

HYPOLOGY, TYPOLOGY: THE GABELENTZ PUZZLE

FRANS PLANK

1. VOGUE WORDS

It would be difficult to formulate the research programme of linguistic typology more succinctly than in the following words from Georg von der Gabelentz's *Die Sprachwissenschaft* (1901: 481):

Jede Sprache ist ein System, dessen sämtliche Theile organisch zusammenhängen und zusammenwirken. Man ahnt, keiner dieser Theile dürfte fehlen oder anders sein, ohne dass das Ganze verändert würde. Es scheint aber auch, als wären in der Sprachphysiognomie gewisse Züge entscheidender als andere. Diese Züge gälte es zu ermitteln; und dann müsste untersucht werden, welche andere Eigenthümlichkeiten regelmässig mit ihnen zusammentreffen. Ich denke an Eigenthümlichkeiten des Wort- und des Satzbaues, an die Bevorzugung oder Verwahrlosung gewisser grammatischer Kategorien. Ich kann, ich muss mir aber auch denken, dass alles dies zugleich mit dem Lautwesen irgendwie in Wechselwirkung stehe. Die Induction, die ich hier verlange, dürfte ungeheuer schwierig sein; und wenn und soweit sie gelingen sollte, wird es scharfen philosophischen Nachdenkens bedürfen, um hinter der Gesetzlichkeit die Gesetze, die wirkenden Mächte zu erkennen. Aber welcher Gewinn wäre es auch, wenn wir einer Sprache auf den Kopf zusagen dürften: Du hast das und das Einzelmerkmal, folglich hast du die und die weiteren Eigenschaften und den und den Gesamtcharakter! — wenn wir, wie es kühne Botaniker wohl versucht haben, aus dem Lindenblatte den Lindenbaum construiren könnten. Dürfte man ein ungeborenes Kind taufen, ich würde den Namen *Typologie* wählen. Hier sehe ich der allgemeinen Sprachwissenschaft eine Aufgabe gestellt, an deren Lösung sie sich schon mit ihren heutigen Mitteln wagen darf. Hier würde sie Früchte zeitigen, die jenen der sprachgeschichtlichen Forschung an Reife nicht nachstehen, an Erkenntnisswerthe sie wohl übertreffen sollten. Was man bisher von geistiger Verwandtschaft, von verwandten Zügen stammverschiedener Sprachen geredet hat, das würde hinfort greifbare Gestalt gewinnen, in ziffermässig bestimmten Formeln dargestellt werden; und nun träte das speculative Denken an diese Formeln heran, um das Erfahrungsmässige als ein Nothwendiges zu begreifen.

This is something many working typologists today will readily subscribe to, and actually quoting this passage or parts of it has become the vogue in textbooks (e.g. Haarmann 1976: 15f., Ramat 1983: 6), position papers (e.g. Reichling 1948: 13, Coseriu 1980: 162, 1983: 272, Plank 1981: 35), editorial introductions to collections (e.g. Seiler 1978: 12, Plank 1986: 1, Hammond/Moravcsik/Wirth 1988: 5), and in explorations of the ancestry of structural linguistics à la Saussure (e.g. Coseriu 1967: 95f., Baumann 1976: 199ff.).¹ Who consults *Die Sprachwissenschaft* as reprinted in 1969, 1972, and 1984 (such is now the demand!), encounters this passage already in the added preliminary matter, a repeat of Coseriu (1967).

In view of the great acclaim which this "berühmte Stellungnahme" (Coseriu 1983: 272) has received lately, it behoves the historian of linguistics, and also the typologist for whom yesterday's typology is of more than antiquarian value, to raise two questions about it: Is it authentic? Wherein lies its real importance?

2. FAMILY LIKENESS

In order to establish the paternity of that brainchild, typology, it should be noted that the passage in question is missing from the first edition of *Die Sprachwissenschaft*, published in 1891.² The emphasis in chapter VI, *Die allgemeine Grammatik*, of book IV, except for this addition essentially unaltered in the second edition of 1901, is on the fundamental tasks facing general linguistics, as Gabelentz sees it, viz. to provide synoptic accounts of particular grammatical phenomena as well as of their particular capacities across the languages of the earth, and to demonstrate the mutual correspondence of forms and functions,

¹ Baumann (1976) finds repercussions of this passage in the work of Leonard Bloomfield, Nikolaj Sergejevič Trubetzkoy, Vladimír Skalička, and perhaps also Wilhelm Meyer-Lübke. See also Koerner (1974) on the controversial issue of Gabelentz's influence.

² Curiously Reichling (1948) states and Baumann (1976) implies that it was already present in the original edition of 1891. So far as I know, Koerner (1972: 279, 1974: 168) is the only one to have paid attention to differences between the first and second editions of this book.

something that was usually taken for granted. The two preceding chapters, *Sprachwürderung* and *Die Sprachschilderung*, outline the yet more ambitious task of determining, inductively, the correspondences between the forms and functions of languages on the one hand and the mental and emotional characteristics, states of civilization, and conditions of existence of language communities, and survey previous, in Gabelentz's view unsatisfactory work along such lines in the Humboldtian tradition. Gabelentz shares with his predecessors the presupposition that languages are organic, or systemic, wholes:

die Sprache ist ebensowenig eine Sammlung von Wörtern und Formen, wie der organische Körper eine Sammlung von Gliedern und Organen ist. Beide sind in jeder Phase ihres Lebens (relativ) vollkommene Systeme, nur von sich selbst abhängig; alle ihre Theile stehen in Wechselwirkung und jede ihrer Lebensäußerungen entspringt aus dieser Wechselwirkung. (1891: 10) — Nichts gleicht einem Organismus mehr, als die menschliche Sprache. Alles in ihr steht in ursächlichem und zwecklichem Zusammenhange ... (1891: 15) — Es kann nicht anders sein: alles muss mit allem nothwendig zusammenhängen. (1891: 466)

Gabelentz also implies occasionally that some grammatical characteristics are presumably more salient than others in the overall structure of languages (e.g. 1891: 457, "hervorstechende Merkmale"), and that these will ultimately be decisive for conclusions about the cultural value ("Culturwerth") of a language (1891: 376). The notion of language 'types' is sometimes used informally, in contradistinction to genealogical groupings, but one senses a certain diffidence when it comes to referring to the structural classes of the Schlegels, Humboldt, and Schleicher as types.³ Even the morphological differences between flexion and agglutination seem to Gabelentz gradual rather than categorical; and in classifications-cum-evaluations that set great store by features such as agreement, gender, morphological alternations, the clear and distinctive recognition of a subject relation, an inclusive-exclusive contrast in personal pronouns, or the differentiation of a dual number, he misses a truly systemic perspective.

³ In earlier publications (e.g. 1878: 642, 1887: 53), however, Gabelentz does use the terms "isolirender Typus" and "incorporirender, polysynthetischer Typus", but also refers to these as "Klassen".

Thus, to the attentive reader of Gabelentz's book of 1891, especially of the chapter on *Sprachwürderung*, it should have become apparent that the systemic ranking of classificatory features is an *Aufgabe* but not yet a *bisheriges Ergebnis der Sprachwissenschaft*, and that the *Methode* called for is induction. It is only in the second edition, however, that the correlation of parts and the subordination of characters, to be uncovered by cross-linguistic induction, are brought to the fore so dramatically, in the celebrated quotation, and that 'typology' is suggested as a special name for this allegedly novel objective of linguistic inquiry.

The second edition of *Die Sprachwissenschaft* was posthumous: Georg von der Gabelentz had died on 10 December 1893 at the age of 53. It was edited by his nephew, Albrecht Conon Graf von der Schulenburg (1865–1902), *Privatdocent* for East-Asian languages at the University of Munich, but well versed also in American Indian tongues and comparative grammar in general.⁴ Now, unless relevant surviving manuscripts of Gabelentz or Schulenburg should come to light,⁵ it might seem difficult to determine which of them was responsible for particular revisions and additions, which all in all were considerable.

From Schulenburg's preface, dated May 1901, it could be inferred that he takes responsibility for all alterations himself:

Leider war es ihm [Gabelentz] nicht mehr vergönnt, den weiteren Ausbau dieses grossartig angelegten Werkes mit eigener Hand zu unternehmen. ... Dem Ueberlebenden erübrigte es, mit schonender Hand das Geschaffene, soweit es irgend anging, zu erhalten, und nur da, wo der Fortschritt der Wissenschaft es dringend verlangte, Änderungen und Erweiterungen vorzunehmen.

This is the interpretation of Koerner (1974: 173), who without further ado ascribes also that "commonplace statement regarding language as a system" so cherished by modern typologists to Schulenburg (1974: 176). However, even on the evidence of the

⁴ The *Gesamtverzeichnis des deutschsprachigen Schrifttums (GV) 1700–1910* (vol. 130, 1985, pp. 151, 287) lists five linguistic monographs by Schulenburg; these are given in the References. His Tsimshian grammar (1894) was praised as a classic by Franz Boas.

⁵ The unpublished manuscripts and talks by Gabelentz listed by Kaden/Taube/Westphal (1979: 241) do not bear on the present issue.

editor's preface alone this is too rash a conclusion, for Schulenburg does not strictly speaking deny that his late uncle had at least *begun* to elaborate on one or another subject dealt with in his textbook. This would have been in keeping with Gabelentz's working habits: according to his preface the original version of *Die Sprachwissenschaft* too had evolved from a series of occasional articles written over a period of several years supplemented by lecture notes.

Circumstantial evidence pointing to Gabelentz himself as the author of at least parts of the typology passage is its very personal and almost flamboyant style. In addenda that are clearly Schulenburg's, mentioning literature postdating Gabelentz's death, the diction is less florid, and first person singular is generally avoided (though not on page 338, when quoting from Misteli 1893).

