalists with a view to ridiculing their approach.

Among the many functionalist theories and approaches currently prominent in linguistics (cf. Butler 2003) are Functional Discourse Grammar (Hengeveld & Mackenzie 2008); Role and Reference Grammar (Van Valin & LaPolla 1997); Systemic Functional Linguistics (Halliday & Matthiessen 2004); and ‘West Coast functionalism’, a loose grouping of such distinguished scholars as Bybee, Croft, DuBois, Givón, Haiman, Haspelmath, Hopper and Thompson, many of whom describe their work as ‘usage-based’. Functionalists publish widely, but also have a dedicated journal Functions of Language (Benjamins).

There is considerable overlap between functional linguistics and several other domains of inquiry in linguistics including: descriptive-typological linguistics, where much use is made of ‘basic linguistic theory’ with functional underpinnings (Dryer 2006); historical linguistics, especially in grammaticalization; text grammar and discourse analysis; corpus linguistics; conversation analysis; cognitive and
constructivist linguistics; and some strands of psycholinguistics (e.g. the Competition Model of MacWhinney & Bates 1989).

In recent years (see Haspelmath 2000), there have been signs of willingness to seek convergence between functionalism and formalism (Harder 2011) and some steps towards actual implementation. Golumbia (2010) argues that Minimalism is functionalist in its assumptions and goals, and formalist advances like Culicover & Jackendoff’s (2005) Simpler Syntax and Jackendoff & Wittenberg’s (in prep.) Even Simpler Syntax also suggest a rapprochement.

References


Golumbia, David (2010), Minimalism is functionalism. Language Sciences 32, 28–42.


Harder, Peter (2011), If your language was a car … The object(s) of linguistic research, or: towards a shared geography of linguistics. Hermes – Journal of Language and Communication in Business 47. 31–38.

Haspelmath, Martin (2000), Why can’t we talk to each other? Lingua 110, 235–255.


31 Computational linguistics

Ann Copestake

This chapter starts with a very brief overview of some of the main areas of computational linguistics and a discussion of the history, particularly as it relates to linguistics. Since a survey of all these areas is impossible in the available space, sentiment analysis is then discussed as an example of a `real world' application. This will include an explanation of the type of `shallow' methods which are standardly used and `deeper' approaches which require more detailed analysis of the text: hence it will provide an overview of some parsing techniques and approaches to computational semantics, in a practical context. Following on from this is a discussion of the use of probabilities and machine learning in computational linguistics, including an explicit contrast with most work in linguistics. A simple approach to supervised part-of-speech tagging is used to illustrate this, and to introduce the use of annotated corpora. The discussion then moves to computational modelling within linguistics, with examples chosen to show the relevance of the methods developed within computational linguistics to theoretical study of language and concludes with some prospects for the future.
The chapter begins by a brief historical overview of the main topics discussed by linguists and philosophers such as (i) meaning and truth; (ii) concepts, ideas and language; (iii) referring in language; (iv) intentions and intentionality; (v) saying and implicating; (vi) ‘doing things with words’. Next, I move to defining philosophy of language, distinguishing it from linguistic philosophy, introduce and contrast the approaches to language proposed within analytical philosophy and ordinary language philosophy, and in the main part of the chapter focus on the core topics discussed in the post-Fregean and post-Russellian philosophy of language such as the properties of proper names and definite descriptions, indexical reference, propositional attitude reports and other intensional context, and temporal reference. I discuss the advantages of combining linguistic (including cross-linguistic) perspective with the philosophical debates in the domains such as indexical reference, temporality or modality. I conclude by some remarks on the relationship between language and philosophy in areas other than philosophy of language such as metaphysics, epistemology and ethics.
This chapter will consider the topic under three subheadings: the Written Language of the Law; Interaction in Legal Settings; and Language as Evidence.

The Written Language of the Law will be concerned firstly with what characterises and distinguishes English legal language and will illustrate with extracts from legal documents – principally statutes and contracts. Secondly, the section will examine the problems that arise when legal professionals use written documents to communicate, or at least interface with, a lay audience. I will use examples from a Temporary Restraining Order, the Police Caution, US Jury Instructions and possibly a mobile phone contract and the Facebook subscriber contract.

Interaction in Legal Settings will be concerned with both police/suspect interviews and interaction in courtrooms. It will also treat the interactional complications introduced when one of the participants is either a vulnerable witness – due to age, mental difficulties or the sensitive nature of the crime – or a non-native speaker, when the use of an interpreter significantly complicates the interaction.

Language as Evidence will exemplify how different tools of linguistic analysis, phonetic, lexical grammatical, pragmatic, have been employed by linguists when acting as expert witnesses. Topics covered will be authorship attribution, when examples from the author’s own casework will be used, linguistic profiling, trademark disputes, cases where linguists have given evidence on the communicative problems of legal documents. This section will also include a short presentation on the nature and detection of plagiarism.

**Keywords:** forensic linguistics; legal linguistics; linguistic evidence; courtroom; police
1. What is Linguistics?

Keith Allan

‘What is linguistics’ serves as an introduction to the handbook. It describes what linguistics is understood to be about and what linguists do, in part by surveying all the major topics covered in the volume. Inter alia, it will present a brief synopsis of each chapter and may, on occasion, point to alternative views.

