

The Creoloid Origins of Chinese

George van Driem

Linguistics Institute, University of Bern, Switzerland; Indian Institute of Technology, Guwahati, India

Abstract From 1513, Chinese mystified Western observers with its phonology and grammar. In the 19th century, von Klaproth, Lepsius and Karlgren extended the comparative method to Chinese and established Chinese historical phonology and grammar, but a lineage of benighted thinkers promulgated a racist rendition of language typology. This trend reached a crescendo during the Opium Wars and culminated in the Sino-Tibetan family tree model. Whereas sound comparative linguistics supports von Klaproth's Trans-Himalayan model, embattled Sino-Tibetanists, unable to adduce evidence for their phylogenetic beliefs, today seek recourse to lexicostatistics.

Keywords Chinese. Trans-Himalayan. Historical phonology. Historical grammar. Language typology. Sino-Tibetan. Lexicostatistics.

Summary 1 Chinese Mystifies the Occident. – 2 Racist Linguistic Typology vs Linguistic Relativity. – 3 Ex Occidente Lux. – 4 Creole and Creoloid. – 5 Lexicostatistics Disguised as 'Phylogenetics'.



Peer review

Submitted 2022-09-20
Accepted 2022-09-30
Published 2022-10-28

Open access

© 2022 van Driem | 4.0



Citation van Driem, G. (2022). "The Creoloid Origins of Chinese". *Bhasha. Journal of South Asian Linguistics, Philology and Grammatical Traditions*, 1(2), 239-262.

DOI 10.30687/bhasha/2785-5953/2022/01/003

1 Chinese Mystifies the Occident

Ever since May 1513, when Jorge Álvares became the first Occidental mariner to reach China, where eight years later he died in the arms of his friend Duarte Coelho, Europeans have been mystified by the Chinese language. The Portuguese maritime expansion enabled scholars such as Michele Ruggieri of Apulia to sail to the missions in the East. After a year on the Malabar coast of India, Ruggieri lived in China from 1579 to 1588, where he compiled a Portuguese-Chinese dictionary. He was later joined by his Italian Jesuit confrère Matteo Ricci, who arrived in China in 1583 after having worked in Goa and Cochin for five years. Ricci remained in China until his death in 1610, and in their lexicographical work the two men were assisted by a Chinese Jesuit brother remembered by the Christian name of Sebastiano Fernandez (Teixeira 1982).

Information on the Chinese language provided by Ruggieri upon his return to Europe was included in volumes prepared by Angelo Rocca (1591; 1595), published in Rome. From 1596 onward, the Portuguese were joined in East Asian waters by the Dutch, and, after the Peace of Münster in 1648, information gathered by Jesuits in China was often published in Amsterdam, such as the Chinese atlas by Martino Martini of Trento, which was incorporated by Joan Blaeu (1655) as the *Novus Atlas Sinensis a Martino Martinio S.I. descriptvs* into the sixth part of his *Theatrvm Orbis Terrarvm sive Novus Atlas*.

At this time, Gottlieb Spitzel came from Augsburg to Leiden to study Sinology under Jacobus Golius, alias Jacob van Gool. In 1660, Spitzel wrote a treatise on what he had learnt. He noted that the first and foremost feature of the Chinese tongue was the monosyllabicity of words, which gave the language an unaesthetically halting aspect. He hastened to point out that another feature of Chinese was that many words have homonyms, denoting different meanings yet differing in pronunciation only by dint of their accent or musical tone.

Prima est, quia peræque ejus dictiones sunt monosyllabæ, quæ orationem cum ingenti loquentis fastidio statim interrumpunt... Altera est quod multas voces habeat homonymas, h.e. quæ plurimas & diverfiffimas res significant, illaque tantum nonnullis accentibus aut tonis muficis distinctas (Spizelius 1660, 103-4)

Spitzel goes on to describe the diacritic marks invented by the Jesuits to mark Chinese tones [´ ˘ ˆ ˘ ˘], the use of which he illustrates with minimal pairs.

The same observations were made later in the compendium *China Illustrata*, published in Amsterdam by the German Jesuit Athanasius Kircher, who had collated information culled from the correspondence and reports of his Jesuits confrères that had been sent back to Rome.

Kircher wrote that Chinese was written with ideograms or ‘characters’, representing words that were “monofyllabæ & indeclinabiles”, and he illustrated the use of the same five vowel diacritics to mark the otherwise homophonous words, distinguished only by their *musicus* ‘musical tone’ (Kircher 1667, 12). Soon at this time, the first Western edition of the *Analects* of Confucius appeared, translated into rhyming Dutch verse by Pieter van Hoorn (1675) and published in Batavia.

A cameo of the subsequent Occidental fascination with Chinese grammar is preserved in the writings of John Webb. In 1628, at the age of 17, John Webb became the protégé and ultimately the heir of Inigo Jones, both men still celebrated figures in the history of English architecture. In a study devoted to the Chinese language, Webb captures the Western lay understanding of the period.

Firft then as to *Simplicity*, our *Chinique* is a Language that confifts (and it is fingular therein) all of Monofyllables, not one Diffyllable, or Polyfyllable being to be found in it [...] the *Chinois* are never put to that irkefome vexation of fearching out a *Radix* for the derivation of any of their words, as generally all other Nations are, but the *Radix* is the word, and the word the *Radix*, and the fyllable the fame alfo [...] Befides they are not troubled with variety of Declenfions, Conjugations, Numbers, Genders, Moods, Tenfes, and the like Grammatical niceties, but are abfolutely free from all fuch accidents, having no other Rules in ufe, than what the light of Nature hath dictated unto them; whereby their Language is plain, eafie, and fimple, as a natural fpeech ought to be [...] Secondly, *Generality* [...] Thirdly, Modefty of Expreffion [...] Fourthly, the *Vtility* [...] Fifthly, and laftly the *Brevity* [...] But if the *Brevity* of a Language be a remarque of the primitive Tongue, as it is afferted to be; the *Chinique* feemeth to furpafs all other Nations of the World therein. For as thereby, the *Æquivocablenefs* is enriched with compendioufnefs, fo is the compendioufnefs beautified with gracefullnefs and fweetnefs, beyond in a manner all Example. (Webb 1678, 191-2, 201-2, 206-8)

Likewise aware of the “Mufical Accents” which distinguished otherwise homophonous syllables (1678, 198-9), Webb argued that monosyllabicity showed Chinese to be “the primitive Tongue”, therefore inherently redolent of the language of infancy:

The Language of *China* as hath been fhewed alfo, confifteth all of Monofyllables, & in our Infancy, the first Notions of fpeech we all have are Monofyllables. (1678, 196)

The more knowledgeable early writers were well aware of the distinction between the Classical Chinese literary language or *wényán*

文言 and the modern Sinitic languages or ‘Chinese dialects’, such as Hokkien, Cantonese and Mandarin. A study of a good grammar of modern Mandarin (Wiedenhof 2015) puts the lie to the simplistic notion that all the words in the language are monosyllables. English too contains multitudinous monosyllabic words, such as *boy*, but also exhibits monosyllabic words that contain more than just a single morpheme, such as *boys*. Rather, the purported monosyllabicity of Sinitic languages applied to morphemes more so than to words. In his *Mvsev̄m Sinicvm*, Bayer made the point that, when all things are properly considered, Chinese very much has polysyllabic words, but the language distinguishes each of the syllables by separate characters, so that these can be regarded as monosyllables.

Quare fi recte omnia confideres, Sini adhuc habent polyfyllaba, fed quia diftinguunt fyllabas characteribus, habentur pro monofyllabis. (1730, 106)

Before the coining of modern linguistic typological terminology, the notion of ‘monosyllabicity’ in the writings of knowledgeable scholars manifestly represented a language typological concept signifying the combination of the phonological typology of the language, the morphological structure of words and lack of flexional morphology. It is easy to find naïve writers of the past who did indeed use the term in an overly literal sense, and certain writers have perennially felt called upon to assail such naïvely literal usage of the term.