On the other hand, going by the contents of this passage, Schulenburg is not entirely out of the running as its possible author, since he shared the intellectual background of his uncle. For example, Gabelentz was among the few confessed admirers of James Byrne (1820-97), whom he singled out for praise in his inaugural speech at the Prussian Academy of Sciences (1890: 784f.) and to whom he devoted a section of his book (1901: 426f., taken over unchanged from the first edition). So was Schulenburg, who in 1895 even published a booklet, *Über die Verschiedenheiten des menschlichen Sprachbaues*, which was a digest of the Irishman's stupendous *General Principles of the Structure of Language* (1885/1892), comparable in orientation and scope to the programme of Humboldt (note Schulenburg's title!) and his follower Hans Conon von der Gabelentz (1807-74), Schulenburg's grandfather and Georg von der Gabelentz's oft-acknowledged father.⁶ Thus, being no less familiar than his uncle with this tradition of comparative linguistics, Schulenburg was particularly impressed,

⁶ Byrne's *General Principles* were also given a warm, or at any rate non-hostile, reception in Hale (1886), Techmer (1887), Misteli (1893), and especially Finck (1898/99). Cf. also the appreciation of Byrne by Lewy (1944). See Gabelentz (1886) on his father.

at the time he was preparing a new edition of *Die Sprachwissenschaft*,⁷ by Byrne's endeavour to relate a wide range of structural properties of languages to the mentalities and ultimately the conditions of existence of the peoples and races speaking them.

Byrne's approach had been two-pronged: first "the action of the causes which tend to affect the structure of language" was deduced from "the laws of our nature", then the actual effectiveness of these hypothetical causes was proved by induction, in a detailed and comprehensive survey of the harmoniously cohering structural properties that seemed relevant. The six groups into which the languages of the earth were divided by Byrne, areally and genealogically motivated though some of them seem (but note such heterogeneous assemblages as the Oceanic, Indian, North-East and Central African group or that comprising the Chinese, Indo-Chinese, Tibetan, and Syro-Arabian languages), were intended to represent a classification grounded on the coinciding results of cultural, ethnopsychological, and structural-linguistic criteria.⁸ The "quickness or slowness of man's mental action" was the single psychological cause deemed most effective, and it was held responsible for "the leading characteristics by which the languages of mankind are distinguished from each other" (e.g. 1885: I, vii; cf. Schulenburg 1895: 20, "markanteste Züge"), with the "subjectivity of the verb" emerging as an especially prominent trait.⁹ It was by "the inductive method of concomitant variations", assimilated from the famous John Stuart Mill's *System of Logic, Ratiocinative and Inductive* (1843), that Byrne sought to

⁷ One wonders, incidentally, why a second edition was published at all. That the first edition sold out so quickly seems unlikely, considering the contemporary academic dominance of the Indo-Europeanists. The reviews (listed in Kaden/Taube/Westphal 1979: 238f.) had not exactly been enthusiastic, either.

⁸ The relationship between (dominant) structural and (subordinate) genealogical/areal classification, as conceived of by Byrne, is similar in kind to that found, for instance, in Steinthal (1860) and Misteli (1893). Misteli calls the genealogical classes which respectively typify his six structural classes ("einverleibend, wurzel-isolirend, stamm-isolirend, anreihend, agglutinirend, flec-tirend") 'types'; the incorporating class, for instance, is realized in his system by a Mexican and a Greenlandic "Typus".

⁹ This is a pivotal trait also in the systems of Finck (1898/99), Winkler (1887), Misteli (1893), and Steinthal (1860), as well as of earlier comparatists such as Adam Smith (1761) (on whom see Plank 1991).

substantiate his "connected view of the entire grammatical system" (*ibid.*), which included a host of more or less conspicuous phonetic, morphological, and syntactic characteristics such as the relationships between consonants and vowels, the elaboration of the categories of tense, mood, voice, number, gender, inclusive-exclusive, the use of agreement and of word order. The Dean of Clonfert (Byrne was a clergyman by profession) was always stressing that what he was engaged in, not yet called typology,¹⁰ was a science. It was a science of man, to be sure, but Byrne was not alone in feeling a strong methodological affinity for the evolutionary biology of Charles Darwin, which showed in particular in his fundamental assumption that the "forms of thought" and the corresponding manners of the "formation of the sentence" become established in each region by natural selection (e.g. 1885: I, 26; cf. Schulenburg 1895: 8 *passim*).¹¹

Thus, acquaintance with James Byrne's *General Principles* alone, perhaps the most ambitious but by no means the only work of this kind to appear in the second half of the 19th century, could have provided the motifs from which the typology story in the second edition of *Die Sprachwissenschaft* is woven: the correlation of grammatical parts, their hierarchical ranking, the preference for functional explanations (in terms of cultural and mental requirements), the emphasis on induction, and biology as a model science.

In his preface Schulenburg, who had such an acquaintance, expressly states a constraint he imposed on himself in his revision: his additions would be limited to what was urgently required by the progress of the science. Now, on the face of it, the typology passage does not really seem to report on any specific recent work by others or Schulenburg himself. Nevertheless, roughly the last decade of the century did see a number of significant contributions to structural language classification, coming too late to be fully appreciated in a book published in 1891, which might have

¹⁰ In Schulenburg's (1895) study on Byrne "Typus" is only used in an ethnological sense, when North American Indians are referred to as type specimens of the class of hunters.

¹¹ A direct, if trivial reference to *The Descent of Man* occurs on p. 383 of volume II (1885); the Appendix to volume II, comparing the mental powers of man and of lower vertebrates, also touches on Darwin.

induced a reviser of *Die Sprachwissenschaft* to bring into focus this theme which had previously been dealt with perhaps a little diffusely. Highly pertinent were above all *Zur Sprachgeschichte* (1887) by Heinrich Winkler (1848–1930), ‘De la classification des langues, II. Partie: Classification des langues non-apparentées’ (1890) by Raoul de la Grasserie (1839–1914), *Charakteristik der hauptsächlichsten Typen des Sprachbaues* (1893) by Franz Misteli (1841–1903), and, after Gabelentz’s death, *Der deutsche Sprachbau als Ausdruck deutscher Weltanschauung* (1898/99) by Franz Nikolaus Finck (1867–1910). Misteli is indeed quoted extensively by Schulenburg, but on the ‘inner form of language’ (1901: 338–343), just as Gabelentz had quoted Heymann Steinthal’s book of the same title (1860), of which Misteli’s was a revision. As to the typological research programme itself, however, it is announced in the second edition of *Die Sprachwissenschaft* without any acknowledgments of recent precursors. I believe there is one undisclosed link, though, to Grasserie’s article just mentioned, and this will be dealt with in a moment, after a more direct source has been identified.

3. PERILS OF POSTHUMOUS PUBLICATION

In the last decade of the 19th century there appeared yet another work that has to be taken into consideration here. The fourth volume of *Indogermanische Forschungen* (1894), the official Neogrammarian organ, opened with an article, curiously entitled ‘Hypologie der Sprachen, eine neue Aufgabe der Linguistik’, that seemed somewhat out of place amidst minute examinations of sound laws and analogical changes. Its author was Georg von der Gabelentz. It was the last piece he had sent off for publication, and it had been seen through the press after his death by the editors of this learned Indo-Europeanist journal (Karl Brugmann and Wilhelm Streitberg), whence the queer title.¹²

The point of departure of this paper is a factor, perhaps underestimated by James Byrne, that is liable to interfere with

¹² “Hypologie” appears not only in the title but also in the table of contents and the running heads.

the alignment of structural-linguistic classes and psychological-cultural types: contact-induced language changes unaccompanied by psychological-cultural changes. In Gabelentz's opinion, however, such states of incongruity are unlikely to last long, as even substantial admixtures of vocabulary and grammar tend to be assimilated soon. With the exception of trade jargons and pidgins, lacking native speakers, he is prepared to take virtually all structural properties of all languages into account as the basis from which to induce interrelations. Invoking for these native languages once more that conventional piece of a priori wisdom,

Sie sind freie organische Gebilde, und weil und insoweit sie dies sind, stehen alle ihre Teile zueinander in notwendigem Zusammenhange (1894: 4),

and pointing out the plausibility of the stronger assumption

daß gewisse Züge in der Physiognomie der Sprachen, zumal lexikalische, stilistische und syntaktische, besonders charakteristisch sind (ibid.),

he goes on to call for empirical confirmation of these two axioms. Taking palmistry and paleontology as his models — the gypsy woman who claims to be able to tell what someone is like by examining the lines on his palm, the great Cuvier who was able to reconstruct fossiles from a few bones — he insists that what descriptive linguistics must aim at is the ability to make predictions. And this can only be achieved by controlled induction, ideally by what he calls "eine Statistik der Konjunkturen" (1894: 6). As the most striking example of a 'conjuncture' of two intrinsically unrelated physiognomic traits across genealogically and areally unrelated languages, he mentions the ergative vs. absolutive (*activus-instrumentalis* vs. *neutro-passivus*) case marking pattern of Basque, Tibetan, Eskimo, and Australian languages, which in all of these languages except the Australian ones co-occurs with a split ordering pattern of adnominal attributes, with genitives preceding and with adjectives following their head nouns.¹³ This

¹³ In fact, most Australian languages do seem to favour this split ordering pattern, as do other ergative languages, including Hurrian, Urartean, and Papuan ones. In Eskimo the prenominal attributive noun is of course strictly speaking not in the genitive case.

conjuncture is, thus, a statistical one: if a language has trait *A* (ergativity), it will with far more than chance frequency also have trait *B* (divergent genitive and adjective ordering); if it has trait *B*, it will, supposedly with somewhat lower frequency, also have trait *A*. If this mechanical method is applied on a large enough scale, this will be the ultimate result:

aus einem Dutzend bekannter Eigenschaften einer Sprache müsste man mit Sicherheit auf hundert andere Züge schliessen können; die typischen Züge, die herrschenden Tendenzen lägen klar vor Augen. (1894: 7)

Such descriptive generalizations would be as unexceptionable as the sound-laws of the Neogrammarians.¹⁴ Once conjunctures have been induced and statistically qualified, the remaining task is their explanation. Here the perspective has to widen again, for the demonstration that regular co-occurrences (“Zusammentreffen”) reflect deeper connections (“Zusammenhänge”) can only be achieved, in Gabelentz’s functionalist philosophy, by correlation with perhaps less objective ethnopsychological, cultural, and historical considerations.