The chapter also presents a short history of linguistics to serve as cohesive background to the material presented by other contributors to the Routledge Handbook of Linguistics. This history focuses on the western classical tradition that forms the basis for present day linguistics, but also notes the existence and current relevance of other traditions. It includes assessment of the beliefs of those who have practised linguistic analysis and been enthused by the scholarly investigation of language and languages from ancient times through to today.

Key words: linguistics, language analysis, the study of language(s), philology, history of linguistics
2. Evolutionary linguistics
James R. Hurford

Considering languages and the language faculty in the light of their evolution adds a dimension of explanation and understanding that is not possible from purely synchronic study. There are two different evolutionary processes to consider, the biological processes leading to the unique language-readiness of our species, and cultural processes leading to the range of languages we have today. In biological evolution, information is coded and transmitted via DNA, with small mutations which may or may not lead to more advantageous performance. Cultural evolution proceeds by successive acts of learning over generations, again with some small innovations along the way, which may or may not take root in the language concerned.

We can make indirect inferences about the biological evolution of the language faculty from a range of disciplines outside linguistics. Several of these disciplines have developed very substantially in recent decades, allowing insights that were not available earlier. The most promising progress has been made in genetics and neuroscience, though still only tantalizing glimpses can be seen of the genetic changes that have moulded our species' brains to give the special plasticity and computing power demanded by the use of languages. Comparative psychology, especially primatology, shows which abilities are shared with other animals, and which are unique to humans. Paleontology and archeology continue to find remains filling in the still very incomplete picture of our ancestry and the material culture of the most recent ancestors. Within broad linguistics, developmental linguistics and language typology shed light on what features of language come most naturally.

Developmental linguistics and language typology, in tandem with historical linguistics and creole studies, show the pathways by which complex features of languages can arise, and decline.

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Keywords: biology, culture, interdisciplinary, evolution, language
Adam Kendon

“Utterance” may be defined as any form of action that is deemed by participants in interaction to comprise explicit, wilful expression. Most typically, utterances involve the use of an articulate language of some kind, but this need not always be so. An exchange of waves in greeting at a distance is an exchange of utterances just as much as an exchange of turns at talk in a conversation. It is convenient to think of three kinds of utterance action: graphic, audible and visible. Utterance graphic action includes writing; utterance audible action includes what is referred to as “speech”; utterance visible action, which is the topic of this article, includes the various movements of body parts, such as hands, face and head, which may be used in conjunction with speaking, or which may be used on their own. When used on their own these actions often come to be shaped into forms that convey components of an articulate language, and are referred to as “signs”. When used in conjunction with speech, utterance visible actions are often called “gestures”. It is argued that that these terms do not refer to categorically distinct forms of expression, but are labels for different segments of the semiotic spectrum into which utterance visible action is organised. Here the different semiotic features found in this spectrum are compared and the factors that appear to determine them are discussed. Utterance visible action is approached as a resource for utterance construction which may be used in different ways, according to whether it collaborates with other modalities such as speech, or is the sole means of utterance. When this is the case, as will be discussed, factors may come into play that bring about the development of relatively stable, socially shared systems, including various kinds of sign language.
4. Writing systems: methods for recording language

Geoffrey Sampson

Ideas about the significance of writing as a component of human culture. What is known of the origins of writing; monogenesis not a tenable hypothesis.

Diverse types (in some cases “ideal types”) of script:
   (i) Based/not based on a spoken language; based on sound units/units of meaning; based on syllables/segments/sound-features. The debate over whether full writing is invariably sound-based. Writing as a record of speech v. speech seen as an imperfect reflection of a written standard.
   (ii) Scripts reflecting surface v. underlying sound systems, and the historical evolution from former to latter – for European languages confusable with Classicizing, but observable also with other languages.
   (iii) Speech recorded to different degrees of completeness. Segmental phonetic contrasts sometimes ignored. Functions of punctuation, when present.
   (iv) Different degrees of visual contrastiveness among script elements.

Script used as political symbol or tool.

The psychology of reading – interest sparked by “no dyslexia in Japan”: large recent advances in understanding how far text-to-meaning decoding in (silent) reading is mediated by pronunciation. The work of the eyes. Psychology of literacy acquisition.

Script evolution as a compromise between learners’ and mature users’ interests. The changing balance of advantage.
6 Phonological systems