In terms of its typological traits, Chinese continued to astonish scholars. Wilhelm von Humboldt marvelled at the “*Lauteigenthümlichkeit des Volkes... die Sylben stark in der Aussprache auseinander zu halten*” in combination with the ‘scheinbare Abwesenheit aller Grammatik’, whereby grammatical relations were solely expressed “durch Stellung”. Yet von Humboldt insisted that the lack of morphological complexity in the language could in no way be construed as compromising “die Schärfe des Sinnes” of its speakers (1836, 324-5). In Paris, comparative work by Julius von Klaproth (1823) based on inherited vs borrowed roots led him to establish that Tibetan, Burmese, Chinese, Garo and the many ‘trans-Gangetic’ languages of the eastern Himalayan region constituted a single Trans-Himalayan or Tibeto-Burman language family, distinct from other Asian linguistic phyla. For two centuries this well-informed Tibeto-Burman or Trans-Himalayan view of the language family would have to compete against a benighted and empirically unsupported Indo-Chinese or “Sino-Tibetan” paradigm (van Driem 2014; 2018).

Inspired by the work of von Klaproth, in 1860 Carl Richard Lepsius in Leipzig proposed the several mechanisms now known to underlie tonogenesis in his analytical historical comparison of Tibetan, Cantonese, Hokkien and Mandarin:

die Fortsetzung der gegenwärtigen Abhandlung [...], welche schließlichsich nachzuweisen versuchen wird, dafs wir die einsilbigen Sprachen überhaupt, und die Chinesische im Besondern vom Standpunkt der Lautlehre aus, nicht als embryonische unentwickelte Ursprachen, sondern als herabgekommene verstümmelte Sprachen anzusehen haben [...]

Blieben wir noch einen Augenblick bei der Betrachtung der sprachgeschichtlichen Curve stehen, die uns in der Tibetischen Sprache entgegengesetzt ist [...] dafs es zuerst eine Mannigfaltigkeit von Wurzelwörtern und kleineren Formwörtern oder Partikeln vorfand, die schon von selbst zu enklitischer Abhängigkeit neigten, aber ebensowohl zu feineren grammatischen Gliederungen hätten verarbeitet werden können. Statt dessen rifs sie der monosyllabische Accent so mächtig an sich, dafs sie nicht nur ihre Selbständigkeit, sondern auch ihre grammatische Bildungskraft verloren und schließlichsich ganz verschwanden. Es ist schon bemerkt worden, dafs die Tibetische Sprache dadurch in lautlicher Beziehung fast auf dem Standpunkte der Chinesischen Dialekte von *Fu-kyen* und *Kwan-tun* angekommen ist. [...] Consonantische Auslaute, wie *pat*, *kap*, *kik* u.s.w. modificiren schon wesentlich das strengste Princip der Monosyllabität [...] so kann es nach allen Regeln der Sprachgeschichte nicht im mindesten zweifelhaft sein, dafs auch das Mandarinische einst dieselben Auslaute hatte, und nur in späterer Zeit diesen letzten Schritt in den Konsequenzen des Monosyllabismus machte, indem es auch diese Schlußkonsonanten abwarf.

Ja, man kann vielleicht noch weiter gehen, und auch die andere uns so auffallende Erscheinung, die sich in den durchgebildeten monosyllabischen Sprachen Hinterasiens findet, die *Tonaccente*, als eine Folge desselben Principes rationell erklären und in ihre Entstehung unserm Verständnifs näher bringen.

[...] Die Chinesische Einsilbigkeit ist nicht die ursprüngliche, sondern eine bereits von früherer Mehrsilbigkeit *herabgesunkene* und in verhärteter Einseitigkeit an der Grenze ihrer Entwicklung angelangte. (1861, 472, 492-3, 496)

In his study, Lepsius illustrated how tones must have arisen through the loss of different types of *Auslaute* ‘final consonants’ and through the convergence of various types of once distinct *Anlaute* ‘initial consonants’. His work inspired Bernard Karlgren and so launched the study of Chinese historical phonology and grammar. Remarkable words, such as *verstümmelt* ‘mutilated’ and *herabgesunken* ‘degenerate’, were chosen by Lepsius to describe the typology of Chinese as representing a derived state. This word choice must be seen as part of the scholarly stance of the period that viewed modern Germanic languages as degenerate forms of Proto-Germanic, Romance languages as degenerate forms of Latin and the modern Indic lan-

languages as degenerate forms of Sanskrit. However, Lepsius' remarkable diction also gave voluble expression to the *Zeitgeist* of the period in which he lived.

2 Racist Linguistic Typology vs Linguistic Relativity

Already in the early 19th century, the recognition of various structural types of language had led Friedrich von Schlegel to divide languages into three distinct types “flexionslos, affigierend und flektierend” (1808). August Friedrich Pott expanded this typology into four types, i.e. “isolierend, agglutinierend, flexivische, einverleibend” (1848). Whereas Webb had seen ‘monosyllabicity’ or the isolating typology of Chinese as imbuing the language with “gracefulness and sweetness”, during the period of the First Opium War (*gerebatur* 1839-42) and Second Opium War (*gerebatur* 1856-60), less anodyne views came to be entertained by a certain brand of linguist.

Grammatical typology inspired Heymann Steinthal (1850; 1851; 1860), Arthur de Gobineau (1854; 1855), Ernest Renan (1858) and John Beames (1868) to develop a view of language evolution, in which they ranked Chinese and Thai together on the lowest rung of the evolutionary ladder of development based on the criteria of typological ‘monosyllabicity’ and lack of inflection. James Byrne (1885, 1: 45) argued that “the causes which have determined the structure of language” lay in the varying “degrees of quickness of mental excitability possessed by different races of men”. Chinese and Siamese ostensibly mediated a rudimentary, less evolved way of thinking and so were assigned to the lowest rungs of Steinthal’s ladder of language evolution.

To account for the contrast between the technological advancement of Chinese civilisation and the ostensibly low rung on the typological ladder of language evolution ascribed to the Chinese language, de Gobineau invented a distinction between so-called male and female races, whereby “les races mâles” possessed “un langage plus précis, plus abondant, plus riche que les races femelles” (1854, 1: 190). His explanation, therefore, was that the Chinese ‘race’ was in some sense ‘male’ despite the inferior status which he imputed to the typological traits of the Chinese language. Ernest Renan, the founder and first president of the Société Linguistique de Paris, held a particularly dim view of the Chinese language and devoted numerous pages to diatribes of the following sort:

la langue chinoise, avec sa structure inorganique et incomplète, n'est-elle pas l'image de la sécheresse d'esprit et de cœur qui caractérise la race chinoise? ...Suffisante pour les besoins de la vie, pour la technique des arts manuels, pour une littérature légère de petit aloi, pour une philosophie qui n'est que l'expression souvent

fine, mais jamais élevée, du bon sens pratique, la langue chinoise excluait toute philosophie, toute science, toute religion, dans le sens où nous entendons ces mots. (Renan 1858, 195-6)

The new brand of racist linguistic typology contrasted with the older more sophisticated tradition of linguistic relativity, developed by John Locke (1690), Étienne de Condillac (1746), Pierre de Maupertuis (1748; 1756) and Wilhelm von Humboldt (1822; 1825; 1836). Linguists following this scholarly tradition, notably Julius von Klaproth (1823), Jean Jacques Nicolas Huot (Malte-Brun 1832, 1: 521), August Friedrich Pott (1856) and Friedrich Max Müller (1871; 1881), vehemently opposed the ideas of racist language typology and espoused a more refined understanding of how language structure and the conceptual repertoire expressed by the grammatical categories and contained within the lexicon of any given language influenced our thinking, and, quite crucially, insisted on the distinctness and independence of the linguistic affinity and biological ancestry of any particular language community.

An inconvenient consequence of Steinthal's evolutionary ladder of linguistic development was that Sanskrit and other such flamboyantly flexional languages were at the top, but English and French, which no longer exhibited as much flexional morphology, would have to be assigned a lower rung on the ladder. To alleviate this unwanted result, John Beames (1868) coined the terms "analytic" and "synthetic", still used in linguistic typology today. The term 'analytic', with its inherently favourable connotations, was applied to English and French, languages which had ostensibly evolved beyond the stage of perfection purportedly reflected by Sanskrit, Latin or Proto-Germanic.

Another burlesque moment can be seen when Pott (1856), who vigorously assailed the racist linguistic typology of Steinthal and de Gobineau, contested their hierarchy of language types on the grounds that "Negeridiomen" could, Pott argued, not possibly be positioned on rungs higher on the typological tree of language evolution than Chinese or Siamese. The presuppositions implied by Pott's argument might strike us as racist today, although this line of reasoning ironically forms part of a voluminous rebuttal of the racist linguistic typology set forth in the four volumes written by de Gobineau.

