CHAPTER NINE

C. LOTTNER

EXCEPTIONS TO THE FIRST SOUND SHIFT

Lottner's cataloging article has never been given the
acclaim of Grassmann's or Verner's, which it prepared for.
Yet Lottner carefully screened the evidence and listed the
three large sets of "real" exceptions, after eliminating the
apparent ones traceable to "false comparisons", onomato-
poeic words and borrowings. In his treatment of the ap-
parent exceptions Lottner reflects the status of historical
linguistics shortly after the middle of the nineteenth cen-
tury; for that reason, and because the first section of his
article is his permanent contribution to clarification of the
first sound shift, this section is presented rather fully here.
The "real exceptions", which Lottner discusses in the re-
maining sections of his article, may be found in the articles
of Grassmann and Verner. After Lottner's publication
there was no further confusion about the apparent excep-
tions. His clarification of these, and his thorough descrip-
tive presentation of the evidence remain the essence of his
achievement.

This is not to say that Lottner's article is thoroughly
praiseworthy. The tone of it is occasionally intemperate;
at the conclusion he added a short paragraph apologizing to
Curtius for an unwise phrase in an earlier article. He also
misled Grassmann about the "third set of exceptions,"which
were clarified by Verner, by introducing the glib notion of
a Wahlverwandtschaft — elective affinity — between the res-
onants and the mediae. Yet with its faults, the article is an
example of the interplay of descriptive and historical lin-
guistics: Lottner's descriptions simplified the explanations
of Grassmann and Verner. The article also illustrates that
linguistics did not advance by a series of leaps; rather,
careful scientific attention to the data led in time to its
mastery.

C. Lottner submitted the article from London. To my

knowledge he made no further contributions to historical linguistics. From their acknowledgements we conclude that the article was important for both Grassmann and Verner.

Prefatory Note. In general, only those Germanic languages are considered whose consonants have really experienced only the first sound-shift. On the other hand, High German has only then been taken into account when it illuminates the Germanic original form which in Old Norse, Anglo-Saxon, etc., was distorted according to specific sound laws. Words which are only High German are not treated for the time being.

The exceptions to the first sound-shift fall into apparent and real exceptions.

Those words may be treated as the first class among the apparent exceptions with which the entire assumption of a violation of Grimm's law originates simply from the fact that one has compared things that should have remained uncompared. It is of course impossible to list all cases of such erroneous comparison since error and caprice lack definite demarcations. I am therefore content to observe a few examples of this kind where erroneous comparison has enjoyed a certain popularity, whether by virtue of its apparent plausibility or on account of its author's reputation. Of this sort are Gothic: kara 'care' which has nothing to do with Lat. cura, since the latter arose from coira, as is proved by OLat. coerare, to which probably belongs Gk koíranos (cf. Landpfleger, 'prefect'). The Germanic word means primarily 'fear, anxiety, lament' (therefore OHG charôn lamentari, our NHG char-freitag), and it thus goes with the old root GAR 'be heavy', which is present in Skt guru 'heavy' (from garu; comparative garîyas) = Lat. gravis, Gk barús, and from which Goth. kaurs 'difficult' is to be derived. Yet in Germanic the meaning 'to be heavy about something', 'to take care about something', must have developed in this root at an early time. For that is the only explanation for ON kaer-r 'dear', the original form of which is KÁRIA and which will have to be understood as 'something worth being cared for' with the same suffix ja which is present in Goth. andanêmja- 'acceptable, pleasant', in Goth. unquêþja- 'impossible to utter, inexpressible', in Lat. exim-ius = eximendus and in the many corresponding formations of Sanskrit (such as bhâr-ya 'ferendus'). This Scandinavian kaerr therefore does not in the least

have anything to do with Lat. cârus which, despite the long vowel, is probably to be compared with OIr. caru,[1] carimm 'I love'. — The comparison of Goth. leik with Skt dêha "body" — the transition from d to l is as indemonstrable for Gothic as the k vs. h is objectionable — was able to gain a dubious reputation only on account of the great reputation of the founder of comparative grammar. The same is true of his relation of Goth. -leiks 'like' (isolated galeiks = OE lîc, gelîc, ON lîkr, glîkr) with Skt -drça, because the regularly corresponding Lith. lygus is much more plausible and because the root drç, i.e. dark (Gk dérkō) 'see', from which that Sanskrit word originates, is also regularly represented in our AS torht 'light' = OHG zor(a)ht. Goth. natjan 'moisten' would have hardly been compared with Gk notia if one had not dismissed all too easily the connection of the latter with Gk nótos. To compare Goth. raþs 'easy' with Gk hrádios, as the otherwise admirable Gabelentz and Loebe do, is a monstrosity, because the latter is contracted, as Homer's Gk hrēídios shows and furthermore, it began with digamma in Lesbian. Our Germanic word belongs to the root RAT, in Skt ratha 'wagon', Lat. rota, OHG rad, Gallic riton (to be deduced from petor-ritum) and therefore means something that 'begins'. The root itself may have been developed from AR (Skt r̥ "go" Gk or- etc.). — Goth. auhns "stove" has often been compared with Skt agni 'fire', but since Aufrecht has related it nicely to Skt açna 'stone' the former comparison must be considered obsolete. Bidjan 'ask for' scarcely has anything to do with Lat. petere, because the basic meaning of the latter is 'to fly at something,' (= Skt pat 'fly, fall'), whereas Goth. badi 'bed' seems to indicate as the original meaning of our word: 'sternere, se prosternere'. Goth. kalds 'cold', or rather its stem-verb ON kala 'be cold' is quite regular with regard to Lat. gelu, gelidus, Skt gala 'cold, coldness, water'. For that reason OSlav. chladǔ 'cold' is either not related at all, or it is borrowed. Lith. szaltas 'cold', szala (3rd p. sg.) 'be cold, become cold' is however quite a different word, which, with respect to the root, Zend çareta 'cold' and Skt çiçira 'cold' resemble. But the two latter words point back to an original root KAR, KAL; whether this root is to be treated as identical with GAL, I do not know. At any rate, the difference occurred already before the language separation and we Germanic people must be absolved from the reproach of an irregular sound-shift... (166). With these and similar comparisons we lose ourselves completely in a territory where any words are picked up according to their sound-similarity and, with an indubitably blessed, but highly unscientific naïvité, are assumed to be related.

Apparent exceptions to the sound-shift can also stem from the fact that the words under comparison are connected psychologically, but not historically, i.e. that they are imitations of sounds, or they