Harry van der Hulst

We can define phonology as the study of the perceptible side of language. This includes the study of both speech and sign. Phonologists (and perhaps speakers as well) use abstract symbolic representations to cope with the endlessly variability in actual utterances. This chapter will focus on the phonology of spoken languages. The symbolic representations are foremost meant to capture phonetic properties that are distinctive. These representations are compositional, consisting of units called phonemes, as well as units that are smaller (features) and larger (syllables). Since phonemes are pivotal units in the symbolic representation, I will call this representation the phonemic representation. Given a distinction between symbolic units (features, phonemes etc.) and the actual perceptible signal, there must be an implementation system which relates the symbolic representations to articulations and to acoustic (or visual) events. Phonological analyses of languages often simplify this two-way relationship by formulating a set of rules which deliver a phonetic representation, which in addition to the distinctive properties of phonemes also contains properties that are predictable, usually called allophonic, limiting attention to those allophonic properties that are language-specific (rather than being derivable from universal phonetic processes). When phonetic representations have been reduced to phonemic representations (the first step), using criteria such as complementary distribution and phonetic similarity between allophones, the linguist determines the inventory of phonemes. The second step in the analysis is to define the set of phonemes, downward in terms of constraints on feature combinations and upward in terms of constraints on phoneme combinations (into syllables and larger units). This constitutes the phonotactic analysis. Then there is a third part to phonological systems. When morphemes are combined into complex words, we often see phonemic adaptations. The constraints on phoneme combinations, which are valid for simplex words, extend to at least a subset of the complex words and this means that the morphology can cause violations of the constraints on phoneme combinations. For example, if we assume that there is a constraint against the sequence /np/ in English, a combination of the morphemes in and possible creates a violation. However, instead of rejecting the complex form, there is a ‘repair rule’ which replaces the /n/ by an /m/ (or changes /n/ into /m/). This rule leads to allomorphy, i.e. phonemic form variation in morphemes. Some phonotactic constraints are without exceptions, while others allow exceptions. However, not all allomorphy is driven by phonotactic constraints. In some cases allomorphy is dependent on the presence of specific morphemes, irrespective of their phonemic make-up. Additionally, not all allomorphy can be analyzed by deriving the allomorphs from a single phonemic form. Rather the choice between allomorphs can be suppletive in nature. In this chapter I will discuss the various ingredients of phonological analysis as outlined in this abstract, drawing attention to certain different view points, especially in relation to the phenomenon of neutralization. There will also be some discussion of cross-linguistically recurrent properties of phonological systems, so-called universals.
7. Morphology: the structure of words

Geert Booij

Morphology deals with the systematic correspondence between the form and meaning of words. The study of these regularities comprises the domains of inflection and word formation. Inflection concerns the expression of morphosyntactic properties, sometimes required by a specific syntactic context. Word formation deals with the creation of new (complex) words by various morphological mechanisms such as compounding, affixation, truncation, and segmental and tonal alternations.

The role of morphology in the grammar of natural languages is subject to theoretical debate. First, there are various ideas about the format in which morphological regularities should be expressed (rules or schemas?) Second, there are various models of the position of morphology in the architecture of grammar which will be discussed. Important issues are the interface between morphology and phonology (how does morphological structure influence the pronunciation of complex words?), and the interface between morphology and syntax (demarcation of word versus phrase, lexical integrity, phrases as building blocks of words). To what extent are morphological regularities and restrictions different from those found in syntax?

Morphology plays an important role in theories of the acquisition of language and in theories of language change. Hence, language acquisition and language change will also be discussed in this chapter.

Morphology is also very relevant for linguistic typology, which is partially morphology-based. Therefore, this chapter will also discuss the morphological classification of languages (analytic, (poly-)synthetic, agglutinative languages, etc.), and the conventions that are used in linguistic descriptions for representing the internal structure of complex words.
This chapter argues that linguistic theory needs to be re-set in a perspective reflecting real-time processing. Ever since the 1960’s, theorising about language has adopted a methodology inspired by the familiar formal languages of logic. The units to be captured are the well-formed sentences of the language, each to be associated with a triple: the phonological properties of the words made available by some underlying phonological system, the projection of fixed structure definable over those words (syntax), the meaning of the string defined over that syntactic structure (semantics). Attributes of language use in real time are treated as peripheral and explained by performance theories to be grounded in such grammars.

This methodology omits any characterisation of two properties diagnostic of natural language: (i) natural languages are systems underpinning an activity that takes place in real time; (ii) their token structures and interpretation display systemic dependence on the context within which such activity takes place. Over the years, semanticists have increasingly addressed the context-dependence of language interpretation, but with the methodology never being questioned, explanations remain grounded in static sentence-sized units, bifurcated into those phenomena which fit within the remit of the grammar, and those which fall outside it, and hence are not explained. Yet this dependence on context is endemic to natural languages, a core property of language affecting all aspects of language understanding. A particularly striking display occurs in conversation. In conversational dialogue, sentence structures may emerge through fragmentary contributions, each participant able to add some fragment to a partial structure just uttered, a well-formed structure emerging bit by bit without any evidence of advance planning as to what that structure or interpretation might turn out to be. The success of this interaction depends on participants alternating being a hearer and a speaker. A grammar respecting the traditional sentence-based methodology is very poorly placed to explain the seamless fluency with which such interaction takes place, since the basis it provides for performance explanations is restricted to a characterisation of complete sentences. In consequence, all such interactions risk being characterised as outside the remit of grammar, hence performance dysfluencies. Given the high proportion of these in conversational dialogue, and the endemic nature of context-dependency, such characterisations of language risk failing to capture the essence of a natural language system.