3 *Ex Occidente Lux*

Ex Occidente Lux was the title of a periodical published by the esoteric Psychosophsische Gesellschaft, a secretive cult established at Zürich in 1945, which was inspired by Aleister Crowley's occultist Thelema religion. As the title of this section, however, the phrase denotes a *Leitmotiv* in scholarly thinking that the Chinese writings sys-

tem was ultimately of foreign inspiration. This idea has often been viewed as effrontery by certain modern politicians and by those scholars who have sought to stress both the originality and unbroken continuity of East Asian culture. Any studious reader of Chinese history will, however, be amply aware that East Asia has always made up part of a greater whole and that interruptions and changes of ethnic and linguistic identity have convulsed East Asian cultural history as regularly as other parts of Eurasia.

Looking back into the past, at a time that historiography dissipates into oral tradition and legend, the Xià in the Yellow river valley were subjugated by the Shāng, and later the Shāng were in turn conquered by the Zhōu. Chinese archaeologist Kwang-chih Chang (1983) stressed that the three distinct polities recorded under these names could very well have represented ethnolinguistically distinct populations. He therefore cautioned against anachronisms that arise from applying the label 'Chinese' to archaeological cultural assemblages or peoples of the distant past. Ancient cultures on the North China Plain were not necessarily peopled by populations that were all ancestral to the Chinese either linguistically or by biological lineage. An unbroken cultural continuity is therefore no more than a wilful projection of an ahistorical idyll onto a complex and variegated past by the historically naïve.

The idea of the Egyptian or Chaldaean inspiration of Chinese writing dates back to early Jesuits whose musings were collated by Kircher (1652), and the more unwitting exponents of this line of thinking were lampooned by none less than Voltaire (1773). Over a century later, Terrien de Lacouperie (1888; 1894) expounded the rather bold theory that Chinese writing ultimately derived from Babylonia. His writings enjoyed popularity for some time and were influential in some quarters, but weaknesses of fact and detail were assailed by critics, thus providing ammunition to those eager to dismiss the notion of foreign influences on Chinese culture altogether, most notably his Leiden adversary Gustave Schlegel (1891).¹

Traditionally, students of Sinology unquestioningly inherit the view that the Chinese script was a purely local invention. Of those who go on to become scholars, and whom the theory of the xenic origin of the Chinese script then takes by surprise, the smug reaction of Boltz (2000) is typically illustrative of the poise struck by scholars of his disposition in that he peremptorily dismisses the idea without adducing a single valid argument for his contention that the Chinese script was invented *ex nihilo*, let alone that its earliest users spoke a

¹ The Dutch society *Ex Oriente Lux* was founded in Leiden in 1933, thirty years after Schlegel's death, and must not be confused with the Oriental Society of the Netherlands or *Oosters Genootschap in Nederland*, founded in Leiden in 1920.

Sinitic language. Today, whereas numerous subsidiary claims made by Terrien de Lacouperie can be disregarded, his central idea of an ultimate foreign inspiration for the writing system which arose in the Yellow River basin makes geographical and chronological sense and provides a plausible explanation for the advent of writing in the region that today has become China.

The oracular inscriptions of the Shāng period, dating from the 13th to 11th century BC, are believed to have arisen in the shamanist context of augury and were written on bovine shoulder blades and the plastrons of tortoises, but also on other types of bones. These Shāng glyphs served as models when writing was adopted and elaborated by the Zhōu, who originated further west in the Wèi and Fén river drainages and by whom the Shāng were subjugated. Shāng glyphs therefore represent the precursors of the flamboyant and more pictorial script used in the bronzes of the Western Zhōu (1045-771 BC), where the shapes of the ideograms could be carefully fashioned in the malleable clay of the moulds.

These early writing systems of the Yellow River drainage are therefore of great antiquity. However, when viewed against the long history of scripts, the writing systems which arose on the eastern fringe of Eurasia are actually of relatively young date in comparison with the scripts of the Near East, which arose in the 4th millennium BC. Through the Elamite trade network, the idea of writing spread eastward, with the Proto-Elamite pictographic script inspiring the Indus script, which came into use in the Early Harappan Kot Diji period, dated to ca. 2800-2600 BC, and which remained in use well into the early 2nd millennium BC. During this period, specimens of Elamite writing circulated throughout the Iranian plateau and into Central Asia.

Edwin George Pulleyblank (1996, 7) therefore spoke more of “stimulus diffusion” involving the eastward spread of the “germ of an idea of writing” from the Near East in tandem with and via the same route as the dissemination of Bronze Age technologies. Rather than merely drawing inspiration from earlier Western writing systems, I argued that actual material resemblance in the shapes of glyphs, geographical proximity and immediate chronological anteriority suggest that Proto-Elamite pictographic script and, more immediately, the logosyllabic Indus writing system were the antecedents to the glyphs of the Shāng period and may have served as its models, perhaps via now lost intermediaries. I illustrated the structural similarities of Shāng glyphs with the earlier glyphs making up older writing systems such as the Sumerian pictographic script, dating from the late 4th millennium BC, Proto-Elamite pictographic script in West and Central Asia in the early 3rd millennium BC, and, most particularly, Linear Elamite *Strichschrift* from late 3rd millennium BC (van Driem 2001, 355-8).

Moreover, even in later periods of history, the stunning material resemblance of Western Zhōu ideograms with contemporaneous Late Bactrian glyphs is no coincidence. Once an early Sinitic population, possibly identifiable with the Western Zhōu, had adopted the writing system of the Shāng and then refined this script to represent their own language, the subsequent robust and enduring spread of Sinitic was attributed by Pulleyblank (1983, 413-16) to this monopoly on writing in East Asia that had been acquired by this particular early language community.

4 Creole and Creoloid

What we now call Middle Chinese, and what Bernard Karlgren called “Ancient Chinese”, was first reconstructed by Karlgren (1915; 1920, 1922; 1929). Edwin George Pulleyblank (1970; 1971; 1984; 1991) provided a more refined reconstruction of Middle and Early Middle Chinese, and William Baxter (1992) assumed a reconstruction of Middle Chinese in his Old Chinese reconstruction. Afterwards, Karlgren (1923; 1933; 1957) set himself to the reconstruction of what he termed “Archaic Chinese”, or what we now call Old Chinese.²

On a principled level, Coblin and Norman (1995) and Coblin (1995) raised fundamental epistemological questions concerning the very nature of the language reconstructible by the means employed by scholars of Old Chinese. In this respect, the updated reconstruction of Old Chinese presented by Baxter and Sagart (2014) has likewise been criticised from the epistemological point of view by Harbsmeier (2016), but also for errors of factual detail (Ho 2016). Other noteworthy reviews include List et al. (2017) and Hill (2017).

Over time, the various models of reconstructed Old Chinese have exhibited a convergent tendency, and today the reconstructed language presently looks much more like just another Trans-Himalayan language, although with far fewer morphological processes reconstructed for Sinitic grammar than those observed in the languages of other Trans-Himalayan subgroups such as rGyalrongic, Kiranti, Nungish, Qiāngic, Kachinic, Brahmaputran, Mizo-Kuki-Chin, Dhimalish, Gongduk, Black Mountain Mönpa and Magaric. Similar to morphological processes found in other Trans-Himalayan languages, Middle Chinese verbs exhibited morphological alternations in their stem finals of the type /-k ~ -ŋ/, /-t ~ -n/ and /-p ~ -m/, and this ancient mor-

² Major contributions to our understanding of Old Chinese phonology were provided by Sergej Evgen’evič Jaxontov (1959; 1965), Edwin George Pulleyblank (1962; 1963, 1973a; 1973b), Lǐ Fāngguì (1971; 1974; 1976; 1983), Axel Schüßler (1987), Sergej Anatol’evič Starostin (1989), William Baxter (1992; 1995) and Sagart (1999).

phophonology is preserved in the form of polyphonic readings of Chinese characters in the 8th century *Tángyùn* and in the *Guǎngyùn*, a Sòng dynasty version of the *Qièyùn* compiled in the late 10th and early 11th century. These polyphonic readings were described by Maurice Courant (1903), who recorded their modern Mandarin reflexes. Benedict claimed that

we are justified in assuming that alternations of this type were the result of assimilation to verbal suffixes which had later been dropped (note the parallelism with verb paradigms in Bahing and many other Tibeto-Burman languages). (1972, 156-7)

