ARCHIBALD HENRY SAYCE (1845–1933) AND THE TRANSITION FROM 19TH-CENTURY COMPARATIVE PHILOLOGY TO 20TH-CENTURY GENERAL LINGUISTICS

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ABSTRACT

In language study in the West, the nineteenth century was dominated by comparative philology, and the past century by general linguistics. In the last quarter of the nineteenth century, linguists introduced ideas inconsistent with traditional comparative philology that foreshadowed general linguistics. While Ferdinand de Saussure (1857–1913) is recognized as a leading founder of general linguistics, other linguists also moved the discipline in this direction. We focus on Archibald Henry Sayce's (1845–1933) *Principles of Comparative Philology* (1893) because it anticipated general linguistics, and because the book and its author have been overlooked despite their relevance to the history of linguistics. However, as the author of several works on the languages, literatures, and religions of the Ancient Near East, Sayce was regarded as one of the most erudite scholars of his time. As an example of Sayce's innovative contribution, we examine his theoretical and methodological principles, including the need for inductive generalizations based on large samples of data, the value of lesser-known languages as a window onto fundamental principles of language, and the status of linguistics vis-à-vis emerging fields of related study. Sayce's treatment of examples from non-Indo-European languages reflects a tension between comparative philology as it was practiced in the late nineteenth century and twentieth-century comparative and typological linguistics. On the one hand, the principles mentioned above are indicative of the uniformitarian principle, the emphasis on inductive generalizations in American structuralism, and the avoidance of various types of bias in modern typology. On the other hand, his reinterpretation of examples from the languages of North America, Southern Africa, and Tasmania as evidence of the lack of abstract and generic terms not only violated his methodological assumptions but was also consistent with the common nineteenth-century practice of treating words as an index of civilizational development.

Keywords: History of linguistics; comparative philology; general linguistics; linguistic typology.

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1. Introduction

While Ferdinand de Saussure (1857–1913) is recognized as a leading founder of general linguistics, others moved the discipline in this direction well before the initial publication of his *Cours de linguistique générale* (de Saussure 1916). There were nineteenth-century linguists like Henry Sweet (1845–1912) and William Dwight Whitney (1827–1894), who introduced ideas inconsistent with contemporary comparative philology and contributed to the emergence of twentieth-century general linguistics.[2] Archibald Henry Sayce (1845–1933), portrayed in Figure 1 below, was such a linguist. An Oxford professor who published many works on language, literature, and ancient religion, Sayce was deservedly regarded by his contemporaries as one of the most erudite scholars of his time. With only a very few exceptions he has been unnoticed by modern scholars, and we hope that this paper will encourage study of his work and its significance to the history of linguistics.

Figure 1. Archibald Henry Sayce by Samuel Alexander Walker (1841–1922), albumen print, 1874, © National Portrait Gallery, London, NPG Ax29280, reproduced under a Creative Commons license.

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[2]   Late nineteenth-century and early twentieth-century general linguistics developed general theories and frameworks that applied to all languages and contributed to understanding the nature of language. Nineteenth-century comparative philology focused on the historical connections between languages and contributed to understanding specific language families and their migrations as well as the social interactions and developments throughout history that affected them.

In approaching Sayce's work as we would that of any scholar of an earlier time, we have assessed his contributions mindful of the intellectual context of his time. We recognize that historians of linguistics need to resist judging works of an earlier period as if they were written today. To avoid presentism, they need to be familiar with the intellectual milieux of the time.

In discussing Sayce's influence on the study of language, we will examine his theoretical and methodological principles related to the study of language and linguistic diversity. These reflect his awareness that inductive generalizations based on large samples of data from both well-known and lesser-known languages can provide a window to view the fundamental principles of language. Moreover, his treatment of examples from non-Indo-European languages indicated a tension between comparative philology in the late nineteenth century and comparative and typological linguistics in the twentieth century. On the one hand, these principles are indicative of the uniformitarian principle, the emphasis on inductive generalizations in American structuralism (cf. Bloomfield 1933: 20), and the avoidance of various types of bias in modern typology. On the other hand, his reinterpretation of examples from the languages of North America, Southern Africa, and Tasmania as evidence of the lack of abstract and generic terms "among modern savages" (1893: 221) not only violated his assumptions concerning the *idola* of comparative philology, or "empty assumptions and misconceptions" (1893: 63), but also exemplified the common practice in the late nineteenth century of treating nouns, verbs, and numerals as an index of civilizational and human development.

We will focus on Sayce's *Principles of Comparative Philology* (4th ed., 1893) as it largely reflected his philosophy of science and linguistics as well as his understanding of the interrelationship of language, thought, history, and culture. We will also comment on his views of language as a social phenomenon and the role of the uniformitarian principle in historical linguistics. Sayce's theoretical and methodological principles relating to the study of linguistic diversity will then be evaluated based on his treatment of lexical and grammatical examples from the languages of North America, Southern Africa, and Tasmania. Lastly, we will examine Sayce's influence on mainstream linguistics of the late nineteenth century and the first half of the twentieth century, and we will provide concluding remarks.

2. Biography

Sayce, the son of a vicar, was educated at Queen's College, Oxford, where he was appointed a fellow in 1869. He served as Professor of Comparative Philology at Oxford from 1876 to 1890, and he was the first appointed Professor of Assyriology at the university from 1891 to 1919. Like most Oxford graduates of

his time, he was ordained an Anglican priest; and throughout his career, he integrated linguistic research into Biblical and religious studies. Moreover, like many of his contemporaries, he was open to exploring the opportunities that new linguistic knowledge offered to enrich religious studies (see Belton 2007). In the later part of his life, he travelled extensively throughout Asia and the Middle East, often spending winters in Egypt.

In the late nineteenth and early twentieth centuries, Sayce was held in high esteem by scholars representing a broad range of interests. For example, William Dwight Whitney, while highly critical of Max Müller (1823–1900), noted that Sayce as "Müller's substitute as professor in the University of Oxford" was "widely known as one of the most prominent and meritorious Assyriologists now living" (Whitney 1881: 106).[3] Stephen H. Langdon (1876–1937), a professor of Assyriology at Oxford in the early twentieth century, commended Sayce for his remarkable productivity as well as the impact of his diverse publications: "[…] for a period of nearly fifty years not one has passed without a book or an important article from his pen". He added: "Their influence has been varied and profound" (Langdon 1919: 118).

In his many publications and presentations, Sayce expanded the study of ancient and contemporary languages, integrated theories of linguistics with their histories, and explicated Biblical and secular texts. His publication output is considerable: according to Davis (1978: 340), Sayce published over 770 works. As a sampling of the texts illustrates, he pursued a broad range of interests throughout his life: he distinguished himself as a grammarian in *An Assyrian Grammar, for Comparative Purposes* (1872); literary scholar in *Babylonian Literature* (1877), historian of ancient civilizations in *The Monuments of the Hittites* (1881), *The Ancient Empires of the East* (1884), and *The Egypt of the Hebrews and Herodotos* (1895); historian of religion in *Lectures on the Origin and Growth of Religion as Illustrated by the Religion of the Ancient Babylonians* (1887); and cuneiformist in *The Archæology of the Cuneiform Inscriptions* (1907).[4] A self-evaluation of his contribution was given by Sayce in his *Reminiscences* (Sayce 1923).

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[3]   Whitney argued that despite Müller's misunderstanding of historical linguistics, he was praised by well-respected scholars. Whitney cited Sayce to exemplify his point that scholars as distinguished as Sayce praised Müller. For a full study of Whitney, see Alter (2005).

[4]   In addition, Sayce contributed articles to the 9th, 10th, and 11th editions of *The Encyclopædia Britannica*, e.g., on "Grammar" (1880).

3. Sayce's science of language

To discuss Sayce's science of language, we will briefly comment on his underlying philosophy; his understanding of the interrelationship of consciousness, language, history, and culture; his view of language as a social phenomenon; and his ideas regarding language, race, and culture.