However, by shifting to the assumption that syntax should reflect the dynamics of language processing, the patterns of dialogue can be shown to follow directly from the mechanisms of language, and an integrated account of context-dependent phenomena becomes available. This chapter accordingly introduces readers to Dynamic Syntax, a framework in which syntax is defined via concepts of structural underspecification and update; and shows how the occurrence of elliptical fragments in dialogue to yield interaction between participants follows as an immediate consequence of the framework. The chapter closes with reflections on the significance of characterising a natural language as a set of mechanisms for collaborative interaction in real time.
12 Lexicography: the construction of dictionaries and thesauruses

Pam Peters

Dictionaries and thesauruses represent the lexicon of a language in contrasting ways: the semasiological and the onomasiological, i.e. articulating lexical meaning via individual linguistic signs (words), or within the larger semantic concepts that they name. This dichotomy has entailed different structuring of the lexical material in dictionaries and thesauruses: the conventional alphabetic arrangement of words in the dictionary, and a set of high-level semantic categories, varying in number and scope according to the individual thesaurus. While the macro- and microstructure of dictionaries are very familiar, the actual content of dictionaries has diversified enormously in the last 50 years, with more specialized types of dictionary alongside the general language “desk” dictionary, and greater attention to the dictionary user, as in the monolingual and bilingualized “learners dictionary” (Marello 1998). Other contextual factors are the fresh articulation of lexicographical theory and the availability of new tools and techniques for dictionary-making, making use of large computORIZED reference corpora and the internet. The transition from print to online construction of dictionaries has enlarged their scope, raising questions as to far the dictionary’s traditional role as provider of linguistic information should expand into that of the mini-encyclopedia (Bergenholz & Tarp 2003). Thesauruses too have evolved with the turn of the third millennium, in association with computer technology and the numerous applications of thesaurus-like structures (ontologies) in information science and artificial intelligence. With C21 computer power, the online thesaurus lends itself to the enhancement of the online dictionary, and vice versa (Fernandez & Faber 2011). The integration of material from both in a single electronic output breaks down the distinction between semasiological and onomasiological ways of representing the lexicon.

References


Pragmatics is one of the most vibrant and rapidly growing fields in linguistics and the philosophy of language. It is also a particularly complex subject with all kinds of disciplinary influence, and few, if any, clear boundaries. The aim of this chapter is to provide an authoritative, comprehensive and up-to-date overview of the contemporary landscape of pragmatics. I start with the question of what is pragmatics. I then move to micro-pragmatics covering both Anglo-American and (European) Continental traditions, focusing on the Anglo-American component view, the debate between contextualism and semantic minimalism in the contemporary philosophy of language, the central topics in Anglo-American pragmatics, and the Continental perspective view of pragmatics. This is followed by a survey of macro-pragmatics and cognition, covering briefly cognitive, psycho- (including both developmental and experimental), computational, clinical, neuro- and the cognitive part of interlanguage pragmatics. Next, I present a review of macro-pragmatics and society and/or culture, dealing with socio-, cultural, cross-cultural, and the social part of interlanguage pragmatics. I shall then comment on those branches and research areas of macro-pragmatics that are not easily and/or neatly placed in the above two categories. These include historical, applied, corpus, literary, legal and feminist pragmatics. Finally, my discussion turns to some trends and directions for future development of both micro- and macro-pragmatics, concentrating on micro Anglo-American pragmatics, cognitively-oriented macro-, experimental pragmatics, and socially-oriented macro-, sociopragmatic research on politeness and impoliteness.

**Key words:** pragmatics, Anglo-American pragmatics, Continental pragmatics, micro-pragmatics, macro-pragmatics, philosophy of language
16 Anthropological Linguistics and Field Linguistics

William A Foley

Anthropological linguistics and field linguistics form a natural synergism and have done so ever since their origins in the descriptive work of the missionaries in colonial America in the sixteenth century. This was revitalized and given a more scientific footing in the work of Franz Boas and his students in the late nineteenth and early twentieth century, as they raced to document as much of the linguistic and cultural knowledge of the native peoples of North America before it was lost. In many ways, the Boasian articulation of this synergism still holds sway today. In order to undertake truly deep ethnographic work, it was believed that a thorough grounding in the native language was a sine qua non, and for this the procedures of field linguistics as developed by Boas were necessary. While today many anthropologists would argue that competence in the local lingua franca is all that is required for successful ethnography and indeed that is often their modus operandi, no one would argue that serious work in the ethnography of the native language spoke by a community can be carried out in such a lingua franca, so still the procedures of field linguistics are necessary to acquire competence in the native language for its ethnographic study to proceed. Anthropological linguistics is concerned with the place of language in its wider social and cultural context, its role in forging and sustaining cultural practices and social structures. Anthropological linguistics needs to be distinguished from a number of neighboring disciplines with overlapping interests, particularly its close sister, sociolinguistics. Anthropological linguistics views language through the prism of the core anthropological concept, culture, and, as such, seeks to uncover the meaning behind the use, misuse or non-use of language, its different forms, registers and styles. It is an interpretive discipline, peeling away at language to find cultural understandings. Anthropological linguistics studies how humans employ communicative cultural practices or semiotic practices as meaning bearing resources to forge and maintain large and small, transient or permanent, social groups. Sociolinguistics, on the other hand, views language as a social institution, one of those institutions within which individuals and groups carry out social interaction. It seeks to discover how linguistic behavior patterns with respect to social
groupings and correlates differences in linguistic behavior with the variables defining social groups, such as age, sex, class, race, etc.

