WHAT THE NEOGRAMMARIANS KNEW,
AND WHAT THEY IGNORED

1. Goal

(1) to run the neogrammorian record against modern phonological theory, to see
   a. which pieces of the modern toolbox they held in hands, and
   b. what they had not understood.
   ==> what exactly have we gained, if anything, when reformulating insights from 140
   years ago in modern vocabulary?
   ==> what may we have lost since the neogrammarians? Were they more advanced than
   we are today?

   Written version (in French): Scheer & Ségéral (2016)

I. What the neogrammarians knew

2. Language is a natural object, not an artefact

(2) pre-neogrammorian perspective on language
   a. the philological tradition was studying ancient texts, produced first a dictionary on
      these grounds, then a grammar.
   b. influenced by romanticism, early comparative linguistics in the first half of the 19th
      century thought that language is the result of man's creative genius, thus an artefact.
   c. especially the relationship between the (emerging) Nation(s) and language was dis-
      cussed: is language the instrument for building a Nation, or a consequence of its ex-
      istence?
      Morpurgo-Davies (1998: 83ff)
d. Language "possesses a self-driven activity that we can see but in its essence cannot understand. Looked at from this point of view, it is not a result of activity, but an involuntary emanation of the mind, not the fruit of a nation, but a gift that nations receive given their inner skills." [translation ours]

"Sie besitzt eine sich uns sichtbar offenbarenden, wenn auch in ihrem Wesen unerklärliche, Selbstthätigkeit, und ist, von dieser Seite betrachtet, kein Erzeugniss der Thätigkeit, sondern eine unwillköürliche Emanation des Geistes, nicht ein Werk der Nationen, sondern eine ihnen durch ihr inneres Geschick zugefallene Gabe."

von Humboldt (1836: 5)

(3) August Schleicher (1821-1868)

a. breaks with this view: language is a natural object
b. organicism
ususally thought of as beginning with Schlegel 1808, the idea of organicism predates Schleicher, but only as a metaphor (Morpurgo Davies 1998: 86-88).
c. language has a life independent of its speakers
It is only with Schleicher that "the organic metaphor is taken literally and brought to its extreme consequences; language now becomes a real organism with a life independent from that of the speaker." Morpurgo Davies (1998: 88)
d. his ideas predate Darwin's Origin of Species in 1859, of which Schleicher read the translation only in 1860 after having published Schleicher (1860)
e. quotes

1. Die Deutsche Sprache (Schleicher 1860)
   "Wir nehmen also an, daß die Sprachen in sehr großer Anzahl entstanden […]. Im Laufe der Jahrtausende starben nun viele, vielleicht die meisten dieser Sprachen aus, wodurch andere ihr Gebiet immer mehr ausdehnten."
   Schleicher (1860: 43f)

2. Compendium 1861:
   "Grammar forms one part of the science of language: this science is itself a part of the natural history of Man. Its method is in substance that of natural science generally. […]
   [G]rammar may be universal or special: it will in most cases be concerned in explaining the language as a product of growth, and will thus have to investigate and lay down the development of the language according to its laws. This is its exclusive province, and therefore its subject is the laying-down of the 'life of the language,' generally called historical grammar, or history of language, but more correctly 'science of the life of a language' (of sound, form, function, and sentence), and this again may be likewise as well general as more or less special."
   Schleicher (1874 [1861]: 1f)

3. Die Darwinsche Theorie und die Sprachwissenschaft
   "What Darwin lays down of the animal creation in general, can equally be said of the organisms of speech – nay, it is quite accidentally that I pronounced an opinion coinciding in a remarkable degree with Darwin's views on 'the struggle for life,' on the extinction of ancient forms, on the widely-spread varieties of individual species in the field of speech, as far back as the year 1860 – that is to say, contemporaneously with the publication of the German Darwin."
   Schleicher (1869 [1863]:15f)
neogrammarians
a. it is often said that the Leipzig group was founded by August Leskien (1840-1916)
   Leskien was a pupil of Schleicher in Jena.
b. the neogrammarians took over the natural outlook on language:
   "For the rest, purpose plays in the development of language no other part than that
   assigned to it by Darwin in the development of organic nature – the greater or lesser
   fitness of the forms which arise is decisive for their survival or disappearance."
   Paul (1891 [1880]: 13)
   "Im übrigen spielt der Zweck bei der Entwicklung des Sprachusus keine andere Rolle
   als diejenige, welche ihm Darwin in der Entwicklung der organischen Natur angewie-
   sen hat: die grössere oder geringere Zweckmässigkeit der entstandenen Gebilde ist
   bestimmend für Erhaltung oder Untergang derselben."
   Paul (1975 [1880]: 32)
c. the neogrammarians build on Schleicher's idea that language is a natural object
   that needs to be studied scientifically like all other natural phenomena such as mole-
   cules, stone, species etc.
d. the neogrammarian sound law
   is a consequence thereof and could not have existed without the idea that language is
   a natural object: the laws that govern its development are just like laws in physics,
   chemistry etc.: exceptionless.
e. it is only the assertion that language is a natural object which catapults linguistics into
   the scientific era: only on this assumption can language be studied scientifically.