3.1. Philosophy

In the preface to the fourth edition of *Principles of Comparative Philology*, Sayce stated his primary goal: "The book is not a history of linguistic science or of the work done in the several departments of the science, but a criticism of the theoretical foundations upon which the science rests" (1893: viii). He intended that the pervading theme of his book be a study of a philosophy of the science of language. As we will show in more detail, he argued that comparative philology, or what he often interchangeably referred to as 'glottology', was an inductive science. He linked comparative philology to the inductive sciences that were emerging at the end of the nineteenth century. By criticizing the theoretical foundations of his predecessors as inconsistent with the emerging new sciences, he was a transitional scholar who bridged nineteenth and twentieth-century linguistics.

To frame his assumptions, Sayce cited Francis Bacon's (1561–1626) *Novum Organum* (Bacon 1952 [1620]) in order to challenge "the theoretical foundations upon which the science rests" (1893: viii). In Chapter 2, "The Idola of Glottology – the Laws of the Science Determined from the Aryan Family Alone", Sayce justified his criticism by drawing on Bacon's revered concept of *idola*.[5] He noted that *idola* were hypotheses that "[…] become unverified assumptions, which we accept without questioning, and thus exalt into scientific laws, thereby vitiating our further investigations, and falling into numberless false conclusions." (1893: 63). He argued that one of the idola of his time was a consequence of the long-standing bias that data from the richly documented branches of the Indo-European family were the sole basis for generalizations concerning structurally

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[5] In the opening sentence of *Novum Organum,* Bacon contended that a person "as the minister and interpreter of nature, does and understands as much as his observations on the order of nature, either with regard to things or the mind, permit him, and neither knows nor is capable of more" (Bacon 1952 [1620]: 107). Bacon identified four types of *idola*: those of the tribe, cave, market, and theatre. The *idola* of the tribe were the imperfections in reasoning inherent in human nature, of the cave represented those inborn in the individual, of the market were caused by social interaction, and those of the theatre were fallacies intrinsic in various worldviews. For Sayce, Bacon's *idola* represented the assumptions of his predecessors in comparative philology which he challenged and revised in light of the findings in the new sciences.

diverse languages. He asserted the forward-thinking nature of linguistics as an emerging science: "We have now become accustomed to the idea of applying the scientific method to language" (1893: 64) to increase our understanding of language.

He based his philosophical approach to linguistics in the classical tradition. For example, he argued that the ancient Greeks discovered that language was conventional as well as natural, thereby recognizing "the relation of the word to the mind" (1893: 260). He posed the questions that needed to be answered by his contemporaries:

> The modern form of the discussion would be whether or not the relations of grammar […] grew up spontaneously and instinctively, or were settled by an arbitrary compact among the first men? or, in other words, whether grammar is an invented art or the necessary development of mind? (1893: 260)

He reiterated this perception throughout his book as he identified a distinction between natural and social sciences noting that the natural were "material" and the social were "historical". He also understood that contemporary linguists integrated the material and the historical.[6] To better understand the distinction, he contended that linguistics needed to expand the study of general laws of language beyond those of the Indo-European languages:

> Although in one sense the creation of man, language is yet the outgrowth of general causes, and governed by general laws, partly mental and partly physical. By extending the area of our comparision [sic], we are enabled to make these laws more and more general, and thus more and more to exclude the caprices and idiosyncrasies of particular nations. It is true that these idiosyncrasies will have to be explained; but it can only be done by the light of the general laws: we can only recognise and understand the exception by knowing the rule. Hence our inductions ought to be as wide as possible, and our collection of facts of the most extensive character. (1893: 40–41)

He added that because the only value of words was their representation of thought, the object of philological etymology should be to trace the evolution of thought, or rather the way in which that evolution has been determined by the material and the historical.

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6   E.F.K. Koerner (1939–2022) insightfully analysed the distinction that August Schleicher (1821–1868) made between philology and linguistics: "For Schleicher, 'Philologie' was a 'historical discipline'; it regards language (usually in the form of written texts) as a means of investigating the thought and cultural life of a people. By contrast, 'Linguistik' – and Schleicher uses the term almost polemically in his argument – is a field that concerns itself 'with the natural history of man'. Linguistics, in Schleicher's understanding, is a natural science, both because its object is open to direct observation and because language is outside the realm of free will." (Koerner 1989: 350–351).

Sayce understood that linguistics is inherently complex because "Language is limited as much on the psychological as upon the physiological side: a knowledge of this twofold limitation will constitute its science." (1893: 8). Moreover, he contended that "Neither linguistic metaphysics nor phonology by themselves represent philology, but a combination of both." (1893: 9). He concluded that "The metaphysics of language, accordingly, will be those general mental conceptions which underlie the phenomena of articulate speech, and to which an induction of the latter will conduct us." (1893: 259).

Unlike many comparative philologists of his time, but like Henry Sweet, William Dwight Whitney, and August Schleicher, Sayce maintained that the study of language should be a part of the new sciences: "[…] we are in a position to examine anew the foundations of the science, and to determine what are to be accepted as really the principles of Comparative Philology, and what is of doubtful authority or altogether erroneous." (1893: 64–65). Accordingly, he questioned the narrow and outdated thinking of many of his contemporaries as well as predecessors, insisting that "Glottology has for the most part been confined to Aryan scholars, and consequently the laws they have formulated, however true they may be of the Aryan group itself, are not necessarily of universal validity." (1893: 72).[7]

Sayce recognized that while the emerging sciences of chemistry, psychology, and sociology were in their infancy, they were enjoying dynamic growth and progress. Especially relevant to his philosophy of science were his thoughts on discovering new knowledge. He noted that "A science consists of hypotheses more or less nearly related; and its aim is to make these hypotheses correspond more and more closely with the observed facts." (1893: 7). Citing the social Darwinism of Herbert Spencer (1820–1903), he argued that "[…] to use Mr. Herbert Spencer's language, the distinction between scientific and unscientific knowledge is, that the one is *quantitative,* the other *qualitative*." (1893: 7–8, italics in the original). He then stated that early people understood the qualitative difference between hot and cold by virtue of their senses, but a scientific or quantitative knowledge began with the thermometer which enabled the measurement of heat. He contended that philology had to be comparative to be a science:

> Now, in being scientific, Philology must be comparative; and it is simply the application of the comparative method to the phenomena of language that has

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7   The term 'Glottik' was first used by Schleicher (1859); apart from 'glottology', the term 'glossology' was also used in English (Koerner 1989: 350, fn. 45; McElvenny 2018: 135, fn. 6).

> brought the new science into being. The attempt to study a language without
> reference to any other is futile. (1893: 9)

Moreover, he argued that linguistics as a science was not only focused on comparing languages but also challenged the generalizations of leading thinkers, past and present.

Because he regarded language as "the most characteristic mark of distinction" (1893: 2) of being human, Sayce maintained that language study was significantly relevant to understanding humanity. He insisted, "If we are to look anywhere for the solution of some of the highest problems connected with the history of our species, it must be, above all, to the science of language." (1893: 3–4). Moreover, his philosophy of language science was far more expansive regarding the forms of language than that of traditional comparative philologists because he included gesture and sign language as well as speech and writing. His inclusion of gesture and sign language set Sayce apart from the many who only accepted speech as language. He recognized that those with speech and/or hearing impairment created other forms of language that were as valid as speech.[8]

He noted that because the purpose of science was "to obtain such a knowledge of nature and its laws as shall enable us to combine and control them practically for our future use and benefit", he claimed that "a knowledge of ourselves is still the most important that we can acquire" (1893: 2). His value of science and linking the study of language to the scientific method gave him a compelling philosophical rationale for writing *Principles of Comparative Philology*:

> Among the many new departments of study which have been called into existence
> by the extension of the scientific method, there is none that possesses greater
> interest than Comparative Philology. It is, on the one hand, so closely bound up
> with the history of mankind in general, while, on the other, it enters so largely into
> the life of the private individual, that there are none whose attention it ought not to
> excite. (1893: 1)

Sayce viewed language study as critical to understanding religion: he claimed that "[…] Glottology, with its calm scientific dispassionateness and its rules of sound comparison, is needed in order that we may comprehend the origin and growth of religious ideas, and of the dogmas which endeavour to express them." (1893: 308–309). He pointed out that the history of language can help prevent mistranslations of those ancient religions that were preserved in written texts. He stated,

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[8]   Harlan Lane (1984) provides a history of 19th century sign languages that were developed for
       the 'sourds-muets' (deaf without speech), for whom sign languages were regularly developed
       in France.

