HISTORY OF LINGUISTICS 2015-16

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Handout 1 – An outline of 19th century linguistics

N. B: 1) Burridge = Kate Burridge, "Nineteenth Century Study of Sound Change from Rask to Saussure", in *The Oxford Handbook of the History of Linguistics*, ed. by Keith Allan, Oxford, Oxford University Press, 2013, pp. 141-165; 2) Jankowsky = "Comparative, Historical and Typological Linguistics since the Eighteenth Century", id., pp. 635-654. Details of all other bibliographical references (e.g., Lehmann 1967) can be found in Allan, ed., 2013.

1) Beginnings of 19th century linguistics

a) Characteristics of 19th century linguistics

The nineteenth century heralded a new approach to the study of language and languages and established 'linguistics' as a new science, distinct from literary studies and philosophical enquiry [...] We can attribute to this nineteenth-century scholarship some of our basic methodological tools and labels; for example, glossing in modern (as opposed to classical) languages; asterisks for non-attested forms, comparative grammar, Indo-European (IE), protolanguage (*Ursprache*), strong vs weak, *Umlaut*, Ablaut, and many others. (Burridge, pp. 141-2).

b) The reasons of the "new approach": a new look to the genealogical relationship between languages

- *Early attempts*

Hebrew was the parent tongue of all human languages: e.g., Isidore of Seville (6th-7th century a.D.), Dante Alighieri (1265-1321). The myth of Babel.

- *A change of perspective*

Leibniz (1646-1716). Two main language groups: "Japhetic" languages (languages of Eurasia) and "Aramaic" languages (languages of Near East and Africa). Special importance of Leibniz also from a methodological point of view:

Leibniz must certainly be given credit for having introduced, and dealt with elaborately, two phenomena which constitute the fundamental ingredients of both historical and comparative linguistics. The first one is the notion of genealogical relationship of languages—as opposed to a relationship based on borrowing. The second, closely related to the first, is the recognition that only by a thorough comparison of all aspects of language will it be possible to gain insight into the true nature of language. In other words, Leibniz had laid the solid foundation for both historical and comparative linguistics (Jankowsky, p. 636).

The features of the new methodology: the comparison is no longer based on similarity of words, but on grammatical correspondences (Ludolf [1624-1704], from Jankowsky, p. 637):

Si linguam alteri dicere affinem velimus, necesse est, non tantum ut ea contineat nonnulla cujusdam linguae vocabula, sed etiam ut Grammaticae ratio, maxima sui parte, eadem sit, qualis convenientia cernitur in Orientalibus-Ebraea, Syriaca-Arabica, et Aethiopica.	If we want to call one language related to another, it is necessary that the language not only contains some words of the other language, but that also the system of the grammar is to a very large extent the same, just as agreement is recognized in Oriental languages, Hebrew, Syriac, Arabic, and Ethiopian.

- *"The discovery of Sanskrit"*

William Jones (1746-1794; see Burridge, pp. 144-5, for some more information about Jones' work). The address to the Asiatick Society of Calcutta on 2 February 1786 (cf. Burridge, p. 143; Jankowsky, p. 636):

The Sanscrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists: there is a similar reason, though not quite so forcible, for supposing that both the Gothick and the Celtick, though blended with a very different idiom, had the same origin with the Sanscrit, and the old Persian might be added to this family, if this were the place for discussing any question concerning the antiquities of Persia. (Jones 1788)

- *Some forerunners of William Jones*

a) as for the "discovery of Sanskrit": Thomas Stephens (1549-1619), Filippo Sassetti (1540-1588), Fr. Paulinus a Sancto Barthomaeo (1748-1806); b) as for the comparative method: Christian Jacob Kraus (1753-1807), in his review *Vocabolarium totius orbis comparativum* (1787-1789), by P.S. Pallas. (see Jankowsky, pp. 639-40).

c) Friedrich von Schlegel (1772-1829)

- *His interest for Oriental languages (Persian and Sanskrit)*

Anfangs hat mich die Kunst und die persische Sprache am meisten beschäftigt. Allein jetzt ist alles vom Sanskrit verdrängt. Hier ist eigentlich die Quelle aller Sprachen, aller Gedanken und Gedichte des menschlichen Geistes; alles alles stammt aus Indien ohne Ausnahme. (Letter to Ludwig Tieck)	Initially, the art and the Persian language had caught most of my attention. But now everything is replaced by Sanskrit. Here is truly the source of all languages, of all thoughts and poems of the human intellect; each and everything goes back to India without exception.

(cf. also Burridge, pp. 145-6; Jankowsky, pp. 642-3).

- *Fr. Schlegel on the comparative method*

Jener entscheidende Punkt aber, der hier alles aufhellen wird, ist die innere Structur der Sprachen oder die vergleichende Grammatik, welche uns ganz neue Aufschlüsseüber die Genealogie der Sprachen auf ähnliche Weise geben wird, wie die vergleichende Anatomie über die höhere Naturgeschichte verbreitet hat. (von Schlegel 1808, p. 28)	That decisive point, however, which will throw light on everything, is the inner structure of languages or the comparative grammar which will provide us entirely new information on the genealogy of languages in a way similar to what the comparative anatomy has made known on the higher natural history. (Transl. Jankowsky)
Wir erlauben uns dabei keine Art von Veränderungs- oder Versetzungsregel derBuchstaben, sondern fordern völlige Gleichheit des Worts zum Beweise der Abstammung. Freilich wenn sich die Mittelglieder historisch nachweisen lassen, so mag *giorno* von *dies* abgeleitet werden, und wenn statt des lateinischen	We permit absolutely no rules of change or transmutation of letters, but rather demand complete equivalence of the word as proof of descent. Indeed, if it is possible to prove historically the intermediate steps (of historically attested forms), then *giorno* may be derived from *dies*; and when instead of

f im Spanischen so oft *h* eintritt, das lateinische *p* in der deutschen Form desselben Worts sehr haüfig *f* wird und *c* nicht selten *h*, so gründet dieß allerdings eine Analogie auch für andre nicht ganz so evidente Fälle. (von Schlegel1808, pp. 6-7)	Latin *f* often *h* shows up in Spanish and if Latin *p* in the Germanic form of the same word very often becomes *f* and *c* not rarely *h*, this certainly establishes an analogy also for other not quite so apparent cases (where sounds correspond). (transl. Burridge)

In Schlegel's view, Latin, Greek, Germanic languages, etc. (namely, those that were later labeled "Indo-European") were derived from Sanskrit (note that Schlegel's position on this matter is therefore different from that of Jones, who spoke of a "common source which perhaps no longer exists").