(5) Chomsky's version of Schleicher's and the neogrammarians' insight:
the language organ
(more recently biolinguistics: Boeckx & Grohmann (eds.) 2013)
a. "[W]e may regard the language capacity virtually as we would a physical organ of the
   body and can investigate the principles of its organization, functioning, and develop-
   ment in the individual and in the species" (Chomsky 1980: 185)
b. "[T]he idea of regarding the growth of language as analogous to the development of a
   bodily organ is thus quite natural and plausible. It is fair to ask why the empiricist
   belief to the contrary has had such appeal to the modern temper." (Chomsky 1975: 11)

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1 Paul (1975 [1880]: 68) is explicit on the fact that the parallel with natural laws only holds for the way sound
   laws apply, their purview being different: why gravity and other natural laws govern everywhere and always,
   sound laws only concern a particular language during a specific time span.
c. Schleicher (1865)
Über die Bedeutung der Sprache für die Naturgeschichte des Menschen (1865)

"If language is really based on a certain constitution of the brain and the organs of speech, how can one acquire one language or even several languages besides the mother tongue? Following a metaphor used at the outset, I could answer briefly that it is possible to learn to walk on all fours, or even on one's hands, without anyone doubting that our natural motion is conditioned by the nature of our body and only represents an implementation thereof." (our translation)

"Beruht die Sprache wirklich auf einer bestimmten Beschaffenheit des Gehirns und der Sprachorgane, wie kann man sich dann eine Sprache oder gar mehrere Sprachen ausser der Muttersprache aneignen? Ich könnte hierauf, anknüpfend an ein Eingangsgebrauchtes Gleichniss, kurz erwidern, dass man auch auf allen Vieren, ja sogar auf den Händen allein gehen lernen kann, ohne dass Jemand bezweifeln wird, dass unser natürlicher Gang durch die Beschaffenheit unseres Leibes bedingt und nur eine Art Erscheinung derselben sei."
Schleicher (1865: 11f).

(6) then and today... progress in science
a. the neogrammarians lived in blessed times when science was naturally rationalist without empiricism having clawed in.
b. today: cultural and social relativism
c. hence the following are thrown out:
  – properties of language that are independent of speakers and their environment: nothing in language escapes social and cultural conditioning.
    mild version: Everett (2005)
  – universals
    Evans & Levinson (2009) - myth of universals
  – the idea of unification in science (like Maxwell's unification of electromagnetism): the world is always multi-causal.
    Dunn et al. (2011)
    Evolved structure of language shows lineage-specific trends in word-order universals

3. The phoneme

(7) received wisdom
a. the phoneme was discovered by the Kazan school by the end of the century.
b. Baudouin de Courtenay (1895), Kruszewski (1881)
c. see Anderson (1985: 56ff)
(8) the phoneme in diachronics
   a. the phoneme is associated with the synchronic study of language, i.e. the relationship
      of underlying and surface items.
   b. the neogrammarians did not do any synchronic study. But in diachronic evolution
      phoneme merger and phoneme splits are all over the place and the neogrammarians
      were perfectly aware of the mapping of diachronically primitive (underlying) and
      diachronically derived (surface) items.
   c. Grimm's Law
      all units of the initial state are modified phonetically, but the number of units in the
      input and the output is identical. The units in question would be called phonemes
      today. The neogrammarians (as much as their ancestors) were perfectly aware of
      these units – those that count in diachronic evolution.
   d. the Law of the Palatal
      [paternity is difficult to determine, see Collinge (1985: 133ff)]
      1. starting with Collitz (1878)
         Über die annahme mehrerer grundsprachlicher a-lauten
      2. the title talks about phonemes: there are several a-sounds in IE because they were
         distinct in Proto-IE.
      3. the kentum-satem distinction establishes an independent palatal series in IE (on a
         par with labial, dental and velar). That's the Brugmannian system.
      4. the purpose of the Law is to show that this palatal series is an artefact since the
         distribution of palatal and velars is in fact complementary. Hence in PIE
         there were only velars, and palatal are a positional variant thereof that occur be-
         fore front vowels.
      5. for that Sanskrit needed to be demoted from its status as the language that has
         preserved the original IE vocalic system (and that was painful at the time…):
         skr a = gr, lat o < *a ==> skr velar + a
         skr a = gr, lat e < *e ==> skr palatal + a
   e. but this was not formalized, and no particular name was given to these units.