> In so far as the science of religions consists in comparing words with words, dogmas with dogmas, and in tracing the development of the one out of the other, in so far it is, like mythology, a branch of the science of language, and this, too, apart from its embodiment of mythological elements, which, as we have seen, demand the key of Glottology. (1893: 309)

Much of Sayce's chapter on religion is devoted to a literary appreciation of the language of mythology, but it does not provide insights on language that have not been presented earlier in the text. It is the second to last chapter of the book, and it appears more as an afterthought.

Sayce's philosophy of the science of language was shaped by the emerging sciences in the late nineteenth and early twentieth centuries even though he maintained that language was unique by its being both material and mental. In the final chapter of his two-volume *Introduction to the Science of Language* (4th ed., 1900), he counselled his reader:

> Language, standing as it does upon the confines of both the material and the mental worlds, touching physiology on the one side and psychology on the other, might seem at all events partially removed from the influence of scientific laws. It is, therefore, of the highest moment that it should be studied in such a way as to show that this is not the case. (1900, 2: 335)

In *Principles of Comparative Philology*, he added: "Of course, in this work of reconstructing parent languages, or of probing language in general to its roots, we obtain additional light and assistance from other sciences, such as psychology, prehistoric archæology, or physiology." (1893: 43).

3.2. Interrelationship of consciousness, language, history, and culture

To understand the interrelationship of consciousness, language, history, and society, Sayce believed that one had to be aware of the symbiotic relationship between the evolution of consciousness and that of language. He held that language began with the thought rather than the word, as he claimed that "[…] with consciousness, history begins." (1893: 41). He maintained that the interplay of consciousness and language was critical to comprehending history and culture because language reflected the consciousness of a society. Throughout his writing, Sayce always kept his view of the role of language in this dynamic interrelationship because he realized that language simultaneously grew out of nature and human creativity. Accordingly, "Language is a natural growth as well as an artificial production. It has developed along with the awakening consciousness, and much of it will be at best but semi-conscious." (1893: 300). Furthermore, he thought that comparative philology enabled the linguist to track the ever-developing evolution of human consciousness.

Because language was essential to the evolution of consciousness, Sayce argued that linguistics was as significant as any of the emerging nineteenth-century sciences. He contended that the purpose of studying etymology was to "discover the laws which have governed the evolution of thought" (1893: 45). He recognized that language was not based on words, or the combination of words into phrases or sentences without consideration of thought:

> Language is based upon the sentence, not upon the isolated word, for the latter can mean nothing except interjectional vagueness. It is merely a bundle of syllables and letters, or rather of animal sounds; merely the creation of the grammarian and the lexicographer. To become language, it must embody thought and emotion; it must express a judgement. (1893: 136)

As we will show below, the notion that a sentence constitutes a fundamental unit of meaning played an important role in Sayce's discussion of the social nature of language and may have been inspired by his conception of a sentence in a polysynthetic language.[9]

An example of his asserting the relevance of linguistics to the scientific landscape can be found in the final chapter of his *Introduction to the Science of Language*, in which Sayce, reflecting the influence of Max Müller on his work (cf. Müller 1864: 24–25), compared linguistics to palaeontology:

> […] language [as any human activity], when rightly questioned, can tell us of the far more precious history of mind and thought. As the fossils of the rocks disclose to the palæontologist the various forms of life that have successively appeared upon the globe, so, too, the fossils of speech disclose to the scientific philologist the various stages that have been reached in the growth of human consciousness. (1900, 2: 326)

Moreover, he emphasized that consciousness greatly contributed to the complexity of language study: "It is not mere sounds that we have to compare, but the processes of thought involved in them." (1893: 54). In his first chapter of *Principles of Comparative Philology*, Sayce reinforced the significance of the mutual effect of the evolution of consciousness and the development of language as he noted that words were by nature the physical expression of thought and that both, words and thoughts, were shaped by and reflected in history and culture. Sayce realized that etymology was not only an understanding of the patterns of word formation, but that it also offered a reliable history of a culture.

For Sayce, "Language is an art as well as a science; it is historical, not physical; and in studying it, therefore, we must not put out of sight the conscious

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9   See also Davis (1978: 342–343) for further discussion about Sayce's preoccupation with the sentence as a basic unit of meaning.

effort exercised on its growth by the mind of man." (1893: 171). He underscored that language was rooted in social interaction because he contended that we speak to be understood. Consequently, language study relied on an understanding of its social and cultural dynamic. Regarding the process of developing a language, Sayce realized that:

> The formation of a language itself implies a desire to know objects by naming them, and so distinguishing them one from the other. Every name that is given is the summing-up of all attainable knowledge concerning a thing; it contains within itself the answer which man attempts to make to that ever-recurring question "why?" and all the knowledge and experience which he can bring to bear upon it. (1893: 301–302)

He understood that language was both material and mental and the key to unlocking a language is not only discovering its symbols and how they are used, but understanding the thought represented in the symbols. Expanding on this point, he asserted that the development of grammar was dependent upon the interplay of consciousness and language: "The objective case of the personal pronoun is older than the subjective; indeed, the subjective element in human consciousness and speech is only slowly and gradually evolved." (1893: 265).

3.3. Language as a social phenomenon

In the preface of *Principles of Comparative Philology*, Sayce established the primacy of the relationship of language and society:

> Language is social, not individual, interpreting the society of the past, and interpreted by the society of the present; it starts with the sentence, not with the word; it is the expression of thought; so that all explanations of its phenomena which rest contented with its outward form alone must be inadequate or erroneous; and its study, if carried on by the light of the comparative method, ought to embrace all the manifold operations and products of thought which are embodied in spoken utterance. These are the principles which underlie the following pages, and will furnish the key to what I have written. (1893: xli)

Throughout his book, he argued that without social interaction, language could not exist. He pointed out that "Language exists for the sake of society" (1893: 40) as "The individual as such, has no language" (1893: 40). He contended that the dependence of language on social interaction was universal because "We are all cast in the same mould." (1893: 39).[10]

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[10]   While he does not refer to the work of Émile Durkheim (1858–1917), Sayce, in arguing that language exists for society, is very much aligned with Durkheim. In fact, the alignment deserves an extensive study comparing Sayce and Durkheim.

Sayce noted that social interaction was possible because of human consciousness: "If language is the reflection of common thought, it is at once the product and the mirror of society." (1893: 47). Therefore, society and human communication were inextricably linked, "[…] the facts of Comparative Philology are literally in the mouths of every one; they are the words which we speak, the thoughts which we clothe in articulate language, the indispensable links of union which bind together a civilised society." (1893: 1–2). For Sayce, the evolution of consciousness and that of language were inseparable.

Moreover, Sayce justified comparative philology because of the role language played in unlocking the mysteries of history: "If we had a complete history of the movements of society, we should have a key to the changes of language which are its expression and reflection." (1893: 49). Realizing that this was impossible, he encouraged his readers to develop a feasible alternative by studying languages and dialects other than the traditional classical Latin, Greek, Sanskrit, and Hebrew. He encouraged studying languages as well as their dialects that were less renowned but were equally relevant to understanding the history of language and consciousness. Thus, he viewed the histories of languages as dependent upon the histories of their civilizations; for example, the history of Chinese differs from that of Greek because of their different cultural histories.

Sayce pointed out that "Instead of deriving [a family of languages] from a common ancestor, the truer account would be that they were slowly evolved out of an amalgamation of pre-existing dialects." (1893: 127–128). He strongly argued that current languages were derived from many more languages than were claimed by the comparative philologists of his time: "[…] languages at first were infinitely numerous and diversified, being the natural and spontaneous outcome of the powers, the feelings, and the needs of primitive man" (1893: 131). He contended:

> This much, however, is clear; that the beginning of articulate speech, the beginning of that language with which he has to deal, is not coeval with the physiological beginning of man; that it is a product of society; and that as society in those primitive times was infinitely numerous, so also were languages. To derive one language from another, is to derive one community from another […] (1893: 126)

As we will show, evidence for such differentiation in earlier periods in the history of speech was sought by Sayce in present-day 'exotic' languages.

