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The Cambridge Handbook of Systemic Functional Linguistics

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29

Language Typology

Abhishek Kumar Kashyap

1 Introduction¹

Language typology evolved as a method of linguistic inquiry to explore cross-linguistic diversity and genetic relationships among languages. With centuries of research and teaching it graduated to be a fully-fledged sub-discipline within general linguistics like other sub-disciplines in the field, e.g. phonetics/phonology, morphology, and sociolinguistics. With the development of what Nichols (2007:231) calls ‘hallmarks of a mature discipline’ (e.g. specialized forums for publication and debate, dedicated journals, professional associations, conferences and symposia, classic works and textbooks, and research and teaching programs), recent years have seen renewed interest in this field. This interest includes work which focuses on linguistic structures as the primary concern of intellectual inquiry as well as work which is primarily meaning-focused, such as Systemic Functional Linguistics (SFL) (e.g. see Webster 2008). Typological insights are not just confined to enriching our understanding of cross-linguistic diversity and genetic relationships among languages, but they are also applied to strengthen other fields of linguistics, with increasingly growing interests in the application of typological insights in fields such as intercultural communication, translation, language acquisition, and language learning and teaching (e.g. Matthiessen 2001; Filipović 2008; Bowerman 2010).

In this chapter I present a snapshot of the development of language typology and discuss key strands of typological research in language, especially what the term ‘language typology’ refers to, how it has grown over time and what difference typological insights make in our life. In Section 2, I explain what we mean by language typology and what types of questions typologists engage with. Sections 3 and 4 are devoted to the development of

¹ Please see the end of the article for a list of abbreviations used in the course of the linguistic analysis.

this field. In Section 3, I sketch the historical growth of this field through cross-linguistic and comparative works, and the essence of different theoretical approaches are discussed in Section 4, with Section 4.1 presenting a comparison of formal and functional approaches to language typology and Section 4.2 focusing on SFL perspectives on language typology. Section 5 briefly discusses the application of typological insights to other related fields of study. Section 6 summarizes the discussions of the chapter with a few concluding remarks.

2 What is Language Typology?

The term ‘typology’ derives from the Greek noun *týpos* and refers to the study of types, or ‘a system for dividing things into different types’ (Hornby 2005:1656; *Collins English Dictionary* 2017). Retaining its meaning of classifying things into categories according to their types, the term is used in several disciplines such as anthropology (classification of cultures and races and sociocultural norms), psychology (the classification of different human personalities and personality traits), archaeology (the classification of things according to physical characteristics), and theology (the relationship of Old Testament to New Testament with respect to religious beliefs, events, persons, or statements).

In linguistics, typology refers to the classification of the world’s languages according to similarities and differences in their linguistic structures and genetic relationships. Language typology, therefore, is essentially comparative and cross-linguistic. That is, a typological analysis obligatorily involves data from multiple languages, either of different language families or of the same family, for comparison, and proposes generalizations on the basis of the analysis.

Language typology has developed from language description, which has a long history of work going back at least to the time of Pāṇini (fifth century BC) and other Indian grammarians (such as Yāska, Kātyāyana, and Patañjali) of ancient India and of which we have written record (see Shukla 2006; Kiparsky 2009). Initially, the focus was on the description of just one language and the primary purpose was teaching the language as well as intellectual inquiry in the philosophy of language. Pāṇini’s *Aṣṭādhyāyī*, a masterpiece of linguistic endeavour in the history of language study, was motivated by both pedagogical purpose as well as his inquiry in the philosophy of language. As the tradition of language study developed, however, researchers began to ask more interesting questions in order to understand language diversity, and genetic relationship among languages was a natural extension of the intellectual inquiry into the philosophy of language that led to comparisons of structures of different languages. This later came to be known as language typology (see Section 3). Language typology was thus introduced as a method to investigate genetic relationships among

languages and group them under different stocks on the basis of their genetic origin and linguistic structures. Greenberg's (1963) classification of language stocks on the basis of the order of major constituents of the clause, traditionally known as Subject, Object, and Verb, was based on this principle. (With typological developments in SFL, SFL researchers have observed that these traditional categories have inconsistencies at several levels. SFL typologists therefore have begun to use the order of Subject, Complement, and Predicator to categorize language (e.g. see Matthiessen 2004).²)

As can be expected, the findings of typological study help us to understand the amazing cross-linguistic diversity of the world, and that can be understood by no other means than describing, comparing, and analyzing languages. For example, while the first-person pronouns in most, if not all, languages of the world do not show gender and the first-person singular pronouns generally lack the marking for honorification, we find interesting variations in the second- and the third-person pronominal forms, as a comparison of the pronominal systems of English (a Germanic language) and Bajjika (an Eastern Indo-Aryan language (Kashyap 2014)) demonstrates, even though both these languages have developed from the same root (i.e. Indo-European). Bajjika has developed a four-level honorification system (high-honorific, mid-honorific, plain honorific, and non-honorific) to refer to addressees of different social statuses (Kashyap 2012; Kashyap and Yap 2017). English, in comparison, is limited to the use of only one second-person pronoun *you*, regardless of the addressee's social status.

This kind of linguistic diversity helps us to make sense of different sociolinguistic situations in the world and often provides insights into the range of linguistic and meaning-making systems in world languages. For example, for a speaker of English, or even an expert of English with little exposure to how different languages behave and how they develop structures to express meanings, it will be hard to make sense of the morphological complexity of the following example from Mundari (a Munda language within the Austroasiatic family) given in (1) and whether it is a word or a sentence.

- (1) Omamtanain
 om-am-tan-a-in
 give-2 SG-PRS-1 SG
 'I give you.'