There can be no question, then, about the source from which the typology passage in the second edition of *Die Sprachwissenschaft* sprang: it is but a condensation of Gabelentz’s hypology article of 1894, skipping the language contact preamble, Gabelentz’s most telling example of his ‘statistics of conjunctures’, as well as some practical advice to aspiring statisticians (on which see below). In case it was Schulenburg who did the condensing, although even this is a moot question, it is clearly Gabelentz himself who must be given credit for all that is really creditable about this proposal for a future typology.

¹⁴ With his hypology/typology Gabelentz evidently sought to emulate his Neogrammarian colleagues, and this presumably was his main reason for submitting this paper to the *Indogermanische Forschungen*, of all journals.

4. THE FOSSIL CONNECTION

But was typology, as conceived of by Georg von der Gabelentz towards the end of his life, indeed entirely a thing of the future?¹⁵

In his own previous work, especially that focussed on classical Chinese, Gabelentz had already been guided by the two axioms at the heart of his typology, viz. that languages, the ‘articulated expressions of thought’, are systems *où tout se tient* and that some structural properties are so fundamental as to determine most others. This was to be reflected by the very organization of descriptive, and also of pedagogic, grammars:

Nun ist diese Gliederung [of the body of a language] eine organische, der Körper ist ein Organismus, in welchem jeder Theil in zweckmässiger Wechselwirkung zum Ganzen steht, — einen andern bedingend, jetzt unterstützend, jetzt beschränkend, das Ganze beherrscht von einem gemeinsamen Lebensprincipe, zu welchem sich die einzelnen Organe ungleichartig und ungleichwerthig verhalten. Hier zeigt es sich, wo der Kern- und Ausgangspunkt einer systematischen Darstellung liegen muss: jenes herrschende Princip will begriffen, will an die Spitze gestellt, will aber auch, eben weil es ein herrschendes ist, im weiteren Verlaufe, in der Einzelbeschreibung immer und immer wieder als solches erkennbar sein. (1878: 635)

... einige wenige Grundgesetze, welche in ihrem Zusammenwirken sozusagen das Lebensprinciple des Sprachorganismus bilden. Aus ihnen ist logisch zu deduciren, und die Erfahrung lehrt, dass ein solches Schlussfolgern, einsichtig gehandhabt, viel Einlernen von Einzelheiten zu ersetzen vermag. (1881: 19)

In the case of Chinese it was almost self-evident, to Gabelentz at any rate as well as to some of his respectable predecessors (especially Marshman 1814), that the dominant principle was the linear ordering of words: from the general rule that “die nähere Bestimmung steht vor dem näher zu Bestimmenden” (1878: 642f.) it was possible to deduce particular ordering regulations for all kinds of constructions as well as much of the grammar of auxiliary words (or particles), of the remarkably fluid parts of speech, and

¹⁵ Reviewing the second edition of *Die Sprachwissenschaft*, this book struck Ludwig Sütterlin (1904) as “ein Ueberbleibsel aus vergangener Zeit”, but it is unclear whether the typology programme was supposed to be included in this global damnation.

of clause combination. It is not only for didactic purposes but in recognition of the special mould of this language that Gabelentz begins his *Chinesische Grammatik* (1881) with the "Stellungsgesetze" and attempts to develop everything else as a "Spezifikation" of these.¹⁶ Of course many of the relevant properties of Chinese had already figured prominently in the debates on the isolating vs. flexional modes of expressing the categories of accident and their respective evaluations, and as a sinologist Gabelentz did what he could to prove the disrepute of the isolating type unfounded, emphasizing that it was as organic as the flexional type by virtue of the unity of its syntax. Compared to Gabelentz's later formulations of the typology project, however, it is significant how little he appears to rely on cross-linguistic induction at this stage. It is by consideration of the individual language to be described alone that he apparently wants to establish the organic cohesion of its grammatical parts and almost to divine its dominant traits. Greater stress is accordingly laid on the logical deduction of implied particulars (see above quote). Evidently, conjunctures of logically independent traits, such as ergative-absolutive case marking and divergent ordering of adjectives and genitives, featuring in the 1894 hypology paper, were not to be discovered in this manner. The evidence needed in order to recognize these were invariant co-occurrences of traits *across* languages, detectable only by comparison.

The comparative enterprise to be called 'typology' indeed was not introduced as being without precedent. In the second edition of *Die Sprachwissenschaft* the daring botanist who has sought to reconstruct an entire life-form (a lime-tree) from a mere fragment (its leaf) is held up as the future linguistic typologist's model, but the non-initiate reader is not enlightened as to the circumstances that enabled such remarkable feats to be performed or at least attempted. There are further indications that Gabelentz in fact was following the example of seekers of system in the realms of nature, but these too are rather allusive. Like his contemporaries he would occasionally use key Darwinian notions to garnish accounts of the evolution of languages, but there is an earlier student of the

¹⁶ The principles of linear ordering were one of Gabelentz's specialties; see also Gabelentz (1869, 1875).

animal kingdom, illustrious in his time and a source of inspiration also for Charles Darwin, to whom Gabelentz appears to have felt a stronger elective affinity, and whom he once mentioned, if rather incidentally and in the not very respectable company of a gipsy palmist, in his hypology paper.¹⁷

It is instructive to compare the first two sentences of the typology passage in *Die Sprachwissenschaft* (1901: 481) with a paragraph from the *Discours préliminaire* of the first volume of a celebrated work first published in 1812, *Recherches sur les ossements fossiles de quadrupèdes*:

Tout être organisé forme un ensemble, un système unique et clos, dont toutes les parties se correspondent mutuellement, et concourent à la même action définitive par une réaction réciproque. Aucune de ces parties ne peut changer sans que les autres changent aussi; et par conséquent chacune d'elles, pris séparément, indique et donne toutes les autres. (1812: 58)

This was known as “le principe de la corrélation des formes dans les êtres organisés”, also called ‘principle of final causes’ on account of its Aristotelian provenance, and it is difficult to believe that Gabelentz did not have this particular passage, or one or the other similar statement of this first anatomical rule of Georges Cuvier (1769–1832),¹⁸ before his eyes when he made his own pronouncement(s) on the organic nature of languages. The other basic principle of Cuvier’s comparative anatomy, equally renowned, was that of “la subordination des caractères”, pioneered in fact by Antoine-Laurent de Jussieu in his *Genera plantarum* (1789) as the criterion by which to group species in the most natural manner. As adopted by Cuvier and enunciated repeatedly,¹⁹ this

¹⁷ Baumann (1976) overplays the importance of Darwin for Gabelentz.

¹⁸ A very similar formulation of this rule might have been found, for instance, in Cuvier’s letter to Jean-Claude Mertrud, prefixed to the famous *Leçons d’anatomie comparée* (1805: I, v).

¹⁹ For instance in the *Tableau élémentaire de l’histoire naturelle des animaux* (1798: 17–22) or in *Le règne animal distribué d’après son organisation* (1817: I, 10). For more detailed discussion of Cuvier’s systematizing see Daudin (1926), Coleman (1964), Rheinberger (1986), Appel (1987), and, in relation especially to Humboldt, Picardi (1977), and, in relation to Friedrich Schlegel, Wells (1987).

principle was meant to ensure that the primary divisions in zoological taxonomy were based on anatomical traits (“caractères supérieures/dominants”) of the greatest functional importance for the survival of the animal in its environment (with the nervous system eventually ranking highest) and secondary and further inferior divisions on traits (“caractères subordonnés/superficiels”) associated with gradually less momentous vital functions (pertaining e.g. to digestion and locomotion). The more superior a character, the more constant it was supposed to be among species, and the greater was therefore its predictive value when it came to reconstruct extinct organisms preserved only in part (whence derived Cuvier’s popular fame). All this is echoed in Gabelentz’s expectation to find some traits more important and less freely variable than others also in the anatomy, or as he used to call it, physiognomy of languages. Given to teleological reasoning in deducing particular organic structures from particular functional requirements, i.e. Aristotle’s ‘conditions of existence’, Cuvier, whose public allegiance was with the *école des faits* rather than the *école des idées*, nevertheless propagated empiricist methodology, especially in order to correlate characters which were less dominant and constant. To quote again from the *Discours préliminaire* of his great fossil work:

il faut que l’observation supplée au défaut de la théorie; elle établit des lois empiriques qui deviennent presque aussi certaines que les lois rationnelles, quand elles reposent sur des observations suffisamment répétées. (1812: 63)

And Cuvier would emphasize that one could thus effectively calculate with mathematical precision which form of the tooth, for instance, belonged with which forms of the condyle, the scapula, and the nails — just as an equation of a curve determines all of its properties. Gabelentz’s ‘statistics of conjunctures’, complemented by theorizing about the functional laws behind the observed regularities, is not a far cry from Cuvier’s programme.