- *Fr. Schlegel's typology of languages*
Friedrich von Schlegel, in addition to his comparative and historical approach, was the first to propose a language comparison on a non-historical basis: linguistic typology. Schlegel's initiation, morphological typology, identifies two kinds of language systems, the first characterized by inflection ('durch innre Veränderung des Wurzellauts' [via change of the root sound from within]), the second by affixation or agglutination ('durch ein eigenes hinzugefügtes Wort' [via the addition of a separate word]; von Schlegel 1808: 45)". (Jankowsky, p. 651)

The languages of the first type are called by Schlegel 'organic': they correspond to Indo-European (or 'Sanskritic' languages). All the remaining languages were called 'mechanical'.

- *August Wilhelm Schlegel's (1767-1845) new typology of languages*
He [e.g. A. W. Schlegel] differentiates between (1) isolating languages, i.e. languages without grammatical structure (more accurately, with a low morpheme-per-word ratio); (2) agglutinative languages, i.e. languages using affixes; (3) inflecting languages, i.e. languages relying on inflection ('les langues sans aucune structure grammaticale, les langues qui emploient des affixes, et les langues à inflexions' (von Schlegel 1818: 14). For the inflecting group he proposes a further subdivision into analytical and synthetic languages, the former using particles instead of inflections, the latter identified by a high morpheme-per-word ratio (p. 16). (Jankowsky, p. 651; cf. also Burridge, p. 146).

2) **The first generation of historical-comparative grammarians: Bopp, Rask, Grimm. Wilhelm von Humboldt.**

a) **Historical-comparative grammar in the Indo-European domain: Franz Bopp (1791-1867).**
- *Some of Bopp's biographic data*

a) 1812-1816: study of Sanskrit in Paris with a scholarship endowed to him by the Bavarian government. b) 1816: Bopp's work appears which can be considered as the first one in the domain of historical-comparative grammar in the modern sense (*Über das Conjugationssystem der Sanskritsprache in Vergleichung mit jenem der griechischen, lateinischen, persischen und germanischen Sprache*, "On the system of conjugation of the Sanskrit language, in comparison with that of Greek, Latin, Persian and German language"). c) After his staying in Paris, Bopp moves to London, where he publishes a revised version of his 1816 work: *Analytical Comparison of the Sanskrit, Greek, Latin, and Teutonic Languages* (1821). d) He is appointed the chair of linguistics (more exactly: *Orientalische Literatur und allgemeine Sprachkunde*) at the University of Berlin (1821). He was therefore the first linguist in the "professional" sense of the word.

- *About Bopp's (1821) book*

It is basically a translation of the *Conjugationssystem*, with some important changes. (A) All Sanskrit translations, which in the German edition appeared on pp. 159–312, were omitted. (B) The Persian language was excluded. In a six page 'Selbstanzeige [Self-Announcement],' (Bopp 1821: 530–35) Bopp explained that he wanted to concentrate more exclusively on Sanskrit relations. (C) He included three innovations: 1. The declensions become part of the language comparison. 2. He replaces the successive data arrangement with the side-by-side arrangement of data. 3. He moves further away from Schlegel's theory that inflectional endings emerged organically from the root and embraces instead the agglutination theory […] 'incorporating theory.'. (Jankowsky, p. 645)

- *Bopp on comparative method and on the genealogical relationship between Indo-European languages*

Frederic Schlegel justly expects, that comparative grammar will give us quite new explications of the genealogy of languages, in a similar way as comparative anatomy has thrown light on natural philosophy.
I do not believe that the Greek, Latin, and other European languages are to be considered as derived from the Sanskrit in the state in which we find it in Indian books; I feel rather inclined to consider them altogether as subsequent variations of one original tongue, which, however, the Sanskrit has preserved more perfect than its kindred dialects. (Bopp 1821, pp. 2-3)

- *An example of Bopp's comparative method*

Latin	Greek	Sanskrit
genus 'kind' (Nom.)	*génos*	*janas*
generis (Gen.)	*géneos* (contracted *génous*)	*janasas*

Problems: 1) Why is *genus* a neuter substantive, in spite of the fact that *–s*, in Latin, is the ending of the masculine and feminine gender, but never of the neuter? 2) Why is there an *–s* in the Latin genitive, which lacks in Greek?
Solutions: the comparison of Latin and Greek with Sanskrit shows that 1) the final *–s* of Sanskrit, Latin and Greek is part of the stem, not an ending (so there is no conflict with the –s ending of masculine and feminine); 2) in the genitive, that same *–s* has become *–r-* in Latin ('rhotacism'), while it is fallen in Greek.

- *Bopp's main work*

Vergleichende Grammatik des Sanskrit, Zend, Griechischen, Lateinischen, Litthauischen, Altslawischen, Gotischen und Deutschen ("Comparative Grammar of Sanskrit, Persian, Greek, Latin, Lithuanian, Gothic and German", appearing over nineteen years in six parts: 1833, 1835, 1842, 1847, 1849, 1852).