The Old Chinese alternations exhibited in the two different readings of ideograms in sets identified by Courant (1903) and later adduced by Benedict (1972, 156) are precisely the type of regular morphophonological alternation manifested by the various classes of verb stem in Kiranti languages such as Limbu and Dumi (van Driem 1987, 71-4; 1993, 91-118). The morphological alternations of such Old Chinese doublets are evidently cognate with the Kiranti phenomenon of regularly alternating verb stems conditioned morphophonologically by a following suffix. Ernst Pulgram, who regarded linguistic palaeontology to be an epistemologically “altogether improper” endeavour, offered students of historical linguistics the following dose of realism with regard to the reconstruction of proto-languages:

if one were to reconstruct the proto-language of the modern Romanic languages, ignoring for the sake of the experiment that it is available in the form of ancient Latin of one kind or another, one could neither reconstruct the entire Latin vocabulary as we know it to have existed (a number of Latin words are not continued in any Romanic dialect), nor could one, from the evidence of the living Romanic dialects, reconstruct a language of more than three cases, or guess the existence of deponent verbs, or discover that at least one kind of Latin, the Classical Latin of metric poetry and possibly prose, had significant vocalic quantity, and so forth. Indeed the shape of every reconstructed form is entirely dependent on the type and amount of evidence available: that is, a Proto-Indo-European form reconstructed from Sanskrit and Hittite will be different from what it would be if the records came from Slavic and Germanic. (1961, 19)

In the Trans-Himalayan language family, it is quite conceivable therefore that Old Chinese had suffixes akin to the Proto-Kiranti verbal endings *<-u>, *<-ε> or *<-i> and verb forms analogous to, say, Limbu *tak* ‘it will coagulate’ vs *taktε* ‘it has coagulated’, or *hiptu* ‘he struck him’ vs *ahip* ‘he will strike us’, or *im* ‘he will sleep’, *ipse* ‘he has

fallen asleep'. Since the Chinese writing system was apparently originally used as a logographic script, in which each character represented a word, the flexional processes operative in the language may not have been represented. It would not have been an obvious or necessary choice to those who utilised an ideogrammatic or logographic system of writing explicitly to represent desinences or stem alternations. Even modern alphabetical scripts like Arabic and Hebrew often do not specify grammatical information of this kind. An ideogrammatic script such as that used by the Western Zhōu might have been used to represent derivational, lexical distinctions like 'set' vs 'sit', but not to represent flexional distinctions like 'sit' vs 'sits' vs 'sat'.

Just such a type of imperfect graphic distinction may be what is reflected by the Middle Chinese polyphonic readings preserved in the *Tángyùn* and *Guǎngyùn* as described by Maurice Courant (1903). Such doublets generally show no semantic differentiation, and, when different meanings are recorded, these appear to represent different senses of a single lexical meaning. These doublets characteristically involve alternation between a stem with a plosive final and a stem ending in the corresponding homorganic nasal, i.e. /-k ~ -ŋ/, /-t ~ -n/ and /-p ~ -m/. This pattern corresponds to a prevalent type of Kiranti verb stem alternation between an ante-vocalic and an ante-consonantal form, i.e. /-ks ~ -ŋ/, /-ts ~ -n/ and /-ps ~ -m/.

Such old polyphonic readings of certain characters, which may reflect the vestiges of ancient morphological processes, have not been systematically incorporated into the newest reconstructions of Old Chinese. Similarly, the Old Chinese morphological phenomena that may have been cognate to Kiranti verb stem alternations involving final pairs such as /-kt ~ -k/, /-ŋs ~ -ŋ/, /-pt ~ -t/, etc., may have been lost without leaving any trace in either the writing system or in the tradition of polyphonic readings. The historical developments of Chinese phonology would have led to the loss of flexional suffixes and also have eradicated any trace of the second element in the final clusters of ante-vocalic forms of the verb stems.

Not only do the Chinese doublets correspond to the most prevalent pattern of verb stem alternation in Kiranti languages, a number of the doublets adduced by Courant have obvious Limbu cognates, such as 脅 Middle Chinese *hhyap* [xié] ~ *hhyám* [xiàn] "contraindre, mettre obstacle" (Courant 1903, 70), Old Chinese *q^h<r>ep ~ *q^h<r>em "sides of the body, throng, constrain" vs Phedäppe Limbu <sɔps ~ sɔm> "make thin by pressing together on both sides, deflate, e.g. a football; constrain by pressing together at the sides", 壓 Middle Chinese *hyap* [yè] ~ *hyám* [yàn] "réprimer" (Courant 1903, 70), Old Chinese *ʔep ~ *ʔem "grasp" vs Phedäppe Limbu <ips ~ im> and Pāñthare Limbu <eps ~ e:m> "press (e.g. oil)". With Baxter (1992) and Courant (1903) in hand, Tej Mān Āngdembe and I were in the process of uncovering numerous cognates of this nature between

Old Chinese and Limbu when sudden illness cut short Āngdembe's sojourn in Leiden before his subsequent death, years later in eastern Nepal. This matter will hopefully be pursued one day with, and also by, speakers of the conservative Phedāppe variety of Limbu.

Lepsius' view of the Chinese writing system, whereby an ideogram may have represented various inflected forms of a single word, and not just a morphologically inert root or stem, later inspired Bernhard Karlgren not only to undertake the reconstruction of Old Chinese in accordance with the principles of the comparative method but also to conceive of Old Chinese as a "langue flexionelle" (1920). The total picture which emerges is of a language which lost its morphology in a cataclysmic event, at least on the sometimes grindingly slow time scale of language change. Many scholars have consequently proposed that Sinitic arose either as a full-fledged creole or as a Trans-Himalayan *lingua franca* when an ancient pre-Sinitic population migrated to the North China plain, perhaps at the dawn of the Zhōu period.³ The decay of Old Chinese affixational morphology, as described by Pulleyblank (2000), was a natural consequence of this process of creolisation on the North China plain.

New genetic data (Zhao et al. 2011; 2014; 2015; Chen et al. 2019) have lent support to the old hypothesis that Sinitic acquired creoloid characteristics *sensu* Platt (1997) when the language came to be used as a *lingua franca* between ethnolinguistically divergent populations after an ancient Trans-Himalayan language community migrated to settle the area of the Yellow River basin. As I argue in detail in a forthcoming article, the earliest Sinitic or Old Chinese arose when this Trans-Himalayan *lingua franca* was adopted by the Yenisseian and Altaic language communities whom the Proto-Sinitic speakers encountered and assimilated.

3 Poppe 1965; Benedict 1972; Hashimoto 1976a; 1976b; 1980; 1986; Ballard 1977; 1979; Norman 1982; Comrie 2008; DeLancey 2011.

Contrary to what I reported previously (*pace* van Driem 2017), DeLancey did not intend to suggest that Sinitic arose when a Trans-Himalayan *lingua franca* was adopted by an indigenous Altaic population, as some others have done. Rather, DeLancey clarifies that his intent was to propose "that the *lingua franca* of the early dynasties – certainly Xià, probably Shāng – was a Southeast Asian type creole, probably mostly based on Hmong-Mien, and that Sinitic was born of the imposition of an invasive Tibeto-Burman language – probably that of the Zhōu conquerors – on that substrate. Any Altaic influence has to come much later" (Scott DeLancey, email of 15 September 2017).

5 Lexicostatistics Disguised as ‘Phylogenetics’

Relexification and creologogenesis are known to pose a fundamental problem to lexicostatistics (Wittmann 1973; 1994), as was even conceded by the zealous lexicostatistician Dyen, who infamously claimed that the application of historical linguistics by the comparative method to Austronesian languages was “not feasible” (Dyen et al. 1992, 3). The historically new English-based creoles Tok Pisin and Sranan Tongo are already less than 70% English (Wurm, Mühlhäusler 1985; van den Berg 2013). More drastically, Michif is genetically Plains Cree but lexicostatistically a Romance language (Rhodes 1977; Bakker 1992), and Copper Island Aleut is genetically Slavic but lexicostatistically Aleut (Menovščikov 1968; 1969; Golovko, Vakhtin 1990; Golovko 1994). Linguistic evidence has suggested that Brahmaputran languages of the Trans-Himalayan language family are likewise likely to have undergone a process of creolisation (DeLancey 2014). The linguistic hypotheses that both Sinitic as well as Brahmaputran arose through creolisation therefore highlight the irrelevance of two recent lexicostatistical outcomes.