Mundari (Verma 1991:130)

² The traditional categories Subject, Object, and Verb are reinterpreted and renamed in some new twentieth-century theories of linguistics. In SFL, while the category Subject retains its name, although with a fresh interpretation, Object is reanalyzed as Complement, and Verb (at the clause rank) is reinterpreted as Predicator (see Halliday 1994; Halliday and Matthiessen 2014; Matthiessen et al. 2010). In SFL there is no such term as Object. The category 'verb' refers to a unit in word classes; a corresponding unit above word class is 'verbal group', which has a verb as the Head, e.g. *walk* in *is walking* and *target* in *has been targeted*.

Even more difficult would be making sense of why in the Bajjika construction in (2) the addressee (shown by bold) is encoded in the verbal form if the addressee is not a functional constituent or referent in the clause:

- (2) ek din ham dekh-l-i-aw je ...
 one day 1.NOM see-PST-1.NOM-**2hNNOM** that
 ‘One day I saw that ...’

Bajjika (Kashyap 2012:1869)

The hierarchical social order of the Bajjika community demands that the speaker acknowledges the presence of the addressee even if the addressee is not a functional constituent in the clause, and therefore the language has developed a system in the agreement paradigm (for details, see Kashyap 2012; and Kashyap and Yap 2017).

Example (3) demonstrates how languages develop ways to manifest different sociocultural phenomena and how a good understanding of linguistic diversity helps to grapple with the linguistic and semantic variations. This example, from Maithili, shows the complexity of agreement marking. In this example, three referents are marked in its paradigm of verbal agreement.

- (3) ham to-rā kaniyā-kē dekh-au-l-i-au-nh.³
 1.NOM 2h/nh-DAT bride-DAT see-CAUS-PST-1.NOM-2nh/h.
 NNOM-3h.NNOM

‘I showed you the bride.’

Maithili (Bickel et al. 1999:482)

A comparison of agreement paradigms in Indo-Aryan languages shows a great deal of diversity and demonstrates how languages of the same family show variations in their linguistic structures and the semantic domain that they relate to. For example, Maithili allows three discourse referents to be simultaneously encoded, Bajjika allows two referents (example (2)), and Bhojpuri and Hindi allow only one referent, as shown in (4). Even though these four languages belong to the Indo-Aryan language family, the structural and semantic variations among them are remarkable.

- (4) a. bajār jā-it bā-ni.
 market go-PROG AUX.PRS-1
 ‘(I) am going to the market.’ Bhojpuri (Kashyap 2017)

- b. mai-ne us-e nahī dekh-ā
 1-ERG 2nh-ACC NEG see-1.ERG
 ‘I did not see him.’ Hindi

³ The interlinear glosses in this example contain the modification by the author on the basis of his knowledge of Maithili.

As more and more languages are described and cross-linguistic data are compared and typologized, we encounter unexpected linguistic facts that demonstrate that some 'exotic' languages have unique ways of encoding the same information. In several cases, we also find surprising similarities that stimulate us to ask whether they had any historical relationship. The kind of addressee-oriented agreement markers shown in Indo-Aryan Bajjika and Maithili above have also been found in Basque languages, as in (5), although no genetic relationship has yet been established between the Indo-Aryan and the Basque languages. Rather, Basque is classified as a language isolate, which means that as yet we have no clue to its origin.

Language typology has a great deal of similarities with two related linguistic sub-disciplines, contrastive linguistics and comparative historical linguistics, although they each have a unique focus of attention. While language typology often focuses on many languages, and preferably larger language samples on which firmer generalizations can be made and that can enrich our theoretical understanding of linguistic diversity and language evolution, contrastive studies have traditionally focused on the study of two languages. Moreover, while comparison of linguistic structures and related phenomena is at the core of both language typology and contrastive linguistics, they have a different preference of inclination: in typological explorations equal weight is given to both similarities and differences, while the primary focus of contrastive linguistics is on differences of linguistic structures, and linguistic similarities take a back seat.

Whereas language typology seeks to explore cross-linguistic variations and chart the language diversity that exists across languages, language contrast, which is sometimes considered a branch of language typology, aims to contribute to applied areas of linguistics such as language teaching, error analysis, and translation. Language contrast developed for pedagogical reasons, to improve foreign language teaching, from Charles Fries' (1945) contention that in foreign language teaching 'the most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner' (Fries 1945:9). His colleague Robert Lado later advanced Fries' suggestion and proposed the 'Contrastive Hypothesis' (Lado 1957), which suggested that 'the second-language learner's language was shaped solely by transfer from the native language' (Tarone 2006:134). Lado emphasized that the comparison of the learner's target language with the learner's first language would accurately predict the learner's difficulty of learning a second/foreign language, offer better insights for learnability, and help to improve language teaching. It is worthwhile noting that the typological anchoring of SFL also developed through the pedagogical concerns of Michael Halliday (e.g. 2007), and contrastive analysis was an area of interest particularly in the regions where English had the status of a second or foreign language (for example, see Prakasam 1970).

Comparative historical linguistics, in contrast, seeks to investigate genetic relationships among languages that help to discover the history of languages and their respective language communities – their origin, diachronic development, and structural change over the course of time. The results of both the approaches help each other to develop a wider perspective and a firmer understanding of language diversity and language evolution. Historically, language typology evolved with the goals that today influence both historical and typological linguistics, that is, to discover, respectively, the language and corresponding speech community's development along time and cross-linguistic variations.