Despite such similarities of formulation and outlook I doubt that Gabelentz’s knowledge of Cuvier’s writings and of the controversies in biology and paleontology of which they were part was intimate. Gabelentz’s training had been in law and cameralistics, and he was an assistant judge at the district law court of

Dresden when, in 1876, he applied successfully for an extraordinary professorship for Chinese, Japanese, and Manchu languages at the University of Leipzig, where he, self-taught in sinology and general linguistics under the guidance of his father, had just earned a doctorate with an edition and translation of a Chinese philosophical classic. He is not on record as having ever taken a close interest in the natural sciences, and what he knew of Cuvier and Darwin, judging by his own publications, could well have been acquired by cursory reading, maybe even of secondary, popularizing sources. Unlike Gabelentz, Friedrich Techmer (1843–91), his colleague at Leipzig and editor of a remarkable journal, *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* (appearing in only five volumes from 1884 to 1890), had a scientific background. And Techmer was knowledgeable about Cuvier, to whom he referred on several occasions in volumes 4 and 5 of his journal (1889: 176, 194, 255; 1890: 205). He once surmised that Cuvier, the comparative anatomist, had been an inspiration to Franz Bopp, the comparative morphologist; and in another review he credited Cuvier's paleontological success to his mastery in applying the principle of the correlation of forms to the remains of extinct organisms, quoting from an *éloge* to Cuvier by Flourens ("principe au moyen duquel chaque partie d'un animal peut être donnée par chaque autre, et toutes par un seul"). Gabelentz, a contributor to the first three volumes of the *Internationale Zeitschrift* and a member of its editorial board, may well have been reminded by Techmer of the "Beispiel eines anerkannten Meisters der Methodik auf naturwissenschaftlichem Gebiete". In fact, the thesis *Zur vergleichenden Physiologie der Stimme und Sprache* which Techmer had submitted to the University of Leipzig in 1880 for the purpose of *Habilitation*, must have been even more instructive for Gabelentz in this respect. Here Techmer quotes the crucial passage from Cuvier ("Tout être organisé forme un ensemble..") at great length (1880: 61) in the context of a programmatic sketch of a 'paleontology of phonetics'. In the same chapter Techmer also emphasizes the necessity of induction in phonetic analysis and the desirability of a statistics of the relative frequency of sounds in particular languages. He summarizes his research programme thus (1880: 61):

Man lernt aber auch schon in dem Lautsystem natürlich entwickelter Sprachen mehr und mehr eine harmonische Gliederung erkennen und die 'Tonart' des Ganzen bestimmen; und es ist zu hoffen, dass man dahin gelangt, von jeder todten Sprache fehlende unbekannte Laute zu finden, wie die $x, y, z \dots$ von Gleichungen, wenn nur die nöthige Anzahl von Grössen und Gleichungen gegeben, d.h. von Lauten und ihren Beziehungen.

The expectation of harmonious interrelations between the parts of a system (in Techmer's case only of sounds), the hope eventually to be able to predict some parts from others with quasi mathematical certainty, the insistence on inductive and statistical methods, and the reference to Cuvier's paleontology as a model — all these elements recur in Gabelentz's 'statistics of conjunctures', and it is difficult to believe that Gabelentz was not directly indebted to Techmer's thesis for the succinct formulation of the typological programme.

Had Gabelentz himself been steeped in paleontology and biological taxonomy, he would presumably have had more to say on the very notion of type when launching a programme of linguistic typology modelled on a supposed biological analogue and intended to partake of its respectability. He would probably have recalled that perhaps the best-known feature of Cuvier's own zoological taxonomy was the highest-level classification into four "embranchements" (Vertebrata, Mollusca, Articulata, Radiata), whose respective 'plans of organization' were claimed to be invariable (hence inalterable in response to human or natural influences) and incommensurate (hence beyond cross-comparison and at odds with the idea of a single chain of being). The unity of type was a fundamental tenet of Cuvier's natural system (and was later explained in evolutionary terms by Darwin), even though such units tended to be recognized intuitively rather than to be rigorously established by means of the principles of correlation and subordination. Not a nominalist, Cuvier sought to relate 'what nature brings together', and the types, the most representative instances of a class at the respective taxonomic level, were the points of reference for intra-class comparison from the level of species to that of the four *embranchements*. Unlike Cuvier, other biological systematists did not reject the doctrine of the chain of being, but instead temporalized the chain and were prepared to discard the idea of the fixity of species. Types did have a place

in such scenarios as well, but tended to be conceived of temporally, as prototypes from which existing life-forms derived rather than as non-temporal archetypes or mere type specimens. There was no resonance of all this in Gabelentz's typology. Taking his cues from Kant's "Urbild" and Goethe's bio-morphological studies, while disapproving of facile organismic analogies, Wilhelm von Humboldt had been pondering over the feasibility of adapting a notion of type for profitable use also in the realm of language.²⁰ For all his Humboldtian affinities, such philosophical concerns were not deemed especially relevant for his fledgling typology by Gabelentz, either.

Gabelentz indeed appears to have seen no need to explicate what types are and with how many of them to reckon. The term itself is employed informally in *Die Sprachwissenschaft* (as was already mentioned) to refer to structural classes as opposed to genealogical ones (such as "Familien", "Sippen", or "Stämme"), but is sometimes also given a genealogical sense (especially in the compound "Familientypus"). Perhaps surprisingly, when raising the curtain on his new task for linguistics, he presents typology as the study of conjunctures rather than of types. Presumably it was only after the induction of conjunctures had been completed and the statistics calculated that talk about types of languages would become meaningful, since they would have to be identified in terms of what have turned out to be "entscheidende Züge". On the expectation that such traits would form complex hierarchies, with some being even more decisive, richer in what they imply, than others, language types could be defined as more or less inclusive taxonomic units depending on the hierarchical level at which a decisive trait was being selected.²¹ For instance, to use Gabelentz's own example, two types of languages could be distinguished by the criterion of ergative-absolutive vs. nominative-accusative relational coding; but if these traits, implying (with

²⁰ See especially his 'Grundzüge des allgemeinen Sprachtypus' (1824-26), of which only an extract had been published by Gabelentz's time, in the first volume of the *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* (1884).

²¹ The hypology paper envisages a dozen or so most decisive traits.

more than chance frequency) prenominal genitive and postnominal adjective order, should happen to be themselves implied by some others, a more inclusive distinction of types could be made in terms of these latter traits. At least in this sense a language could thus be a member of several types. Speculating about the unity of types and the possibility of their temporalization, if he was aware of such issues as once debated among systematists of nature, may well have seemed idle to Gabelentz, whose obvious priority was to get going with the inductive search for conjunctures, with the principles of correlation and subordination of characters as his working hypotheses. But death intervened before the search could begin in real earnest.

5. A PASTIME OF JUDGES

Now, Gabelentz was not the first to bank on these principles which had been gaining currency as the world took note of Cuvier's stunning paleontological achievements. Not long ago he had had a precursor in Raoul de la Grasserie, judge at the *Tribunal civil* at Rennes and later Rouen and prolific writer on comparative law, sociology, psychology, metrics, and grammar, as well as of poetry.²² In *Die Sprachwissenschaft* (1891: 462) Gabelentz had acknowledged Grasserie's *Études de grammaire comparée* (a series of 24 monographs published between 1882 and 1914, of which 15 had appeared by 1893, the year of Gabelentz's death) as ingenious contributions to the Humboldtian programme of an encyclopedia of categories; and it would have behoved him to give Grasserie a mention also in his hypology paper, which bears a certain, and hardly coincidental, likeness to the Breton polymath's recent article, 'De la classification des langues', which Techmer's *Internationale Zeitschrift* had just published in two instalments (1889-90). One topic broached in its first part is what Grasserie called "l'alliance", as opposed to "la parenté", between languages,

²² The *National Union Catalog. Pre-1956 Imprints* (vol. 311, 1974) needs pages 659-664 to list the monographic writings of Raoul de la Grasserie, whose empirical specialization as a linguist was in American languages. For a brief contemporary appreciation see Henry Carnoy's *Dictionnaire biographique international des écrivains* (vol. I, 1902, 220-223; vol. II, 1903, 46-50).

of which he distinguishes several kinds and degrees (the most extreme case being "l'hybridité"). This theme of language mixture recurs in Gabelentz's 'Hypologie der Sprachen', in the form of a prelude to the real issue — viz. how best to reduce the realm of languages to order. In Gabelentz's advice on this task, looming large in his mind only after *Die Sprachwissenschaft* had been in the press, one can also hear a rather distinct echo of Grasserie's plea for natural rather than artificial linguistic classifications.

For Grasserie classification, if properly done, was the surest route to understanding the essence of whatever domain came under study — mankind, its institutions including language, plants, or animals. In botany and zoology classifiers seemed to him to have advanced farthest since, not content with artificial systems like those championed by Linné, they had set their sights higher and aspired after natural classifications, based on the entire ensemble of characters of plants or animals rather than on only one or the other of their individual traits. Without mentioning Cuvier's name, Grasserie attributes the biologists' progress to "le grand principe de la *subordination des caractères*":

Une différence entre deux plantes ou deux animaux trouvée à un seul point de vue, au point de vue sexuel, par exemple, entraînerait par une concordance restée mystérieuse des différences entre les mêmes êtres à des points de vue tout différents ou dans de tout autres organes. (1890: 297)

Of course a great number of artificial classifications in terms of individual traits had to be carried out before the great synthesis could be attempted, and success was not guaranteed, either. But, as Grasserie saw it, different partial classifications in botany and zoology had indeed converged on uniform overall systems, where not all characters of organisms were equally salient but some were subordinate to others. The ultimate aim of classifications for Grasserie was to shed light on the history of their domains; he nevertheless reserved judgment on the Darwinian evolutionary explanation of natural groupings. No matter how *mystérieuse*, "corrélations" or "correspondances" of a host of characters could in principle also represent a family resemblance (*un air de famille*)

of organisms which, for the time being, must count as genealogically unrelated.²³

Although less given to organismic imagery than many contemporaries, Grasserie was hopeful that languages would eventually lend themselves to being naturally classified just like plants and animals. The classifications already available for this domain all struck him as partial, hence artificial, no matter how precise their criteria. Most of 'De la classification des langues' is spent on an exposé of Grasserie's own version of partial classifications of languages which, on the evidence of an etymological comparison of roots, could not be claimed to be related by parentage or alliance. Taking into account forms, ideas, and the relations between them, each of these spheres provided him with a wealth of classificatory criteria: relevant formal distinctive features included the sound inventory, the consonant-vowel proportion, syllable, morpheme, and word structures, sandhi processes, regressive or progressive influences between neighbouring sounds, and accent; to the ideational plane pertained the dichotomies formal/non-formal, concrete/abstract, and subjective/objective, assumed to manifest themselves *inter alia* in the differentiation of parts of speech, the linear order of determining and determined elements, the elaboration of categories of accident, the reliance on function words, and the obligatoriness of personal and possessive pronouns; and 'morphological' classifications focussed on both the ideas expressed and the forms used to express them, especially at the level of words. Morphological classifications therefore required that formal and ideational criteria be used in combination, and Grasserie accordingly ends up with a rather elaborate taxonomy. Its highest-level distinction is that between 'psychological', 'morphological' and 'phonetic' languages (roughly corresponding to the traditional isolating, agglutinative, and flexional classes), depending on whether grammatical meanings lack expression other than by linear order, are expressed by (morphologically possibly bound) function words (*mots vides*), or are expressed by phonetic modifications of stems or by agreement.

