A brief outline of the history of linguistics

People everywhere talk about language: they have ideas about its nature, uses, origins, acquisition, structure, and so on. Some of these notions are enshrined in mythology (think for instance of the Tower of Babel story). In some sense the things people say and believe about language could qualify as linguistics: they represent a body of knowledge and beliefs about language. But, as we are using it, the term *linguistics* refers to a body of knowledge that is structured in ways that characterise it as a science rather than mythology or everyday beliefs (see pp. 2–3). Linguistics is thus a cultural phenomenon, an activity practised in some (certainly not all) cultures. Like all cultural phenomena it has a history, which partly shapes it, including the questions it addresses and the methods it employs. For this reason it is useful to know something about the development of the subject.

> We might refer to the beliefs about language shared by members of a community or culture as ethno-linguistics, following the lead of established disciplines like ethno-mathematics, ethno-physics, ethno-botany, ethno-biology, and ethno-science, reserving the plain term linguistics for the scientific discipline. Unfortunately, the term ethnolinguistics has already been taken by another discipline (find out what it is), so we will have to call it folk-linguistics. In a way we can regard linguistics as having developed from the folk-linguistics of certain cultural traditions — after all, our scientific ideas about any domain are rooted in everyday ideas: no investigator comes to a field without preconceptions. Part of adopting a scientific approach to a subject is to identify these presumptions, and to subject them to critical appraisal.

Linguistics in antiquity

The earliest known linguistic traditions arose in antiquity, in societies with established traditions of writing. In most cases, it seems that these traditions arose in response to language change and the resulting impact on religious and legal domains.

Babylonian tradition

The earliest linguistic texts — written in cuneiform on clay tablets — date almost four thousand years before the present. In the early centuries of the second millennium BCE, in southern Mesopotamia there arose a grammatical tradition that lasted for more than 2,500 years. The linguistic texts from the earliest parts of the tradition were lists of nouns in Sumerian (a language isolate, that is, a language with no known genetic relatives), the language of religious and legal texts. Sumerian was being replaced in everyday speech by

a very different (and unrelated) language, Akkadian (Afroasiatic); it remained however a prestigious language, and continued to be used in religious and legal contexts. It therefore had to be taught as a foreign language, and to facilitate this, information about Sumerian was recorded in writing.

Over the centuries the lists became standardised, and the Sumerian words were provided with Akkadian translations. Ultimately texts emerged that give Akkadian equivalents for not just single words, but for entire paradigms of varying forms for words. One text, for instance, provides 227 different forms of the verb *gar* 'to place'.

Hindu tradition

The Hindu tradition of linguistics had its origins in the first millennium BCE, and was stimulated by changes in Sanskrit (Indo-European, India), the sacred language of religious texts. Ritual required the exact verbal performance of the religious texts, and a grammatical tradition emerged that set out rules for the ancient language. The best-known grammarian from this tradition is Pāṇini (c. 500 BCE, the dating is uncertain), whose grammar covered phonetics (including differences between words pronounced in isolation and in connected speech) and morphology. Pāṇini's morphology was expressed largely in the form of rules of word formation, many of a high degree of abstraction. The Hindu tradition of grammatical description far surpassed anything done in Europe for a very long time.

Greek linguistics

The Greek tradition of linguistics developed slightly later than the Hindu tradition, and also initially in response to linguistic change necessitating explanation of the language of Homer's epics. However, as in other areas of intellectual endeavour, philosophical and theoretical questions about language were also investigated. Themes of importance in the Greek tradition included the origin of language, parts-of-speech systems, the relation between language and thought, etymology, and the relation between the two aspects of word-signs — whether form and meaning are connected by nature (iconicity) or purely by convention (arbitrary). Plato's (427–347 BCE) *Cratylus* represents Socrates arguing for original natural connections that were subsequently obscured by convention. Aristotle (384–322 BC), by contrast, favoured convention over nature.

The first surviving grammar of a European language is a short description of Greek by Dionysius Thrax (c.100 BCE), *Tékhnē Grammatikē* (*Art of Grammar*), dating about 100 BCE. This work treated phonetics and morphology (including parts-of-speech), and had considerable influence over later descriptive grammars. Greek syntax was first described a couple of centuries later, by Apollonius Dyscolus (c. 110–175 CE).