Even though the aims and scope of the field of language typology and what typologists do are generally clear, there seem to prevail some ambiguities about what is and what is not language typology; this calls for clarification, at least for beginners in the field, e.g. students beginning to develop skills of language study. I foreground here two basic ones. Firstly, language typology has not yet developed into a fully-fledged discipline like sociology, anthropology, or any other discipline for that matter; it is a sub-discipline within the discipline of 'linguistics'. As a piece of evidence in support of typology as a sub-discipline, one can see how universities treat this area of study: it is rare to see universities with an entire department dedicated to language typology in the same way that one can find independent departments of linguistics, sociology, and anthropology, each of which is a discipline in its own right. Language typology makes its presence in a department of linguistics, and within the department of linguistics is sometimes found a centre dedicated to language typology, if the department intends to focus on this area of study. Language typology, therefore, should not be confused as a discipline; it is a branch of general linguistics and has grown to be a sub-discipline within general linguistics.

Secondly, language typology is not a linguistic theory or framework; rather, it is a method of linguistic analysis, which necessarily involves cross-linguistic comparison of linguistic items, meanings, and related phenomena. Typological investigations can be carried out within any theoretical framework, e.g. SFL, West-Coast functionalism, or generative theory (see Section 4).⁴ Collections of papers and typological generalizations proposed in Caffarel et al.'s *Language Typological: A Functional Perspective* (2004), for instance, adopted SFL as the theoretical framework. SFL is a theory of linguistics,⁵ which has

⁴ Although some works claim to be theory-free, 'there is no such thing as atheoretical description' (Dryer 2006: 207; also see Matthiessen and Nesbitt 1996) and the same is true with respect to typology, given that description is a prerequisite of typological explorations.

⁵ Some scholars confusingly suggest that SFL is a sub-discipline of linguistics, which is clearly inaccurate. SFL is not a sub-discipline; it is a theory of language, a comprehensive method of language study, or a 'metalanguage' (Matthiessen 2007), which is applied to study various subjects within a range of linguistic sub-disciplines, including (but not limited) language description, language typology, discourse analysis (e.g. Butt et al. 2004), language teaching/learning (e.g. Rose and Martin 2012; Dreyfus et al. 2016; Hood 2016), World Englishes (e.g. Halliday 2003; Kashyap 2014), stylistics (e.g. Halliday 1971), and verbal art (e.g. Hasan 1989; Miller and Turci 2007; Butt 2009). See Mwinlaaru and Xuan (2016) for a detailed review and references of language description using SFL as the theoretical framework.

been applied to various types of linguistic investigations, e.g. language description and discourse analysis; language typology is just another area of study to which the theory is applied. Likewise, numerous other typological explorations have been conducted within other theoretical frameworks.

3 History of Language Typology

Language typology has a long history of investigations, long before theories like SFL or other theories discussed in Section 4 emerged. SFL and other theories have advanced this field by adding new insights to earlier achievements in the field. Here I briefly sketch how language typology has developed to its present state.

Experts are of different opinions about when precisely this field of study appeared. Shibatani and Bynon (1995:1) accept it is difficult ‘to ascertain the first formulations of a research programme of language typology’ and suggest that ‘the underlying assumptions that run throughout the history of language typology can be gleaned from the older passages of the nineteenth-century writings’. Greenberg (1974:13) reports that the first known occurrence of this word in respect to linguistics was in 1928 in the Prague linguists’ research theses, while Graffi (2010) considers Georg von der Gabelentz (1840–1893), a German linguist, as ‘the originator of typology of today’ because Gabelentz was the one who ‘coined the term ‘typology’ to refer to a branch of linguistics’ (Graffi 2010:25). Despite the array of uncertainty and disagreement, Friedrich von Schlegel (1772–1829) is ‘traditionally credited with the first use of the term ‘vergleichende Grammatik’ which means ‘comparative grammar’ (Koerner 2006:18).

Published literature in the field, however, clearly reveals that typological research had begun much earlier. Although Friedrich von Schlegel is often credited for introducing typology as a method of investigation, as reflected in the quotes from Koerner above, the seed of typological investigation was planted well before Schlegel, in Sir William Jones’ (1746–1794) works on the grammar of Sanskrit and other Indo-Iranian languages that ‘formed the basis of scientific historical/comparative linguistics’ (Pierce 2006:134). Jones’ famous statement in his lecture to the Asiatic Society in Calcutta⁶ in February 1786 deserves full quotation here:

The Sanscrit [Sanskrit] language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin; and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no

⁶ Sir William Jones was the founder of this society. The society later was renamed as the Asiatic Society of Bengal and was a primary forum for scholarly debate and publication.

philologist could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists; there is a similar reason, though not quite so forcible, for supposing that both the Gothick [Gothic] and the Celtick [Celtic], though blended with a very different idiom, had the same origin with the Sanscrit, and the old Persian might be added to the same family, if this were the place for discussing any question concerning the antiquities of Persia

(Jones 1798:422–3; quoted in Teignmouth 1804:388; Pachori 1993:175).

This brilliant thesis of Jones is considered ‘a single event in the history of comparative linguistics’ and ‘the first known printed statement of the fundamental postulate of the Indo-European comparative grammar’ (Cannon 1990: 246). It not only advanced the theory of the genetic affinity of Sanskrit, the language that remained as the centerpiece of European intellectual inquiry for a considerable period and a ‘norm for generations of [European] comparativists’ (Rocher 2006:748), with a common source to which Latin, Greek, and the Iranian languages belonged, but it also laid the foundation of modern comparative linguistics and the typological classification of the common source that is today known as Indo-European.