In addition, Sayce believed that the social nature of language made it especially relevant to understanding the history of religion. He stated that "Religion is the most spiritual, and therefore the deepest and most enduring, expression of society; and if the history of society is to be sought in language, yet more emphatically must the history of religion be." (1893: 310).

Thus, he easily integrated his study of historical linguistics with that of religions because he believed that each advanced the other.

3.4. Language, race, and culture

Because the relationship between language, race, and culture would be a major preoccupation of many linguists (particularly linguistic anthropologists) in the 20th century, Sayce's conception of this relationship is relevant to our understanding of the transition in linguistics between the nineteenth and twentieth centuries. The examples that we will discuss concern language, race, and culture perceived to be at different stages of civilizational progress, as viewed during Sayce's time – views that have been challenged and repudiated in the twentieth century.

As shown above, Sayce and his contemporaries consistently viewed language as a social phenomenon, stating for instance that "Language is the mirror of society, and accordingly will reflect every social change." (1893: 176). This close relationship between language and society, as well as other evidence, e.g., linguistic and cultural contact, showed for him that language structure was not related to race: "[…] the mere possibility of mixture — that is, of close intercourse with another society — makes it impossible for language to be a criterion of race." (1893: 405). As illustrated by the following quotations, Sayce explicitly refuted this possibility, considering it another fallacy: "The fallacy that language is a sure and certain test of race is one to which few comparative philologists would now-a-days commit themselves." (1893: 401). He added that "[…] society implies language, race does not; and hence, while we may lay down that language is the test of social contact, we may lay down with equal precision that it is not a test of race." (1893: 402).

Sayce further noted that the social nature of language was reflected in the relationship between the structure of language and civilization. He insightfully concluded that there was, however, no predictive correlation between culture and the typological profile of a language:

> All goes to show that an isolating or agglutinative stage does not imply civilisation
> or the reverse, and that no amount of culture, no amount of years, and no amount
> of foreign intercourse has been able to change the radical character of a language.
> (1893: 143)

These ideas can be viewed in the context of arguments made by other nineteenth-century scholars, e.g., Peter Stephen Du Ponceau (1760–1844), who stated that "I do not, therefore, see as yet, that there is a necessary connexion between the greater or lesser degree of civilization of a people, and the organisation of their language." (Du Ponceau & Heckewelder 1819: 399), and "[…] the arts of

civilization may *cultivate*, and by that means *polish* a language to a certain extent; but can no more alter its organization" (Du Ponceau 1827: 249). Likewise, Franz Boas (1858–1942) viewed grammatical features as largely independent of cultural patterns, as illustrated by the following statement from his "Introduction" to the *Handbook of American Indian Languages*:

> It does not seem likely […] that there is any direct relation between the culture of a tribe and the language they speak, except in so far as the form of the language will be moulded by the state of culture, but not in so far as a certain state of culture is conditioned by morphological traits of the language. (Boas 1911: 67)

At the same time, Sayce left the door open to negative evaluations of cultures by positing in a society "an insoluble, unchangeable residuum, which we call the character or instincts of race" (1893: 172). His remarks on non-European languages and cultures thus revealed much of the racism of his time, as illustrated by the following statement about the degree of civilizational progress of the 'negro':

> The intellectual growth of the negro stops at fourteen; and although he has been brought into close contact with the civilisations of the ancient and the modern world – with old Egypt and Carthage, with Greece, Alexandria, and Rome, with the Arab, the Latin, and the Teuton – he is still, in form and colour and nature, what he was when he first appears in the sepulchral chambers of the Pharaohs. (1893: 172–173)

The assumed underlying intellectual superiority of Aryans was contrasted at various points in the *Principles* and the *Introduction* with languages viewed as primitive, with, for example, the grammar of 'Eskimo', i.e., Greenlandic described as "a relic of a bygone era of speech" (1900, 1: 382). Sayce used a perceived lack of civilizational development to rationalise the decline of 'primitive' languages and cultures, for example, Tasmanian languages and their speakers:

> Where the race has not reached a high enough level of culture to appropriate the language of its superior, it is a sign that the race has done its part, and must pass away before the coming of civilised man. The Tasmanian and his language, in spite of every effort to save them on the part of the Government, have become extinct. (1893: 180–181)

This statement is relevant for two reasons. In the first place, it shows the consequences of what Sayce viewed as the lack of intellectual sophistication of the Tasmanians and their languages, as illustrated by the absence of abstract and generic terms, an example that will be discussed later. In addition, it illustrates a disconnect between Sayce's perceptions of 'exotic' cultures and historical events. The decline of Tasmanian languages did not occur "in spite of every effort to save

them on the part of the Government" but because of the hostilities during the Black War of 1824–1831 and subsequent removals, which have been referred to as acts of genocide and ethnic cleansing (cf. Crowley & Dixon 1981: 396; Clements 2014: 56–58). A similar disconnect characterizes other references to 'exotic' languages discussed below.

4. Sayce's methodological principles

Let us now focus on the methodological principles that underlie Sayce's conception of comparative philology. We will discuss his views on the uniformitarian principle, the nature of generalizations in language study and the status of data from lesser-known languages. The ways in which Sayce applied these principles in the references to the languages of North America, Southern Africa, and Tasmania will be analysed as well.

4.1. The uniformitarian principle

In discussing Sayce's approach to historical linguistics, it is useful to draw on the uniformitarian principle that influenced comparative philology in the 19th century. In the 1830s, Charles Lyell (1797–1875) published his influential multi-volumed *Principles of Geology: Being an attempt to explain the former changes of the Earth's surface, by reference to causes now in operation* (Lyell 1830–1833). The subtitle succinctly summarized Lyell's principle as we can see in T. Craig Christy's *Uniformitarianism in Linguistics*: "The basic assumption underlying the uniformitarian principle is that knowledge of processes operative in the past can be inferred by observing ongoing processes in the present." (Christy 1983: ix). Christy considered Sayce an early adopter of uniformitarian views in linguistics as he notes that "Sayce's related remarks on linguistics as an inductive science leave little doubt that his uniformitarian views of language were inspired by Lyell's uniformitarian geology." (Christy 1983: 52–53).[11]

Sayce frequently drew on this notion in his discussions of language as a social phenomenon that is subject to psychological and physical factors but shows uniformity on both levels. He stated, for example, that

> The constitution of the human mind is fundamentally the same at all times and in
> all places; every one, be he savage or civilized, must become conscious of objects

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[11] For comprehensive studies of the influence of the principle on the sciences in Sayce's time, see the collection of essays in Cahan (2003).

> in much the same way, and must express his first needs in a similar manner.
> Once grant the power of forming articulate speech, and there can never be much
> difference in the attempts to realise it. All men have at bottom the same primary
> instincts and passions, otherwise they would not be men; and the primitive
> experiences of all races must have been almost identical. (1893: 39)

Regarding the uniformity of physiological factors, Sayce further stated that
"We are all given the same physical machinery for producing sounds; and that
machinery has everywhere the same restrictions." (1893: 39).

Nevertheless, it is difficult to reconcile such statements with those made as
part of his analysis of data from 'exotic' languages and cultures, which follow the
premise that "one set of savages is like another", a statement attributed to Samuel
Johnson (1709–1784) (cf. Boswell 1791: 510). For example, Sayce maintained
that "[…] since the framework of the mind and the circumstances which surround
the life of the savage are much the same everywhere, we shall expect to meet with
a common similarity and obedience to general laws in the myths of all nations."
(1893: 313).

Sayce's emphasis on the uniformitarian principle is also evident in the
associations he made between language and geology, as illustrated for example
by metaphors: "[…] language, like the rocks, is strewn with the fossilised wrecks
of former conditions of society." (1893: 300). Language change is also compared
to erosion:

> The wear and tear of words and their meanings which is continually taking place,
> however little perceived by the passing generation, is like the wasting of the rocks
> by air, and water, and ice, that, through the long series of geological ages, has piled
> up the crust of the earth, scooping out the valleys and moulding the everlasting hills.
> (1893: 345)

This close association between language and geology reflected the reflexive
influence between these two emerging fields of study in the eighteenth and
nineteenth centuries, as illustrated by not only common concepts such as the
uniformitarian principle as well as drift and strata but also shared interests of
particular scholars (Naumann, Plank & Hofbauer 1992: xiii–xiv). Such
similarities were formulated by Whitney in his *Language and the Study of
Language*, including an analogy between language and geological strata: "[t]he
remains of ancient speech are like strata deposited in bygone ages" (Whitney
1867: 47). Notice in this context the personal connection between Whitney and
his brother, geologist Josiah Dwight Whitney (1819–1896).