Robins concludes his discussion of ancient Greek linguistics with the following evaluation:

> Their achievement in that part of linguistics in which they were strongest, namely grammatical theory and grammatical description, is strong enough to deserve and to sustain critical examination. It is also such as to inspire our gratitude and admiration. (Robins 1984: 40)

Roman tradition

Roman linguistics continued studying the themes of interest to Greek linguistics, and like the other ancient traditions was initially prompted by changes in the spoken language. The primary interest was in morphology, particularly parts-of-speech and the forms of nouns and verbs; syntax was largely ignored. Notable among Roman linguists was Varro (116–27 BCE), who produced a multi-volume grammar of Latin, of which only about a quarter has survived. Later grammars of Donatus (fourth century CE) and Priscan (sixth century CE) were highly influential in the Middle Ages.

Later traditions

Arabic and Hebrew traditions

The Greek grammatical tradition had a strong influence on the Arabic tradition, which similarly focussed on morphology; this tradition was also characterized by accurate phonetic descriptions. Its beginnings are generally considered to be in the seventh century CE, with the work of Abu al-Aswad al-Duʾali (c. 607–688), sometimes regarded as the father of Arabic grammar. The Arabic tradition served in turn as a major influence on the Hebrew tradition, which began slightly later, in about the ninth century. Saadia ben Joseph al-Fayumi (882–942) produced the first grammar and dictionary of Hebrew (Afroasiatic, Israel). The Hebrew grammatical tradition reached its peak in the thirteenth century with David Qimḥi's (also Kimhi, c. 1160–1235) work, which subsequently had a strong impact on European linguistics.

Middle Ages in Europe

During the Middle Ages (ca. CE 500–1400) in Europe Latin was held in high esteem as the language of the public sphere, as the primary written language. Gradually interest in the vernacular languages increased among scholars, and traditions of writing them began to emerge. Pedagogic grammars of Latin for native speakers of other languages began appearing. In about 1000 an abbot in Britain wrote a grammar of Latin for Anglo-Saxon speaking children. Descriptive grammars of the vernaculars were also written; these generally presented the languages in the mould of Latin.

The twelfth century saw the emergence of the notion of the universal nature of grammar, which was later refined and developed by scholars such as Roger Bacon (1214–1294) among others. Bacon held that grammar was fundamentally the same in all languages, differences being incidental and shallow.

A remarkable work dubbed *The First Grammatical Treatise* was penned sometime in the twelfth century by an unknown author in Iceland. Its main concern was spelling reform, to correct inadequacies of the Latin-based writing system of Icelandic. It presented a brief description of Icelandic phonology, drawing for the first time the distinction between sounds (phones) and distinctive sounds (phonemes), sound variations capable of distinguishing words (see §2.6). This text was not published until 1818, and even then it was little known outside of Scandinavia; but it anticipated by some eight hundred years several important developments in twentieth century phonology. (This interpretation has been challenged by some historians who argue it to be an anachronistic reading of the work.)

European colonialism

From the early sixteenth century, colonization brought Europeans into contact with a wide variety of languages in Africa, the Americas, Asia, and the Pacific. Information about them was gathered by explorers, colonial administrators, travellers, missionaries, and others, and was subsequently disseminated within Europe in the form of word lists, grammars, and texts.

Scholars compiled word lists in many languages and used them in language comparisons. That certain languages were related to one another became gradually appreciated, and over the centuries this came to be established on increasingly firmer footing as techniques were developed and honed. Ultimately this led to the establishment of what is now known as the comparative method (see §17.2), and the Neogrammarian tradition (beginning in the nineteenth century).

By the late sixteenth century the notion had emerged that most European languages formed a family of related languages, all of which could be traced back to a single ancient language that over time split into 'daughter' languages that were not mutually intelligible. Andreas Jäger (c.1660–1730) proposed this in 1686, putting the homeland of this ancient language in the Caucasus mountains, from which the languages spread by waves of migrations into Europe and Asia. By a quirk of history, it is William Jones (1746–1794) who is widely credited the discovery of the relatedness of the Indo-European languages and the founding of comparative linguistics. Jones was not even the first to realize that Sanskrit, an ancient language of India, belonged with the European languages. However, he provided the best evidence and arguments for the relatedness of the Indo-European languages.