- *Bopp's typological classification of languages*

In Bopp's *Vergleichende Grammatik* (1. 108) he gives his classification of languages in general. He rejects Fr. Schlegel's bipartition. But his growing tendency to explain everything in Aryan grammar, even the inner changes of Sanskrit roots, by mechanical causes makes him modify A. W. Schlegel's tripartition and place our family of languages with the second instead of the third class. His three classes are therefore as follows: I. Languages without roots proper and without the power of composition, and thus without organism or grammar; to this class belongs Chinese, in which most grammatical relations are only to be recognized by the position of the words. II. Languages with monosyllabic roots, capable of composition and acquiring their organism, their grammar, nearly exclusively in this way; the main principle of word formation is the connexion of verbal and pronominal roots. To this class belong the Indo-European languages, but also all languages not comprised under the first or the third class. III. Languages with disyllabic roots and three necessary consonants as sole bearers of the signification of the

word. This class includes only the Semitic languages. Grammatical forms are here created not only by means of composition, as in the second class, but also by inner modification of the roots. (Otto Jespersen, *Language*, London, Allen & Unwin, 1922, p. 54)

b) Historical-comparative grammar in the Germanic domain: Rask and Jacob Grimm

- *Rasmus Rask (1787-1832)*

Grammatical agreement is a far more certain indication (than is vocabulary) of relationship or original unity; for one finds that a language which is mixed with another very rarely or never takes over changes of form or inflection from this, but on the other hand the more readily loses its own. In this way English has not taken over any Icelandic or French inflections, but on the other hand has lost many of the old inflections of Anglo-Saxon; similarly Danish has not taken over German endings, nor has Spanish taken over Gothic or Arabic endings. This kind of agreement, which is the most important and most certain, has nonetheless been almost entirely overlooked until now in tracing the source of languages, and this is the greatest error of most things written to the present on this point; it is the reason why they are so uncertain and of such small scientific value. […]

If there is found between two languages agreement in the forms of indispensable words to such an extent that rules of letter changes can be discovered for passing from one to the other, then there is a basic relationship between these languages. (Rask 1818, transl. Lehmann 1967: 29).

- *Rask's greatest achievements*

His essay *Undersögelse om det gamle Nordiske eller Islandske Sprogs Oprindelse* 'Investigation on the Origin of the Old Norse or Icelandic Language' was awarded the prize in 1814, but was not published until 1818. Among the numerous merits of the work, two items are of special relevance. One is that he clearly recognized the importance of sound laws to the relating of languages, even though he did not indicate a belief that they operate without exception. The second item of significance is that he established the genealogical relationships within the Germanic language family, without reference to Sanskrit, which at that time he did not know. (Jankowsky, pp. 646-7).

- *Rask's analysis of the correspondences between Icelandic and Greek/Latin consonants* (Rask 1818, pp. 187-8; transl. Lehmann 1967)

Of the mute letters, they generally remain in words, becoming usually:

p to *f*, e.g.	*platus* (broad) – *flatur* (flat); *patēr* – *fadir*
t to *þ*, e.g.:	*treis* (read trís) – *þrír*; *tego* – *eg þek*; *tu* – *þu*.
K to *h*, e.g.:	*kreas* (meat) – *hræ* (dead body); *cornu* – *horn*; *cutis* – *hud*.
B most often remains:	*blazanō* (germinate) – *blad*; *bruō* (spring forth) – *brunnr* (spring); *bullare* – *at bulla*
d to *t* :	*damaō* (tame) – *tamr* (tame); *dignus* – *tíginn* (elevated, noble).
G to *k* :	*gunē* – *kona*; *genos* – *kyn* or *kin*; *gena* – *kinn*; *agros* – *akr*.
Ph to *b* :	*phēgos* – Danish Ḇø̱g; *fiber*, - Icel. *Bifr*; *phero, fero* – *eg ber*.
Th to *d* :	*thurā* – *dyr*; so also in Latin, *theos* – *deus*.
Kh to *g* :	*khuō* – Danish *gyder*; *ekhein* – *ega*; *5hurta* – grýta; *kholē* – *gall*.

' to s :   *heks* – sex; *hama – saman*; *hupnos – svefn*,
Danish *Søvn*

- *Jacob Grimm (1785-1863)*

"Grimm's Law,' now almost a household name in historical linguistics, is rather a misnomer. Nowhere in Grimm's work is there ever mention of a law, only a *Lautverschiebung* (sound shift). Moreover, as we have seen, Rasmus Rask had already uncovered the basis of such a law. […]
He noted, for example, that where Gothic had b, the non-Germanic languages had some sort of 'aspirate' (Latin f, Greek ph, Sanskrit bh); when Gothic had p, the non-Germanic languages had b; where Gothic had f, Latin, Greek, and Sanskrit frequently had p. In order to account for these correspondences, Grimm postulated a *Kreislauf* 'rotation' in the prehistory of Germanic, in which Proto-Indo-European (PIE) voiced aspirates became voiced plosives in Germanic (note: Grimm included both aspirated stops produced with an accompanying audible puff of breath and fricatives produced with audible friction on account of incomplete closure in the vocal tract); voiced plosives became voiceless plosives and voiceless plosives became voiceless aspirates.[…]
Grimm himself later showed that a second consonant shift (later known as the High German Consonant Shift or Second Germanic Consonant Shift) separated off High German from the other Western Germanic languages that didnot undergo the shift". (Burridge, p. 151)

- *Is* Lautverschiebung *a "sound law" (Lautgesetz)?*

Die lautverschiebung erfolgt in der masse, thut sich aber im enzelnen niemals rein ab. Es bleiben wörter in dem verhältnisse in der alten einrichtung stehn, der stromder neuerung ist an ihnen vorbeigestoßen. (Jacob Grimm 1822: 590)	The sound shift is a general tendency; it is not followed in every case. There are words that stay put within the relations of the old set-up, the path of the innovation passing them by.