Phonetic decay, as illustrated by the quotation given above, is contrasted by
Sayce with another principle of language change, i.e., analogy. Sayce viewed
analogy as the most important change agent in language:

> This is a main element of change in the signification as well as in the outward form of words; and just as phonetic decay wastes and destroys, so analogy repairs and reconstructs. The one is the agent of destruction, the other of construction, though they both spring from the same root of human laziness. (1893: 346)

In Chapter 9, "The Influence of Analogy in Language", Sayce discussed at length examples of analogy in phonology, morphology, syntax, and lexicon. For example, he pointed to the degree of structural change possible in morphology:

> Analogy, however, will sometimes bring about far more wide-reaching effects than the alteration or production of certain grammatical forms and relations. It may change the whole character of a grammar, the whole structure of a language; provided, that is, that the fundamental principles upon which it is based, the mental view of the people to which it belongs, be not violated. (1893: 368)

With respect to the lexicon, Sayce emphasized the role of analogy in semantic change, including the fundamental processes of extension and narrowing as well as metaphor: "Knowledge is one vast chain of associations, and analogy is the principal forger of its several links." (1893: 374).

Sayce was particularly interested in the development of grammatical forms, which he attributed to different sources and paths (see Lindström 2004: 243–251, 257–258, Lindström Tiedemann 2005: 28–30). For example, he argued that grammatical markers can develop from phonological change in a process to which he referred as 'adaptation', and which now is referred to as exaptation (cf. Lass 1990): "A difference of vowel which was originally purely phonetic has been adapted to distinguish between singular and plural in the English *man* and *men*" (1900, 1: 385). However, as Lindström (2004: 421) points out, Sayce's contribution to grammaticalization theory has been overlooked by linguists, most of whom traced the development of the theory to Antoine Meillet (1866–1936).

4.2. The inductive method

In addition to the uniformitarian principle, Sayce maintained that, similar to the natural sciences, comparative philology and language study in general should proceed on an inductive basis:

> Comparative Philology […] must be defined as an inductive science, pursuing the same method of inquiry as geology or biology, and engaged in the discovery of laws or regulative generalisations which may possibly be some day applied deductively. (1893: 37)

However, as mentioned above, he distinguished between language study as a "historical" science and a "physical" science due to the unpredictable influence of human volition (1893: 37–38).

Specifically, Sayce described glottology as "[…] the science of language which compares and classifies words and forms, and so arrives at the empirical and finally the primary laws which govern the development of speech and its varieties." (1893: 60). Throughout his work he repeated his caution of keeping the history of language to the facts: "I have more than once said that, in studying Glottology, we must not go beyond our facts; and the statement, simple as it seems, cannot be too often repeated." (1893: 105). Regarding the development of historical linguistics as a science, he was clear: "Our data are limited to the words that can be collected from the mouths of living speakers, or have been committed to the safe keeping of writing." (1893: 42).

For Sayce, language study, like all sciences, was searching for unity, and he pointed out that "The tendency of time is to unify what was originally separate, not to multiply what was originally one." (1893: 128). He added:

> This instinctive desire to discover unity has had its effect upon the science of language. Here, as elsewhere, the aim of science is to generalize, and to show that there is order, and not caprice, among the phenomena – classification, and not isolation. But in this search it is bound not to go beyond the facts and the strict inferences which may be drawn from them. (1893: 100)

Unquestionably, by contending that the science of language had to "generalize" and be "bound not to go beyond the facts and the strict inferences which may be drawn from them", he was committing linguistics to the inductive method.

4.3. On the sources of data

Throughout his work Sayce emphasized the inherently comparative or typological nature of language study. In particular, he pointed out that inductive generalizations can only be based on large samples of languages, thus allowing scholars to establish laws and to avoid "fancied facts of 'scholarship' [which] will turn out to be the most portentous errors" (1893: 10).

As we mentioned, Sayce pointed to various forms of bias that result in such errors. He filled his second chapter with examples of false generalizations that he attributed to a scholarly fixation on a particular language family or system, namely Indo-European, or what he referred to as an "Aryan" bias. He thus argued that laws formulated for Indo-European languages, including selected branches of the family, need not be universally valid: "[…] the Aryan family is but one out of many, and […] in several respects its character is altogether

exceptional." (1893: 72). He attributed this bias to the rich documentation that was available of the languages and to the role of tradition and religion as well as to the preliminary state of knowledge beyond the Indo-European family. In this context, he argued that comparative data should also include examples from less well-known and 'primitive' languages:

> No idiom, however obscure and barbarous, can be despised by the comparative student. The most precious facts of the science will often lie in dialects whose very names are almost unknown, and whose speakers stand upon the lowest level of humanity. It is in these, however, and not in the polished periods of a classical literature, that we can trace the fundamental laws and working of primitive speech, and detect those simple contrivances which have elsewhere been obliterated. (1893: 15)

As we show in more detail below, Sayce devoted particular attention to polysynthetic languages of North and Meso-America, which he regarded as a remnant of a primordial form of speech.

According to Sayce, scholars' perceptions and evaluations of unfamiliar languages could also be affected by their familiarity with better described languages. For example, regarding the common perception that inflectional languages are more 'advanced' than agglutinating and isolating languages, he states in the *Introduction to the Science of Language* that

> […] what we really mean when we say that one language is more advanced than another, is that it is better adapted to express thought, and that the thought to be expressed is itself better. Now, it is a grave question whether from this point of view the three classes of language can really be set the one against the other. So long as thought is expressed clearly and intelligibly, it does not much matter how it is expressed – how, that is, the relations of the sentence or proposition are denoted. When we begin to contrast the morphology of two classes of speech, there is a tendency to import our prejudices into the question, and to assume that the grammatical forms to which we have been accustomed are necessarily superior to those which appear strange to us. (1900, 1: 374)

Sayce further acknowledged the subjective nature of such preferences and opinions:

> If the excellence of a language is to be decided by the number and variety of its grammatical forms, the palm will be borne off rather by the Eskimaux or the Cheroki than by the dialects of Greece and Rome; if by the attainment of terseness and vividness, Chinese will come to the front; if by clearness and perspicacity, English will dispute the prize with the agglutinative languages. (1900, 1: 375)

In addition, Sayce pointed to other principles that need to be followed in comparative philology. For example, in Chapter 3 on "The Idolum of

Primeval Centres of Language", Sayce demonstrates the need for similarity in grammar and phonology to make a case for related languages. He noted that resemblances in vocabulary were not convincing. He showed an extraordinary depth of knowledge of so many languages – old and new. In Chapter 7 on "The Metaphysics of Language", Sayce strongly questioned that any formal grammar could be written of a language, or indeed any analysis of a language, unless it was in comparison to another language. He argued that grammar started with Dionysius Thrax (c.170–c.90 B.C.) and his integration of earlier speculations on Greek and Latin among Greek, Alexandrian, and Roman scholars (1893: 260–261). This idea stressed the importance of comparative philology to the study of language.

5. Sayce on linguistic diversity

As can be seen from the preceding discussion of Sayce's theoretical and methodological principles, *Principles of Comparative Philology* presented a comprehensive framework for the study of languages in their social and cultural context. The ways in which he applied these principles will now be evaluated based on his references to examples from languages from three areas: North America (Iroquoian and Inuit languages), Southern Africa (Khoekhoe languages and others), and Tasmania (Tasmanian languages). These examples were mentioned by Sayce as part of his discussion of the *idola* of glottology in Chapters 2 and 3, and in more diverse contexts in the other chapters predominantly as an illustration of earlier stages in the history of speech.