Exposure to William Jones’ works on Sanskrit and other languages of the Indo-Iranian family guided Schlegel for his future linguistic works. Later, Schlegel’s suggestion ‘to compare grammatical features in order to establish genetic relationships’ was significant for the development of historical and typological linguistics in the nineteenth century (Koerner 2006:18; also see Jankowsky 2006). Friedrich von Schlegel’s (1801) *Über die Sprache und Weisheit der Indier* became a notable milestone in comparative and historical linguistics, in which he discussed the languages of India and described Sanskrit as ‘the actual source of all languages, of all thoughts and poetry of the human spirit’ (quoted in Rocher 2006:748). Schlegel was ‘among the first linguists to propose a typological framework on the basis of morphological characteristics’ Shibatani and Bynon (1995:1). His linguistic classification on the basis of linguistic structure initiated a novel research program which was further advanced by the linguistic investigations of his successors, such as Franz Bopp and Jacob Grimm, by the inclusion of new insights.

The effect of William Jones’ work on Indo-Iranian languages was more clearly visible a century later, in the last quarter of the nineteenth century, when descriptive and typological studies began with a renewed vigour under the leadership of Sir George A. Grierson (1851–1941). Grierson, an administrator in the Indian Civil Service by profession but a prodigious linguist by disposition, began to study the languages and dialects of Bihar (where he was deployed as a district magistrate) and analyzed the verbal forms of the Bihari dialects with his typological observations with respect to the languages of their neighbourhood. His detailed description of the Bihari dialects and the comparison of their structures was published in his *Seven Grammars of the Dialects and Subdialects of the Bihári Language* (Grierson 1883–1887).

Later the British government of India began the survey of Indian vernaculars under his leadership, which culminated in the publication of the

monumental multi-volume *Linguistic Survey of India* (Grierson 1898–1928), for which Grierson is best known. The purposes of the linguistic survey were administrative, as they were used to develop training programs for British administrators and were ‘intended to enable [them] to communicate directly with the local populace’ (Wright 2006:160). The project, however, was designed ‘with a view to revealing the richness of modern India’s vernacular cultures to a West hitherto mesmerized by India’s past’ (Wright 2006:160). The *Linguistic Survey of India*, as a result, was saturated with descriptive, ethnographic, and typological radiations: it clearly described the genetic affiliation and typological classification of the Indian languages, and the description and comparison of their linguistic structures. Grierson’s works on the languages of India were essentially typological, although he did not propose generalizations of the kind presented by Greenberg and other Universalists. His primary focus was on the documentation and description of the languages, their genetic classification, and the comparison of their morphological structures and sound patterns. Grierson’s works are not mentioned in descriptive and typological literature as often as they should be, and Grierson is not given credit as eloquently as he deserves, but those who are familiar with the history of descriptive and comparative linguistics know that Grierson’s contributions on the languages of India were significant milestones in the field.

Throughout the nineteenth century, leading up to ‘the development of fresh approaches to typological problems by structuralists in the second quarter of the twentieth century, the scene was dominated by what is here called morphological typology, the classic expression of which was the three-fold division of languages into isolating, agglutinative, and inflective’ (Greenberg 1974:35) that emerged from the work of the Schlegel brothers.⁷ The morphological typological method proposed by Schlegel was further taken by the generations of Wilhelm von Humboldt, Heymann Steinthel, Sapir, and Greenberg. The second half of the twentieth century witnessed a shift of focus from structure to meaning with the emergence of new approaches to language study, e.g. in Michael Halliday’s works (e.g. Halliday 1967–1968; also see Daneš 1974). Halliday’s primary focus was on meaning and understanding what contributions the social and anthropological traits make in understanding meaning construed by linguistic forms.

4 Approaches to Language Typology

4.1 Formal vs. Functional

We have discussed above that the linguistic approaches of early years of language study were essentially descriptive and that they led to the

⁷ Friedrich von Schlegel’s elder brother, August von Schlegel, was an equally influential typologist.

development of what is the field of 'language typology' today. The field was greatly advanced by the works of Sir William Jones, Friedrich von Schlegel, Franz Bopp, Georg von der Gabelentz, Sir George Grierson, and other many philologists in the eighteenth and nineteenth centuries, and Franz Boas, Sapir, Bloomfield, and other linguists in the early years of the twentieth century, all under the rubric of general linguistics. Linguistic structure took precedence over meaning in these approaches, except in new approaches such as SFL that are primarily concerned with meaning and the analysis of morphological and syntactic forms as a means of understanding how meaning is made in natural languages, as we will see below.

In the second half of the twentieth century, we can trace the emergence of two significant lines of approaches to language typology – functional and formal. The functional typology included several distinct theoretical frameworks and was in a sense led by Greenberg's functional typology, until the emergence of new approaches such as SFL (Section 4.2), West-Coast Functional, and Dik's Functional Grammar (Butler 2003).

Each of the functional and formal approaches emerged on the scene as a reaction to different approaches. Generative grammar emerged as a reaction against the behaviourist psychologists' anti-universalist view that disapproved of the existence of innate and universal mental ability for language learning and postulated that 'linguistic competence is acquired through learning of stimulus-response pattern' (Croft 2017). The generative linguists (or cognitive linguists, to put it more appropriately) led by Chomsky, interestingly, assumed all languages to be 'English-like but with different sound systems and vocabularies' (Evans and Levinson 2009:429), and proposed the well-known Universal Grammar, which lacked the empirical base of the kind of Greenbergian or Hallidayan functionalism.

Greenberg's functional typology emerged in response to anthropological relativism, which postulated that languages of the world vary arbitrarily, as we see in this famous quote of Martin Joos: 'Languages could differ from each other without limit and in unpredictable ways' (Joos 1957:96). Greenberg, as we see in his research and subsequent publications (e.g. Greenberg 1978), advocated for more systematic sampling of a greater number of languages, which 'reveals not only range of variation but constraints on that variation'. He strongly believed that those linguistic constraints would 'demonstrate that languages do not vary infinitely, and the constraints represent language universals' (Croft 2017). Thus, although the approaches of both Chomsky's generative theory and Greenberg's functional typology had a fundamental theoretical juxtaposition, they laid a great emphasis on language universals for different reasons.