When *Lautgesetz* was used in the early nineteenth century, it was at best a rule valid for the majority of cases, but certainly no law in the generally accepted sense. Those working with the term were well aware that a good amount of wishful thinking was involved. Even Jacob Grimm had stated expressly in connection with the sound shift that his regularity rule or *Gesetz* was applied when items showed agreement 'in der Masse, thut sich aber im einzelnen niemals rein ab [in the majority, but does in singular instances never occur purely]' (Grimm 1822: 590). (Jankowsky, p. 648)

- *An "outsider": Jacob Hornemann Bredsdorff (1790-1841)*

What distinguishes Bredsdorff is that he looked into the how and the why of change. Separating off external pressures (contact), he identified four main internal motivations for sound change: 1. Mishearing and misunderstanding. […] 2. Imperfection of speech organs. […] 3. Indolence. […] 4. The desire to be distinct. (Burridge, p. 149)

c) Wilhelm von Humboldt (1767-1835)

- *Humboldt's view of language*

His [e.g., Humboldt's] remarkable views on language ranged widely across different aspects of the humanities and his ideas still sound strikingly modern: the importance of first-hand observation of living languages; the notion of linguistic creativity; the rise of inflectional morphology through the agglutination of syllables; grammaticalization of word order; genetic versus typological classification; the recognition of four abstract forms of language (flexional, agglutinative, incorporating, and isolating, which Humboldt claimed characterized all languages to a certain extent); the close link between language, culture, and thought; the importance of describing every new language for its own sake (i.e. not through the linguistic spectacles of IE). (Burridge, pp. 147-8)

The difference among languages, he asserts, is not one of sounds or symbols, but is based instead on the different ways in which each language perceives the surrounding world. The function of language is not 'die schon erkannte Wahrheit darzustellen, sondern weit mehr, die vorher unerkannte Wahrheit zu entdecken [to present the truth already recognized, but much more, to discover the truth so far unrecognized]' (von Humboldt 1963 [1820]: 20)" (Jankowsky, p. 641)

- *Humboldt's definition of linguistic relationship*

[H]alte ich den Schluss auf die Verwandtschaft aus dem grammatischen Bau, und wenigstens muss man dabei, dünkt mich, notwending genau die verschiedenen Teile unterscheiden, aus denen der grammatische Bau besteht. Man kann darin, meiner Erfahrung nach, unterscheiden: 1. Dasjenige was bloss aus Ideen und Ansichten beruht, und wovon man eine Schilderung machen kann, ohne nur Einen Laut der Sprache zu erwähnen; z.B. ob die Sprache eigne Verba hat, oder jedes Wort als ein Verbum behandeln kann, ob das Pronomen bloss den Begriff der Person enthält, oder auch den des Seins und dadurch zum Verbum substantivum wird, ob es ein Passivum gibt, oder man das Passivum nur wie ein impersonales Activum behandelt u.s.f. 2. Die technischen Mittel, die grammatischen Verschiedenheiten zu bezeichnen, ob durch Affixa, Umlaut, Silbenwiederholung u.s.f. 3. Die wirklichen Laute, die grammatischen Bildungssilben, wie das a privativum, die Substantivendungen u.s.f . . . Der letzte [Teil] hat eine sehr genaue Ähnlichkeit mit der Mitteilung wirklicher Wörter. Er gehört zum Teil zum lexikalischen Teil der Sprache [. . .] Dieser Teil der Grammatik scheint mir am meisten für die Verwandtschaft, oder dagegen zu beweisen, weil er der speziellste ist [. . .]	Coming to the relationship based on the grammatical structure, it seems to me that it is necessary, at least, to distinguish the different parts which the grammatical structure consists of. On the basis of my experience, one can distinguish: 1. That which rests exclusively on ideas and views and which one can describe perfectly well without mentioning a single sound of the language; e.g. whether the language has verbs or allows words to function as verbs, or the pronoun just contains the concept of person, or also that of being and therefore becomes the substantive verb [i.e., the verb 'to be'], or it has a passive voice, or the passive is treated just as an impersonal active, and so on. 2. The technical means to denote the grammatical distinctions (e.g. affixation, *Umlaut*, reduplication, and so on). 3. The actual sounds of the grammatical elements (e.g. the negative *a* in Sanskrit and in Greek, the noun endings, and so on). […] The last part has a close resemblance with the transmission of real words, and bears on the lexical aspects of language. This part of grammar seems to me the most significant for deciding for or against the [genealogical] relationship, since it is the most specific.

- *Humboldt's typological classification of languages*

Wilhelm von Humboldt revised and expanded Schlegel's grouping by adding on the polysynthetic group, mainly to cover American Indian languages. Peter S. Duponceau (1760–1844), who supposedly was the first to make use of the term 'polysynthetic' in 1819, refers to American Indian languages as being 'rich in grammatical forms and that in their complicated construction, the greatest order, method and regularity prevail. . . . [T]hese complicated forms, which I call polysynthesis, appear . . . to differ essentially from those of the ancient and modern languages of the old hemisphere' (Duponceau 1819: xxiii). (Jankowsky, p. 652)

3) **The second generation of historical-comparative linguists. Towards the assumption of real "sound-laws"**
a) **August Schleicher (1821-1868)**
   - *Schleicher's view of languages as "natural organisms"*

Die Sprachen sind Naturorganismen, die, ohne vom Willen des Menschen bestimmbar zu sein, entstunden, nach bestimmten Gesetzen wuchsen und sich entwickelten... . Die Glottik, die Wissenschaft der Sprache, ist demnach eine Naturwissenschaft; ihre Methode ist... dieselbe wie die der übrigen Naturwissenschaften. (Schleicher 1863, p. 7)	Languages are natural organisms, which, without being determinable by the will of man, came into existence, grew according to certain laws and underwent developments. ... Glottology, the science of language, is therefore a natural science; its method is ... the same as that of the other natural sciences. (transl. Jankowsky)