Other families were recognized and motivated soon after. In 1706 Adriaan Reeland (1676–1718) proposed that the languages of Madagascar and the islands of the Indonesian archipelago were related; Janós Sajnovics (1735–1785) demonstrated the relatedness of Hungarian, Finnish and Saami in 1770; in 1776 Abbé Lievain Proyart (c. 1743–1808) observed the relatedness of the African languages Kakongo, Laongo, and Kikongo; and in 1787 Jonathan Edwards (1745–1801) demonstrated that the Algonquian languages of North America form a family.

The Danish linguist Rasmus Rask (1787–1832) drew together the various threads of historical linguistics of the day into a coherent system of principles for establishing the relatedness of languages. He stressed the importance of grammatical evidence (employed earlier by the Hungarian linguists János Sajnovics and Sámuel Gyarmathi (1751–1830)), and of regular sound correspondences between related words (cognates). These ideas were further formalized into the comparative method by Augus Schleicher (1821–1868) and others.

Linguistics in the colonial period had other concerns than language comparison and classification. Grammars of European languages were written, as also were grammars of the languages of the colonies. Missionaries played an important role in the latter endeavour, and their grammars of non-European languages dominated from the sixteenth to eighteenth centuries. Latin grammar formed the basis for the tradition of missionary grammars, although the best of the missionary grammarians were aware of problems in applying Latin categories and structures to other languages. They struggled with varying degrees of success to understand and describe the unfamiliar categories.

Also notable in the nineteenth century was the Finnish academic program of investigation of the non-Indo-European languages of the Russian empire, which for a time also involved Russian academics. This fieldwork-based research yielded grammars, dictionaries, and text collections in Finno-Ugric, Samoyedic, Turkic, Mongolian, Paleo-Siberian, and Tungusic languages. Other colonial powers mounted similar academic investigations, though perhaps not usually as ambitious. These were often undertaken in large-scale expeditions involving also anthropologists, biologists, and geologists; the last such expeditions took place in the early to mid-twentieth century.

Modern linguistics

Beginnings

Modern linguistics emerged in the late nineteenth and early twentieth centuries with the shift of focus from historical concerns of changes in languages over time to the idea that a language can be viewed as a self-contained and structured system situated at a particular point in time. This forms the basis for structuralist linguistics that developed in the post-

First World War period.

The Swiss linguist Ferdinand de Saussure (1857–1913) is widely acknowledged as the key figure in this refocusing of interest, and as the founding father of modern linguistics. Saussure began his career in the Indo-European historical-comparative tradition, within which he made a seminal contribution. Saussure published little himself, but his students in Geneva reconstructed his ideas from their lecture notes, and published them posthumously in 1916 as *Cours de Linguistique Générale* [Course in general linguistics]. His work has proved a rich field for subsequent investigators, and has inspired numerous interpretations and reinterpretations. His influence extended beyond linguistics, into neighbouring disciplines including anthropology and semiotics (the field of study that investigates signs and sign systems generally). Saussure championed the idea that language is a system of arbitrary signs, and his conceptualisation of the sign (see Figure 1.1, p. 000) has been highly influential.

Ferdinand de Saussure
Photograph by F. Jullien. Licensed under the Creative Commons Attribution-Share Alike 4.0 International license.

Phonetics and phonology were dominant in early modern linguistics. The International Phonetic Association (IPA) was established in 1886 by a group of European phoneticians. The British phonetician Henry Sweet (1845–1912) was one of the leading figures in phonetics in the second half of the nineteenth century. He and the Polish linguist

Baudouin de Courtenay (1845–1929) were independently instrumental in development of the notion of the phoneme or distinctive sound. However, the story is convoluted. As Roman Jakobson (1896–1982) observes, "the term and the concept of the phoneme actually emerged almost simultaneously, but quite separately and only later found one another" (Jakobson 1971: 396).