fall into that category which Buschmann designates by the name
'sound of nature'. After the thorough discussion by that scholar it
may be considered certain that the consonants T, P, or in other
words the syllables ap, pa, at and ta even in non-related languages
form the basic elements in the names of the father (more infre-
quently in that of the mother) because of the identical physiological
make-up of the speech organs and because of identical psychological
impulses. Although the Indo-European languages possess words
from very early times to express these relationships, it must nev-
ertheless be admitted that some of the many parental names have
been formed anew only after the time of the language separation. If
therefore Goth. atta 'father' corresponds too well to Gk átta OSlav.
otĭcĭ (OBohem. ot), then neither relationship nor borrowing is to be
assumed here, but the Gothic word has simply sprung from the ever-
flowing fountain of nature sounds. Furthermore, it can be seen from
the treatise of the aforementioned scholar that the nasals N and M
play the same role in the name of the mother (again, here too, less
frequently in the name of the father) as P and T did in the case of
the father. It must also be noted that all of these readily pronounce-
able elements, notably m(a) and p(a), serve at the same time as
children's words for 'food' and 'nourishment' and therefore fre-
quently as expressions for the mother's breast. Such words are our
pappen, pappe, Engl. pap 'female breast', Lat. papilla, Lat. mamma,
mamilla 'mother's breast' but mamma, mammula also meaning
'mother, grandmother'. For our purposes, we must be concerned
with still another word for 'mother's breast' (beside the above-
mentioned apparently very irregular pappen) which staggers just as
unsteadily and wildly through the various consonant stages, namely
OE titte, NE teat, to which fits NHG Zitze, but also OHG tutta, MHG
and NHG tutte, Gk títthē (compare in Dieffenbach a number of re-
lated words under Goth. daddjan 'to nurse'). Yet this latter is per-
haps no longer the immediate creation from a sound of nature, but
rather the reduplication of an old root dî, which corresponds to Skt
dhê 'to nurse' (from which, dhênu 'cow') and also to dhâ (in dhâ-trî
'wet nurse'), compare Gk thêsai, tithḗnē, thêlus, Lat. femina (?),
fellare, Umbr. felio- 'sucking', OIr. dinu 'agna', stem dîna(n)t, Lat.
filius (cf. Gk thḗlē, thēlázō and Lett. dehls 'child'), OSlav. doiti 'to
nurse', dê-tȩ 'child.' OHG tila = Gk thḗlē (cf. OHG taan = Gk thêsai) is
certainly related and must be distinguished from those new forma-
tions made of sounds of nature. In all of the latter words the exact
sound correspondence stands for a genuine historical relationship.
But that the above-noted chaos of sounds in otherwise closely con-
nected words of identical meaning can find a sufficient explanation
through the assumption of simple psychological relationship, is most
clearly demonstrated by similar sounding words from non-Indo-

Germanic languages by Dieffenbach, such as Basque thilia, dithia, titia, Hung. tsets, Eston. tis, all of which mean 'female breast'. To these may be added several onomatopoeic words in which an apparently irregular sound-shift takes place, e.g. ON klaka 'queri (de avibus)' = klŏkkva 'lament', NE clank, OHG klingan as against Lat. clango, Gk klaggḗ, klázō, to which may be joined Goth. hlahjan 'laugh', which originates from a similar formative impulse. In addition, compare NE clatter, clap, NHG klirren, klopfen, klappern. OE cancettan 'laugh' and also ceahhettan do not go with Gk kagkházō, cachinnari. Much more of this kind could be cited, if one wished to include living folk dialects. A peculiar example of this merely psychological relationship is NE lick, OE liccjan = NHG lecken. It is quite impossible to place this with Skt. lih, Gk leíkhō, Lat. lingo, OIr. ligum etc., since this root is present with regular shift in Goth. laigon. In addition, there is in Lithuanian and in Slavic a Lith. lak-ti, OSlav. lokati and beside it Lith. laiżyti (OSlav. lizati) which correspond regularly to the Greek-Sanskrit root. If one notes that similar sounds serve also in non-Indo-European languages as a designation for the act of licking (e.g. Hebr. kkl, Finn. lakkia), and that in Germanic itself there is a third form which deviates completely, but is still related in sound: ON sleikja — Gk láptō, Lat. lambo, labrum, NE lap 'lick', lip = OHG laffan, lefsa, NHG lefze, Lippe (the latter actually Low German) are admittedly more remote, but must not be ignored either — then all this leads one to conclude that only Goth. laigôn is historically connected with Skt lih, whereas the other forms with a seemingly irregular k are new root formations, or if one prefers it this way, that the old root lih is in fact present in them, but is disturbed in its regular sound shift through the influence of sound imitation and thus has been distorted to LIK, LAK (the latter with a quite preposterous a from i). This easy mode of explanation would have arisen a long time ago if the strange hypothesis had not spread in comparative linguistics that root formation cannot possibly have occurred after the Indo-European peoples had separated. I cannot grasp why such a purely exterior event like the disintegration of peoples should have suddenly cut off the capability to create language. It is paramount to denying the writer of this article the capability to create new compounds and derivatives in his mother tongue just because he emigrated to England. I should like to go on record that I have strongly protested against this mechanical, as well as lifeless and unhistoric, interpretation of the aforesaid conception which assumes the existence of a special "root-forming" era.

A similar situation is found in ON gaukr 'cuckoo', also MHG gouch, which just does not fit NHG Kuckuck, NE cuckoo, or Lat. cuculus, Gk kókkuks; all these irregularities can be explained simply

by the fact that imitations of the animal's voice have been made over and over again. Only the same assumption will explain the strangely corresponding and deviating names of the crow, partially also those of the raven; compare Lat. <u>corvus</u>, Swed. <u>korp</u>; OHG <u>hraban</u>, ON <u>hrafn</u>, can just barely be related to the Latin word (although our b does not correspond to Lat. <u>v</u> either). Further, there is OE <u>crâve</u>, ON <u>krâka</u>, Gk korṓnē, Lat. <u>cornix</u> and further the verbs NHG <u>krächzen</u>, Gk krázō, Lat. <u>crocito</u> and finally, though applied to the 'rooster', OE <u>crâvan</u>, our <u>krähen</u>. All of these are but bound together by a psychological tie.

A great number of apparent violations of the sound shift must be attributed to borrowings within or from the Germanic languages. Most of their foreign words are clearly of Greek, Latin and recently also of French origin. It is not possible to list all of them; I am content to cite those which appear in Gothic. They are from Latin: <u>akeit</u> 'vinegar', <u>annó</u> 'annual pay', arka, asilus, aurkeis (urceus), faskja, kaisar, kapillon 'shear', karkara, katils (catinus), kavstjo (cautio), kubîtus 'resting place at the table', which is related to anakumbjan 'to lie at the table', laiktjo, lukarn, maimbrana 'parchment, membrane', militon, papa, paurpaura, praitoria, pund, spaikulator, unkja and probably also vein. From Greek they are: aggilus, arkaggilus, aikklesjo, aipiskaupus, aipistaule, aivaggeli, aivlaugia (Gk eulogía), aivxaristia, probably also alev 'oil', anaþaima, apaustulus, azyme, balsan, barbarus, daimonareis, diabaulus, diakaunus, hairaisis, jota (Gk iôta), nardus, paintekuste, parakletus, paraskaive, paska, pistikeins (Gk pistikós), praizbytarei, praufetus, psalma, saban (Gk sábanon), sabbato, sakkus, satanas, sikls, sinap, skaurpjo, smyrn, spyreida (Gk spurís), synagoge; further ulbandus 'camel', with a changed meaning and strangely enough with regular sound shift from Gk eléphant. --- I pass over the borrowings of the younger dialects from the two Classical languages, as well as over the few cases where the borrowings take place into them. I also omit the many Germanic words which have gone into the Romance languages, since all of these have been exhaustively treated by Diez. Yet on the whole I must say that it is completely wrong to assume complete isolation of the Germanic peoples of heathen times. Just one word like ulbandus should speak against this, since it must have been in use for a long time in order to be Germanicized in such a form. But we also know that the Germanic heathens took over the seven day week from the Romans — where else would the pagan names of the weekdays come from? We know from Kirchhoff that the runes originate from the Roman uncials. There are Roman coins in Old Scandinavian graves from the time of Tiberius to Marcus Aurelius; and in the oldest Eddic songs we already have evidence of Roman words: <u>tafla</u> 'tabula', <u>tefla</u> 'to play a game at a board' are to be

found in the Vǫlusspâ; ketill 'kettle' appears in the Hymiskvîða and
has deeply penetrated the northern heathendom, as is shown by the
names Âs-ketill, Þôr-ketill 'god's kettle, Thor's kettle'. Even the
Roman state affairs and Roman religion have influenced us early;
Kemble detected the Old English name Säter not only in Säteres däg
(Saturday), but also in the names of places, compare Säteres byrig
(Saturn's castle). Saturn must therefore have enjoyed a certain
popularity, if not in fact veneration, and Caesar, as is well-known,
rose to the honor of being moved into the Old English genealogies
as the son of Vôden. Under these circumstances it will be advisable
in the future not to be too eager to disregard the possibility of bor-
rowing even for very old Germanic words which have apparently
escaped the sound-shift.