4. Sonority

(9) voicing
   a. pressure strength: Andruckstärke, Luftdruck, Munddruck
      Idea: voiced consonants are produced with friction in the glottis, which takes away
      some of the strength of the air stream.
      Sievers (1901a: §§61, 179)
   b. hence
      Fortis: voiceless
      Lenis: voiced

(10) vowels vs. sonorants
   a. sound wealth = sonority = Schallfülle, Schallstärke
      voicing = pressure strength = Druckstärke (secondary)
b. Below is the definition of the nucleus (syllable peak) = Sonant

"The ability for a sound to become a sonant depends first of all on its sonority. When several sounds meet, the one that has the greatest sonority will become the sonant. Only sounds that are on the same or almost the same level of sonority can be either sonants or consonants. In this case, the respective pressure strength is the decisive factor instead of the natural sonority."

"Die Fähigkeit, Sonant zu werden, hängt bei jedem Laute zunächst von seiner Schallfülle ab. Beim Zusammentreffen mehrerer Laute muss also jedesmal derjenige zum Sonanten werden, welcher an und für sich die grösste Schallfülle besitzt. Nur Laute, die auf gleicher oder nahezu gleicher Stufe der Schallfülle stehen, können neben einander abwechselnd Sonanten oder Consonanten sein. In diesem Falle gibt die jeweilige Druckstärke statt der natürlichen Schallfülle den Ausschlag."

Sievers (1901a: §526)

(11) sonority scale

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b. "The gradations of sonority can only be determined experimentally. The investigation gives the following. First of all, continuous sounds have the lead over explosives. Within the continuous sounds, sonority then on the one hand categorizes according to the degree to which voicing comes into play, on the other hand according to the size of the outflow opening. Thus, all voiced continuous sounds precede the voiceless, and among the former the sonants (= vowels and sonorants) have the lead over the voiced fricatives.

Among the sonants, the vocals take the first place, and among these the a, because here, with a funnel-shaped shape of the tube, the voice is least subject to a damping. The sonority decreases, the more the mouth is closed, i.e. higher the vowel or the more it is rounded.

Next to the vowels are the liquids and nasals. They are equivalent for the formation of syllables as soon as one of the them is called to be the Sonant, the other a consonant, i.e. by changing the pressure strength, it is possible to arbitrarily produce combinations such as mn, nm, rl, lr, ml, lm [underscore = acute accent in original], etc. If, however, two of these sounds ought to be both consonants, such an overcoming of sonority by pressure strength does not appear to be possible, and indeed the liquids always appear to precede the nasals, that is to say, syllables like mlá, mrá and álm, árm are possible but not lmá, rmá or áml, ámr."
"Die Abstufungen der Schallfülle sind lediglich experimentell festzustellen. Dabei ergibt die Untersuchung folgendes. Zunächst haben alle Dauerlaute den Vorsprung vor den Explosiven. Innerhalb der Dauerlaute stuf sich die Schallfülle sodann einmal nach dem Grade ab, in welchem die Stimme zur Geltung kommt, sodann nach der Grösse der Ausflussöffnung. Es stehen also alle stimmhaften Dauerlaute den stimmlosen voraus, und unter ihnen die Sonoren den stimmhaften Geräuschlauten. Unter den Sonoren wiederum nehmen die Vocale den ersten Platz ein, und unter diesen das a, weil hier bei trichterförmiger Gestalt des Ansatzrohres die Stimme am wenigsten einer Dämpfung unterliegt. Die Schallfülle nimmt ab, je mehr der Mund geschlossen, d. h. je enger der Vocal gebildet oder je stärker er gerundet wird. Nächst den Vocalen kommen die Liquiden und Nasale. Sie sind einander für die Silbenbildung gleichwertig, sobald einer der Laute Sonant, der andere Consonant sein soll, d. h. man kann hier willkürlich durch Veränderung der Druckstärke Verbindungen wie mn, nm, rl, lr, ml, lm [soulignement = accent aigu dans l'original] etc. hervorbringen. Sollen aber zwei von diesen Lauten zugleich Consonanten sein, so scheint eine derartige Überwindung der Schallfülle durch die Druckstärke nicht möglich zu sein, und zwar scheinen dabei die Liquiden allemal den Nasalen vorauszustehen, d. h. es sind Silben wie mlá, mrá und ál, árm möglich, aber nicht wohl lmá, rmá oder álml, ármr."