²³ Was it by sheer coincidence that Grasserie (1890: 297, 336) used the epithet "mystérieux" and Gabelentz (1894: 5) "mystisch" in reference to the interrelations that were at the focus of the typologist's interest?

These three morphological classes then can each be subdivided by purely formal and purely ideational criteria, the former favoured by Grasserie with the phonetic, the latter with the psychological and formal classes. Even though he would emphasize that languages are liable to group differently depending on the criteria used, as is typical of artificial classifications, he saw at least his main ideational dichotomies as in part hierarchically interrelated. The distinctions between formal and non-formal languages on the one hand and between subjective and objective ones on the other seemed to him essentially to coincide; and that between abstract and concrete languages (a matter of degrees) allegedly ranked lower as being less comprehensive: both the formal/subjective and the non-formal/objective classes of morphological languages supposedly could be abstract (as shown by the presence of articles and prepositions, respectively) or concrete (as shown by the presence of "flexions" and agglutination, respectively).²⁴ Grasserie's ideational criteria are the least tangible ones, and his reasoning at this point is fallacious (evidently, when all four classes definable by a combination of two criteria have members, hierarchizations of these criteria are arbitrary). His point, nevertheless, is clear: Artificial classifications turn natural to the extent that classificatory criteria interrelate. The only way to uncover such interrelations, especially the more interesting, non-obvious ones, is by induction ("La classification, résultat d'inductions nombreuses et pris dans tous les sens", 1890: 338).

Grasserie concludes his article with a number of examples of languages which he believed to form natural classes without being demonstrably genealogically affiliated (1890: 336f.). Some of these do not seem pertinent, in so far as the suggested classifications are not really (or not very perspicuously) based on induced interrelations. Of those which are, these are particularly instructive: What naturally unites the Semitic and Hamitic groups are the dominant phonetic feature of the exclusive use of vocalic variations of roots for certain grammatical purposes and

²⁴ Cf. Grasserie (1890: 321f.). But he is not entirely consistent on this point: in enumerating his classes, he first subdivides psychological languages into concrete and abstract ones, each of these then into non-formal and formal ones, and these latter are in turn distinguished as subjective and objective.

its subordinate feature, its “*substratum nécessaire*”, the triconsonantal structure of roots; what naturally unites the Uralic, Altaic, and Samoyedic groups are the dominant feature, again phonetic, of vowel harmony and the subordinate features (the first morphological, the second ideational) of profuse agglutination and of an “enveloping” order of *déterminant* before *déterminé*, especially of object before verb; what naturally unites the so-called monosyllabic languages or East Asia are the dominant feature of the use of accent (or rather tone) for lexical differentiation and the subordinate features of the monosyllabism of roots, of a “developing” order of *déterminé* before *déterminant* (verb before object), and, morphologically, of an absence of function words or agglutinative affixation; what naturally unites the Polynesian, Melanesian, and Malayan languages of Oceania are the dominant feature of rich pronominal differentiations (with respect to number, inclusive-exclusive person, and direction) and the subordinate features of a wealth of preposed particles including even a (pronoun-derived) article, of a “developing” order, of an aversion to bound morphology, and of a preponderance of vowels over consonants, with vowel sequences unreduced by elisions. For some of his induced interrelations Grasserie offered explanations (vowel harmony, for example, is claimed to be functionally useful especially in the context of agglutination, providing a firm bond between stems and their arrays of affixes); some struck him as virtually self-explanatory (vocalic root variations, for example, seem to him impossible without a stable consonantal frame); others remained mysterious for the time being.

And what enabled Grasserie to determine whether inter-related features were dominant or subordinate? He is curiously reticent on this point, but evidently he was going by impressionistic comparisons of their distributions across the languages on which he had information, not only across those he proposed to group together in a natural class. For example, being presumably aware of languages which had neither vowel harmony nor agglutination, of languages which had both (viz. the Uralic, Altaic, and Samoyedic ones), and of languages which had only agglutination, but of no languages which had vowel harmony without also having agglutination, he was right to conclude that vowel harmony implies agglutination but not the other way around — that

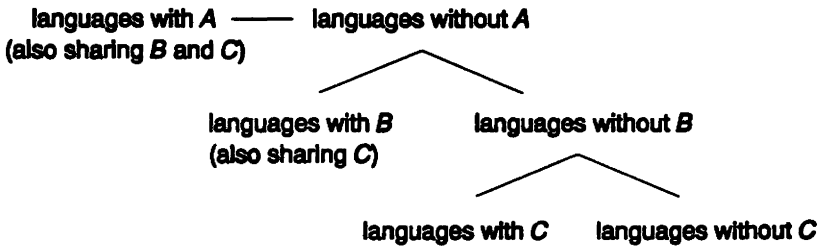
vowel harmony was in this sense a dominant and agglutination a corresponding subordinate feature. Believing his observations of unequal but interdependent distributions of features to be essentially correct, he had thus every reason to be convinced of the validity of Cuvier's second principle, suitably adapted, also in the realm of languages:

Deux langues qui ne concordent qu'à un point de vue, si ce point de vue est principal pour eux, si leur caractère commun est saillant, prolongent leur harmonie jusqu'à d'autres points de vue, jusque dans les classifications d'ordre différent. (1890: 297f.)

Characters could of course have turned out to be interrelated by mutual as well as by one-way implications. But Grasserie was not especially curious about mutual implications, the topic of Cuvier's first principle. And there indeed was little to be gained by them for classification. As is revealed by the truth-tables of conditional and biconditional connectives, which link three structural properties (A , B , C) in our schematic example, biconditionally connected properties, no matter how numerous, can never distinguish more than two classes, viz. languages having all of these properties and languages having none, whereas conditionally connected properties produce more classes and at the same time rank them hierarchically:

A	B	C	$A \equiv B \equiv C$	$A \supset B \supset C$
true	true	true	true	true
false	false	false	true	true
false	false	true	false	true
false	true	true	false	true
true	false	false	false	false
true	true	false	false	false
true	false	true	false	false
false	true	false	false	false

The conditional connection $A \supset B \supset C$ defines this hierarchical classification:



It is not very surprising, therefore, that designers of language classifications, always convinced of systemic cohesion no matter how partial their actual classifications, had commonly been proceeding on the implicit assumption that some distinctive features (the antecedents of conditional connectives which were not also consequents) were more important than others, and accordingly chose the seemingly most important ones of them all as the cornerstones of their systems. Grasserie himself, more cautious than his predecessors, did not offer another grand natural system accommodating all languages, but, more acutely aware of the right method of how eventually to construct one, was content with suggesting only a few natural classes.

Raoul de la Grasserie's 'De la classification des langues' somewhat diminishes Gabelentz's claims to fame as the sole founding father of typology as we know it today. Grasserie, to be sure, did not call his purportedly natural classification '*typologie*' (although, apart from using 'type' in the sense of 'type specimen', he once (1890: 296) writes that the "type général" is the true subject of comparative grammar),²⁵ and succinctness was not his main strength. But do we pay tribute to Gabelentz merely for his innovative terminology and the lucidity of his style? In substance the research programmes of the two men of the law could seem to have differed but little. And was not Grasserie's more richly exemplified? Also, Gabelentz is unlikely not to have seen Grasserie's 'De la classification des langues' before he wrote his

²⁵ Incidentally, in a series of papers by Mikolaj Kruszewski in the *Internationale Zeitschrift für Allgemeine Sprachwissenschaft*, 'Prinzipien der Sprachentwicklung', whose last instalment follows the second part of Grasserie's article on classification, the term "Typ" is used repeatedly, though in an entirely different context ('types of words').

own 'Hypologie der Sprachen', and, while not set on a wholly new line of thinking by reading this piece, was presumably helped by it to perceive and state more clearly the direction in which to go.

6. REMEMBRANCES

But there were also earlier signposts by which Gabelentz appears to have been guided.

As stated in the preface (1891: v, 1901: v), Gabelentz's ambition in writing *Die Sprachwissenschaft* had not been to emulate veritable textbooks of the kind of Karl Wilhelm Ludwig Heyse's *System der Sprachwissenschaft* (posthumously edited in 1856 by Heymann Steinthal, once a student of Heyse's at the University of Berlin). Nonetheless, although never actually quoted, this *System* of the classical philologist and mature student of Bopp and Hegel, Heyse (1797-1855), arguably left a few traces in *Die Sprachwissenschaft*.²⁶

It is a commonplace to distinguish between description and explanation; in linguistics as everywhere else, "wir wollen nicht bloß kennen lernen, was ist, sondern erkennen, was sein muß, und warum es so und nicht anders ist" — as it was put by Heyse (1856: 15). The task of what Heyse called "philosophische Sprachwissenschaft", in contradistinction to the "geschichtliche (i.e. historical-descriptive) Sprachforschung", accordingly had to be this:

in der Erscheinung das Gesetz, in dem Wirklichen das Wesentliche, die Nothwendigkeit zu erkennen, und die Gesamtheit der wahrgenommenen Thatsachen als ein in sich mit Nothwendigkeit zusammenhängendes System wesentlicher Gesetze zu begreifen (1856: 15).

Reading about the task of explaining induced conjunctures in *Die Sprachwissenschaft* (1901: 481), one is struck by the similarity of formulations; to repeat the relevant parts from our introductory quotation:

²⁶ Something similar to Gabelentz's two-pronged descriptive approach, in terms of an 'analytic' and a 'synthetic' system, can also be found in Heyse's *System*, where these very terms are used. Heyse (1856: 166) also has a passing reference to Cuvier on the races of man.