It is of course to be expected that there was an early exchange
of words between the Germanic peoples and their neighbors to the
east and west. As regards the Celts, our connections with them
were obviously quite lively in the pagan era. This is proved by the
fact that the king of the truly Germanic Marcomannen, for instance,
had the decidedly Celtic name Maroboduus. In addition, there are
the great number of Gallic names ending in -rîx, -rîg-is and -mârus
to which the many Old Germanic names ending in -ricus, -merus
correspond very precisely. Compare, for example, Gall. Segomârus
with OGmc Sigimerus, a condition which can only be explained
through the factor of mutual influence. But since Celtic not only
resembles Germanic in lowering the old aspirates to mediae, but
also shows beginnings of a sound shift of the mediae to tenues, for
these reasons it is in most cases extremely difficult to determine
which one of the two languages has borrowed from the other, and
often whether borrowing or original relationship exists. Besides,
most words of this kind will be discussed below, because the irreg-
ularity present in them can best be explained by a comparison with
words of the other originally related languages. Therefore I men-
tion here only Gall. bracca 'trousers', from which is borrowed ON
brôk, OE brôc, NE breech. Furthermore, the strange Goth. kelikn
Gk púrgos which is no doubt identical with celicnon, a word that re-
cently appeared on a Gallic inscription. The fact that the word
stands alone in Gothic, as well as its strange suffix and the com-
pletely un-Germanic appearance and sound, speaks for borrowing
from Celtic.

Since earliest times Germanic has many specific agreements
with Slavic and Lettish; much of this is admittedly due to an original
kinship, but very early borrowing is not rare either. The Slavic-
Lettish languages resemble the Celtic in their consistent lowering
of the old aspirates to mediae, and they also coincide otherwise
(see below) in an anticipating manner with our sound shift. These

circumstances make it also extremely difficult to decide whether borrowing took place and if so, from where... (174) Although I deal here only with those Slavic-Germanic loanwords which, not being recognized as such, seem to constitute exceptions to the sound shift, I cannot refrain on this occasion from drawing attention to the strange fact that we have indeed borrowed from Slavic a great many expressions dealing with commerce, comforts and amusements (buying, names of coins, debt, market and translator, the beaker and the dance), but the Slavs on the other hand have taken from us the word for ruler (likewise the Finns their kuningas). The historic position of the two peoples corresponds fully to this phenomenon: throughout the Middle Ages the Germans treated the Slavs as servants; therefore our Sklave, earlier in the fifteenth century without k, Slave, NE slave, Swed, slaf. The Scandinavians established for the Slavs their Russian empire. It remains to be seen whether this political position of the two peoples is going to change in the future.

Borrowings have also taken place from one Germanic language into another, i.e. 1) from Low German into High German, 2) from Scandinavian into English, 3) from Low German into New Scandinavian, and 4) from New High German into Low German and New Scandinavian. Yet, in 2) and 3) the borrowing and receiving dialects are at the same stage of the sound shift. This is admittedly not the case with the borrowings of the first and fourth class, and some of these indeed give the appearance of a disturbance of the sound shift (e.g. Swed. dyster, borrowed from NHG düster, does not correspond to OE þŷster, Lith. tamsus, Swed. an-dakt = NHG Andacht, not to Lat. tongere). But a more detailed treatment of these mutual borrowings of the Germanic peoples must be reserved for another time.

A great number of apparent irregularities in the sound-shift also come into being through the irregularities of the related languages. To start from the beginning, it is known that Sanskrit has an entire class of aspirates, namely the voiceless aspirates, which only the Iranian languages share with it. With every example one must first determine whether — which seems mostly the case — these voiceless aspirates come from an original tenuis or — which admittedly occurs in some cases — originated from an aspirated media. For this Greek will generally guide us safely. Thus everything is in good order for the Sanskrit root path, from which comes panthan 'path', equal to the Germanic root fanþ, which will have to be treated later because of other irregularities, because Gk pátos, patéō witnesses the existence of the original tenuis. But Skt nakha 'fingernail' is likewise quite regularly represented by OE nägel, since Gk ónukh- shows here the age of the aspirate. There are, however, also other cases where the Germanic only seems to be irregular with regard to Sanskrit, for example Goth. hairto 'heart' vs. Skt

hr̥d, hr̥daya. Since all European languages have here either k or its regular substitute (Gk kardía, Lat. cord-, OIr. cride, OSlav. sridíce, Lith. szirdis) there really is no alternative to admitting an irregularity in Sanskrit (and Zend).

Another series of exceptions can be explained when one looks at the history of the sound shift law. It seems to me that Curtius has demonstrated that the sound shift began with the lowering of the aspirates to mediae, which in turn led to the raising of the genuine mediae into tenues, and further the old tenues into aspirates. I should like to point out in anticipation of the conclusion of this examination that there will then be another reason in support of his view. But it would be false to believe that this lowering of the old aspirates owed its origin to a sudden caprice of the Germanic people, for it is very deeply ingrained in our whole language development. Zend already shows b for the old bh and frequently also d for the old dh. In OPers. bh, dh and gh always change to mediae. On European soil this same degeneration is very old in some words; and earlier I have pointed to the conformity of all European languages in this respect, which is attested several times as one of the reasons which compel us to assume that there was a lasting association of the Europeans after their separation from the Asiatics. Goth. ik, mikils, -k (suffix in mi-k, þu-k etc.), kinnus all correspond to Gk egő, megalo-, ge, génus, to Lat. ego, mag-is, gena (the Celtic, Slavic and Lettish languages prove nothing in this matter since all old aspirates become mediae in them), while Sanskrit offers aham, mahat, ha (Ved. gha) and hanu. The situation is also similar with Skt vr̥h 'to grow' 2) 'to work' — Zend verez- but Gk werg-, Goth. vaurkjan; also with Skt vr̥dh 'to grow', but Gk (b)ríza from wridja, hrádeks, hrádamnos, with which goes Goth. vaurts, OE wyrt, and further ON rôt, NE root, while OE rôd 'pertica', NE rood, rod, OHG ruota agree with the Sanskrit sound level. From Gk megalo- it can be affirmed against all doubt that the root had originally gh, for this root is in Sanskrit manh 'crescere, augere' and has maintained Gk kh in mêkhos, mēkhanế, with which in turn Goth. magan agrees. It may also be assumed as proved that Gk ge arose out of older Gk khe only on European soil, in the event that Gk -khi (in hêkhi), which cannot possibly be considered a case suffix, is related to it as Skt hi is to ha (all these little words are enclitic). With all the other examples there remains the slight possibility that originally a g stood here and that the h of Sanskrit is a special irregularity.

Aside from these anticipations of the sound-shift, which pervade all European languages, each language has also specific preludes to the sound shift, as well as some peculiar irregularities of its own. [Lottner goes on to list these pp. 177-182].