The two lexicostatistical exercises in question yielded two utterly different trees. Zhang et al. (2019) generated a bifurcate “Sino-Tibetan” tree, whereas Sagart et al. (2019) came up with a Trans-Himalayan tree, showing a first purported branching between a Sino-Brahmaputran branch and the rest. Although the latter result is at variance with the Sino-Tibetan model, Sagart et al. (2019) save face by labelling the resultant Trans-Himalayan tree “Sino-Tibetan” nonetheless. Crucially, neither paper adduces any historical linguistic evidence for the branches of their trees. Instead, both studies employ special pleading to create the impression that the outcomes of their calculations constitute “phylogenetic” evidence, thereby obscuring the nature of their methodology by confusing tools with methodology.

Bayesian models are mathematical tools which happen to be termed “phylogenetic” because they generate tree diagrams for any set of data, even if no tree structure obtains between these data. The methodology utilised by Zhang et al. (2019) and Sagart et al. (2019) is lexicostatistics on the basis of precious little lexical material. Lexicostatistics is not statistics and lacks statistical validity. Merely unleashing sophisticated mathematics onto an exceedingly limited and highly selective dataset fails to transform lexicostatistics into an altogether different methodology that could merit another label such as “phylolinguistics” (van Driem 2020). Neither set of authors has addressed the sea of methodological literature in historical linguis-

tics demonstrating the invalidity of lexicostatistics,⁴ and the caveats and shortcomings hold *a fortiori* when this approach is applied to languages which may have arisen through creolisation.

Embarrassingly, Zhang et al. (2019) misunderstand lexicostatistics to be “an extension of the comparative method” and echo Russell Gray’s false claim regarding the methodological deficiencies of the approach by asserting that in some unexplained way Bayesian maths “circumvent these limitations”. Zhang et al. (2019) likewise misunderstand and consequently misrepresent the Fallen Leaves model of the Trans-Himalayan language family as positing “that there are no clearly discernible internal relationships among the primary subgroups of the Sino-Tibetan language family”. In fact, the

Fallen Leaves model is no definitive phylogeny by definition. Though agnostic about higher-order subgrouping, the model does not deny that there is a family tree whose structure must be ascertained by historical linguistic methods. (van Driem 2015, 144)

Rather, lexicostatistics has always just afforded an easy way out (Dy-en 1965; 1973a; 1973b; 1973c) when confronted with the challenge of identifying the shared innovations, nested innovations and sound laws that define branches in linguistic phylogeny. Research tasks of the historical linguist that necessitate knowledge of the languages in question, such as distinguishing inherited morphological systems from later accretions to such systems, are also avoided by lexicostatisticians. By contrast, real progress can be made by rendering explicit the multifarious types of historical linguistic judgements, insights and techniques, distinguishing divergent degrees of cognacy and taking into account other linguistic complexities that need to be understood and built into any mathematical model in order to have a computer be able to do what only an historical linguist can do (e.g. List 2019; Fellner et al. forthcoming).

Finally, Zhang et al. (2019) and Sagart et al. (2019) confuse processes that transpired at different time depths in prehistory and advance simplistic interpretations of the archaeological record. Their anachronistic interpretation of archaeology is the sole reason provided by Zhang et al. (2019) for positing an *Urheimat* in the Yellow River basin, for in their supplement they admit that even their geographically biased lexicostatistical sampling actually predicts an *Urheimat* in southwestern China, which in each of their three maps is depicted as comprising the Indian state of Arunachal Pradesh. The nationalist narrative in China encourages anachronistic interpreta-

⁴ Sauvageot 1951; Hoijer 1956; Bergsland 1958; Cowan 1959; Fodor 1961; Bergsland, Vogt 1962; Chrétien 1962; Guy 1994; Pereltsvaig, Lewis 2015.

tions of archaeology, such as Zhang et al. (2019), whereas the meagre sampling of vocabulary selected by Sagart et al. (2019) just so happens inexorably to generate the outcome that Sagart, enthused by his recent discovery of Burlings' work on Garo (2004), told me in the Spring of 2004 at the Couvent des Récollets that he then suspected that he would find one day.

The now obsolete Sino-Tibetan model consisted of two branches, one of which was 'Sino-Daic' and the other a pinioned 'Tibeto-Burman' subfamily, neither of which was a valid taxon. In fact, the historical reason for adherents of the Indo-Chinese or 'Sino-Tibetan' paradigm to group Chinese and Thai together in the same group - at variance with the Tibeto-Burman or Trans-Himalayan model presented by von Klaproth (1823) - is firmly rooted in the racist language typology of the 19th century. Sino-Tibetan has thus always represented a false family tree. When the Kradai languages were removed from 'Sino-Tibetan', the reduced tree still represented a false phylogeny by sleight of relegating all non-Sinitic languages to a single subgroup, which the Sino-Tibetanists misleadingly labelled 'Tibeto-Burman'.

This truncated taxon, with Sinitic removed, was not at all the original Tibeto-Burman language family that had been correctly identified by von Klaproth in 1823. Tellingly, no linguist has yet adduced any historical linguistic evidence that could unite this supposedly subordinate taxon into a single branch within the family tree. The Indo-Chinese or Sino-Tibetan model was assailed by scholars who proposed alternative language family tree models under names such as Sino-Burman (Ramstedt 1957), Sino-Himalayan (Bodman 1973; 1980) and Sino-Kiranti (Starostin 1994). Historical linguistics as practised by 'Sino-Tibetanists' remains methodologically in such a sorry state, as shown by van Driem (2018) and Fellner and Hill (2019a; 2019b), that proponents of the model have, for want of historical linguistic evidence, resorted to lexicostatistics in a last-ditch attempt to salvage their family tree.

Bibliography

- Bakker, P. (i.e. Pieter Jan Bakker). (1992). *'A Language of Our Own', the Genesis of Michif, the Mixed Cree-French Language of the Canadian Métis* [PhD dissertation]. Amsterdam: Universiteit van Amsterdam.
- Ballard, W.L. (1977). "On 'Why' in Chinese Historical Linguistics, or Are Invariants Mere Figments of Linguists' Imaginations?". Paper presented in May 1977 at Georgia State University, Atlanta.
- Ballard, W.L. (1979). "Chinese – A Bastard at the Sino-Tibetan Family Reunion". Paper presented at the 12th International Conference on Sino-Tibetan Languages and Linguistics, Paris.
- Baxter, W.H. (1992). *A Handbook of Old Chinese Phonology*. Berlin: Mouton de Gruyter.
- Baxter, W.H. (1995). "Ongoing Research: Old Chinese Version 1.1". Paper presented at the Old Chinese Seminar held at Leiden University on July 14th and 17th, 1995.
- Baxter, W.H.; Sagart, L. (2014). *Old Chinese: A New Reconstruction*. Oxford: Oxford University Press.
- Bayer, T.S. (1730). *Museum Sinicum, In quo Sinicae Linguae et Literaturae ratio explicatur*. 2 vols. Petropoli [St. Petersburg]: Typographia Academiae Imperatoriae.
- Beames, J. (1868). *Outlines of Indian Philology*. London: Trübner and Company.
- Benedict, P.K. (1972). *Sino-Tibetan: A Conspectus*. Cambridge: Cambridge University Press.
- van den Berg, M.C. (2013). "Ningretongo and Bakratongo: Race/Ethnicity and Language Variation in 18th Century Suriname". *Revue Belge de Philologie et d'Histoire*, 91(3), 735-61.
- Bergsland, K. (1958). "Is Lexicostatistic Dating Valid?". *Proceedings of the Thirty-Second International Congress of Americanists, Copenhagen 1956*. Copenhagen: Munksgaard, 654-75.
- Bergsland, K.; Vogt, H. (1962). "On the Validity of Glottochronology". *Current Anthropology*, 3, 115-53.
- Blaeu, J. (1655). *Theatrum Orbis Terrarum sive Novus Atlas. Pars Sexta. Novus Atlas Sinensis a Martino Martinio S.I. descriptus*. Amstelodami [Amsterdam]: Joan Blaeu.
- Bodman, N.C. (1973). "Some Chinese Reflexes of Sino-Tibetan s- Clusters". *Journal of Chinese Linguistics*, 1(3), 383-96.
- Bodman, N.C. (1980). "Proto-Chinese and Sino-Tibetan: Data Towards Establishing the Nature of the Relationship". van Coetsem, F.; Waugh, L.R. (eds), *Contributions to Historical Linguistics: Issues and Materials*. Leiden: E.J. Brill, 34-199.
- Boltz, W.G. (2000). "The Invention of Writing in China". *Oriens Extremus*, 42, 1-17.
- Burling, R. (2004). *The Language of the Modhupur Mandi (Garo)*, vol. 1. Delhi: Bibliophile Asia.
- Byrne, J. (1885). *General Principles of the Structure of Language*. 2 vols. London: Trübner and Company.
- Chang Kwang-chih (1983). "Sandai Archaeology and the Formation of States in Ancient China: Processual Aspects of the Origins of Chinese Civilization". Keightley, D.N. (ed.), *The Origins of Chinese Civilization*. Berkeley: University of California Press, 495-522.