Sievers (1901a: §§528-530)

(12) all definitions are phonetic
   a. Schallfülle (Schallstärke) = sonority
   b. Druckstärke = voicing

5. Syllable structure

(13) sonority sequencing
   a. canonical syllable with Gaussian distribution of sonority, often attributed to Jespersen (1904)

   ![Syllable Structure Diagram]

   recall: Sonant = sonority peak = nucleus.

   "A similar relationship holds among the consonants: the closer to sonant, the greater the sonority must be. Therefore, the order of the sounds that can precede a sonant without being syllabic is exactly opposite to the order of the sounds that can follow the sonant."

   "Ein ähnliches Verhältnis gilt für die Consonanten untereinander: je näher dem Sonanten, um so grösser muss die Schallfülle sein. Daher ist die Reihenfolge der Lautarten, welche einem Sonanten unsilbisch vorausgehen können, genau entgegengesetzt der Reihenfolge der Lautarten, welche dem Sonanten als Consonanten folgen kön- nen."

Sievers (1901a: §527)
(14) onset maximization
   a. "All in all it seems that by and large there is an inclination to draw as many consonants to the following syllable as can be pronounced in the syllable onset at all. Also for Old Germanic, cases like *kuni, kunja* and the like will have to be interpreted as *ku-ni, ku-nja* regarding syllable cut."

   "Alles in allem erwogen scheint im Grossen und Ganzen überall […] die Neigung zu bestehen, so viel Konsonanten zum Folgenden zu ziehen als sich irgend im Silbenanlaut sprechen lassen. Auch für das Altgermanische wird man danach für Fälle wie *kuni, kunja* u. dgl. die gleiche Silbentrennung *ku-ni, ku-nja* anzusetzen haben."
   Sievers (1901b: 291, emphasis in original)

(15) empty nuclei
   a. word-initial #s+C, #kt, #pt are heterosyllabic
   b. word-final -kt#, -pt# are heterosyllabic
   c. these clusters involve a "little secondary syllable" (kleine Nebensilbe)  
      ==> an empty nucleus, i.e. one that you cannot hear
   d. hence
      #sCV = øs.CV or søCV
      #ktV = øk.tV or køtV
      Vkt# = Vk.tø or Vkøt
   e. "Strictly speaking, even less are combinations of two plosives possible at the syllable on- or offset, just as combinations of spirans + plosive cannot being a syllable, or the reverse order close a syllable. If in spite of that we consider ptá, ktá, ápt, ákt, spá, stá, áps, áts and even ástä, átšt, štšá, áštš, zumal bei rascher Sprechweise, als einfache Silben betrachten, so ignorieren wir einfach die Existenz der hier von den anlautenden oder auslautenden Consonantenverbündungen gebildeten kleinen 'Nebensilben', wegen der geringen Schallfülle der hier auftretenden stimmlosen geräuschlaute, denen gegenüber die Hauptsilbe mit ihrem klangvollen Sonanten durchaus dominiert."
   Sievers (1901a: §534)

(16) unlike many modern phonologists, the neogrammarians believed in their theory
   a. given sonority sequencing and the inventory of syllabic positions they had (onset, nucleus, coda), they applied this toolbox to the contravening clusters #kt, #pt and #s+C:
      ==> if they cannot be branching onsets, their first consonant must belong to a separate syllable.
b. this attitude is unlike the one that has prevailed in much of the generative literature: rather than applying the existing theory to seemingly strange clusters, the theory was amended to accommodate them:
1. extrasyllabicity and
2. specific constituents (appendix)
are patches that exist only because the apparently contravening clusters exist.
c. rather than introducing a new patch every time something unexpected occurs, sound methodology refuses to modify the existing theory unless all theory-internal possibilities have been exhausted.
This is what the neogrammarians did: s in #s+C must belong to a different syllable, and hence must be preceded or followed by an (empty) nucleus.