5.1. Idola of glottology

Examples from 'exotic' languages constitute a foundation for Sayce's discussion of the *idola* that result in his view from unwarranted generalizations based only on data from the Indo-European family. Thus, with reference to the notion that roots were originally verbal, Sayce pointed to the role of the object in Semitic, where "[…] the conception of the *object* lay at the bottom of the language – an intuition in which the subject ignored, or rather absorbed into the object; subjective action and the development of will being left out of sight." (1893: 80).[12] Sayce argued that further evidence was provided by 'barbarous' languages which lacked abstract and generic terms, in which "the subjective predominates

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[12]   This feature of Semitic languages was attributed by Sayce to a cultural contrast between Semitic and Indo-European: "Perhaps the verbal conception upon which the Aryan languages are built pointed out from the beginning the active, self-conscious, nature-subduing character of the Aryan race, just as we seem to trace the features of Judaism in the determinate objective Semitic root and the resignation of the subject which it implies." (1893: 81–82).

over the objective element" (1893: 80). These included the languages of North America, including the Iroquoian languages Cherokee and Huron, and Tasmanian languages. For example, Sayce claimed that "[…] the Cherokee possesses thirteen different verbs to denote particular kinds of 'washing,' but none to denote 'washing' in a general sense." (1893: 81).[13] In turn, Huron was attributed with the absence of verbs with the meaning 'to love', while Tasmanian languages "[…] could express an abstract idea such as "round," only by saying, "like the moon," or some other round object." (1893: 80).

Huron as well as Greenlandic were also mentioned by Sayce in his discussion of variation found in languages spoken in societies at different levels of civilizational progress. Here he questioned the notions that the lexical and grammatical "unity of form" (1893: 82) found among Indo-European languages was also found in other language families, and that language families could be traced to a common source. Regarding the first notion, Sayce argued that "change and diversity" (1893: 82) were the rule in unwritten languages and dialects, as is illustrated by such phenomena as men's and women's speech in Greenlandic and Carib as well as taboo in Polynesian languages.[14] In what appears to be an example to the contrary, the degree of similarity among dialects of Greenlandic was attributed by Sayce to the influence of the environment:

> The comparatively stationary nature of Eskimaux, which seems to have changed but slightly since the time of Egede, and the astonishing identity of dialect, more especially among the eastern tribes, may be ascribed to the long winters, which oblige the different communities to live closely packed together. (1893: 85–86)[15]

Regarding the second notion, Sayce argued that "If there is one lesson that modern savage life teaches more emphatically than another, it is that in a so-called natural state separation and hostility are the rule." (1893: 122). According to Sayce, such variation was found in, e.g., Huron:

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[13] "These verbs are as follows: – *kŭtŭwo,* 'I am washing myself;' *kŭlēstūlā,* 'my head;' *tsēstūlā,* 'another's head;' *kŭkūsquō,* 'my face;' *tsēkūsquō,* 'another's face;' *tākàsūlā*, 'my hands;' *tātseyàsula,* 'another's hands;' *takōsūlā,* 'my feet;' *tatseyâsūla,* 'another's feet;' *takŭngkalâ,* 'my clothes;' *tatseyûngkēlâ,* 'another's clothes;' *takŭtēyā*, 'dishes;' *tsēyŭwă,* 'a child;' *kôwēlâ*, 'meat*.*' […] It is the same in Cherokee with all verbs, the object being never named." (1893: 81–82).

[14] As Christy (1983: 54–55) noticed, Sayce's reference to the example given by Lyell (1873: 515) of rapid language change in Pennsylvania German shows that linguists were familiar with Lyell's work not only on geology but also language.

[15] Sayce is probably referring here to Hans Poulsen (Povelsen) Egede (1686–1758), author of *A Description of Greenland* (Egede 1745), rather than his son Paul (Poul) Hansen Egede (1708–1789).

> Sagard in 1631 states, that among the Hurons of North America, not only is
> the same language hardly to be found in two villages, but even in two families in
> the same village, while each of these multitudinous dialects is changing every day.
> (1893: 122–123)

Sayce was referring to Recollect Brother Gabriel Sagard's (c.1600–1650) dictionary of Huron (Sagard 1632), in which Sagard, as shown by Steckley (2010: 4–60), in fact recorded not only Huron dialects but also another Iroquoian language, i.e., St. Lawrence Iroquoian. Nevertheless, the citation illustrates Sayce's rather indiscriminate approach to available descriptions of geographically remote languages, an issue to which we will return in §6 below.

5.2. 'Exotic' languages as a window onto earlier forms of speech

Apart from the contexts discussed above, examples of variation in 'exotic' languages were also provided by Sayce in other chapters as a window onto earlier stages in the history of language, or what he referred to as the 'root-period':

> The root-period […] was characterised by complexity, indistinctness, and vagueness
> in sound, meaning, and grammar. It was but a reflection of the hive-like community,
> in which the parts were as yet undistinguished, and the several factors of society lay
> undeveloped in a single embryonic germ. (1893: 248)

We will now focus on three types of such examples, which illustrate assumed features of 'exotic' sound systems, word structure, and lexicon.

In his discussions of 'exotic' sound systems, Sayce focused on two aspects: the lack of distinctiveness of sounds, and cross-linguistically uncommon sounds. Sayce shared a common sentiment up to the end of the 19th century, whereby sounds in 'primitive' languages were described as 'indistinct' or 'confused'.[16] Citing Henry Sweet, Sayce thus stated that "My friend Mr Sweet has come to the conclusion that primitive man could only roughly distinguish between sounds, just as he could only roughly distinguish between ideas and the relations of grammar" (1893: 246).[17] This was illustrated by Sayce with the example of a lack of differentiation between /k/ and /t/ Hawaiian, which was

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[16]   See Boas (1889) for a critique of this notion as resulting from the influence of the scholars'
       native language rather than a lack of phonetic consistency.

[17]   Sweet and Sayce respected each other as they were aligned on many issues of comparative
       philology, but they also had their differences and misunderstandings. As noted in Subbiondo
       (2022: 34), "[…] by arguing that the prevailing comparative philologists had to move beyond
       the surface structure of language to the deep structure of language, Sweet was misconstrued by
       Sayce as favouring the structures of ancient grammars as the bases for describing current
       languages."

already given in the first grammar of Hawaiian by Adelbert von Chamisso (1781–1838) (cf. Chamisso 1837: 5). Such 'neutral' sounds as well as small consonantal inventories in Polynesian languages were viewed by Sayce as characteristic of 'primitive' speech, showing that "[…] the number of sounds possessed by early language was extremely small, and that these were mostly of a neutral, indistinct character, and what we should consider difficult to pronounce." (1893: 247).

As for less common sounds, Sayce briefly discussed clicks as a remnant of an early form of speech (1893: 244). There was a more extensive discussion concerning clicks in his *Introduction*, where he described them as "the bridge that marks the passage of inarticulate cries into articulate speech" (1900, 2: 281). It is in this work that Sayce established an analogy between complex phonetic and morphological phenomena, where clicks in Khoisan languages and polysynthesis in the languages of North America provided a glimpse into an earlier form of sound systems and word structure, respectively:

> Polysynthesism or incapsulation may be defined as the fusion of the several parts of a sentence into a single word, the single words composing it being reduced to their simplest elements. It is, in fact, the undeveloped sentence of primitive speech, out of which the various forms of grammar and the manifold words of the lexicon were ultimately to arise, and it bears record to the earliest strivings of language which have been forgotten elsewhere. The polysynthetic languages of America, in short, preserve the beginnings of grammar, just as the Bushman dialects have preserved the beginnings of phonetic utterance. (1900, 2: 216)

Sayce clearly recognized the value of polysynthetic languages for linguistic theory.[18] He stated for example that

> The so-called polysynthetic languages of North America, for instance, are extremely important, characterizing as they do a whole continent. Here the sentence is fused together into a sort of long compound, the several words of which it is composed being cut down to bare themes or roots by the same kind of accentual instinct that makes the French drop their final letters in pronunciation, though each fragment still remains an independent word of equal force with the rest. (1893: 145–146)

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[18] Polysynthetic languages were also discussed by Sayce in an article on "Grammar" in *The Encyclopædia Britannica*: "In the polysynthetic languages of America the sentence is conceived as a whole, not composed of independent words, but, like the thought which it expresses, one and indivisible. […] As a necessary result of this conception of the sentence the American languages possess no true verb, each act being expressed as a whole by a single word. In Cherokee, for example, while there is no verb signifying 'to wash' in the abstract, no less than thirteen words are used to signify every conceivable mode and object of washing." (Sayce 1880: 38).