Field linguistics is still largely understood in the terms articulated by Boas and his students, although, of course, the technological resources available have developed exponentially since then, as has a reflexive concern with the ethical dimensions of fieldwork. Still, the basic principle and procedures are much the same. The chapter will provide a synopsis and illustration of these procedures. It will also highlight the importance of documentary linguistics, the need to document the full range of language forms, registers and styles used across a wide range of genres and contexts as possible. This is, of course, essential to any ethnographic study of a language, but also provides a needed corrective to normative pressures as a result of language description and documentation, unavoidable as some might be.
This chapter offers an introduction to the methods used to study the role of language in society. It will provide an overview of the findings of researchers on language change and variation over the past five decades, with a focus on research in the quantitative, or variationist, paradigm. The variationist research paradigm grew out of the work of Uriel Weinreich and his students William Labov and Martin Herzog. The focus of the paradigm is observing language change as it happens, through close examination and quantification of linguistic variables that are correlated with social characteristics of speakers and aspects of the interactions between speakers. One of the guiding principles of this sociolinguistic research paradigm is the “use of the present to explain the past,” (Labov 1978) based on the assumption that at least some of the linguistic variation that can be observed today is evidence of change in progress. Thus this chapter will explore the connections between the variation that we see in language today and historical linguistic change, as well as the methods that linguists use to explore language change in progress (such as real time studies and apparent time studies that use age as a proxy for the passage of time).

A second guiding principle of sociolinguistic research is the importance of the speech community, which Labov (1972) defined as a group of speakers with a set of shared norms of usage. Although sociolinguists differ on the definition of a speech community, all researchers in this vein place importance on the interrelationship between the social groups that individual speakers belong to, the social context of language use, and linguistic variation within and between groups. This chapter will discuss some of the social and cultural characteristics of speakers and speech communities that have been shown to correlate with inter-speaker linguistic variation, including, but not limited to, sex, social class, and social network. Ethnicity as a social factor will also be discussed from the perspective of linguistic variation and change in language contact situations. With respect to intra-speaker variation, different models of style-shifting that involve varying focus on the role of the individual speaker will be discussed alongside a description of stylistic variation as a focus of study.

The methodology used in sociolinguistics often parallels that used in linguistics more widely, although sociolinguistics tends to focus on the community rather than the individual as the object of study (albeit with speech and/or judgments collected from individual speakers). One special focus of sociolinguistic research has been a concern with capturing the vernacular, or a speaker’s most natural and un-monitored speech. Some of the methodology that has been developed to do this will be discussed, followed by a discussion of possible directions in the future of sociolinguistic research.

Finally, some of the practical applications of the study of sociolinguistics will be considered, including the role that sociolinguistic knowledge can play in the recognition of dialect diversity and linguistic diversity in the classroom, and sociolinguistic aspects of language policy and planning.
19 Neurolinguistics: mind, brain, and language

David Kemmerer

Neurolinguistics is the branch of cognitive neuroscience that focuses on language, and it has been progressing at a very rapid pace since the early 1990s, due primarily to advances in brain mapping methods such as lesion analysis, functional neuroimaging, electrophysiology, and transcranial magnetic stimulation. This chapter briefly introduces these methods and then provides a general overview of how they have led to new insights about the neural substrates of the representation and processing of three domains of linguistic structure: speech sounds, word meanings, and sentences. Regarding speech sounds, emphasis is placed on a network of temporal, parietal, and frontal regions that interact to support both the perception and the production of utterances. Regarding word meanings, recent research favors a model in which high-level sensory and motor areas of the brain store the corresponding modality-specific features of concepts, while more integrative cortical regions conjoin and systematize those features. And regarding sentences, numerous widely distributed but mostly left-lateralized brain areas have been associated with syntactic computation, thematic role assignment, and working memory; moreover, several electrophysiological markers have been linked with different aspects of the comprehension process as it unfolds dynamically on a millisecond time scale.
Children start to learn language early in infancy. Although they don’t produce their first words until the end of their first year, they can recognize some properties of their native language within hours of birth. In their first year, they begin to adjust their attention to linguistic signals, developing skill in discriminating phonological contrasts in their native language. Infants can use structural cues from the speech around them to begin learning words, first with some terms for objects and then also terms for events, properties and relations. Before their first birthdays, they also begin to develop critical interactional skills with their caregivers: they attend to gaze and gesture as cues that mark interest and desire, and they establish routines for interaction through touch, gaze, smiling, and vocalization. By age one, children begin to supplement earlier expressions (points, gestures, and vocalizations) with their first words. From that point on, children must simultaneously learn the forms of language — words and the constructions they appear in — and how to use such forms to communicate with others.

They acquire the meanings and uses of such forms from interacting with more expert speakers. The latter offer extensive feedback on errors, and also promote practice in language use — two elements central to the learning of language. In terms of forms, children must master the phonology and prosody of their language as they learn its vocabulary; they must work out how to use whatever morphological inflections are present, and also how to construct new words (with derivation or compounding, or both) when they need them. They need to master the constructions relevant to different words and word-types, and how to manage the multiple form/meaning mappings available as they learn how to express specific intentions in context.

Caregivers, as the experts, offer children new words along with information about how these words are connected with other words in the same domain. During communicative interactions, caregiver feedback helps to guide children’s decisions in making references and conveying communicative goals. Caregivers shape interaction by asking questions, giving feedback and responding selectively. This impels children to track relevant information so that their turns at talk are both relevant and accomplished in a timely manner. They guide children as they learn how to use language to refer and to express their communicative goals in an exchange in a timely manner. As children acquire more linguistic structure and develop fluency in expressing themselves and in accessing and retrieving linguistic forms, caregivers continually put their linguistic knowledge to test in the conversational arena. Children’s emerging skill in conversation depends on their recognition of what is and is not in common ground, and their assessment of what to say and how to mark the relation of their utterance to prior discourse.