> III. Das leben der sprache (gewönlich geschichte der sprache genant) zerfält in zwei hauptabschnitte:
>
> 1. entwickelung der sprache, vorhistorische periode. Mit dem menschen entwickelte sich die sprache d. h. der lautliche außdruck des denkens. Auch die einfachste sprache ist das ergebnis eines almählichen werdens. Alle höheren sprachformen sind auß einfacheren hervor gegangen, die zusammen fügende sprachform auß der isolierenden, die flectierende auß der zusammen fügenden.
>
> 2. verfall der sprache in laut und form, wobei zugleich in function und sazbau bedeutende veränderungen statt finden, historische periode. Der übergang von der ersten zur zweiten periode ist ein almählicher. Die gesetze zu ermitteln, nach welchen sich die sprachen im verlaufe ires lebens verändern, ist eine der hauptaufgaben der glottik, denn one kentnis der selben ist kein verständnis der formen der vor ligenden sprachen, besonders der jezt noch lebenden, möglich.

The life of a language (generally called its "history") falls under two heads:

1. Development in prehistoric times. As man has developed, so also has his language, i.e. the expression of his thoughts by sounds: even the simplest language is the product of a gradual growth: all higher forms of language have come out of simpler ones, the confixative of the monosyllabic, the inflexive out of the confixative.

2. Decline in the historic period. Language declines both in sound and in form, and in its decay changes of meaning take place alike in function and construction of sentences. The transition from the first to the second period is one of slower progress. To investigate the laws by which languages change during their life is a most important problem in the science of language, for unless we are acquainted with them we cannot possibly understand the languages in question, especially those which are still living. (Schleicher, *Compendium der vergleichenden Grammatik der Indogermanischen Sprache*, 2nd ed., 1866, p. 4; transl. Lehmann 1967)

(See also Burridge, p. 155).

- *Schleicher's "genealogical tree" and the reconstruction of the Proto-Indo-European language (Indogermanische Ursprache)*

Schleicher grouped existing languages together on the basis of lexical correspondences and the results of sound changes, and captured the relationships in a model of language classification which, inspired by biological taxonomy, arranged them in a genealogical tree. (Burridge, p. 155)
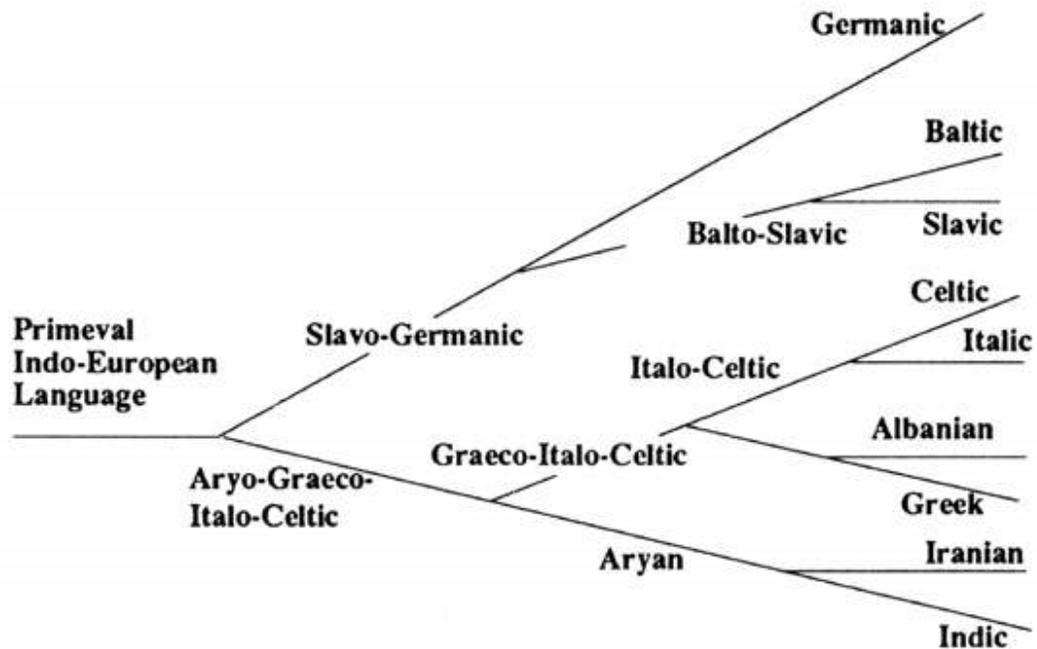
(from Schleicher, *Compendium der vergleichenden Grammatik der Indogermanischen Sprache*, 2nd ed., 1866, p. 9).

- *Schleicher's text in Proto-Indo-European*

AVIS AKVĀSAS KA	[DAS] SCHAF UND [DIE] ROSSE	[THE] SHEEP UND [THE] HORSES
Avis, jasmin varnā na ā ast, dadarka akvams, tam, vāgham garum vaghantam,tam, bhāram magham, tam, manum āku bharantam. Avis akvabhjams ā vavakat: kard aghnutai mai vidanti manum akvams	[Ein] schaf, [auf] welchem wolle nicht war (ein geschorenes schaf) sah rosse, das [einen] schweren wagen fahrend, das [eine] grosse last, das [einen]	A sheep that had no wool saw horses, one of them pulling a heavy wagon, one carrying a big load, and one carrying a man quickly. The sheep said to the horses: 'My heart pains me to see a