... wird es scharfen philosophischen Nachdenkens bedürfen, um hinter der Gesetzmäßigkeit die Gesetze, die wirkenden Mächte zu erkennen. ... um das Erfahrungsmässige als ein Nothwendiges zu begreifen.

This coincidence, perhaps trivial on its own, gains significance when one considers also the context of the passage borrowed from Heyse. Heyse's combination of "geschichtliche Sprachforschung" and "philosophische Sprachwissenschaft" was to supersede the traditional, insufficiently empirical "theoretische oder rationale Sprachlehre". To him language comparison rather than abstract reflection was the right way towards a truly general grammar which would consist in two parts, an "(ethnographisch-) genealogisches" and a "begriffmäßiges Sprachen-System". The 'conceptual' system, to some extent overlapping with the genealogical one, would be "eine Classification der Sprachen nach ihrem inneren Charakter, ihrer wesentlichen Eigenthümlichkeit" (1856: 231). Such classifications had already been attempted (by the Schlegels, Bopp, Pott, Schleicher, Humboldt, and Steinthal), but they all seemed premature to Heyse, for not enough was yet known about the more out-of-the-way languages. The 'essential characteristics' upon which to base more adequate future classifications would potentially be diverse, and Heyse's informal survey accordingly includes phonetic, lexical, morphological, and syntactic candidates (1856: 235-51), which, however, must not be considered in isolation:

Nur müssen diese Elemente nicht vereinzelt, sondern unter beständiger Beziehung auf einander, als in einander greifende Glieder eines Ganzen betrachtet werden. (1856: 234)

The "innere Harmonie aller Elemente einer Sprache, die Einheit ihres Bildungsprincips" (1856: 300) may even manifest itself in such seemingly idiosyncratic regularities as those of phonotactics. The ensembles of overt and inner structural features characteristic of the different classes could be indicative of different mentalities of language communities; but Heyse also reckoned with reverse influences of language structures on the "Volksgeist".

Heyse's conception of a "begriffmäßiges Sprachen-System", not the result of inductive searches for novel systemic connections between dominant and subordinate features, was not especially original.²⁷ It is primarily from the way it was presented that one suspects it deserves a place of honour in the ancestry of Gabelentz's typology.

Upon the death of August Friedrich Pott (1802–87), the custodian of the legacies of both Humboldt and Bopp who had taught general linguistics to unappreciative students at Halle, Gabelentz skimmed once more the extensive writings of this friend of his father's. In his obituary for the *Allgemeine deutsche Biographie* (1888) he paid tribute to Pott among other things for his sober views on linguistic kinship and specially recommended a polemic article, 'Max Müller und die Kennzeichen der Sprachverwandtschaft' (1855), to overenthusiastic genealogists. This makes instructive reading also for students of the gestation of typology.

In his invective directed at Max Müller and his fellow believers in Turanian and other fanciful families, Pott pointed out that similarities between languages could be due to chance, universal or typological affinities ("generelle Aehnlichkeiten allgemeinemenschlicher Art oder im physiologischen Typus"), as well as to borrowing or original inheritance ("Stammverwandtschaft"). The likelihood of shared non-universal properties being due to chance decreases the more numerous they are, whence the necessity to calculate probabilities and to base one's conclusions from observed similarities on statistics ("statistisches Verhältnis bei Abwägung von Aehnlichkeit und Unähnlichkeit zwischen Sprache und Sprache gegen einander". 1855: 420). Qualitative criteria need to be invoked when distinguishing between typological affinity and genealogical affiliation, since in both cases the similarities will be too numerous to be reasonably attributed to

²⁷ As far as I am aware, Antoine Court de Gébelin (1719–84) was the first explicitly to recognize a "grammaire comparative" as separate from both universal and particular grammar, in the second volume of his *Monde primitif* (1774: 558ff.; cf. also 1776: 138ff.). In Germany, Johann Werner Meiner (1723–89) had called for an empirical-comparative "harmonische Sprachlehre", to be distinguished from the traditional speculative "philosophische Sprachlehre" (1781: v).

chance. "Physiologische Textur-Aehnlichkeit", also called "Aehnlichkeit in der grammatischen Textur", suffices for affinities of type, whereas such similarities must be accompanied by etymological ones for languages to count as "stammverwandt". The great chain of being in its temporalized form was not to the liking of Pott, the amateur botanizer, who could therefore draw support for the distinction between typological and genealogical relatedness in linguistics from zoological classification, where the unity of type (e.g. that of mammals) supposedly was not a proof of a common evolutionary origin. For the physiological types of languages, much less numerous than what might be suggested by overt, physiognomic diversity, some structural traits seemed more important than others; Pott's examples of "eigentlich bedingende Lebensprincipien" of types are the reliance alternatively on word order, function words, or inflection (of the flexional kind) to encode grammatical categories, and the trilateral structure or monosyllabicity of roots (as found in Semitic and Indo-European, respectively). Pott made no attempt here to flesh out such classifications by reducing further physiognomic traits to physiological types. Occurrences of shared features in genealogically unrelated languages from distant parts of the globe ("auf den entferntesten Punkten der Erde", 1855: 420), at any rate, were for him no more a cause for surprise than they were some forty years later for Gabelentz ("Kaum minder verblüffend aber ist eine andere Wahrnehmung, wenn nämlich zwei physiognomische Züge, die anscheinend schlechterdings nichts mit einander zu thun haben, gepaart an den verschiedensten Punkten der Sprachenwelt wiederkehren", 1894: 5). Whatever such almost identical formulations prove on their own, Pott's article on language relationships and Gabelentz's typology programme share enough other traits to be considered physiologically as well as genealogically related. Pott's marked preference for the term "(physiologischer) Typus" is echoed in Gabelentz's naming of his brainchild. Pott's "bedingende Lebensprincipien" have their counterparts in Gabelentz's "hervorstechende/entscheidende Merkmale", with biological classification serving as the joint model. And there is the common methodological tool of statistics, to be applied to cross-linguistically recurring combinations of physiognomic traits, albeit to somewhat different ends.

Pott had played a major and not uncontroversial role in propagating what came to be known as Humboldt's four-way classification of languages (isolating, agglutinative, flexional, incorporating), and on this point had been engaged in a running battle with that other Humboldtian heir, Heymann Steinthal (1823-99), who held that Humboldt's classification was not one of languages at all but of techniques of word and clause construction. What was mainly at issue here, empirically (though facts were often lost sight of), was whether grammatical machineries, or organisms, indeed were internally sufficiently homogeneous, unwavering in their allegiance to the isolating, agglutinative, flexional, or incorporating technique, to warrant the classification of entire languages by their preferences for one or the other of these techniques. However, the staunchest diversitarians would not go so far as to claim that combinations of techniques were ever irredeemably capricious: one or the other was recognizably predominant in virtually all known languages, even if the differences between them were not categorical but a matter of degrees; lexemes of a given class would not vary randomly within languages in opting for one or another technique; and the varieties of techniques employed in a language to express the several terms of one category (say, 1st, 2nd, and 3rd person, or singular, dual, and plural number) tended to be rather limited. In this debate, where Pott fought on the uniformitarian side, there was thus some basic consensus that languages, while not necessarily all of a piece, were not chaotic agglomerations of techniques of construction. Language classifications in this vein were never really entirely artificial, in so far as they saw the various particular uses of techniques as to some extent systemically interrelated.²⁸ By the middle of the century virtually everybody would have subscribed to that fundamental condition for classifications as once set down by Pott's Humboldtian adversary and companion, Steinthal:

²⁸ Grasserie's (1890) criticism of his predecessors as well as of himself as being preoccupied with artificial classification is thus too sweeping. Pott's aim in particular was a classification of languages according to their "Totalhabitus" (e.g. 1884: 56), a term as well as an aim he had borrowed from another comparative anatomist, Johann Friedrich Blumenbach, whose *Handbuch der vergleichenden Anatomie* (1805) and other writings were almost as influential as Cuvier's.

Das Eintheilungsmerkmal darf also nicht irgend eine vereinzelte Bestimmung an den Sprachen sein, ... sondern es muß den ganzen sprachlichen Organismus durchdringen und bestimmen. (1850: 67)

However, classifiers did tend increasingly to disagree on what exactly was that most-prized all-pervasive determinant and on what exactly were its structural ramifications.

Debates about conjunctures of differently ranked traits, thus, were in full swing as Pott and Steinthal were in their prime. The danger was that they were becoming stale and dogmatic, revolving around a limited range of facts that were rehashed over and over again. But fortunately there had appeared on the scene the likes of James Byrne and Raoul de la Grasserie, who were more adventurous in their search for conjunctures. If Gabelentz was continuing this tradition, to which he was by no means a stranger, why then did he insist that 'typology' was a task that was somehow new?

8. A WORD OF ADVICE

Comparatists of the 19th century were able to draw on reasonably accurate descriptions of many of the world's languages. Few, however, were conscientious enough to do so to the extent that would have been necessary in order to raise the credibility of their induced conjunctures way above the level once attained under less favourable circumstances.²⁹ Traits were rarely debated as candidates for systemic cohesion which had not already figured in one or another earlier classificatory scheme, and the combinations in which these largely familiar elements tended to appear were rarely novel. Previously suggested conjunctures were rarely refuted; some simply sank into oblivion or were discarded when theoretical predispositions changed. Lip service continued to be paid to the grand idea that languages are mechanisms, organisms, or systems *où tout se tient*, and although the ambition to emulate systematists of nature such as Cuvier continued to be

²⁹ In fact, much of what had been achieved by 18th century and earlier typologists (or 'geniologists') had meanwhile been forgotten, once the Romanticist continuators of the Enlightenment tradition of typological research had failed to acknowledge their intellectual debts. I have dealt with this submerged tradition elsewhere (Plank 1987a, 1987b, 1989, 1991).

widespread,³⁰ few made serious efforts to find out just how much truth there was in this truism. It is perhaps a mitigating circumstance that the task at hand, unlike the historical-comparative study of Indo-European, Germanic, Romance, or Slavonic sounds, inflections, and words, remained essentially a domain of a group of amateurs,³¹ fired with enthusiasm but not well equipped to conduct research on such a large scale, and prone to misjudgments about which achievements were within their reach. Their task grew ever more daunting as the knowledge of languages widened and deepened and the evidence to be sifted by the comparatist thus multiplied. Moreover, success was never guaranteed, even if one set one's sight on inducing no more than a couple of modest conjunctures rather than on proving once and for all that literally *tout se tient*.