As they get older, children learn how to express their intentions following the conventions of the language being acquired, and so master both an increasing repertoire of forms in the language and growing skill in using those forms to cajole, persuade, negotiate, tell jokes and stories, give explanations, justifications, and instructions — just some of the myriad skills we tend to take for granted in our everyday uses of language. Finally, even though children have become quite skilled by age six, say, like adults, they still rely on resources that emerged early in their pre-linguistic development of communication — gaze, gesture, body-posture,
and facial expression. This symbiotic development of language mastery and general communicative skill results in our unique ability to access and to communicate information about people, objects, and ideas in the world around us.

**Keywords:** Acquisition, interaction, feedback, practice, usage
21 Second Language Acquisition and Applied Linguistics
Susan M. Gass

Second language acquisition (SLA) is a multi-disciplinary field that refers to the study of how languages are learned following learning of a first language. It covers child and adult second language learning, but, as a discipline, does not deal with simultaneous (bilingual) acquisition. Many fields contribute to an understanding of how second languages are learned, including linguistics (broadly construed), psychology, sociolinguistics, to name a few. The history of SLA has moved the discipline from one relying on early theories of language with a focus on transfer and the need to develop pedagogically-sound materials to a stand-alone discipline with the goal of understanding the nature of language and cognition. With an early emphasis on linguistic systems, SLA has continued that emphasis, but has expanded its scope to include emphasis from sociocultural theory and psycholinguistics, the latter incorporating issues of processing and working memory capacity. To understand how individuals learn language, whether in a classroom context or in a so-called natural setting, one must further understand the role of age as well as numerous individual factors, such as motivation, attitude, and aptitude. This chapter will also deal with the substantial area of research that goes under the name of instructed second language learning to examine how the classroom context shapes learning.

The relationship between SLA and Applied Linguistics will also be considered. Applied Linguistics is generally defined as the field that considers solutions to language-related real world problems. This being the case, there are some areas of SLA that can more easily fit under the umbrella of Applied Linguistics and others that do not.
23 Linguistic Change

Walter Bisang

It is a truism that languages change their structure over time. The question is what factors keep that change going and whether there are general constraints or at least tendencies that operate on it.

The article will start with the distinction of language internal and language external factors that determine linguistic change. As for internal factors, it will briefly discuss the classical aspect of phonological change (sound laws with their motivation by properties of the vocal tract) and then go on to morphosyntax and semantics and their dependency on first language acquisition, cognitive factors and on the needs of speakers and hearers in discourse and communication. An important part of that discussion will deal with the role of Universal Grammar on the one hand and competing motivations and research on grammaticalization as it is motivated by semantic/pragmatic mechanisms of metaphor and metonymy on the other hand.

The external factors of language change depend on social and cultural factors that motivate contact-induced change. This type of change is not limited to languages, it may affect linguistic varieties in general (including e.g. dialects or sociolects) that offer a pool of variation from which speakers select linguistic structures based on the identity they want to adopt in a given situation. The article will briefly introduce classical models such as social network theory, leaders of language change and the invisible-hand model. External factors are typically accompanied by additional mechanisms of change such as code-switching, code alternation, passive familiarity, negotiation, bilingualism and 2nd language acquisition.

For a linguistic change to be successful, it needs to be adopted by a whole speech community. As is shown by the S-curve model, a linguistic change starts to be spread rapidly within a speech community as soon as it has passed the threshold of 20 – 30% frequency. The factors that enhance frequency are both internal and external and they crucially interact in processes of language maintenance/borrowing and language shift. They also interact in specific ways in processes of grammaticalization. Moreover, this situation makes the task of discovering general constraints of linguistic change difficult. What may look like a universal tendency of change motivated by human cognition may be the result of socially motivated contact-induced changes that spread over a large geographic area and languages. The article will thus conclude that we know various factors of linguistic change but that it is very hard to unearth universals or at least tendencies of change. For that purpose, it will briefly discuss more recent approaches developed in linguistic typology.
This chapter concerns the concept of language universals in the context of linguistic typology. Four different types of language universal are discussed and how language universals are explained structurally, historically or functionally is illustrated. Also included for discussion is the derivative concept of implicational hierarchies. Particular attention is paid to how the concept of language universals has over the decades evolved from discovering ‘what is possible, as opposed to impossible, in human language’ to ‘what is probable’ and then to ‘what’s where why’. Drawing on important cross-linguistic research, the chapter also discusses linguistic typology as a theoretical approach to the study of language. To that end, some of the theoretical and methodological issues, including cross-linguistic comparability, implicational typology, language sampling, etc. are discussed, with examples drawn not only from morphosyntax but also phonology, semantics and other levels of linguistic research. Moreover, the different stages of linguistic-typological research are described in order to demonstrate how research is carried out in linguistic typology with a view to formulating language universals.
26 Translating between languages

Anthony Pym

Interlingual translation is often forgotten by the various linguistics of language systems. A strict structuralist application of Saussure’s synchrony, for example, might make translation seem impossible. And yet translations are performed, and used, in countless different ways.

The purpose of this chapter will be to offer a historical survey the problematic relations between linguistics and translation, and to propose to linguists that translation is worthy of serious attention as an object of study.