agantam. Akvāsas ā vavakant: krudhiavai, kard aghnutai vividvant-svas: manus patis varnām avisāms karnauti svabhjamgharmam vastram avibhjams ka varnā na asti. Tat kukruvants avis agram ā bhugat.	menschen schnell tragend. [Das] schaf sprach [zu den] rossen: [Das] herz wird beengt [in] mir (es thut mir herzlich leid), sehend [den] menschen [die] rosse treibend. [Die] rosse sprachen : Hore schaf, [das] herz wird beengt [in den] gesehend-habenden (es thut uns herzlich leid, da wir wissen) : [der] mensch, [der] herr macht [die] wolle [der] schafe [zu einem] warmen kleide [fur] sich und [den] schafen ist nicht wolle (die schafe aber haben keine wolle mehr, sie werden geschoren ; es geht ihnen noch schlechter als den rossen). Dies gehort habend bog (entwich) [das] schaf [auf das] feld (es machte sich aus dem staube). (German translation by Schleicher)	man driving horses.' The horses said: 'Listen, sheep, our hearts pain us when we see this: a man, the master, makes the wool of the sheep into a warm garment for himself, and the sheep has no wool.' Having heard this, the sheep fled into the field. (English translation by Burridge, p. 155)

Though resoundingly criticized as a flight of fancy, these reconstructions established Sanskrit more convincingly as collateral to the other languages of the IE family (rather than a parent). (Burridge, p. 155)

- *Schleicher and the sound laws: two different interpretations*
Probably his [i.e., Schleicher's] most significant contribution to the discipline was his insistence on the need to establish regular *Lautgesetze* 'sound laws.' In his Compendium, he described what he saw as the current two schools of Indo-Europeanists. The first (to which he belonged) recognized the explanatory power of sound laws and rigorously applied them to their work; those of the second group were less interested in phonological comparisons and did not allow such laws to get in the way of a good etymological story. (Burridge, p. 154)

August Schleicher (1821–68) made no special attempt to prove that sound laws operate without exception, because he seemed to be convinced that he had sufficient evidence to take this fact for granted, although he refrains from addressing it *expressis verbis*. (Jankowsky, p. 648)

b) Modifications to Grimm's law
- *Grassman and Verner*
It is a somewhat ironic coincidence that a trained mathematician, who turned to linguistics as a hobby, made a discovery which cleared away one of the perplexing exceptions to Grimm's sound law. Hermann Grassmann (1809–77), frustrated by lack of recognition for his important mathematical inventions, finally gained fame as a highly competent linguist with a paper

entitled 'Über die Aspiration und ihr gleichzeitiges Vorhandensein im An- und Auslaute der Wurzeln,' published in 1863. [...]

A few years later, the Danish scholar Karl Verner (1846–96) succeeded in dispatching the last remaining obstacle that interfered with the exceptionless status of Grimm's first sound shift law by identifying Indo-European stress patterns as the cause for voiceless fricatives to develop into their voiced counterparts. (Jankowsky, pp. 649-50)

- *"Grassmann's law"*

Despite further fine-tuning of Grimm's Law, there remained significant groups of exceptions. One was that Germanic [b] had different correspondences in Greek ([pʰ] ~ [p]) and in Sanskrit ([bʰ] ~ [b]). Hermann Grassmann made his mark in linguistics by showing that this variation was predictable. In what became known as 'Grassmann's Law,' he showed that if an aspirated consonant was followed by another aspirated consonant in the next syllable, the first one lost the aspiration. For example, in the reduplicated forms for the perfect tense in Greek and Sanskrit, the consonant is deaspirated if the initial consonant is aspirated: [pʰu-ɔː] ψύω 'I grow': [pe-pʰuː-ka] πέφυκα 'I have grown'. (Burridge, p. 156)

- *"Verner's law"*

Grimm's law predicted that PIE *[t] evolved into the fricative [Ł] (<þ>) in Germanic (e.g. Gothic *tunþu-*, English *tooth*, corresponding to Latin *dent-* and Sanskrit *dant-*); yet there were also times when it evolved into a voiced dental stop [d] (<d>) (e.g. Gothic *þridja-* and English third corresponding to Latin *tertius* and Sanskrit *trtíya-*). Moreover, the law occasionally failed to apply across what were clearly related words within the same language (e.g. Gothic *leiþan* 'to lead' but *laidja* 'to cause to leave'); there was also inconsistency across parallel cases (e.g. Gothic *broþar/fadar* and Old English *broþor/fædar* compared to Latin frater and pater both showing the original medial [t]). In other words, there were two shifts:

PIE *t > Germanic þ and occasionally also *t > d

We have already seen that such exceptions did not concern Jacob Grimm. Verner's view, however, was that the variation in consonants was not capricious but regularly conditioned. The explanation he presented was a convincing one, showing a direct correlation between consonant variation and variation in accent. In Germanic, the stops were voiced internally when they preceded the accent, but not when they followed it. This accent was not the Germanic accent (which was syllable-initial) but rather the older free accentuation of IE that was preserved in Sanskrit; compare Sanskrit *bhrátar-* 'brother' and *pitár* 'father' which comes down into Germanic as internal *þ* and *d* respectively (Gothic *broþar/fadar* and Old English *broþor/fædar*). Similarly, pairs such as *leiþan* and *laidja* could be explained by the fact that the causative form showed the accent on the suffix rather than the root. (Burrifge, pp. 156-7)

- *Verner's methodological statement*

| Die Fälle der unregelmässigen Verschiebung im Inlaute beinahe eben so häufig sind wie die der regelmässigen. Es muss in solchem Falle so zu sagen eine Regel für die Unregelmässigkeit da sein; es gilt nur diese ausfindig zu machen (Verner 1877: 101) | The cases of irregular shift in medial sound are almost as frequent as those of the regular shift. In such cases there has to be present so to say a rule for the irregularity; it just has to be found. (transl. Jankowsky) |