Diversification

The Prague School

The Prague School is a tradition of linguistic thought that is associated with was a group of Czech and other linguists who formed the Linguistic Circle of Prague, established in 1926. This group held regular meetings and published a journal, *Travaux du cercle linguistique de Prague*. The primary interest of the Circle was phonological theory; the leading light in this domain was the Russian Prince Nicholai Trubetzkoy (1890–1838), a professor in Vienna, whose *Grundzüge der Phonologie* [*Principles of Phonology*] made important contributions to the notion of the phoneme. Prague school phonology succeed in placing the notion of the phoneme in the centre of linguistic theory, as one of the most fundamental units.

Prague School linguists also made contributions to other aspects of linguistics including the area for which the school is perhaps best remembered today, syntax. A tradition beginning with Vilém Mathesius (1882–1945), and further elaborated by František Daneš (1919–2015), Jan Firbas (1921–2000) and others, focussed on the relation between word order and discourse — how the order of words in a sentence is affected by discourse in which it occurs. Their notions of theme or topic (what is being spoken about) and rheme or comment (what is said about it), and given (what is known to the hearer) and new (information not known) have been highly influential and occupy a place in many modern theories syntax.

Perhaps the most famous representative of the Prague School is Roman Jakobson, who did original research in a range of areas of linguistics. Jakobson emigrated to the USA in 1942, and subsequently had a significant impact on the development of phonological theory there.

British structuralism

Daniel Jones (1881–1967) took up and extended Sweet's work on phonetics. His work was highly influential in the development of phonetics, and his books *Outline of English phonetics* (1914) and *English pronouncing dictionary* were widely used throughout the world.

But general linguistics in Britain really began with the work of J.R. Firth (1890–1960), who held the first chair in linguistics, in the University of London, from 1944 to 1956. Firth, who had lived for some time in India and studied its languages, brought a number of original and provocative perspectives to linguistics; the tradition he established is called the 'London School'. Among other things, he questioned the assumption that speech can be divided into segments of sound strung one after the other, regarding this as an artefact of alphabetic scripts used by westerners. His theory of prosodic analysis focussed on phonetic elements larger than individual sounds, and anticipated some developments in phonology by half a century. Firth was also deeply concerned with meaning, and, influenced by the Polish anthropologist Bronislaw Malinowski (1884–1942), developed (at least in outline) a contextual theory of meaning that accorded a crucial role to use in context — embodied in the aphorism 'meaning is use in context'.

Firth did not develop a fully articulated theory of grammar, but rather laid out the framework on which a theory could be developed. One of his students, Michael A.K. Halliday (1925–2018) was responsible for elaborating Firth's ideas and developing them into a coherent theory of language. From the late 1950s, Halliday refined a theory that ultimately came to be known as systemic functional grammar; Halliday's ideas have attracted a considerable amount of attention, especially in applied linguistics (see p.), and the tradition he began is represented in Britain, Australia, America, Spain, China, and Japan.

But Firth's ideas were developed in other ways as well, including by other students, and their students. In fact, Firth's singular approach remains a source of inspiration to many, and has spawned a range of neo-Firthian theories.

Danish structuralism

The Copenhagen School was headed by Louis Hjelmslev (1899–1965), who, along with Hans Uldall (1907–1957), developed an approach called glossematics. Glossematics focussed on the relations between units in the language system, in accordance with Saussurean thought which held that it is the relations between linguistic entities rather than the entities themselves that is significant. Hjelmslev's introduction to the theory, *Omkring Sprogteoriens Grundlæggelse* was published in 1943; a decade later, a revised and annotated English translation appeared under the title the title *Prolegomena to a Theory of Language*.

Glossematics is an algebraic theory of language; it was far more abstract than any of its contemporary theories, and anticipated the algebraic orientation of American linguistics of the post-1940s. A generation of Danish linguists were influenced by this theory in the 1930–1960 period; its influence waned after Hjelmslev's death, and today there remains little evidence of glossematic thought in Danish linguistics. The influence of the theory outside of Denmark was limited. Some Norwegian linguists adopted it for a while, but soon turned to American structuralism. Hjelmslev's thought did, however, influence other traditions, including systemic functional grammar (see previous section) and stratificational grammar (developed by the American linguist Sidney Lamb in the late 1950s). Semiotic theories in France were also influenced by glossematics.