(182) Finally, apparent irregularities come into being through

dialect peculiarities of the individual Germanic languages, through which the system of their mutes is more or less altered. To this belongs above all the second sound shift of the High German which has affected some of its individual dialects more, others less, but none completely. Therefore determination of the original Germanic form meets with considerable difficulty where words have only been preserved in High German. The second sound shift, as is well-known, has penetrated the dental group most thoroughly, and of these the z (= Goth., OE, ON t). But there is an exception here too, to which insufficient attention has been paid: the groups tr, tl always remained unshifted. This not only explains our treu, OHG triuwi vs. NE true, ON trûa, Goth. trauan etc., but also cases like OHG bittar vs. OE biter, ON bitr, Goth. baitrs, where a vowel was inserted at later times. --- A great number of apparent exceptions to the first sound shift originate in Old Norse and in Old English through the almost consistent change of medial b to f (changed further in English, Low German and Danish to v, in Swedish to fv), whereas Old Saxon has preserved the intermediate grade bh. Thus, OE leof 'dear', ON liufr, OE lufjan 'love' appear to be on the same grade with Skt lubh 'cupere'. Likewise, ON stafr 'staff' OE stäf seem to fit exactly Skt stambh 'fulcire', but HG lieb, Stab, Goth. liubs, stabs show that everything is in order. In most cases of Old Norse medial d becomes þ, ð, and in Anglo-Saxon this may happen under certain conditions which, of course, gives rise to new apparent exceptions. 2) In New Norse (as well as in Low German) th is lost and is replaced by t or d. It is replaced by the former when the English form begins with a hard th, and by the latter when the English pronounce a soft th (thus Swed. du, de, den, dem, desse, än-då = Engl. thou, the, they, them, these, though). For this reason Swed. du 'you', tänka 'think' are apparently irregular when compared with Lat. tu, tongere, but in Old Norse we quite regularly have þu, þenkja. Finally, medial tenues between vowels, and final tenues after a vowel, change in Danish to mediae (rarely also in Swedish). Thus, Dan. bog 'book', vide 'know', aede 'eat' correspond, for example, to Gk phegos, wid, ed, but compare Swed. bok, veta, äta, ON bôk, vita, eta. All these special irregularities are, of course, to be revoked and the state of Primitive Germanic sounds to be restored before a comparison is possible, also when the dialect form is apparently more regular than the primitive form arrived at by a comparison of the other Germanic languages. It is, for example, uncritical to cite OE seofon 'seven' for the correct sound shift with regard to septem, because Goth. sibun as well as the High German form demonstrate clearly that here Primitive Germanic had a b.

    The Gothic sound conditions of the mutes are identical with Primitive Germanic in by far the most cases, but not always, just

as little as the grammar of this dialect does not always have the oldest forms. Some examples of irregular sound shift in which Gothic is corrected by other dialects will be given later. Here I cite but the two peculiar examples in which the Gothic alone has maintained an unshifted d, namely du 'to' = OSlav. do 'to', da Gk hína, OIr. do and, according to Stokes, probably also Lat. -du (in in-du = NE in-to), whereas OE tô and OHG zuo, za, zi have been shifted; and Goth. dis- = Lat. dis, but OHG zir- which presupposes an earlier regular tis.

After elimination of the apparent exceptions we can now proceed to consideration of the real exceptions.

    I. Irregularities of the original tenues:

        a) The tenues remain regularly (184-187).

[First Lottner cites the groups sp, st, sk, which he says are well-known; then ht and ft. Apart from these he finds little material.]

        b) The old tenuis appears as media (187-197).

[Here he finds the greatest number of exceptions, especially in medial position. He cites, though not coherently, the well-known words, such as "Goth. sibun 'seven' = Skt saptan", "Goth. taihun 'ten' beside -tigus (-zig) Lat. decem". Nor can he account for subsequent changes, such as the devoicing in Goth. hlaifs beside the hlaib- of the oblique cases. Accordingly he is nowhere near a solution. In his final comment on medial mediae instead of expected aspiratae he points to the "elective affinity" between liquids and mediae and to the interchange between "aspiratae" and mediae in the same word, citing for example,

OE	veorðan	vearð	vurdon	
OHG	ziohan	zôh	zugum	zogan
NHG	leiden			gelitten

He concludes the section with the sentence: "Although to be sure examples occur, in which the older aspirates can no longer be demonstrated, it may not be too daring to presuppose in general the transition of the tenues through aspirates to mediae as a former intermediate stage." It remained to Verner to correct the phonetic statements and associate the phenomenon with the Indo-European accent.]

    II. Irregularities of the original mediae (197-202):

[This section was very useful for Grassmann. Although some of Lottner's equations had to be discarded, others are:

Goth. grēdus "hunger, greed"	-	Skt. gardh "be greedy"	
Goth. bindan	-	Skt. bandh	
OHG bodam "floor"	-	Skt. budhna, Gk puthmén	

The ON botn and OE botm perplexed Lottner, as did the Greek tenuis. In this section too he associated the irregularities with the liquids, but noted that there were many fewer than for tenues.]

III. Irregularities of the original aspirates (202-3):

[In this short section Lottner's examples are largely erroneous comparisons, which he himself calls uncertain. After a brief summary Lottner concludes with a statement on the relative chronology of the sound shift.] (204) "It has been disputed where exactly the sound shift began. Grimm finds boldness in the shift of the mediae to the tenues, and accordingly seems to view this as the starting point; I heard Bopp present the entire shift as a weakening of sound, completely opposite to Grimm, and he put the change of the tenues to aspirates at the beginning. The third assumption, that the aspirates became mediae first of all, Curtius capably demonstrated as the most probable by comparing the originally related languages. Through the observation that the aspirates were shifted with greatest regularity, with somewhat less regularity the mediae and least of all the tenues, this view of Curtius gains new support."

London, 10 November, 1860.

Notes

1. The older form caru Stokes attests in Félire Oingosso Céli dé — "á ísu notcaru" — "O Jesus, I love you."

2. It is peculiar that in English the Old English medial dental mediae often appear as th; thus in together, weather, father, mother, all very common words; OE ät-gädere, vedr, fäder, môdor (the three last as exceptions to the sound shift; see below). Is this Scandinavian influence?

CHAPTER TEN

HERMANN GRASSMANN

CONCERNING THE ASPIRATES AND THEIR SIMULTANEOUS PRESENCE IN THE INITIAL AND FINAL OF ROOTS

"Ueber die Aspiraten und ihr gleichzeitiges Vorhandensein im An- und Auslaute der Wurzeln," Zeitschrift für vergleichende Sprachforschung auf dem Gebiete des Deutschen, Griechischen und Lateinischen, 12.2 (1863), 81-138

Grassmann's is one of the celebrated articles of linguistics. Rightly, because it largely led to the conviction that reconstructed languages must be set up for any language family. Before Grassmann, Sanskrit had served as the measure against which forms in the other languages were compared. On the surface it may seem that all earlier scholars viewed Sanskrit as the source of the various other Indo-European languages; but their writings indicate that they were not quite so simple. Because of the transparency of its forms Sanskrit seemed closer to the agglutinative period, through which the Indo-European languages were thought to have passed, than did any of the other languages. The unparalleled antiquity of its materials supported this view. Accordingly, sounds and forms of the other Indo-European languages might well be contrasted with those of Sanskrit. By demonstrating that Germanic actually was "older" in one phonological pattern than was Sanskrit, Grassmann undermined the position of Sanskrit as the language which was the earliest attainable in Indo-European linguistics.