- Chen, P.; Wu, J.; Luo, L.; Gao, H.; Wang, M.; Zou, X.; Li, X.; Chen, G.; Luo, H.; Yu, L.; Han, Y.; Jia, F.; He, G. (2019). "Population Genetic Analysis of Modern and Ancient DNA Variations Yields New Insights into the Formation, Genetic Structure and Phylogenetic Relationship of Northern Hà Chinese". *Frontiers in Genetics*, 10, art. no. 1045. <https://doi.org/10.3389/fgene.2019.01045>.
- Chrétien, C.D. (1962). "The Mathematical Models of Glottochronology". *Language*, 38, 11-37.
- Coblin, W.S. (1995). Review of *A Handbook of Old Chinese Phonology*, by Baxter, W.H. *Monumenta Serica: Journal of Oriental Studies*, 43, 509-19.
- Coblin, W.S.; Norman, J.L. (1995). "A New Approach to Chinese Historical Linguistics". *Journal of the American Oriental Society*, 115(4), 576-84.
- Comrie, B. (2008). "The Areal Typology of Chinese: Between North and Southeast Asia". Djamouri, R.; Meisterernst, B.; Sybesma, R. (eds), *Chinese Linguistics in Leipzig: Chinese Linguistics in Europe 2*. Paris: Centre de Recherches Linguistiques sur l'Asie Orientale, 1-21.
- de Condillac, É.B. (1746). *Essai sur l'origine des connaissances humaines: Ouvrage où l'on réduit à un seul principe tout ce qui concerne l'Entendement Humain*. 2 vols. Amsterdam: Pierre Mortier.
- Courant, M. (1903). "Note sur l'existence, pour certains caractères chinois, de deux lectures, distinguées par les finales *k-n*, *t-n*, *p-m*". *Mémoires de la Société de Linguistique de Paris*, 12, 67-72.
- Cowan, H.K.J. (1959). "A Note on Statistical Methods in Comparative Linguistics". *Lingua*, 8(3), 233-46.
- DeLancey, S. (2011). "On the Origins of Sinitic". Jing-Schmidt, Z. (ed.), *Proceedings of the 23rd North American Conference on Chinese Linguistics*, vol. 1. Eugene: University of Oregon, 51-64.
- DeLancey, S. (2014). "Creolization in the Divergence of Tibeto-Burman". Owen-Smith, T.; Hill, N. (eds), *Trans-Himalayan Linguistics: Historical and Descriptive Linguistics of the Tibeto-Burman Area*. Berlin: Mouton, 41-70.
- van Driem, G. (1987). *A Grammar of Limbu*. West Berlin: Mouton de Gruyter.
- van Driem, G. (1993). *A Grammar of Dumi*. Berlin: Mouton de Gruyter.
- van Driem, G. (2001). *Languages of the Himalayas: An Ethnolinguistic Handbook of the Greater Himalayan Region, containing an Introduction to the Symbiotic Theory of Language*. 2 vols. Leiden: Brill.
- van Driem, G. (2014). "Trans-Himalayan". Hill, N.; Owen-Smith, T. (eds), *Trans-Himalayan Linguistics*. Berlin: Mouton de Gruyter, 11-40.
- van Driem, G. (2015). "Tibeto-Burman". Wang, W.S.-Y.; Chaofen, S. (eds), *Oxford Handbook of Chinese Linguistics*. Oxford: Oxford University Press, 135-48.
- van Driem, G. (2017). "The Morphosyntax of Himalayan Languages". *Oxford Research Encyclopaedia of Linguistics*. New York: Oxford University Press.
- van Driem, G. (2018). "Linguistic History and Historical Linguistics". *Linguistics of the Tibeto-Burman Area*, 41(1), 106-27.
- van Driem, G. (2020). 'Seres, Tocharians and phylolinguistics', pp. 143-8 in Harald Bichlmeier, Ondřej Šefčík and Roman Sukač, eds., *Etymologus: Čas pro sladkou tečku*. Hamburg: Baar Verlag.
- Dyen, I. (1965). "Formosan evidence for some new Proto-Austronesian phonemes". *Lingua, International Review of General Linguistics*, 14(1), 285-305.
- Dyen, I. (ed.) (1973a). *Lexicostatistics in Genetic Linguistics: Proceedings of the Yale Conference, Yale University, April 3-4, 1971*. The Hague: Mouton.

- Dyen, I. (1973b). "The Validity of the Mathematical Model of Glottochronology". Dyen 1973a, 11-29.
- Dyen, I. (1973c). "The Impact of Lexicostatistics on Comparative Linguistics". Dyen 1973a, 750-84.
- Dyen, I.; Kruskal, J.B.; Black, P. (1992). "An Indoeuropean Classification: A Lexicostatistical Experiment". *Transactions of the American Philosophical Society*, 82(5), i-132.
- Fellner, H.A.; Hill, N.W. (2019a). "Word Families, Allofams and the Comparative Method". *Cahiers de Linguistique Asie Orientale*, 48, 91-124. <https://doi.org/10.1163/19606028-04802001>.
- Fellner, H.A.; Hill, N.W. (2019b). "The Differing Status of Reconstruction in Trans-himalayan and Indo-European". *Cahiers de Linguistique Asie Orientale*, 48, 159-72. <https://doi.org/10.1163/19606028-04802006>.
- Fellner, H.A.; Hill, N.W.; List, J.-M.; Meelen, M. (forthcoming). "What Are Cognates?".
- Fodor, I. (1961). "The Validity of Glottochronology on the Basis of the Slavonic Languages". *Studia Slavica*, 7, 295-346.
- de Gobineau, J.A. [1854] (1855). *Essai sur l'inégalité des races humaines*. 4 vols. Paris: Firmin-Didot et Compagnie.
- Golovko, E.V.; Vakhtin, N.B. (1990). "Aleut in Contact: the CIA Enigma". *Acta Linguistica Hafniensia*, 22, 97-125.
- Golovko, E. (1994). "Copper Island Aleut". Bakker, P.; Mous, M. (eds), *Mixed Languages, 15 Case Studies in Language Intertwining (Studies in Language and Language Use 13)*. Amsterdam: Instituut voor Fundamenteel Onderzoek naar Taal en Taalgebruik, 113-21.
- Guy, J.B.M. (1994). "On Lexicostatistics and Glottochronology". *Dhumbadjil*, 2(1), 55-87.
- Harbsmeier, C. (2016). "Irrefutable Conjectures". A review of *Old Chinese. A New Reconstruction*, by Baxter, W.H. and Sagart, L. *Monumenta Serica*, 64(2), 445-504.
- Hashimoto Mantarō (1976a). "Language Diffusion on the Asian Continent". *Computational Analyses of Asian and African Languages*, 3: 49-64.
- Hashimoto Mantarō (1976b). "The agrarian and the pastoral diffusion of language". *Genetic Relationship, Diffusion and Typological Similarities of East and Southeast Asian Languages*. Tokyo: Japan Society for the Promotion of Sciences, 1-14.
- Hashimoto Mantarō (1980). "Typogeography of Phonotactics and Suprasegmentals in the Languages of the East Asian Continent". *Computational Analyses of Asian and African Languages*, 13, 153-64.
- Hashimoto Mantarō (1986). "The Altaicization of Northern Chinese". McCoy, J.; Light, T. (eds), *Contributions to Sino-Tibetan Studies*. Leiden: E. J. Brill, 76-97.
- Hill, N.W. (2017). Review of *Old Chinese: A New Reconstruction*, by Baxter, W.H. and Sagart, L. *Archiv orientální*, 85, 135-40.
- Ho Dah-an. (2016). "Such Errors Could Have Been Avoided". Review of *Old Chinese: A New Reconstruction*, by Baxter, W.H. and Sagart, L. *Journal of Chinese Linguistics*, 44(1), 175-230.
- Hojjer, H. (1956). "The Chronology of the Athapaskan Languages". *International Journal of American Linguistics*, 22(4), 219-32.
- van Hoorn, P. (1675). *Eenige Voorname eygenfchappen Van de ware Deugdt, Voorfichtigheydt, Wyftheydt en Volmaecktheydt. Getrocken uyt den Chi-nefchen Confucius en op Rijm gebracht*. Batavia: Johannes van den Eede.