While cognitive linguists of the generative tradition and Greenbergian typologists emphasized language universals, later research by functional typologists painted a strikingly different picture. Languages of the world 'differ so fundamentally from one another at every level of description (sound, grammar, lexicon, meaning) that it is very hard to find any single

structural property they share’ (Evans and Levinson 2009:429). Michael Halliday held this view much earlier (as discussed below in this section).

There was a striking distinction between the generative and Greenberg’s typologies in terms of empiricism and data sampling. Generative linguists preferred in-depth study of one or two languages, while Greenberg advocated for substantial language samples. His generalizations of language universals presented in his seminal paper (Greenberg 1963) were based on samples of thirty languages. An inherent problem with Greenberg’s approach, however, was that the findings came from the analysis of individual sentences examined in isolation. As a result, his universals, e.g. word order classification, faced challenges from discourse-based studies. For instance, (Modern Standard) Hindi, which is usually considered ‘an SOV (Subject-Object-Verb) language’ (Shukla 2009:497) following Greenberg’s classification, often violates the imposition of a rigid SOV word order rule in natural text, and therefore linguists such as Michael Shapiro conclude that ‘[t]here are no hard and fast rules governing the order of constituents in sentences [of Hindi] as a whole’ (Shapiro 2003:271), as in the example (5) taken from a spoken text. The Subject in this example is pushed toward the end of the clause, culminating in an OVS order. In natural text of many Indo-Aryan languages, the Subject does not appear until a new Subject is introduced and when it does, there is no guarantee that it will appear at the clause-initial position, often leading to an (S)OV order.

- (5)
- | | | | | | |
|-------------------|------------|----------|------------|------------|----|
| | assī | hazār | jīt | ga-ye | āp |
| | eighty | thousand | victory | ASP-PFV.3h | 3h |
| Traditional label | Object | | Verb | Subject | |
| SFL label | Complement | | Predicator | Subject | |
- ‘You won eighty thousand (rupees).’

Systemic linguists, instead, consider the switch of constituents in a sentence as being motivated by a range of semantic factors, including textual ones, where each sequence of constituents construes special meanings (Matthiessen 1995; Martin 1995). And what is considered to be a universal category in Greenbergian typology is not necessarily universal across languages. According to Martin’s (2004a) analysis, for instance, Tagalog does not have Subject. What is often treated as Subject is Theme in Martin’s analysis (see Martin 2004b:284–95).

The typological research up to the 1970s was pervaded by language classification on the basis of morphological features. Beginning with Friedrich von Schlegel’s two-fold classification of affixing and inflectional languages, which was expanded by his brother August von Schlegel’s formulation of ‘agglutinative’ to a three-fold classification (isolating, inflective, and agglutinative languages), up to Greenberg’s typology. Morphological classification was still a key component in Greenberg’s typology (e.g. whether a language had preposition or postposition), but syntax was equally significant for his typological classifications (for example, word

order universals). The typological research from the early 1980s, however, shifted the focus from language evolution and genetic classification to language diversity, and typological researchers began to focus more on how different meanings are expressed in different languages, thus guiding the focus on a combination of factors, e.g. morphosyntax and lexicogrammar, as well as the semantic and pragmatic inferences drawn from lexicogrammatical patterns in language.

In the last forty years, language typology has seen tremendous advancement, especially from functional perspectives, with the emergence of distinct functional theorists who conduct research in distinct ways and as an inevitable consequence have opened up numerous theoretical frontiers.

The functional theories of linguistics that emerged in the second half of the past century and have significantly contributed to typological research include Systemic Functional Linguistics (SFL), also referred to as Systemic Function Grammar (SFG), first developed by Michael Halliday (e.g. Halliday 1994; Halliday and Matthiessen 2014) and further expanded by other systemic functional linguists (on the development of SFL, see Matthiessen 2005); West-Coast functionalism (e.g. Givón 1995); Simon Dik's Functional Grammar (e.g. Dik 1997a; 1997b); and Role Reference Grammar (Van Valin and LaPolla 1997; Van Valin 2005). As a description and comparison of these theoretical approaches is not within the scope of this chapter, I narrow down my focus to SFL's contribution to language typology to be consistent with the aims and scope of this handbook. An appreciative and comprehensive comparison of the functional theories can be found in Butler (2003). For a snapshot of key functional theories readers are advised to consult Butler (2005; 2006).

4.2 SFL Approach to Language Typology

While generative and other functional linguists focused on language universals, Michael Halliday envisaged a 'need for a general linguistic theory of description, as opposed to a universal scheme of descriptive categories' (Halliday 2002: 22), of the kind that emerged in the 1960s in the wake of the famous Conference on Language Universals held at Dobbs Ferry (New York) in 1963. Greenberg's descriptive and typological generalizations are classic examples of this. While Greenberg spearheaded the 'universal scheme' of descriptive typological research, Halliday dedicated himself to developing a general theory of language, treating theory as a problem-solving enterprise that 'can be brought to bear on everyday activities and tasks' (Halliday 2006: 19) and as 'applicable' to various related areas, such as language teaching and discourse analysis (Section 5). Halliday's vision led to the evolution of SFL through the works of Halliday himself in the 1960s onward and its further expansion through the works of other SFL linguists (see Matthiessen 2005; 2007; Schleppegrell 2012; Bateman 2017). Applications of SFL to language typology to explain language diversity and

variation have been consistent with Halliday's vision of the 'applicability' of a general theory of language.