“Translation” is taken as general term for written translation, spoken interpreting, cross-cultural mediation (in medical encounters, for example), localization (notably of software and websites) and machine translation (especially the systems based on statistics). This range of modes and contexts is important, since it directly challenges assumptions that translation is about no more than pairing sentences.

The historical survey will consider the absence of translation from Saussure, Chomsky, Halliday and Sperber and Wilson, and the attempts nevertheless to apply major linguistic theories directly to interlingual translation (in Vinay and Darbelnet, Nida, Malone, Catford, Bell and Gutt), all of which can be grouped together as theories of “equivalence”, at one level or another. This predominance of equivalence can also be traced through the work done in Russian, German and Czech. A similar but far less successful attempt to apply systemic linguistics is found in the search for “universals” in translated language, which in fact turn out to be widespread features of translationese.

A survey will then be made of the various critiques of this tradition by translation scholars (Skopos theory, Descriptive Translation Theories, deconstruction, localization theory, intercultural approaches to language learning). These positions fact comprise a complex critique of systemic linguistics itself, but would not sit too uncomfortably with the more fragmentary, situated, pragmatics-based orientation within linguistics. Examples will be given of types of translation that are performed successfully in social terms (including approximate machine translations) but would be judged to be unsuccessful in terms of traditional equivalence.

The final challenge will be a call to rethink language systems from the perspective of translation – starting from the phenomena that were previously excluded.

Key words: translation, interpreting, localization, mediation, equivalence
27 Structural linguistics

John E. Joseph

1. The *Cours*: main points
   a. Langue and parole (and langage)
   b. Langue as socially shared system of signs
   c. Arbitrariness
   d. Difference and value
   e. Linearity
   f. Immutability
   g. Paradigmatic and syntagmatic axes
   h. Diachrony and synchrony

2. Jakobson’s structuralism

3. Other structuralist approaches
   a. Bally and stylistics
   b. Meillet’s students
   c. Hjelmslev
   d. London: Palmer, Jones, Firth

4. Developments in America
   a. Boas, Sapir and anthropological linguistics
   b. Bloomfield and neo-Bloomfieldians
   c. Chomsky

5. Other paths
   a. Sociolinguistics
   b. Halliday
   c. Neo-Firthian phonology
   d. Neo-Jakobsonian trends

6. Structural linguistics today
   a. Generalized structuralism and post-structuralist critiques of structural linguistics
   b. Relative complexity of language systems: A return to structuralist principles?
This chapter reviews the emergence and development of the 'biolinguistic enterprise', a research program initiated by Noam Chomsky, Eric Lenneberg, and others in the 1950s. Biolinguistics seeks to uncover the biological origins of the human language faculty—the capacity to acquire at least one natural language. The existence of such a biological substrate is not subject to doubts, but the nature of it is (is it specific to language? specific to humans? how rich is it?) Although such questions were raised right from the start of the biolinguistic enterprise, they quickly receded into the background in linguistics, only to be revived and explored more fully in the last decade. A good part of this chapter will look into the factors that led to this revival, highlight some of the most outstanding obstacles that current research faces, and mention a few promising lines of investigation for the future.

Keywords: nativism, language faculty, universal grammar, learning, genetics, brain, mind
The notion of Functional Linguistics is associated in many linguists’ minds with a dichotomy between formal and functional approaches. Newmeyer (1998) begins with an imagined dialogue that pits a formalist against a functionalist (cf. Carnie & Mendoza-Danton 2003). Yet in practice there is not a true dichotomy but rather a continuum or even a multi-dimensional space (Gonzálvez-García & Butler 2006). For example, Kuno’s and Bresnan’s work are generally formalist in inspiration yet labelled functional; functional interpretations of formalist arguments have been around since Langacker (1974) and Heath (1978). In addition, a functionalist stance need not exclude formalization (Hengeveld 1999).

Functionalism has deep roots in linguistics, arguably tracing its origins to Paul (1880) or even to Von Humboldt. In the European structuralist tradition, functionalism is strongly associated with the Prague School (Sornicola 2011), but also with movements in France, Spain and the Netherlands (Martinet; Alarcos Llorach; De Groot). Allan (2010) stresses the importance of De Saussure, the champion of structuralists and many formalists, for functional linguistics. Newmeyer (2001) sets out the relevance of Prague for contemporary US functionalism, while Vykypěl (2009) argues that current work adds little to, and indeed ignores, achievements of earlier decades.

Functional linguists share the conviction that language phenomena, especially in syntax and morphology, but possibly also in discourse and/or phonology, must be studied with explicit regard to their instrumentality in interpersonal communication. Language users, with their cognitive capacities and limitations and their sociocultural embedding, are axiomatic to functional linguistics. The scholarly emphasis may be more diachronic, examining how language forms have evolved to fit communicative needs, or more synchronic, seeing producers and comprehenders as operating with their language as a tool for successful interaction. Bates, Thal & MacWhinney (1991) are at pains to deconstruct six straw men – false beliefs attributed to functionalists with a view to ridiculing their approach.