By this demonstration Grassmann also undermined the notion that language developed from an analytic to a synthetic structure through an agglutinative. With it he did away with the close relationship that had been observed previously between genealogical and typological classification. After the publication of his article we find fewer and fewer references to the typological structure of a language in comparative treatments; and when typology is taken up by Finck in the definitive treatment of the nineteenth-century approach there is no reference to genealogical

classification. The appealing notion of a straightforward development of language had been abandoned.

These contributions to general linguistic theory were achieved by explanation of one phonological problem in Indo-European studies. We have noted how von Raumer had hit on the explanation earlier, but had stated it so briefly that it remained without impact. We have also noted Lottner's important preparatory work. Neither reduces Grassmann's achievement. His article is admirably composed. First he examines previous attempts at explanation, then the data. His examination of both is complete. When he presents his conclusions there is no question of their validity.

His convincing explanation led linguists to deal with entire forms, not merely with single segments. In this way it prepared for the concern with entire utterances, demanded by Sievers. Unfortunately this concern with entire forms and with entire utterances was often neglected subsequently in the attempt to solve the numerous minor problems within the various languages.

It is also noteworthy that Grassmann, with his background in mathematics, objects to fanciful theory — the equilibrium theory. He insists on an "organic" approach; speech sounds must be classified in accordance with their organs of articulation. For an understanding of linguistic change a knowledge of articulatory phonetics is indispensable. To be sure, he stumbles over Lottner's notion of a Wahlverwandtschaft between mediae and liquids; but such a notion is not completely in contrast with articulatory phonetics, for both sets of sounds are voiced and usually lenis in articulation. Grassmann's achievement is great, even though he left a field for Verner to conquer. His overall procedure is unobjectionable. All "exceptions" have been dealt with. One could not ask for more rigorous methods.

Hermann Grassmann (1809-1877) was a banker who was compelled to retire because of tuberculosis. In his leisure he occupied himself with mathematics and linguistics. He made important contributions to both fields. His work on non-commutative algebra is an important contribution to mathematics. For linguistics, besides his clarification of the reflexes of the Indo-European aspirates, he prepared a complete dictionary of the Rig-Veda which is still indispensable for Indo-Europeanists and for Sanskritists. Other works which would be major for most scholars

round out his list of achievements, such as his complete translation of the Rig-Veda. He remains one of the great figures in linguistics.

The question of whether there were originally roots in Indo-European with aspirates initially and finally has in my opinion not yet been decided. It is not surprising that, before Sanskrit and also the comparative investigation of languages gained influence on Classical philology, many grammarians — impelled by the moving about of aspiration, e.g. in trékhō, thréksomai — assumed roots in greatest abundance for Greek with initial and final aspirate and in this way defaced Greek grammar in part with roots that never existed, as linguistic comparison showed; for Goth. þragja as well as the Celtic root trag, PBB 1.167 beside Gk trékhō forbid setting up a form threkh** as the original form of the root. It was natural that the investigators starting out from comparison of languages, in their first unhappiness about such monstrosities rejected all roots with original initial and final aspirates; and subsequently the principle that there were no roots of this type was held as a kind of axiom in linguistics, though in more recent times an inclination to that older point of view may again be recognized in various places (cf. Ahrens, Griechische Formenlehre § 152, Schleicher Compendium § 143). But as far as I know an actual investigation has not yet been undertaken about the matter. Encouragement of such an investigation is to be the main purpose of the present essay. Yet it is impossible to take up the matter without touching the disputed question whether the hard or the soft aspirates were the original. For even if the most essential results of the investigation are not dependent on the answer to this disputed question, the entire point of view and the form of the presentation in its details will be quite different, depending on the answer to this question, so that it is not possible to avoid it here. I will therefore first treat this question and only afterwards proceed to the actual task.

First essay: On the presence of hard and soft aspirates before the linguistic separation. (82-110).
[In this essay Grassmann assumes two kinds of aspirates, the voiceless as well as the voiced, specifying that he is dealing with the original Indo-European language. At the end of the essay he states that the Germanic shift began with the loss of the aspiration, sharing this phonetic modification with Sanskrit and Greek. The change of tenues in Germanic he views as related. And only the change of mediae to tenues does he consider without parallel in the

other languages, though he states that it took place to restore the balance which was lost in the first two modifications.]

Second essay: On the original presence of roots whose initial and final contained an aspirate. (110-138).

With regard to the question about the original presence of roots with aspirates in initial and final position it is above all necessary to note the two following well-known euphonic laws of Greek and Sanskrit, which I give here for the sake of clarity.

If a root ends with an aspirate and begins with a consonant capable of aspiration, and if its final loses its aspiration through the operation of some other sound law, the aspiration moves to the initial. But this is true of Sanskrit only when the final of the root is a soft aspirate and when the initial is a non-palatal media; and for Greek only when the initial is τ.

For Greek only τεύχω, τυγχανω with their common future τεύξομαι etc. and τρύχω, future τρύξω provide exceptions. For the former, as shown above, χ results as a later modification of the original κ, which is also maintained in the derivations and in the aorist τετυκεῖν, but this cannot be demonstrated for τρύ-χ-ω (from τρύ-ω). This law is also valid in Greek when the final represents an originally hard aspirate, as in ταχύς, Comp. Θάσσων (see the first essay), and also when the root never contained an aspirate initially as well as finally at the same time, as in τρέχω (= Goth. þragja), fut. Θρέξομαι. The second law we can express in general as follows:

If aspirates that belong to the same root occur in two consonant groups of a word which are separated by a vowel, then one of them, usually the first, loses its aspiration. Only rarely does this happen when the aspirates belong to different roots, or to different suffixes, or one of them to a root and the other to a suffix, or when more than one vowel stands between the consonant groups (as in ἐκε-χειρία, τηλεΘόων).

There is no doubt that reduplication originally arose from a repetition of the entire root syllable, as especially the formation of intensives illustrates (e.g. dar-dhar-shi 'you hold firm' from dhar, dhr, παμφαινω from the theme φαν); originally then the aspirate must have been repeated as such too, and only later when the repeated root combined into one word and the above-stated law of euphony entered into effect did one of the aspirates give up its aspiration. Indeed we find this aspiration often maintained still in onomatopoeic words, but in these the above law, which would disturb the intended imitation of the sounds of nature, is not applied (ghar-ghara, ghurghurā, gharghurghā, ghurghura, jharjhára, jhinjhi, etc.)

The decision with regard to the form of the root itself is not so simple. It would follow from the above law that there would be no roots in Greek and Sanskrit which simultaneously showed an aspirate initially and finally in the state of the language transmitted to us. Now this is the case throughout apart from some secondary dialect forms cited by the Indic grammarians and apart from the Greek forms ἐ-Θαφ-Θην, τε-Θάφ-Θαι, τε-Θάφ-Θω, τε-Θάφ-αται (from Θάπτω), and τε-Θράφ-Θαι, ἐ-Θρέφ-Θην (from τρέφω). Nonetheless it would be unjustified to draw conclusions from this about the original presence of aspirates in initial and final position. But it is even less justified to assume without further consideration, as a kind of axiom, that that euphonic law existed from the very first beginnings of the development of language. Bopp makes this last mistake, when in his comparative grammar (§ 104) he states as grounds against assuming roots with initial and final aspirates "that in the very original arrangement of the roots (directed by the cited euphonic law) the language would have guarded against the simultaneous occurrence of aspirates in initial and final position." But it is precisely the question whether that euphonic law existed from the beginning, and in principle this is most unlikely. The sure answer to this question may only be gained on a historical basis. Now this law shows up in only two language areas: in Aryan and in Greek. In the Italic languages by contrast it does not prevail, as Latin fefelli, the Oscan forms fufans, fefacust, fefacid, feiho, hafiest prove. To be sure f and h are not genuine aspirates, but they take the place of these; and if indeed that euphonic law was valid already before the separation of the Italic branch from the entire family, it is hard to see why later on again the two spirants which take the place of aspirates should have been restored, even though the one of them had already forfeited its aspiration. Even more decisively, Gothic points to the later origin of that euphonic law and to roots with original initial and final aspirates. For if the law existed already before the separation of the Germanic branch, then on the one hand, since Gothic mediae correspond to the old aspirates, the reduplication of mediae had to be avoided, and on the other hand there should have been no roots in Gothic with initial and final mediae. Neither is true. With regard to the first we can cite Goth. gaigrot from gretan, which does not belong to Skt krand as will be shown below. With regard to the second it turns out that of all nine possible groups of roots with initial and final mutes none is represented as widely as that with initial and final mediae. To look on this as a mere play of chance seems impossible; and consequently we may assume it to be securely established that the questionable euphonic law was not yet in existence before the separation of not only the Germanic but also the Italic branch. A linguistic phenomenon that