- *Other sound laws: 'laws of palatals' and 'nasalis sonans'*

In Sanskrit, palatals alternated before an a-vowel without any apparent motivation, and a number of scholars, including at least Karl Verner, Johannes Schmidt, Hermann Collitz, and Ferdinand de Saussure, recognized that *c* [tʃ] was found in environments that corresponded to *e* in the European languages, while k occurred before a-vowels which corresponded to a or o

in the IE languages. Hence, the ancestor of Sanskrit, Indo-Iranian, had an e-vowel which had triggered the palatalization of [k] > [tʃ], obscured then by a later change that saw the merger of [e], [a], [o] > [a]. (Burridge, p. 159)

[…] Brugmann, calling into question the methodology and results of previous research, asserted a new set of phonemes in PIE, the so-called nasal sonants or vocalic nasals. This was significant in that it helped to clarify earlier problems identified for the IE family (e.g. the matter of Ablaut), thus lending further support to the Neogrammarian principles. (Burridge, pp. 159-60)

4) The third generation of historical-comparative linguists: the Neogrammarians and their contemporaries

a) People and places

Verner's article is dated July 1875, two years before it was published. But its content were circulated long before publication. And that it was published at all was mainly due to the persistent urging of a friend and colleague, Vilhelm Thomsen (1842–1927). […] The year 1875 marked the beginning of the Neogrammarian movement, widely perceived as the onset of a type of language research where the axiom 'Sound laws suffer no exception' reigned supreme. This is partially correct in that all of the principal Neogrammarians—the four Indo-Europeanists, Karl Brugmann, August Leskien (1840–1916), Hermann Osthoff (1847–1909), and Berthold Delbrück, and the four Germanists, Hermann Paul (1848–1921), Eduard Sievers (1850–1932), Friedrich Kluge (1856–1926), and Wilhelm Braune (1850–1926) […]. Their influence on practically all aspects of language study was enormous, and continued to be a pervasive force throughout their life time and even far beyond. Since seven of them had either studied or held teaching positions at the University of Leipzig, this institution of higher learning became recognized as the focal point of Neogrammarian studies. Only Delbrück had no direct affiliation with Leipzig, but he had studied in Halle and in 1870 accepted a chair in Sanskrit and comparative linguistics at Jena, both places quite close to Leipzig. (Jankowsky, pp. 650-1; see also Burridge, p. 157)

b) The "Neogrammarian manifesto" (Brugmann and Osthoff 1878)

- *The appeal to the study of modern languages*

[N]ur derjenige vergleichende sprachforscher, welcher aus dem hypothesentrübendunstkreis der werkstätte, in der man die indogermanischen grundformen schmiedet, einmal heraustritt in die klare luft der greifbaren wirklichkeit und gegenwart, um hier sich belehrung zu holen über das, was ihn die graue theorie nimmer erkennen lässt, [. . .] nur der kann zu einer rightigen vorstellung von der lebens- und umbildungsweise der sprachformen gelangen und diejenigen methodischen principien gewinnen, ohne welche [. . .] im besonderen ein vordringen in die hinter der sprachüberlieferung zurückliegenden zeiträume einer meerfahrt ohne kompass gleicht. (Brugmann and Osthoff 1878, pp. ix-x)	Only that comparative linguist who for once emerges from the hypotheses-laden atmosphere of the workshop, in which the original Indo-Germanic (i.e. Indo-European) root-forms are forged, and steps into the clear air of tangible reality and of the present day, in order to obtain information about those things which foggy theory can never reveal to him, [. .] and only he can arrive at a correct idea of the life and the transformations of linguistic forms and only he can acquire those methodological principles without which [. . .] any penetration into the periods of the past which lie behind the historical tradition of a language is like a sea voyage without a compass. (transl. Burridge)

- *The two 'tenets' of the Neogrammarian school and the 'uniformitarian' principle*

Diesen principien liegt der doppelte, unmittelbar einleuchtende gedanke zu grunde, erstens dass die sprache kein ding ist, das ausser und über den menschen steht und ein leben für sich führt, sondern nur im individuum ihre wahre existenz hat, und dass somit alle veränderungen im sprachleben nur von den sprechenden individuen ausgehen können [...] und zweitens dass die psychische und physische thätigkeit des menschen bei der aneignung der von den vorfahren ererbten sprache und bei der reproduction und neugestaltung der ins bewusstsein aufgenommenen lautbilder zu allen zeiten im wesentlichen dieselbe gewesen sein müsse. Die zwei wichtigsten von den methodischen grundsätzen der 'junggrammatischen' richtung [...] sind folgende. Erstens. Aller lautwandel, so weit er mechanisch vor sich geht, vollzieht sich nach ausnahmslosen gesetzen, d. h. die richtung der lautbewegung ist bei allen angehörigen einer sprachgenossenschaft, ausser dem fall, dass dialektspaltung eintritt, stets dieselbe, und alle wörter, in denen der der lautbewegung unterworfene laut unter gleichen verhältnissen erscheint, werden ohne ausnahme von der änderung ergriffen. Zweitens. Da sich klar herausstellt, dass die formassociation, d. h. die neubildung von sprachformen auf dem wege der analogie, im leben der neueren sprachen eine sehr bedeutende rolle spielt, so ist diese art von sprachneuerung unbedenklich auch für die älteren und ältesten perioden anzuerkennen, und nicht nur überhaupt hier anzuerkennen, sondern es ist dieses erklärungsprincip auch in derselben weise zu verwerten, wie zur erklärung von spracherscheinungen späterer perioden, und es darf nicht im mindesten auffallen, wenn analogiebildungen in den älteren und ältesten sprachperioden in demselben umfange oder gar in noch grösserem umfange uns entgegentreten wie in den jüngeren und jüngsten. (Osthoff and Brugmann 1878, pp. xii-xiv)	These principles are based on a two-fold concept, whose truth is immediately obvious: first, that language is not a thing which leads a life of its own outside of and above human beings, but that it has its true existence only in the individual, and hence that all changes in the life of a language can only proceed from the individual speaker; and second, that the mental and physical activity of man must have been at all times essentially the same when he acquired a language inherited from his ancestors and reproduced and modified the speech forms which had been absorbed into his consciousness. The two most important principles of the "neogrammarian" movement are the following: First, every sound change, inasmuch as it occurs mechanically, takes place according to laws that admit no exception. That is, the direction of the sound shift is always the same for all the members of a linguistic community except where a split into dialects occurs; and all words in which the sound subjected to the change appears in the same relationship are affected by the change without exception. Second, since it is clear that form association, that is, the creation of new linguistic forms by analogy, plays a very important role in the life of the more recent languages, this type of linguistic innovation is to be recognized without hesitation for older periods too, and even for the oldest. This principle is not only to be recognized, but is also to be utilized in the same way as it is employed for the explanation of linguistic phenomena of later periods. And it ought not strike us as the least bit peculiar if analogical formations confront us in the older and in the oldest periods of a language in the same measure or even in still greater measure than in the more or most recent periods. (transl. Lehmann, 1967)