Among the many functionalist theories and approaches currently prominent in linguistics (cf. Butler 2003) are Functional Discourse Grammar (Hengeveld & Mackenzie 2008); Role and Reference Grammar (Van Valin & LaPolla 1997); Systemic Functional Linguistics (Halliday & Matthiessen 2004); and ‘West Coast functionalism’, a loose grouping of such distinguished scholars as Bybee, Croft, DuBois, Givón, Haiman, Haspelmath, Hopper and Thompson, many of whom describe their work as ‘usage-based’. Functionalists publish widely, but also have a dedicated journal Functions of Language (Benjamins).

There is considerable overlap between functional linguistics and several other domains of inquiry in linguistics including: descriptive-typological linguistics, where much use is made of ‘basic linguistic theory’ with functional underpinnings (Dryer 2006); historical linguistics, especially in grammaticalization; text grammar and discourse analysis; corpus linguistics; conversation analysis; cognitive and
constructivist linguistics; and some strands of psycholinguistics (e.g. the Competition Model of MacWhinney & Bates 1989).

In recent years (see Haspelmath 2000), there have been signs of willingness to seek convergence between functionalism and formalism (Harder 2011) and some steps towards actual implementation. Golumbia (2010) argues that Minimalism is functionalist in its assumptions and goals, and formalist advances like Culicover & Jackendoff’s (2005) Simpler Syntax and Jackendoff & Wittenberg’s (in prep.) Even Simpler Syntax also suggest a rapprochement.

References


Harder, Peter (2011), If your language was a car … The object(s) of linguistic research, or: towards a shared geography of linguistics. *Hermes – Journal of Language and Communication in Business* 47, 31–38.

Haspelmath, Martin (2000), Why can’t we talk to each other? *Lingua* 110, 235–255.


31 Computational linguistics
Ann Copestake

This chapter starts with a very brief overview of some of the main areas of computational linguistics and a discussion of the history, particularly as it relates to linguistics. Since a survey of all these areas is impossible in the available space, sentiment analysis is then discussed as an example of a ’real world' application. This will include an explanation of the type of 'shallow' methods which are standardly used and 'deeper' approaches which require more detailed analysis of the text: hence it will provide an overview of some parsing techniques and approaches to computational semantics, in a practical context. Following on from this is a discussion of the use of probabilities and machine learning in computational linguistics, including an explicit contrast with most work in linguistics. A simple approach to supervised part-of-speech tagging is used to illustrate this, and to introduce the use of annotated corpora. The discussion then moves to computational modelling within linguistics, with examples chosen to show the relevance of the methods developed within computational linguistics to theoretical study of language and concludes with some prospects for the future.
The chapter begins by a brief historical overview of the main topics discussed by linguists and philosophers such as (i) meaning and truth; (ii) concepts, ideas and language; (iii) referring in language; (iv) intentions and intentionality; (v) saying and implicating; (vi) ‘doing things with words’. Next, I move to defining philosophy of language, distinguishing it from linguistic philosophy, introduce and contrast the approaches to language proposed within analytical philosophy and ordinary language philosophy, and in the main part of the chapter focus on the core topics discussed in the post-Fregean and post-Russellian philosophy of language such as the properties of proper names and definite descriptions, indexical reference, propositional attitude reports and other intensional context, and temporal reference. I discuss the advantages of combining linguistic (including cross-linguistic) perspective with the philosophical debates in the domains such as indexical reference, temporality or modality. I conclude by some remarks on the relationship between language and philosophy in areas other than philosophy of language such as metaphysics, epistemology and ethics.
This chapter will consider the topic under three subheadings: the Written Language of the Law; Interaction in Legal Settings; and Language as Evidence.

The Written Language of the Law will be concerned firstly with what characterises and distinguishes English legal language and will illustrate with extracts from legal documents – principally statutes and contracts. Secondly, the section will examine the problems that arise when legal professionals use written documents to communicate, or at least interface with, a lay audience. I will use examples from a Temporary Restraining Order, the Police Caution, US Jury Instructions and possibly a mobile phone contract and the Facebook subscriber contract.

Interaction in Legal Settings will be concerned with both police/suspect interviews and interaction in courtrooms. It will also treat the interactional complications introduced when one of the participants is either a vulnerable witness – due to age, mental difficulties or the sensitive nature of the crime – or a non-native speaker, when the use of an interpreter significantly complicates the interaction.

Language as Evidence will exemplify how different tools of linguistic analysis, phonetic, lexical grammatical, pragmatic, have been employed by linguists when acting as expert witnesses. Topics covered will be authorship attribution, when examples from the author’s own casework will be used, linguistic profiling, trademark disputes, cases where linguists have given evidence on the communicative problems of legal documents. This section will also include a short presentation on the nature and detection of plagiarism.

Keywords: forensic linguistics; legal linguistics; linguistic evidence; courtroom; police
36 Linguistics and Social Media
Ana Deumert

The chapter provides an overview of communication practices on social media from the perspective of sociolinguistics, and will consider multimodal spectacles on YouTube and Facebook as well as the more strongly language-based practices we see on instant messaging platforms and also in texting. On the latter platforms, writing emerges as a sociolinguistic object in its own right, thus challenging the traditional – and still pervasive – view of the primacy of speech. Central theoretical concepts which will be explored from a broadly Bakhtinian perspective include notions of heteroglossia (vs. Labovian structured heterogeneity), text and entextualization, performance and performativity as well as style and stylization. The data on which the paper is based comes from diverse contexts, including North America, Europe, Africa and Asia.

Keywords: Social media, texting, sociolinguistics, multimodality, writing