points to the contrary has not yet been adduced by anyone, as far as I have learned. Nonetheless the frequent recurrence of Gothic roots with mediae initially and finally forces one to the conclusion that there were roots with aspirates initially and finally in the common language branch. Yet the individual roots have to be compared before this conclusion can be drawn with certainty.

If the hard aspirates of Sanskrit are excluded for the time being, especially those roots come into consideration, which begin with a media in Sanskrit and conclude with a soft aspirate. First I consider those beginning with b. I begin with an example among them which can be pursued with utmost certainty through all four language branches which are considered here, and which to a certain extent can be viewed as representative of the others; for the phonological phenomena which appear in it are repeated almost throughout in the others in a precisely corresponding manner, namely:

1.   budh-ná-s, $\pi\upsilon\Theta$-$\mu\acute{\eta}\nu$, fund-u-s, OS bod-m,

where the remaining Germanic dialects likewise all show the initial b, while d and t vary among them in an irregular manner. The initial media of Sanskrit is replaced in Greek by the tenuis, in Latin by the aspirate, in Germanic by the media. Of these sounds only the Latin aspirate stands in accord with the German media; all other five replacements are anomalous. But nonetheless the same series of phenomena is repeated in almost all roots of the named type. Therefore, to avoid these anomalies, on the grounds that Sanskrit has preserved the original grades of sound, one has devised theories through which one attempts to explain these irregularities for every single one of the remaining language branches. To this end, first Pott and in greater detail Benary in his Phonology have set up for Greek the equilibrium theory, which has been adopted by most of the more recent investigators of languages (as also by G. Curtius, Schleicher Compendium § 143). Benary explains the phenomenon, that for example Skt budh- is equal to Gk $\pi\upsilon\Theta$- through the fact that since the aspirate became hard in Greek the tenuis arose medially instead of the media in order to restore the equilibrium (p. 195). This equilibrium he finds disrupted, if from budh, which contains two soft sounds, *$\beta\upsilon\Theta$- had developed, which would contain one soft and one hard sound (β); and this equilibrium is to have been restored through the hardening of the β to π. I cannot make any other sense of this expression (of the disrupted and then restored equilibrium), than that the hard sounds are placed as equivalent among themselves, and similarly the soft sounds among one another; on the other hand the hard as not equivalent to the soft — and that the Greek language had a preference for equilibrium of the initial and final of

roots. Let us examine this preference for equilibrium in greater detail. Four types of equilibrium are conceivable for Greek. First, both sounds can be soft, that is, initial and final can be mediae; second, the initial can be a tenuis, the final an aspirate; or conversely, the first can be an aspirate, the final a tenuis; or, last, both can be tenues. With regard to the first combination of sounds there is apparent in Greek a comprehensive, but, as far as I know, not yet observed law according to which there is no root in Greek with two mediae and a simple intermediate vowel or a vowel expanded by a nasal. It is obvious that in the reduplicated forms, as in δίδωμι, δαιδάλλω, δενδίλλω, or in derivations like βά-δην, βα-δ-ίζω, two mediae can arise at both sides of the vowel, without thereby affecting the law. The single exception would be the hapax legomenon of Theocritus δαγύς 'wax doll of magicians', if the reading for it (besides δατύς) were not doubtful, and a foreign origin not probable. Things are not much better in the second and third equilibrium form. Actually there seems to be hardly a Greek root which originally began with a tenuis and ended in an aspirate, or conversely — of such a kind that in the remaining languages the regular representation would take place. Rather, we see the first of these forms regularly paralleling the form of Sanskrit: media, vowel, soft aspirate and in accordance with the above presentation paralleling the forms of the other languages related to it, as the above example illustrates. As the only cases, which might provide a more extensive correspondence of the sort that the tenuis initially and the aspirate finally in the root appear original, I have found: τρέχω = Goth. þrag-ja 'run', in which however the Lith. strokas 'haste' makes an originally initial s probable; and perhaps κεύθω (theme κυθ), compared with OE hyd-an, hed-an, OHG huot-jan; but this second example is also highly uncertain, since the Greek κεύθω stands in much closer relationship to the Skt gudh, guh 'conceal', which has the same meaning, and since there are only highly uncertain traces of a root *kuh in Sanskrit, about which in addition we do not know whether the h corresponds to a dh or to another aspirate (kuha, kúhaka, kuhana, kuhayāmi, kuhū, kuhara, kuhūla = kukūla, kūhanā, kūhā = kujjhati-kā, which have the meanings 'juggler, deception, deceive by cheating, new moon, cave, fog, etc.' — see the Petersburger Lexicon. In any case the second and third equilibrium forms, which originally show a tenuis initially and an aspirate finally, or the reverse, are accordingly only poorly represented, if at all. Only the fourth equilibrium form with tenuis initially and finally is normal in Greek, but it is greatly outnumbered by the numerous roots in which no equilibrium of the designated type takes place; and indeed all five types of non-equilibrium occur, and most of them in great abundance. A preference in Greek for the equilibrium between the initial and final

of the root is accordingly out of the question. One would accordingly have to modify the Benary law to this effect that the Greek language attempts to maintain through all changes the relationship of weight between initial and final, as it exists at any time, and especially when both stand in equilibrium; but even about this we find no trace outside the area in support of which the entire theory is to serve. From Benary's conception that of Schleicher (op. cit.) differs only in choice of words, for the weak sounds are designated as voiced, the hard as voiceless; equilibrium is designated as similarity of sound and the production of equilibrium as assimilation. In order to explain the irregularity found in Latin (Lat. fund-u-s = Skt budh-ná-s), Benary has made accountable the shift of the aspiration from the final to the initial, and this assumption has also been adopted by most of the more recent investigators of language. But such a shift has not been demonstrated anywhere in the area of the Italic languages. Moreover, the analogy of Sanskrit is not decisive here, since the corresponding phenomenon in Sanskrit is tied to certain conditions which do not enter in here; and in addition, Latin treats the medial aspirates, in contrast with Sanskrit, almost everywhere like mediae. Finally for the anomaly of Gothic and Germanic in general no theory has as yet been made cogent, but here the anomaly is permitted to stand as such, as for example Curtius in No. 326, 327, 328, 329, 145, 318, 138, Schleicher in § 143. All these anomalies disappear and those highly dubious theories which have been devised for their explanation become superfluous if one assumes in the examples under consideration original roots with aspirates initially and finally, which were modified in all those languages in accordance with the general laws which apply in these languages. If for example we assume in the above-cited budh-ná-s, $\pi\upsilon\Theta\text{-}\mu\acute{\eta}\nu$ etc. two original aspirates (bh, dh), then in Sanskrit and Greek in the development of the above-discussed euphonic law, one, and generally the first had to give up its aspiration; in this way, since the aspirate was soft in Sanskrit, hard in Greek — at least from a certain time on — there a b, here π had to arise, the latter (at least if the time when the euphonic law came into force was after this point in time). In Latin, on the other hand, where as shown above this law did not prevail, the aspirate was maintained as f and in Germanic it shifted regularly to b. Instead of the three anomalies which also did not stand in any sort of relationship to one another, one has with this assumption organic changes everywhere, and there is no need to explain the phenomena through artificial hypotheses which lack any other support, nor, despairing of a solution to consider the changes as non-organic. For Greek we must examine the phenomena in still greater detail. It turns out that when the first aspirate of the root loses its aspiration initially before vowels, the tenuis appears