The SFL approach to language study puts great emphasis on communication as the primary function of language and postulates that linguistic structures are shaped by the sociocultural norms and needs of the respective speech community (see Halliday 1978; Halliday and Hasan 1985). This view is very clearly expounded in the following quote from Halliday (1994: xiii):

Language has evolved to satisfy human needs; and the way it is organized is functional with respect to these needs.

Social and cultural factors, therefore, play significant roles in explaining linguistic phenomena from SFL perspectives.

Halliday was of the opinion that language data should be kept 'as close as possible to real language, spoken or written' (Halliday 1977:38), rather than constructed sentences based on the linguist's intuition. Consequently, SFL linguists have relied primarily on language samples extracted from natural spoken and/or written texts; often, typological generalizations are based on the analyses of larger text samples (e.g. Matthiessen and Kashyap 2014; Kashyap and Matthiessen 2017). The analyses presented in Caffarel et al.'s *Language Typology* (2004), for example, are all based on the analysis of natural texts from the respective languages. In many studies, larger extracts are described with a view to explain how language works in real-life contexts (e.g. Teruya et al. 2007).

Clearly, contrary to the formalists' focus on sentence grammar, SFL approaches typology from a discourse perspective: descriptive and typological studies from the framework of systemic grammar are text-based, in which descriptions of grammatical structures are illuminated by reference to anthropological traits of the respective speech community (e.g. Kashyap 2012; Kashyap and Yap 2017), seen through the contextual parameters of field, tenor, and mode (e.g. Matthiessen and Kashyap 2014; Kashyap and Matthiessen 2017; see Bowcher, this volume).

As noted above, language in the SFL framework is understood as a meaning-making resource, and each utterance is interpreted with reference to context. For example, the Hindi example in (6b) will make no sense if it is seen in isolation; but if it is read in context and taken as an answer to the question in (6a), the utterance will make perfect sense.

(6) a. kitāb kahā hai ?
book where COP(be).PRS
'Where is the book?'

b. sofā par.
sofa LOC
'On the sofa.' Hindi

While other approaches to typology have continued their typological investigations from the perspective of syntax, morphology, and/or phonology, retaining these traditional categories, and thus showing their lineage to traditional grammar,⁸ SFL typologists primarily concentrate on exploring metafunctional diversity in language as their guiding principle, with a fresh look at the descriptive categories and their interpretations (for example, see footnote 1 and example (5) above). The descriptions of eight languages (French, German, Japanese, Tagalog, Chinese, Vietnamese, Telugu, and Pitjantjatjara) in Caffarel et al. (2004), for example, are based on the descriptive schema of metafunctional diversity outlined in the first chapter. The first chapter introduces systemic functional typology and presents the key dimensions of SFL theory, with an emphasis on the metafunctional organization of lexicogrammar. Each language covered in the book is described in terms of its metafunctional schema, e.g. how the language organizes the three modes of meaning (experiential, interpersonal, and textual) and how the meanings are realized by linguistic means such as grammatical items, prosody, or a combination of the two. At the end, based on the description of the eight languages, Matthiessen (2004) presents a typological survey, using ‘the theoretical dimension of metafunction to map out lexicogrammatical systems’ (Matthiessen 2004:537).

The typological comparison can focus on the key aspects of a metafunction, as in Matthiessen (2004), or on a particular type of meaning, e.g. the ways of encoding projection (e.g. quoting and reporting) in the six different languages (Arabic, Hindi, Dagaare, Spanish, Japanese, and English) in Arús-Hita et al. (2018). The focus is on meaning, and linguistic components such as morphology and phonology are considered as a means of expressing different kinds of meaning, e.g. how the logico-semantic relation of projection is achieved in these languages and how the status of quoting and reporting is signalled by linguistic means.

The primary concern of SFL typologists is exploring how a particular phenomenon is realized or how the particular meaning is expressed, and grammatical items below the clause rank, e.g. specific affixes or groups/phrases, are described and explained in the process of exploring the particular meaning. Teruya et al. (2007) in their typology of mood, for instance, explore what linguistic diversity can be understood with respect to the language of negotiation, with a special focus on the commodity and nature of exchange in actual dialogue. Languages develop ways to express the social need of exchanging information and goods and services, grammaticalized across languages in the system of MOOD, e.g. interrogative (demanding information) and declarative (providing information), and each language is unique with respect to its ways of expressing specific meanings.

⁸ Greenberg’s (1963) classic paper on word order universals in language ‘contrasts sharply with most other work at the time in assuming a set of descriptive notions that are to a large extent simply those of traditional grammar’ (Dryer 2006: 210).

Teruya et al. (2007) analyze six languages (Òkó, Spanish, French, Danish, Thai, and Japanese), and find that all those languages ‘operate with the prosodic mode of expression in the realization of options in the interpersonal system of MOOD, but the languages vary with respect to whether these prosodies are manifested sequentially, segmentally or intonationally’ (Teruya et al. 2007:914). In English (a Germanic language), for example, the polar interrogative and declarative moods are distinguished by the ‘the relative sequence of Subject and Finite’ (Teruya et al. 2007), as in the examples of English in (7) and (8).

- (7) a. Are you Alice? (Finite: *are* ^ Subject: *you* – interrogative: demanding information)
- b. Yes, I’m Alice. (Subject: *I* ^ Finite: ‘*m* – declarative: providing information)

In Thai, in comparison, the polar interrogative and declarative contrast is realized segmentally in terms of availability or absence of a Negotiator (realized by interrogative particles), as in (8), and in Spanish this contrast is realized intonationally by rising and falling intonation, respectively, as in (9).