This was the state of affairs to which Georg von der Gabelentz reacted with his outline of a new task for linguistics. His point was not that something be done which had never been attempted before in the realm of language. For centuries comparatists had busied themselves with inducing conjunctures and constructing from them natural systems, although lately this had not been a central concern of mainstream professional linguistics. And that was Gabelentz's point: what had been achieved in the past fell short of what it was possible to achieve at present or in the near future, on condition that research was done in a professional manner. This condition was the really important part of his message. As things stood, there was a yawning chasm between the pretensions of linguistic systematists and their actual accomplishments:

³⁰ Friedrich Schlegel (1772-1829) is perhaps best known of those who claimed that what they were doing as comparative grammarians was similar to what Cuvier had done as a comparative anatomist. This claim (Schlegel 1808: 28), though often quoted, is probably exaggerated; see Wells (1987).

³¹ Very few of those devoting themselves to this task, up to Georg von der Gabelentz, earned their living as general comparative grammarians (Pott and Steinthal did, and, in the 18th century, Nicolas Beauzée, at least temporarily), but even they had not received institutionalized training in this particular field of inquiry, nor did they pass on their expertise to students who would themselves become general comparative grammarians.

misst man die Theorie an den Thatsachen: so scheint es bald, als hätte man nur die traurige Wahl, sich sofort für insolvent zu erklären oder mit Kunstmitteln Wechselreiterei zu treiben, bis der Bankerott von selbst ausbricht. (Gabelentz 1894: 4)

Convinced that the fault lay with the accomplishments rather than the pretensions, Gabelentz offered two pieces of advice on how to bridge this chasm between them.

The first was of a practical kind and concerned the procurement of reliable information about a representative sample of the languages of the world. The traditional method was for the individual researcher to wade through whatever published accounts were available and to use excerpts from these as the basis of his inductions. Often he would be unable to assess the reliability of his sources, which, moreover, could differ widely in conceptual format. Such difficulties could be overcome if comparatists were able to consult with recognized experts on particular languages and if these consultations were standardized. What was called for, thus, was the use of a questionnaire designed by a team of experts, so as to cover all cross-linguistic eventualities:

Die Arbeit verlangt eine Kommission, und die Kommission verlangt ein bis ins Einzelste ausgearbeitetes Programm, und dies Programm verlangt mehr selbstentsagenden Gehorsam, als man von der Mehrzahl der Gelehrten erwarten darf. Doch solche Schwierigkeiten sind zu überwinden.

Unter dem Programme aber denke ich mir eine Art Fragebogen, der kategorienweise alle grammatischen Möglichkeiten erschöpft, so dass jede Frage mit einem Ja oder Nein beantwortet ist. Eine solche Fragestellung ist schwierig für den Fragesteller selbst, manchmal auch für den Beantworter; aber Unmögliches wird keinem der Beiden zugemutet. (1894: 6)

It is a pity that this appeal to the team spirit of typologists failed to make its way into the second edition of *Die Sprachwissenschaft*.

Gabelentz's second piece of advice only just managed to sneak into the posthumous edition of his book, but is so inconspicuous there that it escaped many seekers of handy quotations. As should have become obvious from the above survey, applying the principles of the correlation of parts and of the subordination of characters in pursuit of a natural system of languages got more and more difficult as the linguistic universe widened. Especially with systematists who ventured off the beaten track, such

as James Byrne or Raoul de la Grasserie, the danger was that this project was running wild. As the best means to avoid losing control when engulfed in oceans of data Gabelentz suggested statistics:

Einem nothwendigen, die Gewähr der Richtigkeit in sich tragenden Gedanken [such was his optimism] darf man aber nicht darum entsagen, weil der erste Versuch, ihn zu verwirklichen, fehlschlug. Es gilt, ihn in eine kontrollierbare Form zu kleiden, und besser kontrollierbar ist keine als die statistische. Hier wünschte ich die Arbeit anfangen zu sehen. (1894: 4)

In the added passage in *Die Sprachwissenschaft* (1901: 481), what remains of this is a rather peripheral allusion to “ziffermässig bestimmte Formeln”. However, from another addendum three pages further it is clear that the proper method of data analysis indeed was intended to be the gist of Gabelentz’s programme, for here he explains what he actually means by ‘typology’: “jene grammatische Statistik ... , die ich vorhin als Typologie bezeichnete” (1901: 484).

Georg von der Gabelentz’s career as a typologist was cut short by an early death. His hope had been to see his programme of a rigorous statistics of conjunctures, carried out in collaboration, completed during his lifetime. That object of desire, “eine wahrhaft allgemeine Grammatik, ganz philosophisch und doch ganz induktiv” (1894: 7), was in sight, as even the laws behind the incontrovertible regularities would be discovered by the beginning of the 20th century, if all went well. It’s the conditionals that matter.

Address of the author: Frans Plank
 Philosophische Fakultät
 Universität Konstanz
 Postfach 5560
 DW-7750 Konstanz 1 (BRD)

REFERENCES

- Appel, Toby A. 1987. *The Cuvier-Geoffroy debate. French biology in the decades before Darwin.* New York: Oxford Univ. Press.
- Baumann, Hans-Heinrich. 1976. "Über die dreifache Wurzel der Idee zu einer implikativen Typologie." *Lingua e Stile* 11, 189-222.
- Blumenbach, Johann Friedrich. 1805. *Handbuch der vergleichenden Anatomie.* Göttingen: H. Dietrich.
- Byrne, James. 1885. *General principles of the structure of language.* London: Trübner, 2 vols. (2nd edn., London: Kegan Paul, Trench, Trübner, 1892.)
- Coleman, William. 1964. *Georges Cuvier, zoologist. A study in the history of evolution theory.* Cambridge, Mass.: Harvard Univ. Press.
- Coseriu, Eugenio. 1967. "Georg von der Gabelentz et la linguistique synchronique." *Word* 23, 74-100. (German translation prefixed to 1969, 1972, and 1984 reprints of Gabelentz, *Die Sprachwissenschaft* (1901).)
- Coseriu, Eugenio. 1980. "Der Sinn der Sprachtypologie." In: *Typology and genetics of language*, ed. T. Thrane et al., 157-170. Copenhagen: Munksgaard (TCLC 20).
- Coseriu, Eugenio. 1983. "Sprachtypologie und Typologie von sprachlichen Verfahren." In: *Allgemeine Sprachwissenschaft, Sprachtypologie und Textlinguistik. Festschrift für P. Hartmann*, ed. M. Faust et al., 269-279. Tübingen: Narr.
- Court de Gébelin, Antoine. 1774. *Monde primitif, analysé et comparé avec le monde moderne; Considéré dans l'histoire naturelle de la parole, ou Grammaire universelle et comparative.* Paris: Boudet.
- Court de Gébelin, Antoine. 1776. *Histoire naturelle de la parole, ou Précis de l'origine du langage & de la grammaire universelle. Extrait du Monde primitif.* Paris: Boudet et al.
- Cuvier, Georges. 1798. *Tableau élémentaire de l'histoire naturelle des animaux.* Paris: Baudouin (an 6).
- Cuvier, Georges. 1805. *Leçons d'anatomie comparée. Tome premier, contenant Les organes du mouvement.* Paris: Baudouin (an 14).
- Cuvier, Georges. 1812. *Recherches sur les ossemens fossiles de quadrupèdes ... Tome premier, contenant Le discours préliminaire et la géographie minéralogique des environs de Paris.* Paris: Déterville.
- Cuvier, Georges. 1817. *Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée.* Paris: Déterville, 4 vols.
- Daudin, Henri. 1926. *Les classes zoologiques et l'idée de serie animale en France à l'époque de Lamarck et de Cuvier (1790-1830).* Paris: F. Alcan, 2 vols.
- Finck, Franz Nikolaus. 1898/99. "Der deutsche sprachbau als ausdruck deutscher weltanschauung. Acht vorträge." *Die neueren Sprachen* 5/6. (Reprinted separately, Marburg: Elwert, 1899.)