While examples are provided from both North and Meso-American languages, Sayce drew an implicit distinction between them by describing the morphological structure only of an example from Nahuatl (1893: 146), with verbs from Cherokee and Greenlandic, the latter described as "monstrosities" (1893: 94), presented without any analysis.[19] North American languages were thus viewed as less advanced in terms of both linguistic and intellectual progress:

> Nothing can be more intricate, more complex, than the grammar of the Red Indian or the Eskimaux; the simplicity of our own grammar is the result of a long series of comprehensive generalisations and analyses of thought. […] Language is the expression of thought; and the first ideas were as much undifferentiated embryos as the jelly-fish on the shore or the beehive life of primeval man. (1893: 243)

This contrast was explicitly formulated by Sayce in the *Introduction*, where, in a passage following his reference mentioned above to "the Bushman dialects [which] have preserved the beginnings of phonetic utterance", Sayce referred to "[…] the barbarous Eskimaux of Greenland and the cultivated Aztec of Mexico as the two extreme types of American polysynthetic speech." (1900, 2: 216).

Apart from the degree of morphological complexity in general, polysynthetic languages were cited by Sayce to illustrate other assumed grammatical features of early forms of speech. For example, Sayce argued that "[…] the conception of time which with us lies at the very foundation of the verb […] is still unknown to many races of men, and […] is conspicuous for its absence among the polysynthetic languages of North America." (1893: 297–298). This statement is an unfortunate generalization since North American languages vary considerably in terms of the complexity and obligatoriness of specification of tense, as illustrated by Boas (1911: 42) and, more recently, Mithun (1999: 152–165).

Finally, turning to the lexicon, the examples provided by Sayce reflected the motifs mentioned above in the context of phonetic and grammatical examples. These included the notion that 'primitive' languages were characterized by excessive variation, as illustrated by Sayce with an example from Tasmanian languages:

> Perhaps one of the most striking instances of this in recent times is to be found in the island of Tasmania, where, with a population of no more than fifty persons, there were no less than four dialects, each with a different word for "ear," "eye," "head," and other similarly common words. (1893: 233)

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[19]   The example from Greenlandic comes from David Crantz's (1723–1777) *The History of Greenland*, in which Crantz illustrates the "multitude of verbs compounded" with some morphological analysis (Crantz 1767, 1: 224).

Another motif concerned the degree of lexical complexity found in a particular language, which is treated by Sayce as a benchmark of civilizational progress: "The number of words, in fact, with distinct and separate meanings, measures the progress of a language and the culture of those who speak it." (1893: 217). As indicated in the examples cited in §5.1 from Cherokee and Tasmanian, such progress can be determined based on the number of abstract and generic terms. The assumed absence of abstract and generic terms "among modern savages" (1893: 221) is illustrated by Sayce both in the *Principles of Comparative Philology* (1893: 80–82, 221–222) and the *Introduction to the Science of Language* (1900, 1: 100–104; 1900, 2: 5–6) with extensive examples from the languages of North America, Southern Africa, Tasmania, and Oceania. In *Introduction to the Science of Language*, Sayce explicitly stated that "The dialects of savages, which most resemble what all languages originally were, have few words, because they have few ideas to express, and such ideas as are expressed are wonderfully simple." (1900, 1: 101). Therefore, "The number of abstracts possessed by a language is a good gauge of its development." (1900, 1: 102). The (near-) absence of generic terms is further associated by Sayce with an overabundance of specific terms in such languages as Hawaiian, Zulu, Cherokee, and Tasmanian, with both types of deficiency attributed to "very poor reasoning powers":

> The lower races of men have excellent memories, but very poor reasoning powers; and the European child who acquires a vocabulary of three or four hundred words in a single year, but attaches all its words to individual objects of sense, reflects their condition very exactly. (1900, 2: 6)

A related benchmark was established by Sayce based on the expression of number and numerals, as both counting and abstract/generic terms involve abstraction and generalization. Sayce attributed deficiencies in the expression of these concepts to cultural and cognitive factors. For example, with reference to the expression of dual and plural number, Sayce stated that "So long as men lived in the primeval beehive community, there was no need of any clear expression of multiplicity." (1893: 281). In turn, the near absence of numerals among the Damara, i.e., speakers of Khoekhoe in present-day Namibia, was related to a lack of capacity for counting (1893: 25).[20]

The assumed absence of abstraction/generalization was also associated by Sayce with grammatical phenomena characteristic of polysynthetic languages. These included the morphological complexity of verbs in general as well as noun

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[20]   The absence of numerals among the Damara is illustrated in the *Introduction* (1900, 1: 101–102) with an extensive quotation from *The Narrative of an Explorer in Tropical South Africa* by Francis Galton (1822–1911) (cf. Galton 1853).

incorporation and the expression of inalienable possession, where in all cases the speakers are described as being incapable of abstracting individual ideas (1900, 1: 120–121). Polysynthesis in North American languages was thus viewed as an accurate reflection of "the primitive condition of speech":

> The North American languages reflect more faithfully than the languages of the Old World the primitive condition of speech, and the North American languages can possess from six to eight thousand different verbal forms or sentences without having abstracted from them a single *word* which will express the sense of the verb out of all relation to anything else. Thus, the Cheroki has thirteen verbs to denote particular kinds of "washing," such as "washing the head," or "the hands," or "myself," and each of these verbs has a multitude of forms, but no isolated word to denote "washing" in general has as yet been extracted from them. (1900, 1: 120)

As is well-known, the notion that speakers of North American languages and other 'exotic' languages lack the capacity for abstract thought was explicitly rejected by Boas. For example, in a paper delivered in the same year, and published as "The Mind of Primitive Man" (Boas 1901), Boas argued that "A developed language with grammatical categories presupposes the ability of expressing abstract relations, and, since every known language has grammatical structure, we must assume that the faculty of forming abstract ideas is a common property of man." (Boas 1901: 4).

6. Sayce's legacy

While Sayce was considered an accomplished scholar by his contemporaries, he has been relatively unnoticed by later generations of linguists. Among the reasons for the loss of his reputation, Davis (1978: 343) mentioned his wide range of interests accompanied with a lack of focus.[21] In addition, he was not part of the debate between William Dwight Whitney and Max Müller (cf. Alter 2005: Chapter 8) or of the Neogrammarian movement. His contribution to linguistics needs therefore to be evaluated in this light: while his *Principles of Comparative Philology* and *Introduction to the Science of Language* were familiar to late nineteenth-century readers, his methodological and theoretical principles – with one notable exception discussed below – did not significantly influence language study in the twentieth century.

As a result of his considerable output, Sayce's publications influenced the dissemination of secondary references to 'exotic' languages from the 1870s

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[21]   As Davis (1978: 343) impressionistically put it, Sayce "[…] wrote constantly on archaeology but was not an archaeologist; he was an Egyptologist on Monday, an Assyriologist on a Tuesday. On Wednesday he was a Biblical scholar; Thursday found him working with folklore. (Today he might, by himself, be a 'Near Eastern Studies' department.)".

onwards. This can be illustrated by citations to his works in two publications: *The Aryan Race: Its origin and its achievements* by Charles Morris (1833–1922) (Morris 1892) and *Vom suppletivwesen der indogermanischen sprachen* by Hermann Osthoff (1847–1909) (Osthoff 1899). In both cases the Cherokee example of verbs related to washing was meant to illustrate remnants of more primordial or natural forms of classification, as shown in the contexts of the two citations:

> Savage tribes generally display an inability to think abstractly or to form abstract words, their languages in this respect agreeing with the American. […] This incapacity to express abstract relations is strongly indicated in the American languages, and indicates that they diverged into their special type at a very low level of human speech. (Morris 1892: 196–197)