Cf. also Burridge, pp. 158-9.

- *Hermann Paul on the sound change*

| Wenn wir daher von konsequenter Wirkung der Lautgesetze reden, so kann das nur heissen, dass bei dem Lautwandel innerhalb desselben Dialektes alle einzelnen Fälle, in denen die gleichen lautlichen Bedingungen vorliegen, gleichmässig behandelt werden. Entweder muss also, wo früher einmal der gleiche Laut bestand, auch auf den späteren Entwicklungsstufen immer der gleiche Laut bleiben, oder, wo eine Spaltung in verschiedene Laute eingetreten ist, da muss eine bestimmte Ursache und zwar eine Ursache rein lautlicher Natur wie Einwirkung umgebender Laute, Akzent, Silbenstellung u. dgl. anzugeben sein, warum in dem einen Falle dieser, indem anderen jener Laut enstanden ist. (Paul 1880, p. 69) | When we speak of consistent effects of sound laws, that can only mean that, given the sound change within the same dialect, all individual cases in which the same phonetic conditions are present will be handled the same. So, either wherever earlier the same sound stood, also in the later stages the same sound remains or, where a split into different sounds has taken place, there must be provided a specific cause and indeed a cause of a purely phonetic nature such as the effects of surrounding sounds, accent, syllable position, and the like to account for why in the one case this sound, in the other that one, has come into being. (transl. Burridge) |

c) Some opponents of Neogrammarians

- *William Dwight Whitney (1827-1894)*

Language, then, signifies rather certain instrumentalities whereby men consciously and with intention represent their thought, to the end, chiefly, of making it known to other men: it is expression for the sake of communication. (Whitney 1875, p. 1)

By all the known facts of later language-growth, we are driven to the opinion that every formative element goes back to some previously existing independent word ; and hence that in analysing our present words we are retracing the steps of an earlier synthesis, or following up the history of our formed words toward the unformed roots out of which they have grown. The doctrine of the historical growth of language-structure leads by a logical necessity to that of a root-stage in the history of all language; the only means of avoiding the latter is the assumption of a miraculous element in the former. (Whitney 1885, p. 769)

See also Burridge, p. 162.

- *Hugo Schuchardt (1842-1927)*

| Ich werde nicht sagen: "die Lautgesetze haben Ausnahmen". Heisst er aber: "es gibt keinen sporadischen Lautwandel", dann werde ich mich positiv ausdrücken: "es gibt sporadischen Lautwandel". (Schuchardt 1885, pp. 31-2) | I shall not say, 'The sound laws have no exception'. If, however, the statement is 'There is no sporadic sound change', then I shall express myself positively 'There is sporadic sound change'. (transl. by T. Vennemann and T. Wilbur) |

d) Some alternatives to the 'genealogical tree' model of language relationship

Johannes Schmidt (1843–1901) proposed what has now come to be known as the 'wave model' or 'wave theory' (*Wellentheorie*). In his 1873 book, he claimed correctly that sound laws were in fact spatially restricted and in different ways. By showing that each sound law had its own territory, essentially what he was introducing here was the concept of the 'isogloss.' This wave metaphor captured the fact that new features of a language could spread from a central point in continuously

weakening concentric circles, much like waves created when something is thrown into a body of water. Many of the Neogrammarians (notably, Leskien and Brugmann) argued that both the *Stammbaum* and *Wellen* models were compatible; Schmidt himself saw his model as supplementing the standard family tree, simply providing a more complicated version of the single splits offered by the *Stammbaum* (more severe criticism was to come from the specialists in dialectology; cf. the work of Hugo Schuchardt). (Burridge, p. 163)

5) Some conclusions about 19th linguistics

In methodology, theory, and results, it is clear that the work of the nineteenth century offered something very different from what had preceded it. Many of its breakthroughs remain part of everyday linguistic knowledge today:

- recognition of the primacy of the sounds (of living languages) over the letters (of dead languages);
- discovery that sound change is regular and phonetically conditioned;
- identification and refinement of sound changes and rules to account for them within and between languages;
- invention of a method to reconstruct unattested protolanguages;
- classification of languages by descent (*Stammbaumtheorie* and *Wellentheorie*);
- relatedness of languages like German and Sanskrit as the continuation of an earlier
- IE language;
- rejection of unsupported etymologies;
- discovery that 'yesterday's syntax is today's morphology;'
- the relevance of the present in studying the past and the principle that reconstructed;
- languages must be the same as those we observe today (i.e. uniformitarianism).

While the twentieth century assimilated these ideas and continued much of the comparative and historical work of the previous century, the obvious contrast was the recognition that a scientific study of language did not have to take account of the past. With the shift in focus to synchrony, linguistics ceased to be thought of as essentially an historical discipline. (Burridge, p. 165)