- Gabelentz, Georg von der. 1869. "Ideen zu einer vergleichenden Syntax — Wort- und Satzstellung." *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* 6, 376–384.
- Gabelentz, Georg von der. 1875. "Weiteres zur vergleichenden Syntax — Wort- und Satzstellung." *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* 8, 129–165, 300–338.
- Gabelentz, Georg von der. 1878. "Beitrag zur Geschichte der chinesischen Grammatiken und zur Lehre von der grammatischen Behandlung der chinesischen Sprache." *ZDMG* 32, 601–664.
- Gabelentz, Georg von der. 1881. *Chinesische Grammatik*. Mit Ausschluss des niederen Stiles und der heutigen Umgangssprache. Leipzig: Weigel.
- Gabelentz, Georg von der. 1886. "Hans Conon von der Gabelentz als Sprachforscher." *Berichte der Königlich Sächsischen Gesellschaft der Wissenschaften zu Leipzig, phil.-hist. Classe.* 38, 217–241. Leipzig: Hirzel.
- Gabelentz, Georg von der. 1887. "Kri-Sprache." In: *Allgemeine Encyclopädie der Wissenschaften und Künste ...*, ed. J. S. Ersch & J. G. Gruber. Zweite Section, H-N. ed. A. Leskien, 40. Theil, 50–53. Leipzig: F. A. Brockhaus.
- Gabelentz, Georg von der. 1888. "Pott." In: *Allgemeine Deutsche Biographie* 25, 478–485. Leipzig: Duncker & Humblot.
- Gabelentz, Georg von der. 1890. "Antrittsrede." *Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin, Jahrgang 1890, Zweiter Halbband*, Stück 33, 782–785. Berlin: Verlag der Königl. Akad. der Wissenschaften.
- Gabelentz, Georg von der. 1891. *Die Sprachwissenschaft, ihre Aufgaben, Methoden und bisherigen Ergebnisse*. Leipzig: T. O. Weigel Nachfolger (Tauchnitz).
- Gabelentz, Georg von der. 1894. "Hypologie der Sprachen, eine neue Aufgabe der Linguistik." *IF* 4, 1–7.
- Gabelentz, Georg von der. 1901. *Die Sprachwissenschaft, ihre Aufgaben, Methoden und bisherigen Ergebnisse*. Zweite, vermehrte und verbesserte Auflage, herausgegeben von Dr. Albrecht Graf von der Schulenburg. Leipzig: Chr. H. Tauchnitz. (Reprinted, Tübingen: Narr, 1969, 1972, 1984.)
- Grasserie, Raoul de la. 1889/90. "De la classification des langues. I. Partie: Classification des langues apparentées. II. Partie: Classification des langues non-apparentées." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 4, 374–387; 5, 296–338.
- Haarmann, Harald. 1976. *Grundzüge der Sprachtypologie. Methodik, Empirie und Systematik der Sprachen Europas*. Stuttgart: Kohlhammer.
- Hale, Horatio. 1886. *The origin of languages and the antiquity of speaking man*. An address. Cambridge, Mass.: Wilson (Proceedings of the American Association for the Advancement of Science XXXV).
- Hammond, Michael, Edith Moravcsik, Jessica Wirth. 1988. "Language typology and linguistic explanation." In: *Studies in syntactic typology*, ed. M. Hammond et al., 1–22. Amsterdam: John Benjamins.

- Heyse, Karl Wilhelm Ludwig. 1856. *System der Sprachwissenschaft*. Nach dessen Tode herausgegeben von Dr. H. Steinthal. Berlin: Ferd. Dümmler.
- Humboldt, Wilhelm von. 1884. "Grundzüge des allgemeinen Sprachtypus." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 1, 383-411 (Extracts from a manuscript of 1824-26.)
- Jussieu, Antoine-Laurent de. 1789. *Genera plantarum*. Paris: Hérissant.
- Kaden, Klaus, Manfred Taube, Karin Westphal. 1979. "Bibliographie für Hans Georg Conon von der Gabelentz." In: Hans Georg Conon von der Gabelentz, *Erbe und Verpflichtung*, ed. E. Richter & M. Reichardt, 229-242. Berlin: Akademie (Linguistische Studien A-53).
- Koerner, E. F. Konrad. 1972. "Hermann Paul and synchronic linguistics." *Lingua* 29, 274-307.
- Koerner, E. F. Konrad. 1974. "Animadversions on some recent claims regarding the relationship between Georg von der Gabelentz and Ferdinand de Saussure." In: *Studi Saussuriani per Robert Godel*, ed. R. Amacker et al., 165-180. Bologna: Il Mulino.
- Kruszewski, Nikolai. 1884-90. "Prinzipien der Sprachentwicklung." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 1, 295-307; 2, 258-268; 3, 145-187; 5, 133-144, 339-370.
- Lewy, Ernst. 1944. "James Byrne." In: *A dictionary of Irish writers*, 28-31. Dublin. (Reprinted in Lewy, *Kleine Schriften*, 687-689. Berlin: Akademie-Verlag, 1961.)
- Marshman, Joshua. 1814. *Clavis sinica*. Elements of Chinese grammar, with a preliminary dissertation on the characters, and the colloquial medium of the Chinese, and an appendix containing the Tahyoh of Confucius with a translation. Serampore: Mission Press.
- Meiner, Johann Werner. 1781. *Versuch einer an der menschlichen Sprache abgebildeten Vernunftlehre, oder Philosophische und allgemeine Sprachlehre*. Leipzig: Gottlob.
- Mill, John Stuart. 1843. *A system of logic, ratiocinative and deductive, being a connected view of the principles of evidence and the methods of scientific investigation*. London: J. Parker. (8th edn., 1872.)
- Misteli, Franz. 1893. *Charakteristik der hauptsächlichsten Typen des Sprachbaues*. Neubearbeitung des Werkes von Prof. H. Steinthal (1861). Berlin: Ferd. Dümmler.
- Picardi, Eva. 1977. "Some problems of classification in linguistics and biology, 1800-1830." *Historiographia Linguistica* 4, 31-57.
- Plank, Frans. 1981. "Geschichtlich verwandt — elementar verwandt — typologisch verwandt." *Linguistische Berichte* 74, 35-44.
- Plank, Frans. 1986. "Preface by the guest-editor." *FoL* 20 / 1-2: Special issue on typology, 1-3.
- Plank, Frans. 1987a. "The Smith-Schlegel connection in linguistic typology: Forgotten fact or fiction?" *ZPSK* 40, 196-214.
- Plank, Frans. 1987b. "What Friedrich Schlegel could have learned from Alexander ('Sanscrit') Hamilton besides Sanskrit." *Lingua e Stile* 22, 367-384.

- Plank, Frans. 1989. "Chapters from the early history of linguistic typology." ms.
- Plank, Frans. 1991. "Adam Smith, grammatical economist." In: *Essays on Adam Smith*, ed. P. Jones & A. Skinner, Edinburgh: Edinburgh Univ. Press.
- Pott, August Friedrich. 1855. "Max Müller und die Kennzeichen der Sprachverwandtschaft." *ZDMG* 9, 405-465.
- Pott, August Friedrich. 1884. "Einleitung in die allgemeine Sprachwissenschaft." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 1, 1-68.
- Ramat, Paolo. 1983. "Presentazione." In: *Universali del linguaggio e tipologia linguistica. Sintassi e morfologia*, by Bernard Comrie, 5-18. Bologna: Il Mulino.
- Reichling, Anton. 1948. "What is general linguistics?" *Lingua* 1, 8-24. (Originally published as: *Wat is Algemene Taalwetenschap?* Groningen: Wolters, 1947)
- Rheinberger, Hans-Jörg. 1986. "Aspekte des Bedeutungswandels im Begriff organismischer Ähnlichkeit vom 18. zum 19. Jahrhundert." *History and Philosophy of the Life Sciences* 8, 237-250.
- Schlegel, Friedrich. 1808. *Ueber die Sprache und Weisheit der Indier. Ein Beitrag zur Begründung der Alterthumskunde.* Heidelberg: Mohr & Zimmer.
- Schulenburg, Albrecht Graf von der. 1891. *Grammatik der Sprache von Murray Island.* Leipzig: Brückner & Niemann (Inaugural-Dissertation, Berlin).
- Schulenburg, Albrecht Graf von der. 1893. *Grammatik, Vocabularium und Sprachproben der Sprache von Murray Island.* Leipzig: W. Friedrich (Einzelbeiträge zur allgemeinen und vergleichenden Sprachwissenschaft, 11. Heft).
- Schulenburg, Albrecht Graf von der. 1894. *Die Sprache der Zimshian-Indianer in Nordwest-America.* Braunschweig: R. Sattler.
- Schulenburg, Albrecht Graf von der. 1895a. *Fürstin Chiang und ihre beiden Söhne. Eine Erzählung aus dem Tso-Chuan.* Leiden: E. J. Brill (Habilitationsschrift, München).
- Schulenburg, Albrecht Graf von der. 1895b. *Über die Verschiedenheiten des menschlichen Sprachbaues. Eine Studie über das Werk des James Byrne, Principles of the Structure of Language.* Leipzig: Harrassowitz.
- Seiler, Hansjakob. 1978. "The Cologne project on language universals: Questions, objectives, and prospects." In: *Language universals*, ed. H. Seiler, 11-25. Tübingen: Narr.
- Smith, Adam. 1761. "Considerations concerning the first formation of languages, and the different genius of original and compounded languages." In: *The philological miscellany; consisting of selected essays from the Memoirs of the Academy of Belles Lettres at Paris, and other foreign academies. Translated into English. With original pieces by the most eminent writers of our own country*, vol. I, 440-479. London: T. Beckett & P. A. Dehondt. (Reprinted as an appendix in: Adam Smith, *The*

- theory of moral sentiments, to which is added a dissertation on the origin of languages. London & Edinburgh: Millar, Kinkaid & Bell, 1767, 3rd edn.)
- Steinthal, H. 1850. *Die Classification der Sprachen, dargestellt als die Entwicklung der Sprachidee*. Berlin: Ferd. Dümmler.
- Steinthal, H. 1860. *Charakteristik der hauptsächlichsten Typen des Sprachbaues*. Berlin: Dümmler.
- Sütterlin, Ludwig. 1904. "Besprechung von Georg von der Gabelentz, *Die Sprachwissenschaft* (1901)." *Literaturblatt für germanische und romanische Philologie* 25, 319-320.
- Techmer, Friedrich. 1880. *Zur vergleichenden Physiologie der Stimme und Sprache. Phonetik*. Leipzig: Wilhelm Engelmann.
- Techmer, Friedrich. 1887. "Besprechung von James Byrne, *General principles of the structure of language* (1885)." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 3, 314-315.
- Techmer, Friedrich. 1889. "Bibliographie 1886." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 4, 160-333.
- Techmer, Friedrich. 1890. "Beitrag zur Geschichte der französischen und englischen Phonetik und Phonographie, I." *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 5, 145-295.
- Wells, Rulon S. 1987. "The life and growth of language: Metaphors in biology and linguistics." In: *Biological metaphor and cladistic classification. An interdisciplinary perspective*, ed. H. Hoenigswald & L. F. Wiener, 39-80. Philadelphia: Univ. of Pennsylvania Press.
- Winkler, Heinrich. 1887. *Zur Sprachgeschichte. Nomen. Verb und Satz. Antikritik*. Berlin: Ferd. Dümmler.