(17) modern solutions for word-initial trouble-makers #s+C, #pt, #kt etc.
(one is missing below: monopositional CC, i.e. a contour segment)
a. appendix  b. extrasyll. I  c. extrasyll. II  d. empty nucleus I  e. empty nucleus II
Kaye (1992)  Strict CV

(18) empty nuclei
b. given a systematic theoretical status by Government Phonology in 1990 (Kaye et al. 1990, Kaye 1990)
c. strongly rejected by the mainstream for decades: the presence of empty nuclei in a manuscript was considered to be a good reason for rejecting the manuscript for a long time, and there are still reviewers today who object against empty nuclei in a principled way: they do not evaluate the consistency of the argument given empty nuclei, but the existence of empty nuclei.
d. why were empty nuclei rejected?
Because of the empiricist principle "what I don't see (hear) does not exist". This is strange for scientists who otherwise teach phonemic analysis (phonemes are abstractions, you can't hear them) or syntax (full of empty constituents that nobody can hear) every week.
Newton was accused of the same thing: how dare you talking about something, gravity, that does not exist? Many more cases in the history of science: the atom in the 19th century for example.
e. today
empty nuclei have made it into regular phonological analysis including outside of Government Phonology, at least in word-final position:
But word-internal empty nuclei are still not really installed as a regular analytic option.
6. Two voicing systems

(19) active vs. passive voicing
voicing vs. spread glottis
Laryngeal Realism

a. "On the other hand, it must also be acknowledged that there are languages which oppose voiceless sounds of different strengths. The Swiss for example distinguish the syllables pa and ba, ta and da by stronger pressure when articulating p, t, weaker for b, d, but both are voiceless sounds."

es "muss auf der anderen Seite doch auch wieder zugestanden werden, dass es Sprachen gibt, welche stimmlose Laute verschiedener Stärke einander gegenüberstellen. Der Schweizer z.B. unterscheidet die silben pa und ba, ta und da durch stärkeren Druck beim p,t, schwächerem beim b,d, aber stimmlos sind beide Laute."

Sievers (1901a: §181)

II. What the neogrammarians did not know, and why they did not

(20) three reasons why the neogrammarians were missing out on things
  a. the object of their study: diachronic evolution
  b. the absence of a more general (universal) ambition regarding language
     ==&gt; sound laws record the observation, but there is nothing (no theory) that could predict them. They are a recording chamber.
  c. a merely mechanistic view of language:
     ==&gt; ultimately, the only cause is phonetics, i.e. what is going on in the mouth.

(21) reasons why the above heritage regarding syllable structure etc. had no real posterity:
the neogrammarians had
  a. no buzz-words
     things were expressed in prose only: there was no word for the phoneme, complementary distribution, sonority, internal structure of segments, onset maximization etc.
  b. no formalism
     there was no formal system established for all these things.

(22) all relevant notions are only ever phonetic = mechanistic
  a. sonority = sound wealth, sound strength (Schallfülle, Schallstärke)
     "because here, with a funnel-shaped shape of the tube, the voice is least subject to a damping."
     "according to the size of the outflow opening."
     (11)b
  b. voicing = pressure strength (Druckstärke)
c. "This decomposition of speech into syllables is based on the ear perceiving and evaluating certain discontinuities in the sound intensity of the individual moments of speech." Sievers (1901a: §516)

"Diese Zerlegung der Rede in Silben beruht darauf, dass das Ohr gewisse Discontinuitäten in der Schallstärke der einzelnen Momente der Rede wahrnimmt und bewerthet." Sievers (1901a: §516)

d. "...we simply ignore the existence of little 'secondary syllables' that are formed by the first or last consonants. This is because of the low sonority of the voiceless obstruents which is dominated by the plentifully sounding sonants of the main syllable." (15)