without exception; on the other hand where the second (root-final) loses it, the media arises. The latter occurs, as will be discussed further below, for example in Θυγ-άτηρ, φράσσω (theme φραγ), φεύγ-ω, Θέλγ-ω, (Θελγίν beside τελχίν), φιδ-άκ-νη beside πιΘ-άκ-νη, φέβ-ομαι, φοῖβ-os (the latter probably a reduplicated formation from bhā 'shine') and probably also in Θιγγάνω. It follows from this that at the time when the above-mentioned euphonic law occurred, the aspirate was already hardened initially; medially however it had still preserved its original nature (as a soft aspirate). The initial aspirates before ρ and λ also seem to have remained weak at that time still; evidence for this is given by γράφ-ω = Goth. grab-a, βρεχμό-s = OE brägen (see below), and also γλάφω and γλυφω (compare below also δολιχό-s). Accordingly, from the above-mentioned development we have to assume that the euphonic law — according to which the simultaneous appearance of aspirates in the initial and final of the root was avoided through the fact that one of the two aspirates was deprived of its aspiration — developed independently in the two separated branches of the Greek-Aryan language branch, and that particularly between the time of separation of Greek from Aryan and the development of this law in Greek the period must have elapsed in which the initial aspirate was hardened, except before ρ and λ. This law arose in both branches from the striving which is based on the nature of the aspirates to avoid the heaping of aspirates in the same word. The two languages did not follow the same course in this process, and particularly the Aryan languages resisted also the direct coming together of the two aspirates, while Greek did not, except for homorganic aspirates; yet the Aryan languages attempted to transfer with much greater consistency to another sound of a word the aspiration lost in one position, and by this to maintain the traces of that aspiration (e.g. Skt lab-dhá-s from labh + ta-s, Gk γραπ-τό-s from γραφ + το-s, Skt ghoxyāmi from guh + syāmi, Gk κεύσω from κυΘ + σω, both with gunation of the root vowel). Nonetheless the agreement of both branches in their treatment of the aspirates is overwhelming, and particularly in comparison with the other branches of the Indo-European language family. While these gave up the aspirates partially or completely without providing a substitute for them, the others only worked against their heaping up, but still attempted, to the extent permitted by the striving for euphony which was constantly developing toward greater perfection, to preserve the aspiration as faithfully as possible. As in general in both of these branches, also where they apparently developed independently of one another, but most prominently in Sanskrit, on the one hand a wonderfully fine feeling for euphony developed, and on the other hand the striving remained along with this to bring to view unimpaired

all phonological characteristics of the roots, especially in all of the formations and derivations which sprang out of them, and in this way to maintain the roots in their original and complete life. And this agreement of both language branches is also simply another of the many phenomena, in which the far-reaching agreement between the Greek and the Aryan (pre-Brahmanic) spirit appears to us in language, poetry, myth and life, and gives evidence of the tremendous intellectual development which the Greek-Aryan people underwent after the departure of the other peoples. After these digressions, which seemed to me necessary for the understanding of the whole, I return to the comparison of the individual roots and first of all to those with an original initial bh. The citations refer to Curtius, Grundzüge (C), where the number is cited; to Schleicher's Compendium (S), where the paragraph is; to Leo Meyer's comparative grammar (M) and to Lottner's essay in Volume 11 of this journal (L), where the page is cited.

2. budh; πυΘ; -------------- ; bud   ) C. 328, M 394
    bódhāmi; πυνΘάνομαι; ---- ; binda) S. 143;

The Latin putare does not belong here, as was shown above.

3. bandh; *πενΘ, *πειΘ; *fad(?); band) C. 326
    badhnâmi;   ; binda)
    bandh-u-s; πενΘ-ερó-s
    bandh-a-s; πεῖσμα ; fas-ci-s(?); HG band, bind-a.

Latin fūnis probably belongs to the secondary form with u, Skt *bundh; and Gk πίΘο-s 'vat', πιΘάκνη = φιδάκνη, Lat. fidelia and possibly also Lat. fîlum, if it is to be explained from *fid-lum, seem to point to a secondary form with i. The following root also seems to set out from the same basic meaning.

4. ------; πιΘ   (fĭd-es); bid, bad) C. 327
           πειΘω; fĭd-o; bidja   )

where Gothic to be sure shows the theme bad for the preterite, but in the present (bidja) and in the derivations (bida, bidagva) it seems to point to a theme bid.

5. badh, bādh; παΘ, πενΘ; fend   ; *badv (Grimm, KZ 1.437).
    bādhe   ; πά-σχω;   -fendo; (N böd 'battle', OE beadu).

Here Greek differs appreciably in meaning from the other languages, for Skt badh or vadh 'strike, kill', bādh 'torture', Lat. fendo as it appears in offendo, defendo means 'push'. With this is associated Lith. bėdá 'need, misery' = Russ. bėdá, 'misery, woe', OSl. bėda 'compulsion'; also, to the form badh, the Slavic bodą 'stab, push'. But the transition of meaning to Greek πάΘ-o-s, πάσχω appears

clearly in the Lithuanian and Slavic words. That Lat. pati doesn't belong here has been shown above.

6. bāhú-s; πῆχυ-s; -----; N bōg-r [C. 176, S. 143]
7. bahú-s; παχύ-s   [S. 143].

Latin pinguis does not belong here, for neither the initial, nor the following vowel fits. It probably belongs together with sphigî 'hip', which belongs to Skt sphai 'swell', and more directly still with ON spik, OE spic 'bacon'; and it presupposes an adjectival formation in u from that extended root *sphig. The root for No. 7 is:

8. bah, baṃh 'grow', from which Goth. bag-m-s 'tree'.
9. bhuj   ; φυγ ; fug   bug)
   bhujâmi; φεύγω; fugio; biuga) C. 163

Here Gothic points to two aspirates. That in Sanskrit the second aspirate, and not as is usual the first, has lost its aspiration, seems to have its basis in the fact that the palatal media is not usually aspirated, except in onomatopoeic words; for this reason the law of moving of aspiration to the initial, for example, does not take place when this is a palatal media. This situation (that the second aspirate rather than the first loses its aspiration) occurs more frequently in Greek.

10. -----; φραγ   ; -----; barg) L. 200
    ; φράσσω; -----; bairga)

To this probably

10a. -----; βρεχμό-s; -----; OE brägen (see above)
11. -----; flagellum, flīgo; bliggva (L. 200)

Gothic bliggvan (theme blaggv) 'scourge' shows a as the original root vowel, which is maintained in Lat. flagellum, while flīgo shows the transition to the i-series.