American structuralism

Franz Boas (1858–1942), Edward Sapir (1884–1939), and Leonard Bloomfield (1887–1949) were responsible for setting American linguistics on its course. Boas' major concern was to gather information on the languages and cultures Native Americans before they disappeared, and the methods he and his students developed for the description of these languages became the basis of American structuralism. Boas, along with his student Sapir, strongly upheld the notion that all languages should be described in their own terms, rather than being forced into the mould of European languages. They maintained psychological and anthropological orientations, seeing language as intimately connected with the way of life and thought of its speakers. This notion was further developed by Sapir's student Benjamin Lee Whorf (1897–1941) into what is now known as the Sapir-Whorf hypothesis, which holds that the structure of the language one speaks determines how one views and perceives the world. (See further §11.1.)

Bloomfield's primary concern was to establish linguistics as a science. He opposed the mentalistic orientation of Boas and Sapir, and was heavily influenced by the mechanistic outlook of the then fashionable behaviourist psychology. His approach, which focussed on methodology, was the dominant force in American linguistics from the 1930s until the

mid-1950s. Meaning played little part in this enterprise, and the analytical methods or 'discovery procedures' that were developed attempted to exclude meaning as far as possible.

Franz Boas, c. 1915. Canadian Museum of History, Public domain, via Wikimedia Commons

The focus on methodology and shunning of theory during these decades was perhaps at least partly a consequence of the orientation of American linguistics to the description of the traditional languages of the Americas. Methods had to be developed in the first place to facilitate the gathering and analysis of information on the languages which were not spoken by the linguist. Likewise, to meet the demands of describing each language in its own terms, it was essential to have bare analytical methods that presupposed as little as possible about the structure of language generally.

Contemporary approaches to linguistics

The schools of linguistic thought that arose in the first half of the twentieth century, some of which were mentioned in the previous subsection, continued to proliferate in the second half of the century, spawning even more new schools of thought. It is usual to divide the vast array of approaches into two primary types, formal and functional, according to whether they adopt an overall focus on form or on function. This corresponds roughly to which of the two fundamental aspects of the Saussurean sign is accorded greatest attention (although not all theories give a place to the sign). The division into formal and functional approaches is quite messy, and theories do not fall neatly into the categories. Nevertheless, the formal-functional division has continued to be relevant to the drawing of lines of battle; the last decade has, however, seen a few attempts (so far with limited success) to foster less antagonistic relations between the two camps.

In the following subsections we briefly outline the development first of formal then of

functional theories. We conclude with a few brief comments on some broad aspects of the field as it is today. This overview by and large follows the textbook, pp. 000–000, elaborating on some details.

Formal linguistics

In America, mainstream neo-Bloomfieldian structuralism became increasingly algebraic in orientation from the end of the Second World War, and focussed increasingly on syntax. In 1957 it suffered a major challenge with the publication of Noam Chomsky's (1928–) *Syntactic structures*. Heavily influenced by recent developments in mathematical logic, Chomsky's program explicitly rejected the neo-Bloomfieldian obsession with discovery procedures, its atheoretical stance, its underpinnings in behaviourist psychology, and its empiricist orientation. While other central aspects of the neo-Bloomfieldian tradition were retained, intellectual links were highlighted with European schools of thought, most notably with the seventeenth and eighteenth century rationalists such as René Descartes (1596–1650).

Chomsky's thought quickly became dominant, not just in America but also in Europe and elsewhere; it has effectively defined mainstream linguistics since. Grammar is considered to be a formal system making explicit the mechanisms — first in terms of rules, later by other means — by which the grammatical sentences of a language can be generated; and for this reason the tradition is called generative grammar.

Generative theory developed rapidly, and has undergone notable changes and renovations since the 1950s. Alongside the Chomskian mainstream, alternative generative theories were developed by linguists working within the paradigm, including generative semantics, lexical functional grammar, generalized phrase structure grammar, and head-driven phrase structure grammar.

Functional linguistics

The late 1950s also saw new developments in linguistics in Europe, arising from the founding work of the Prague school and J.R. Firth. These developments, under the respective leaderships of André Martinet (1908–1999) and Michael Halliday, took off in functionalist directions, stressing both the meaning side of the Saussurean sign and the idea that language developed the way it did because of the uses it was put to. Both schools continue to this day as minor but significant forces on the linguistic landscape.