- von Humboldt, W. (1822). "Ueber das vergleichende Sprachstudium in Beziehung auf die verschiedenen Epochen der Sprachentwicklung". *Abhandlungen der Königlich Preussischen Akademie der Wissenschaften, historisch-philosophische Klasse*, aus den Jahren 1820 und 1821, 239-60.
- von Humboldt, W. (1825). "Über das Entstehen der grammatischen Formen und ihren Einfluß auf die Ideenentwicklung". *Abhandlungen der Königlich Preussischen Akademie der Wissenschaften, historisch-philosophische Klasse*, aus den Jahren 1822 und 1823, 401-30.
- von Humboldt, W. (1836) [posthumous]. *Über die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluß auf die geistige Entwicklung des Menschengeschlechts*. Berlin: Königliche Akademie der Wissenschaften.
- Jaxontov, S.E. (1959). "Fonetika kitajskogo jazyka I tysjačelija do n.è. (sistema finalej)". *Problemy Vostokovedenija*, 2, 137-47.
- Jaxontov, S.E. (1965). *Drevnekitajskij jazyk*. Moscow: Izdatel'stvo 'Nauka'.
- Karlgren, Bernard. (1915). *Études sur la phonologie chinoise I, thèse pour le doctorat présentée à la Faculté des Lettres à Uppsala et publiquement soutenue (en allemand)*. Leyde et Stockholm: sine nomine.
- Karlgren, B. (1920). "Le proto-chinois, langue flexionelle". *Journal Asiatique*, s. 11, t. 15, 205-32.
- Karlgren, B. (1922). "The Reconstruction of Ancient Chinese". *T'oung Pao*, 21, 1-42.
- Karlgren, B. (1923). *Analytic Dictionary of Chinese and Sino-Japanese*. Paris: Geuthner.
- Karlgren, B. (1929). "The Authenticity of Ancient Chinese Texts". *Bulletin of the Museum of Far Eastern Antiquities*, 1, 165-83.
- Karlgren, B. (1933). "Word Families in Chinese". *Bulletin of the Museum of Far Eastern Antiquities*, 5, 9-120.
- Karlgren, B. (1957). "Grammata Serica Recensa". *Bulletin of the Museum of Far Eastern Antiquities*, 29, 1-332.
- Kircher, A. (1652). *Œdipvs Ægyptiacvs hoc est Vniuersalis Hieroglyphicæ Veterum Doctrinæ temporum iniuria abolitæ instauratio*. Romæ: Ex Typographia Vitalis Mafcardi.
- Kircher, A. (1667). *China Monumentis, qua Sacris quâ Profanis, nec non variis Naturæ & Artis Spectaculis, Aliarumque Rerum Memorabilium Argumentis Illustrata, auspiciis Leopoldi Primi* [frontispiece title: *China Illustrata*]. Amsterdam: Johannes Janssonius van Waesberge [also published in a smaller format that same year in Amsterdam and Antwerp by Jacobus van Meurs].
- von Klaproth, J. (1823). *Asia Polyglotta* [the first volume includes the separate instalment « Leben des Budd'a nach mongolischen Nachrichten » on pp. 121-44 following p. 384, and the rarer second volume contains an atlas and diagrams]. Paris: J.M. Eberhart.
- Lepsius, C.R. (1861). "Über die Umschrift und Lautverhältnisse einiger hinterasiatischer Sprachen, namentlich der Chinesischen und der Tibetischen". *Abhandlungen der Königlich Preussischen Akademie der Wissenschaften zu Berlin*, aus dem Jahre 1860, 449-96.
- Li Fang Kuei (i.e. Lǐ Fāngguì) (1971). "Shànggǔ yīn yánjiū". *Tsing Hua Journal of Chinese Studies*, 9, 1-61.
- Li Fang Kuei (i.e. Lǐ Fāngguì) (1974). "Studies on Archaic Chinese" (translated by G.L. Mattos). *Monumenta Serica*, 31, 1974-75, 219-87.
- Li Fang Kuei (i.e. Lǐ Fāngguì). (1976). "Jǐge shànggǔ shēngmǔ wèntí". *Zōngtǒng Jiǎng Gōng Shìshì Zhōunián Lùnwén Jí*. Taipei: Academia Sinica, 1143-50.

- Li Fang Kuei (i.e. Lǐ Fāngguì). (1983). "Archaic Chinese". Keightley, D.N. (ed.), *The Origins of Chinese Civilization*. Berkeley: University of California Press, 393-408.
- List, J.-M.; Pathmanathan, J.S.; Hill, N.W.; Baptiste, E.; Lopez, P. (2017). "Vowel Purity and Rhyme Evidence in Old Chinese Reconstruction". *Lingua Sinica*, 3(5), 1-17. <https://doi.org/10.1186/s40655-017-0021-8>.
- List, J.-M. (2019). "Beyond Edit Distances: Comparing Linguistic Reconstruction Systems". *Theoretical Linguistics*, 45(3-4), 247-58.
- Locke, J. (1690). *An Essay concerning Humane Understanding, in Four Books*. London: Tho. Basset.
- Malte-Brun, C. [posthumous] (1832). *Précis de la géographie universelle, ou description de toutes les parties du monde sur un plan nouveau, d'après les grandes divisions naturelles du globe: Nouvelle édition, revue, corrigée, mise dans un nouvel ordre et augmentée de toutes les nouvelles découvertes par J.J.N. Huot*. 6 vols. Bruxelles: Th. Lejeune.
- de Maupertuis, P.L.M. [1748] (1756). "Réflexions philosophiques sur l'origine des langues et la signification des mots". *Œuvres*, vol. 1. Lyon: Jean-Marie Bruyset, 258-309.
- de Maupertuis, P.L.M. (1756). "Dissertation sur les différents moyens dont les hommes se sont servis pour exprimer leurs idées". *Œuvres*, vol. 3. Lyon: Jean-Marie Bruyset, 435-68.
- Menovščikov, G. A. (1969). "O nekotoryx social'nyx aspektax èvoljucii jazyka". Desnickaja, A.V.; Žirmunskij, V.M.; Kovtun, L.S. (eds), *Voprosy social'noj lingvistiki*. Leningrad: Izdatel'stvo 'Nauka', 110-34
- Müller, F.M. (1871). *Lectures on the Science of Language* (2 volumes). London: Longmans, Green and Company.
- Müller, F.M. (1881). *Selected Essays on Language, Mythology and Religion*. 2 vols. London: Longmans, Green and Company.
- Norman, J. (1982). "Four Notes on Chinese-Altai Linguistic Contacts". *Tsing Hua Journal of Chinese Studies*, 1-2, 243-7.
- Pereltsvaig, A.; Lewis, M. (2015). *The Indo-European Controversy: Facts and Fallacies in Historical Linguistics*. Cambridge: Cambridge University Press.
- Platt, John T. (1977). "The 'Creoloid' as a Special Type of Interlanguage". *Interlanguage Studies Bulletin*, 2(3), 22-38.
- Poppe, N. ('Nicholas Poppe'). (1965). *Introduction to Altaic Linguistics*. Wiesbaden: Otto Harrassowitz.
- Pott, A.F. (1848). "Die wissenschaftliche Gliederung der Sprachwissenschaft: Eine Skizze". *Jahrbuch der freien deutschen Akademie*, 1, 185-90.
- Pott, A.F. (1856). *Die Ungleichheit menschlicher Rassen hauptsächlich vom sprachwissenschaftlichen Standpunkte*. Lemgo und Detmold: Meyer'sche Hofbuchhandlung.
- Pulgram, E. (1961). "The Nature and Use of Proto-Languages". *Lingua*, 10, 18-37.
- Pulleyblank, E.G. (1962). "The consonantal system of Old Chinese". *Asia Major*, 9(1), 58-144; 9(2), 206-65.
- Pulleyblank, E.G. (1963). "The Interpretation of the Vowel Systems of Old Chinese and of Written Burmese". *Asia Major*, 10(2), 220-1.
- Pulleyblank, E.G. (1966). "Chinese and Indo-Europeans". *Journal of the Royal Asiatic Society*, 98(2), 9-39.
- Pulleyblank, E.G. (1970). "Late Middle Chinese". *Asia Major*, 15, 197-239.
- Pulleyblank, E.G. (1971). "Late Middle Chinese". *Asia Major*, 16, 121-68.