(23) there are cognitive mechanisms (called psychological at the time)
   a. analogy = Formenassociation (association of forms)
   b. psychology of peoples: Wundt (1905-09)
   c. Bewegungsgefühl = motory sensation (feeling of movement)
      central notion determining the neogrammariian theory of change
      1. change is lexically abrupt
         because all words are subject to the motory sensation in the same way
      2. change is phonetically gradual
         because the motory sensation results from the storage of many individual pronunciations.
         "If the motory sensation were always to remain unchanged as a memory-picture, the insignificant deviations would always centre round the same point with the same maximum of distance. In fact, however, this sensation is the product of all the earlier impressions received in the course of carrying out the movement in question, and, according to a common law, the impressions, not merely those which are absolutely identical, but also those that are imperceptibly different from each other, are fused into one. Correspondingly to their difference, the motory sensation must be somewhat modified with each new impression, to however insignificant an extent."
         Paul (1891 [1880]: 44)

"Würde das Bewegungsgefühl als Erinnerungsbild immer unverändert bleiben, so würden sich die kleinen Schwankungen immer um den selben Punkt mit dem selben Maximum des Abstandes bewegen. Nun aber ist dies Gefühl das Produkt aus sämtlichen früheren bei Ausführung der betreffenden Bewegung empfangenen Eindrücken, und zwar verschmelzen nach allgemeinem Gesetze nicht nur die völlig identischen, sondern auch die unmerklich von einander verschiedenen Eindrücke mit einander. Ihrer Verschiedenheit entsprechend muss sich auch das Bewegungsgefühl mit jedem neuen Eindruck etwas umgestalten, wenn auch noch so unbedeutend."
         Paul (1975 [1880]: 55)

d. but even the Bewegungsgefühl is is phonetic / mechanistic: it is the memorized version of the movements that the mouth has performed.
   Bewegungsgefühl
   1. led Murray (2014) to see an exemplarist pattern in the neogrammarian theory of change.
   2. will make followers of Enactment happy (Varela et al. 1991).
(24) causes are either phonetic or external
   a. phonetic, see above.
   b. external

   Grimm's Law (spirantization) is a consequence of mountain-climbing as Germanic tribes moved South from the Baltic and hit mountains.
   Meyer-Benfey (1901)

   Alike:
   1. Atlantic breeze explaining Portuguese nasal vowels.
   2. very cold or very hot conditions explaining the paucity of open vowels.
   3. lenition because of starvation etc.

"Nous croyons [...] qu’à partir du IVe siècle, les changements dus à la faiblesse articulatoire peuvent s'expliquer par les conditions matérielles de la vie d'alors, et en particulier par des déficiences multiples et prolongées de la nutrition."
   Straka (1979: 285)

(25) if the only thing you do is studying the evolution of language
   a. there is no agrammaticality, no idea of well-formedness

   you observe what happens and your job is done when you have found the relevant generalization (the sound law).

   b. one reason for a) is certainly the fact that no grammaticality judgements are available.

   Grammaticality judgements
   1. produce data
   2. but more crucially allow the analyst to know what is impossible (negative data, the asterisk *). Corpora and positive data are by definition unable to say what is impossible: they can only attest what does occur. Non-occurrent items may be systematic or accidental gaps.

   c. there is no prediction

   sound laws transcribe a distributional pattern
   1. you observe what happens but have no reason to believe that something should or should not occur. If you see some things very often and others never, you won't conclude that the latter are maybe impossible: they may occur tomorrow.
   2. sound laws transcribe the observation, but make no prediction of any kind regarding what occurs next door.
   3. there is no causality in a sound law:

   X becomes Y in the context of Z, but the word "because" is missing. Much like in SPE.

   d. "possible language" is not a thing

   there is nothing that is per se impossible: no universals.

   e. there is no synchronic underlying-surface computation

   hence no cognitive objects.

   the idea that non-material items that exist only in the cognitive system play a role is far away: there is no single brain computing the output of a sound law given the input that existed several hundreds of years earlier.
f. there is no interface theory
   the question how morpho-syntax, phonology, phonetics, pragmatics etc. interact only
   arises when you consider synchronic workings. In diachronic study, you observe that
   phonology is conditioned by morphology, but you don't need to ask the question how
   this works since it isn't done by a single brain. It is enough for you to make distribu-
   tional statements. That's what the neogrammarians did.

=> you are a recording chamber

(26) Conclusion
   the neogrammarians were both:
   a. a recording chamber and
   b. a doctrine with a theory abstracted from observation and rigidly applied.

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