- (8) a. INDICATIVE: POLAR INTERROGATIVE
 khun1 khə:j1 paj1 chiaə1maj2 maj5 khrap4
 you ASP:PFV go Chiangmai POLAR.NEGO POLITE.
 NEGO
 ‘Have you ever been to Chiangmai?’
 Thai (Teruya et al. 2007:901)

- b. INDICATIVE: DECLARATIVE
 thə:1 maj3 daj3 ju:2 kruə1thep3:
 she NEG ASP:PFV live Bangkok
 ‘She does not live in Bangkok.’
 Thai (Teruya et al. 2007:901)

- (9) a. INDICATIVE: POLAR INTERROGATIVE
 tú te acuerd- as de aquel señor?
 2-SG 2.REF.SG remember 2.SG.PRS.IND. of that man
 ‘Do you remember that man?’
 Spanish (Teruya et al. 2007:892)

- b. INDICATIVE: DECLARATIVE
 Maríase acord- ó de nosotros
 Mary 3.REF. SG remember 3.SG.PST.IND of us
 ‘Mary remembered us.’
 Spanish (Teruya et al. 2007:893)

The typological comparison thus reveals that languages differ in terms of whether lexicogrammatical properties are deployed for the realization of mood, as in English, or prosodic properties such as intonation are responsible, as in Spanish, the Indo-Aryan languages Bajjika (Kashyap 2014) and Hindi (Kachru 2006), and the Niger-Congo languages Òkó (Akerejola 2006) and Dagaare (Mwinlaaru 2017). Note, however, that even in the languages that have developed lexicogrammatical systems for distinguishing declarative and interrogative moods, the system of intonation is an indispensable property of the MOOD system. In such languages, the instances of (polar) interrogative mood realized by virtue of rising intonation are not uncommon, as in the example (10) from English:

(10) They used to have gas stoves, kerosene stoves, before?

In this example, the configuration of the utterance is identical with that of the declarative mood (Subject: *They* ^ Finite/predicator: *used*), but the rising intonation in which the utterance was spoken (which is represented by the question mark (?) in the written mode) realizes that it is asking for information and is in the interrogative mood.

5 Application of Language Typology

The success of a theory or field of study lies in how it is used to solve practical problems of life – its applicability (to use Halliday's term). Language typology is greatly successful in this respect, as its application helps us to grapple with practical problems of day-to-day life, especially in the spheres of human life that demand a grasp of the world's multilingual and multicultural diversity (Matthiessen et al. 2008). Closely related areas such as translation, cross-cultural and intercultural communication, language learning and teaching, and the documentation and description of languages call for a sound understanding of multilingualism. Not surprisingly, typological insights contribute immensely to these fields of study (see Filipović 2017). Translation, for instance, by its very nature is bilingual, and an understanding of meaning-making pathways in different languages, especially in the source and target languages, helps; and an understanding of how specific linguistic features contribute to meaning-making is further advantageous (see Filipović 2008; Matthiessen 2001; also see Steiner and Yallop 2001).

It is well established that in the course of translation a lot of meaning from the source text is lost. Slobin, for instance, in his research of motion verbs in a range of languages has shown that in translated text much of the meaning is lost, especially when translating a text from a language that uses a wide range of verbs encoding delicate details about the manner of motion (see, for example, Slobin's analysis of translated texts from the

languages that are typologically characterized as satellite-framed (e.g. English) into verb-framed languages (e.g. Spanish), following Talmy's (1985) typology of motion verbs). Speakers of satellite-framed languages are 'trained, by their language, to make more distinctions of motor pattern, rate, effect, and evaluation of movement, in comparison with speakers of V-languages [verb-framed languages]' (Slobin 2000:113). Studies on verbs of motion in translated texts have shown that the patterns of use in language are 'sensitive to the structural typological differences in the encoding of motion events' (Chen and Guo 2009:1753), and language typology plays a significant role in developing a sense of structural and semantic differences between those typologically divergent languages.

Typologically distinct languages vary remarkably in terms of what semantic component they encode and how they encode; and exotic languages in this respect vary unexpectedly. For example, many speech communities are interpersonally elevated in that interpersonal relationships take precedence over what is known in SFL as 'ideational' meaning, and the interactants' social status and mutual relationship are crucial for making sense of how the language is used in social life (see Hasan 1984). Consequently, such languages have developed linguistic systems which prioritize interpersonal meaning, which are difficult to translate (compared to ideational meaning), and which pose difficulties for inter- and cross-cultural communications. Typological insights in such situations can help 'explain why certain lexical and grammatical features are harder to translate than others' (Filipović 2017:4). For even an experienced professional translator, for example, it is extremely difficult to translate the meaning expressed by allocutive agreement suffixes in Bajjika (11) or Basque (12), and therefore SFL's perspective on understanding the environments of translation with respect to the three strands of meaning in text (ideational, interpersonal, and textual) is crucial.

(11) sārhe tin bajje pahūc-t-aw ṭren mujappharpur me.
 half three TIME reach-FUT-ALLOC:2h train Muzaffarpur LOC
 'The train will reach Muzaffarpur at 3.30pm.'

Bajjika (Kashyap and Yap 2017:435)

(12) a. bilbo-ra n-oa-k.
 Bilbo-ALL 1.S-go-ALLOC:M
 'I am going to Bilbao.' [male addressee]

b. bilbo-ra n-oa-n.
 Bilbo-ALL 1.S-go-ALLOC:F
 'I am going to Bilbao.' [female addressee]

Standard Basque (Antonov 2015:57)

In examples (11) and (12), we can see that the addressee is not a constituent in these clauses, and yet still these examples host suffixes for a second-person referent to reflect the presence of the addressee. The English

translation here shows the ideational meaning, but the interpersonal meaning encoded by the allocutive suffixes for reference to the addressee's social status is missing because these suffixes have no role in the experiential segment of the clause. In Bajjika, however, the meaning implied here is purely interpersonal and indicates that the speaker is mindful of the presence and social status of the addressee. Furthermore, such unfamiliar structural and semantic differences also have relevance for inter- and cross-cultural communications.