Later, other functionally oriented schools emerged, mostly in opposition to Chomskian linguistics. One was functional grammar, developed from the late 1960s by the Dutch linguist Simon Dik (1940–1995). While rejecting key notions of generative grammar, like the majority of post-1957 theories, Dik's took seriously the requirement of analytical and theoretical explicitness.

11

A rather amorphous tradition arose in the USA around the same time. With many of its practitioners located on the west coast of America, it was dubbed West Coast Functional Grammar; it was less a school of thought than the others, and had no acknowledged leader. Prominent in this tradition is the idea that grammatical categories are functional — that they arose to serve some purpose, and are not arbitrary. A major focus of interest was on the emergence over time of grammatical categories and structures (grammaticalization).

West Coast Functional Grammar has been superseded by two more coherent schools of functional grammar, also strongly associated the west coast of the USA, cognitive grammar (associated with Ronald Langacker (1942–)) and construction grammar (Charles Fillmore (1929–) and associates). Construction grammar has since differentiated into a number of schools. In contrast to West Coast Functional Grammar, these two theories construe the Saussurean sign as the centre-piece of grammar.

In America in the late 1950s Joseph Greenberg (1915–2001) began rethinking questions of language universals and typology. While he shared the interest in universals with Chomsky, his approach was at variance with Chomsky's: Greenberg sought universals empirically, through investigation of many languages, rejecting Chomskian rationalism and its inordinate focus on a single language (English). The Greenbergian tradition is one of the least functional of the functionalist schools, being functional more in its opposition to generative grammar than in its ideas. Functionalist schools have been more willing to accept and integrate typological and language universal research than mainstream formal linguistics, and today practitioners of Dikian, cognitive and construction grammars are some of the major contributors to typological linguistics.

Scope of modern linguistics

Contemporary linguistics is a richly diversified field, with so many specializations that no scholar can hope to cover them all. Many branches acquired their separate identities and methodologies in the second half of the twentieth century, although most had been investigated previously. Generative grammar continues as a major force guiding their orientations and goals, although other theories have also had some impact.

The majority of the approximately 7,000 languages spoken in the world today and in the recent past have yet to be adequately documented and described. A number of linguists are engaged in gathering data on the poorly documented languages, normally by doing fieldwork in remote locations, and describing them, by writing grammars, and compiling dictionaries and collections of texts. Missionary linguists, many working under the umbrella of SIL International (formerly the Summer Institute of Linguistics), a missionary organization established in the USA in 1934, continue to play a prominent role. Over 1,000 languages are currently under investigation by SIL linguists. Speakers

of the poorly documented languages are increasingly playing more prominent roles as gatekeepers determining access to speech communities and controlling the direction of linguistic research and applications. A growing number have studied or are studying linguistics in institutes of higher education, and are involved in describing and documenting their languages.

The need for this basic descriptive work is underlined by the fact that a many of the world's languages are endangered, and unlikely to survive into the next century (see §7.5). Despite the rhetoric, this field does not occupy a prominent position in linguistics, or on the agenda of many research funding bodies, and a relatively small proportion of linguists are active in it. Technological developments since the beginning of the twentieth century — including audio and video recorders, and computers — have facilitated the task of language documentation and description immensely.

Linguistics has been applied to an increasing range of practical concerns beyond the traditional ones of language learning, literacy, and translation. Many branches of the subject have contributed in some way to this field, applied linguistics, for instance, descriptive linguistics to maintaining and strengthening endangered languages; psycholinguistics to assisting individuals with language difficulties (e.g. resulting from strokes); pragmatics and conversation analysis to cross-cultural communication; and sociolinguistics to the educational field. Recent years have seen linguists increasingly called on for expert advice in the legal domain, including speaker identification from voice recordings and land-rights for Indigenous peoples. Another major area of application is in the computational field, including to machine generation and recognition of speech, automatic parsing of texts, translation, and building and maintaining large corpora (collections of texts).

Further reading

Campbell (2017) is a good short introduction to the history of linguistics. Joseph (2002) takes a more critical stance on American linguistics. Robins (1984) is an excellent short introductory book on the topic; Allan (2013) is more comprehensive.

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