- Pulleyblank, E.G. (1973a). "Some Further Evidence Regarding Old Chinese -s and Its Time of Disappearance". *Bulletin of the School of Oriental and African Studies*, 36(2), 368-73.
- Pulleyblank, E.G. (1973b). "Some New Hypotheses Concerning Word Families in Chinese". *Journal of Chinese Linguistics*, 1, 111-25.
- Pulleyblank, E.G. (1983). "The Chinese and Their Neighbors in Prehistoric and Early Historic Times". Keightley, D.N. (ed.), *The Origins of Chinese Civilization*. Berkeley: University of California Press, 411-66.
- Pulleyblank, E.G. (1984). *Middle Chinese: A Study in Historical Phonology*. Vancouver: University of British Columbia Press.
- Pulleyblank, E.G. (1991). *Lexicon of Reconstructed Pronunciation in Early Middle Chinese, Late Middle Chinese and Early Mandarin*. Vancouver: University of British Columbia Press.
- Pulleyblank, E.G. (1996). "Early Contacts Between Indo-Europeans and Chinese". *International Review of Chinese Linguistics*, 1(1), 1-24.
- Pulleyblank, E.G. (2000). "Morphology in Old Chinese". *Journal of Chinese Linguistics*, 28(1), 26-51.
- Ramstedt, G.J. (1957) [posthumous]. *Einführung in die altaische Sprachwissenschaft: Lautlehre*. Helsinki: Suomalais-Ugrilaisen Seura. Suomalais-Ugrilaisen Seuran Toimituksia, Mémoires de la Société Finno-Ougrienne 104 | 1.
- Renan, E. (1858). *De l'origine du langage*. Deuxième édition, revue et considérablement augmentée. Paris: Michel Lévy, Frères, Librairies-Éditeurs.
- Rhodes, R. (1977). "French Cree: A Case of Borrowing". Cowan, W. (ed.), *Actes du Huitième Congrès des Algonquinistes*. Ottawa: Carleton University, 6-25.
- Rocca, A. (1591). *Bibliotheca Apostolica Vaticana*. Romæ: Ex Typographia Apoftolica Vaticana.
- Rocca, A. (1595). *Variarvm Linguarvm Inuentores & Alphabeta ad Studioforum Commoditatem & Vtilitatem excerpta è Bibliotheca Apostolice Vaticane*. Romæ: ex typographia Dominic Basæ.
- Sagart, L. (1999). *The Roots of Old Chinese*. Amsterdam: John Benjamins.
- Sagart, L.; Jacques, G.; Lai, Y.; Ryder, R.J.; Thouzeau, V.; Greenhill, S.J.; List, J.-M. (2019). "Dated Language Phylogenies Shed Light on the Ancestry of Sino-Tibetan". *Proceedings of the National Academy of Sciences*, 116(21), 10317-22. <https://doi.org/10.1073/pnas.1817972116>.
- Sauvageot, A. (1951). "Review of Morris Swadesh 1950 Salish Internal Relationships". *Bulletin de la Société de Linguistique de Paris*, 47(2), 25-8.
- von Schlegel, F. (1808). *Ueber die Sprache und Weisheit der Indier: Ein Beitrag zur Begründung der Alterthumskunde, nebst metrischen Uebersetzungen indischer Gedichte*. Heidelberg: Mohr und Zimmer.
- Schlegel, G. (1891). "China or Elam". *T'oung Pao*, 2(3), 244-6.
- Schüßler, A. (1987). *A Dictionary of Early Zhou Chinese*. Honolulu: University of Hawai'i Press.
- Spizelius, T. [Gottlieb Spitzel] (1660). *De re Litteraria Sinensium Commentarius, in quo Scripturæ pariter ac Philosophiæ Sinicæ Specimina Exhibentur, et cum aliarum Gentium, præsertim Ægyptiorum, Græcorum, et Indorum Reliquorum Literis atque placitis conferuntur*. Lugdunum Batavorum [Leiden]: Petrus Hackius.
- Starostin, S.A. (1989). *Rekonstrukcija drevnekitajskoj fonologičeskoj sistemy*. Moscow: Izdatel'stvo 'Nauka'.
- Starostin, S.A. (1994). "The Reconstruction of Proto-Kiranti". Paper presented at the 27ème Congrès International sur les Langues et la Linguistique Si-

- no-Tibétaines* (Centre International d'Études Pédagogiques, Sèvres, 14 octobre 1994).
- Steinthal, H. (1850). *Die Classification der Sprachen dargestellt als die Entwicklung der "Sprachidee"*. Berlin: Ferdinand Dümmler's Buchhandlung.
- Steinthal, H. (1851). *Der Ursprung der Sprache im Zusammenhange mit der letzten Frage alles Wissens*. Berlin: Ferdinand Dümmler's Verlagsbuchhandlung.
- Steinthal, H. (1860). *Charakteristik der hauptsächlichsten Typen des Sprachbaues*. Berlin: Ferdinand Dümmler's Verlagsbuchhandlung.
- Terrien de Lacouperie, A.É.J.B. (1888). *Les langues de la Chine avant les chinois: Recherches sur les langues des populations aborigènes et immigrantes, l'arrivée des chinois, leur extension progressive dans la Chine propre et les sources de leur civilisation*. Paris: Ernest Leroux.
- Terrien de Lacouperie, A.É.J.B. (1894). *Western Origin of the Early Chinese Civilisation from 2,300 B.C. to 200 A.D. or, Chapters on the Elements derived from the Old Civilisations of West Asia in the Formation of the Ancient Chinese Culture*. London: Asher & Co.
- Teixeira, M. (1982). *Vultos marcantes em Macau*. Macau: Direcção dos Serviços de Educação e Cultura.
- Voltaire [*sine nomine*], alias F.-M. Arouet. (1773). "Article quatrieme – Si les Egyptiens ont peuplé la Chine, & si les Chinois ont mangé des hommes". *Fragments sur l'Inde, sur l'histoire générale et sur la France*. S.l.: s.n., 137-42.
- Webb, J. (1678) [posthumous]. *The Antiquity of China Or an Historical Essay: Endeavouring a Probability that the Language of the Empire of China is the Primitive Language, Spoken Through the Whole Word, Before the Confusion of Babel*. London: Obadiah Blagrave.
- Wiedenhof, J.M. (2015). *A Grammar of Mandarin*. Amsterdam: John Benjamins Publishing Company.
- Wittmann, H.G. (1973). "The Lexicostatistical Classification of the French-based Creole Languages". *Dyen* 1973a, 89-99.
- Wittmann, H.G. (1994). "Relexification et créologenèse". *Actes du xv^e Congrès International des Linguistes, Québec, Université Laval, 9-14 août 1992*. Sainte-Foy: Presses de l'Université Laval, 15(4), 335-8.
- Wurm, S.A.; Mühlhäusler, E. (eds) (1985). *Handbook of Tok Pisin (New Guinea Pidgin)*. Canberra: Pacific Linguistics.
- Zhang, M.; Yan, S.; Pan, W.; Jin, L. (2019). "Phylogenetic Evidence for Sino-Tibetan Origin in Northern China in the Late Neolithic". *Nature*, 569, 112-5. <https://doi.org/10.1038/s41586-019-1153-z>.
- Zhao, Y.-B.; Li, H.-J.; Li, S.-N.; Yu, C.-C.; Gao, S.-Z.; Xu, Z.; Jin, L.; Zhu, H.; Zhou, H. (2011). "Ancient DNA Evidence Supports the Contribution of Di-Qiang People to the Han Chinese Gene Pool". *American Journal of Physical Anthropology*, 144, 258-68. <https://doi.org/10.1002/ajpa.21399>.
- Zhao, Y.-B.; Zhang, Y.; Li, H.-J.; Cui, Y.-Q.; Zhu, H.; Zhou, H. (2014). "Ancient DNA Evidence Reveals that the Y Chromosomal Haplogroup Q1a1 Admixed into the Han Chinese 3,000 Years Ago". *American Journal of Human Biology*, 26, 813-21. <https://doi.org/10.1002/ajhb.22604>.
- Zhao, Y.-B.; Zhang, Y.; Zhang, Q.-C.; Li, H.-J.; Cui, Y.-Q.; Xu, Z.; Jin, L.; Zhou, H.; Zhu, H. (2015). "Ancient DNA Reveals that the Genetic Structure of the Northern Han Chinese Was Shaped Prior to 3,000 Years Ago". *Public Library of Science PLoS One*, 10. <https://doi.org/10.1371/journal.pone.0125676>.