In the current scenario of globalization, when people more frequently travel across territorial borders for various reasons such as business, immigration, education, tourism, and diplomacy, language typology has a bigger role to strengthen one's intercultural and cross-cultural communication skills. Communication styles significantly vary across cultures, and how successfully one communicates largely depends on one's social, linguistic, and cultural backgrounds and training. For example, it is quite common to express gratitude and apology by the use of, for instance, *please* and *sorry*, in English culture, while Indian speech communities do not favour overt verbalization of gratitude (Apte 1974) because most languages spoken in India have developed verbal systems that register different strands of politeness including gratitude and that are integrated into the speakers' communicative styles (see Hasan's 1984 work on Urdu). Moreover, in most Indian communities, requests and expressions of gratitude are overtly verbalized for strangers or those who have a weak level of solidarity with the speaker but rarely among family members, close relatives, and friends. As, in today's multicultural globalized society, people work with colleagues and co-workers of different linguistic and cultural backgrounds, the socio-linguistic knowledge gained from language typology helps to empower one with a better communication style and develops sensitivity toward one's colleagues and co-workers' languages and cultures, as well as facilitating the creation of materials for training programs in this area.

Researchers in language learning/teaching and acquisition have long been interested in typological research, with a firm belief that a grasp of linguistic diversity and how languages vary with respect to linguistic structure and related meaning will help us to better understand the cognitive processes of language learning by children as well as adults. The evolution of contrastive linguistics was propelled by the impact of typological differences in language learning, as we noted earlier. And the famous Sapir-Whorf hypothesis reflecting this typology-acquisition/learning duet is well known; according to the Sapir-Whorf hypothesis, the structure of a language influences the cognitive processes of the speaker of that language (see Whorf 1956; Wardaugh 1970:123). Cognitive scientists have noted that typologically different languages significantly vary with respect to which linguistic items children acquire first and which items they acquire later (Berman and Slobin 1994; Slobin and Bowerman 2007; Berman 2014).

Unarguably, typology has helped us to identify the linguistic items that are easy and difficult to learn across languages and those whose acquisition/learning vary significantly. Cross-linguistic comparison of children's language has allowed us to understand what is universal across languages and what is particular to specific languages (see Slobin 1982). The understanding of language structure provided by descriptive and comparative research in linguistics has greatly contributed to the understanding of linguistic principles of language learning by children and answers (and has the potential of answering) relevant questions in this respect, for example, why children acquire certain linguistic items earlier and why they acquire other linguistic items later.

Finally, as for the link between language typology and language description, the relationship is complementary. Each field has benefited from the other. As Mithun (2016:472) notes, 'Documentation, description, and typology are symbiotic: each can provide tools important to progress in the others.' Language documentation and description have enriched our understanding of typological regularities and patterns of variation across languages. Nevertheless, insights from typological research have been applied to the descriptions of new languages and have greatly contributed to the field. The linguistic categories or patterns observed in other languages have helped us to identify them in new exotic languages more quickly, and the understanding that a particular linguistic feature is cross-linguistically rare ensures that those features are comprehensively documented and remain prominent in descriptions rather than simply logging typological checklists (Mithun 2016:467), e.g. the identification of the allocutive agreement suffixes that are so uncommon, found only in a handful of languages of the world, such as in some Bihari languages and Basque. In fact, these markers had remained a mystery for a long time, and linguists fumbled to describe them until it was recognized that the allocutive agreement markers in Bajjika, a Bihari language, are similar to those found in Basque (see Kashyap and Yap 2017).

6 Conclusion

The objective of this chapter was to present a snapshot of language typology, and I have outlined here how this field has developed over centuries of research and how it has contributed to our firmer understanding of cross-linguistic diversity in the world. This field has passed through different developmental phases that have had a distinct research focus; unarguably, language typology has always remained at the epicenter of intellectual inquiry in language, even before the term 'typology' was coined. The field began as a method of linguistic inquiry to explore genetic relationships among languages and cross-linguistic diversity. The primary aim of the field remains intact – to chart linguistic diversity and explore patterns of structural and semantic variations in languages through cross-linguistic

comparisons. While initial phases of this field focused on structural forms of language, with the development of the field of linguistics and the emergence of new approaches, how different languages construe meaning has become significant. In SFL, in particular, meaning lies at the centre of linguistics investigation, and typological study is essential to developing a typology of meaning. In this regard, the contributions of social and anthropological factors are of immense significance.

In recent years linguistic insights gained from language typology have stimulated several related domains that call for a sound understanding of language diversity, e.g. translation, intercultural and cross-cultural communications, language teaching/learning, and the description and documentation of languages. Other work focuses on the applicability of research and how, for example, this research can help to address problems of our social life, such as what it can offer in terms of developing training programs across a range of contexts.

Abbreviations: 1/2/3:First/second/third person; ACC: accusative; ALL: allative; ALLOC: allocutive; ASP: aspect marker; AUX: auxiliary; CAUS: causative; COP: copula; DAT: dative; ERG: ergative; F: feminine; FUT: future; h: honorific; IND: indicative; LOC: locative; M: masculine; NEG: negative; NEGO: negotiator; nh: non-honorific; NNOM: non-nominative; NOM: nominative; PFV: perfective; PROG: progressive; PRS: present; PST: past; REF: reflexive; SG: singular.

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