> The language of the Cherokee is reported to contain instead of a single word for 'washing', a large multitude of different expressions, a total of thirteen, according to Sayce, depending on what is being washed. (Osthoff 1899: 79, my translation: MK)[22]

The exception where Sayce can be said to have left a mark on twentieth-century linguistics involves citations to his works by Otto Jespersen (1860–1943) and Stephen Ullmann (1914–1976), both of whom either explicitly or implicitly drew on Sayce's works in their discussions of the degree to which speakers of 'primitive' languages are capable of abstract and generic thought. The uses of examples from 'primitive' languages by the three scholars share commonalities on the descriptive, theoretical, and methodological levels. Based on examples from Cherokee, Zulu, and Tasmanian, they argued that the languages were characterized by an absence of generic terms and a concomitant overabundance of specific terms. For example, Jespersen cited Sayce's *Introduction to the Science of Language* in his *Progress in Language* in the context of a series of examples meant to show that "Everywhere language has first attained to expressions for the concrete and special." (Jespersen 1894: 350).[23]

In addition, references to 'exotic' languages in the works of these scholars were accompanied by remarks concerning the perils of uncritically accepting inadequate linguistic evidence. Thus, in his *Efficiency in Linguistic Change*

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[22] "Von der sprache der Tscherokesen wird berichtet, dass sich in ihr, an stelle eines einzigen wortes für *waschen*, eine grosse mehrheit verschiedener ausdrücke, nach *Sayce* im ganzen dreizehn, finde, je nachdem was gewaschen werde."

[23] Notably, Sayce's *Introduction* is one of the very few sources cited explicitly by Jespersen, either in the *Progress in Language* or in other publications where he discussed lexical and structural aspects of 'exotic' languages. For further discussion of Jespersen's treatment of sources see McCawley (1993: xvi) and Kilarski (2021: 243–246).

(1941), Jespersen reflected on his methodological principles and argued that "[…] the treatment has been realistic and has dealt with facts, not fancies […]. This book moves wholly in the broad daylight of history, nearly always in the best-known European languages." (Jespersen 1941: 85). Likewise, Ullmann commented on earlier reports on the absence of abstract/generic terms in 'primitive' languages, writing that "Unfortunately, these reports were based only too often on inadequate evidence such as observations by early missionaries, which were uncritically accepted and reproduced by successive generations of scholars." (Ullmann 1966: 228–229). We can thus see continuities across nearly a hundred years in the treatment of examples from 'exotic' languages that were disseminated by Sayce's works.

As we have indicated, Sayce's references to 'exotic' languages frequently did not meet the methodological criteria he advocated. Since he explicitly used such examples to illustrate his conception of the 'idola' of glottology, it is ironic that this methodological principle was illustrated with fragmentary evidence assorted from diverse and less well-known languages. Such evidence was also used by Sayce to demonstrate a range of assumed phonological, grammatical, and lexical properties of earlier forms of speech.

Regarding his choice of languages, it is characteristic that driven by the premise that comparative philology should embrace data from less well-known and 'primitive' languages, Sayce resorted to cursory analogies among geographically and typologically diverse languages. Such assorted sets of examples were also used by other contemporary scholars, e.g., Herbert Spencer in *The Principles of Sociology*, where assumed lexical gaps in Tasmanian, Damara (Khoekhoe), and Cherokee were meant to illustrate the cognitive, cultural, and social underdevelopment of 'primitive' languages (Spencer 1884 [1876]: 382).[24] As shown above, an analogous set of examples was also applied by twentieth-century scholars such as Otto Jespersen and Stephen Ullmann.

Further, despite his insistence on the value of the documentation of languages without such extensive traditions of research as Indo-European languages, Sayce displayed minimal attention to the available descriptions of

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[24]   "If now we remember that in the languages of inferior races the advances in generalization and abstraction are so slight that while [in Tasmanian] there are words for particular kinds of trees there is no word for tree; and that, as among the Damaras, while each reach of a river has its special title, there is none for the river as a whole, much less a word for river; or if, still better, we consider the fact that the Cherokees have thirteen different verbs for washing different parts of the body, and different things, but no word for washing, dissociated from the part or thing washed; we shall see that social life must have passed through sundry stages, with their accompanying steps in linguistic progress, before the conception of a name became possible." (Spencer 1884 [1876]: 382).

the languages he discussed and the contexts in which the examples were originally employed. Thus, instead of grammars and dictionaries, he tended to rely on preliminary reports about the languages, for example, Gabriel Sagard's Huron dictionary (Sagard 1632) or Joseph Milligan's (1807–1884) description of Tasmanian languages (Milligan 1859), or publications in which the example was originally used in a different theoretical context. Sayce was either unaware or chose to ignore the arguments that John Pickering (1777–1846) presented in his "Indian Languages of America" (Pickering 1831: 582–583) for the richness and systematic nature of North American languages, including the complexity which with Cherokee verbs specify the quality of the verb's object.[25]

Finally, Sayce showed little interest in the lexical and morphological complexity of the examples he discussed. This applies to the examples of abstract and generic terms provided elsewhere by Milligan (see Kilarski 2021: 268–269), which contradicted his statement quoted by Sayce about the "very limited powers of abstraction or generalization" (1893: 80). In the case of the examples from Cherokee and Greenlandic, the absence of morphological analysis reinforced the impression of a lack of internal structure of polysynthetic verbs as well as the redundancy of the underlying lexical and grammatical meanings conveyed by the verbs. In this context, Sayce did provide a morphological analysis of examples from Nahuatl, which, however, was a language that he saw at the opposite end of civilizational development. Sayce's treatment of examples from 'exotic' languages illustrates therefore the filtering effect that the observer's native language has on unfamiliar languages as well as the rhetorical versatility of linguistic examples, which can be incorporated into diverse and contradictory theoretical or ideological frameworks.

7. Conclusion

As we noted in the introduction, Sayce served as a bridge between nineteenth-century comparative philology and twentieth-century general linguistics. His receptivity of the methods and philosophies of the emerging new sciences of his day and his ability to incorporate them into his work as well as his well-earned prestige in the scholarly and religious communities of his time enabled him to be an effective transitional leader.

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[25]   Apart from the publications mentioned above, the few sources cited by Sayce include Albert Gallatin's (1761–1849) "Synopsis of the Indian Tribes" (Gallatin 1836), Peter Stephen Du Ponceau's *Mémoire sur le système grammatical des langues de quelques nations indiennes de l'Amérique du Nord* (Du Ponceau 1838) and Horatio Hale's (1817–1896) *Ethnography and Philology* (Hale 1846).

Apart from the topics discussed above, Sayce's *Principles of Comparative Philology* provides fascinating reading about other key issues in modern linguistic theory. These include topics relating to language contact and change such as the extent to which the structure of a language can be modified by cultural and environmental factors as well as the origin, development, and functions of grammatical categories. Sayce's discussions are also illustrated with examples from non-Indo-European languages. For example, based on a paper by the Norwegian ethnologist Ludvig Kristensen Daa (1809–1877) (Daa 1856: 256), he attributed features of the sound systems of the languages of the Pacific Northwest to customs related to facial ornamentation.[26] With regard to grammatical categories, he discussed historical and functional parallels between grammatical gender and numeral classifiers, referred to as 'numeral suffixes', based on examples from the languages of southern Africa and South-East Asia (1893: 264–273). As in other contemporary descriptions, Sayce viewed grammatical gender as an ornamental and redundant category.[27]

Lastly and most importantly, we have looked at Sayce and his scholarship without criticizing him for not having our understanding of linguistics. We hope that this study will increase appreciation of his many, diverse, and significant contributions to the ever-advancing history of linguistics.

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[26] "Particular fashions are not without their influence; thus the loss and confusion of the labials, and the excessive nasalisation in the languages of the savages of the Pacific coast of America, must be traced to the rings that are worn through the nostrils and the lips of the people." (1893: 200). See Jahr & Kilarski (2023) for further discussion of Daa's linguistic contribution as well as the relationships established in the late 19th century between language structure and socio-cultural patterns.

[27] "Gender, consequently, is by no means ingrained in the nature of things. It is a secondary accident of speech, ornamental, perhaps, from an æsthetic point of view, but practically highly detrimental" (1893: 272).

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