12. bíbhemi; φέβ-ομαι; ----- OHG bib-en, OE bif-jan 'tremble'
    (L. 201, C. 409).

The reduplication which the Sanskrit root bhi shows in the stem syllable has here entered into the theme.

13. -----; -----; fiber; OHG biber (L. 201).

Before I proceed to the other initials, I must cite another phenomenon, which gives evidence for the previously posited roots with two aspirates, especially those cited in numbers 1-8. Comparisons of the words beginning with Skt. b, Gk β, Lat. b, Goth. p indicates, as is well-known, that they do not correspond to each other in any two of the named languages. The single exception, apart from βραχύ-s

= brevis, βοῦς = bos, is formed by the onomatopoeic words, which in the three first named language branches begin with b, and whose b accordingly also remains unshifted in Germanic, like for example, Gk βλῆ-χω, Lat. balare, OHG blā-zan, NHG blöken and Skt barbara-s, Gk βάρβαρο-s, which refer to the foreign language and imitate this at the same time; similarly the Lat. balbu-s (C. 394-397, S. 117,3). Even from this peculiar situation it is probable that initial b, except in onomatopoeic words, had not existed before the separation of the languages, and that accordingly those words with initial b (Gmc p) in those languages originally had another initial. For Latin and Greek it turns out that initial b either arose from gv (βαρύ-s, βαίνω, βοῦς, Lat. bos, βοάω, βίο-s, βιό-s, βία, βάλλω, βορά, βιβρώσκω and probably βαθύ-s, βάπτω), or from dv (bis, bellum, bonus), or from v (βούλομαι, βελτίων, βολβό-s, βλαστό-s, βρῖζα, βρέχω, βρόγχο-s) or from m before l or r (βροτό-s, βραδύ-s, βλώσκω, βλίσσω, βλάξ, βληχρό-s, βραχύ-s according to L. Meyer) or from bh (βρέμω, βάζω, βασκαίνω, βρύω, βλύω, βλέπω, bulla, balaena) or from p (βόσκω, bibo, buxu-s). And the remainder, which cannot be explained in one of these ways, or seems to be borrowed, is quite isolated and still awaits an explanation. Similarly it is also probable that the Sanskrit b too arose from other sounds initially, because otherwise it would be impossible to understand why its representatives do not show up in the related languages. Now we also see here, as in Greek, that b arises from m before r in Skt brū 'speak', for Zend mru corresponds to this, and before r, m can indeed go over to b, but not the converse. Further, as also in Latin v and b frequently interchange (bāro = vāro, batillum = vatillum), so in Sanskrit this interchange between v and b appears broadly distributed, but in such a way that in part v seems to be older, in part b. If one takes the rest of the Sanskrit words beginning with b, which either have no secondary form beside them beginning with v, or in which b seems to be older than v (which is the more common), the remainder consists almost without exception of words in which an aspirate (with or without nasal) or an l follows the first vowel. The latter are bal and bil beside the obvious dialectal secondary forms *bhal and *bhil. Since the first two are also not directly attested, one must determine their meanings from derivations. In the first place, bala-m 'strength' with its derivations does not belong here, since Latin valor etc. demonstrate v as original initial. Now we see bali-s 'nourishment, food', bāla-s 'boy, child', bālā 'girl' establish the meaning of bal which is cited by the grammarians: "sustentare nutrire" (= bhṛ), for which the example bālayati bālam pitā 'the father feeds the child' is cited. This leads at the same time to the origin from Skt bhar, bhṛ, for r changed to l, as it did so often and first generated the form *bhal, and then the bh lost its aspiration through the influence

of the l at the end of the root. The exact equivalent is true of bil,
from which bíla-m 'gorge, grotto' arose, and which the grammar-
ians quite correctly explain from bhid 'split' beside the root *bhil,
which is cited by them too but not attested in derivatives either.
The root bhid must also be viewed as the original form for bil (see
Benfey's Glossary to the Sāmaveda), for d developed to l, as hap-
pens not infrequently in the final root; accordingly *bhil arose first
of all, whereupon the initial aspirate lost its aspiration through the
above mentioned influence of the l. This influence of the l following
the vowel on the initial (soft) aspirate is also confirmed by the fact
that apart from the cited roots *bhal and *bhil the grammarians cite
no root which begins with a weak aspirate and ends with l. The few
words of the form: "weak aspirate, vowel, l" are either onomato-
poeic, like ghulaghulārava 'a kind of dove', jhillī 'cricket' etc., or
dialectal secondary forms, chiefly adduced only by the grammarians,
like ghola-yāmi 'mix together', a Prakrit reformation of ghūrṇa-
yāmi, or jhāla 'heat of the sun' beside jvala-s (from jval); dhūli
'dust' is the only word of this type that has a more general distri-
bution. According to this it seems justified therefore, to assume
for Sanskrit a dislike for such combinations and to hypothesize that
the l following the vowel in the classical language deprived the
originally (soft) aspirate of its aspiration, so that particularly bal
and bil point back to the original initial bh. The remaining evidence
for initial b after removal of the named forms, is limited according
to the glossaries of Bopp and of Benfey (to the Samaveda) to the fol-
lowing words (when we exclude the words cited only by grammar-
ians: baṇij 'merchant', where the b is weakened from p (paṇ 'sell,
play dice'), the Vedic asseverative particle baṭ, which probably goes
back to the original initial v (see Benfey, Glossary), bāná-s = vāná-s
'arrow' = bundá-s, bṛbád-uktha for bṛhad-uktha. I now proceed to
the other initials.

  14. dih;   (Θιγ); fig; dig   ) C. 145
      déhmi; (Θιγγάνω); fingo; deiga) M. 385

That Goth. deiga belongs together with Lat. fingo, with which Curtius
also associated it recently, is proved by the nicely fitting meaning
as well as the form. The g in Germanic shows itself to be very per-
sistent in all dialects, and it is also maintained in Goth. deiga
'πλάσσω', digans 'ὀστρακινό-s', daig-s 'φύραμα'; only the isolated
gadikis 'πλάσμα' shows a deviation. Germanic accordingly points
definitely to a final aspirate, the corresponding Sanskrit form would
therefore have to read digh or dih. The Sanskrit root dih has the
meaning: 'coat with white material' and accordingly agrees nicely
with the basic meaning of fingo. That Skt h stands for gh is proved
among other things by the secondary form san-degh-a for san-deh-a.

The sounds are in complete agreement when the form with two aspirates is taken as original. The Greek Θιγγάνω also agrees in sound, since as demonstrated above the root-final aspirate, if it loses its aspiration, goes over to the media. But the meaning is by no means in such exact correspondence with that which the other languages develop, that there may not still be doubt. From the root dih develops in Sanskrit deha-s, deha-m 'body', which however does not yet occur in the Vedas with dehî (as feminine formation from it) with the meaning 'mound, dike, wall'; with this agrees dehalî 'mound before a house, step, lintel, terrace', as also dehikā 'an insect that throws up earth'; upa-dehikā 'a kind of ant', ud-dehikā 'termite'. And this meaning of 'heaping up' or 'formation of earth' we also give as the basis for deha 'body'. To deha-s corresponds quite exactly Gk τοῖχο-s, and with neuter suffix τεῖχ-os, the basic meaning of which would also be 'earthen wall'. Against the interrelationship with Gk τεύχω (Curtius, No. 135), the vowel provides the most decisive evidence, for οι and ει are the regular gunations of i, the first regularly with the suffix o-, the latter always with the neuter suffix -os.

15. dáh-āmi 'burn'   --   --   OHG tāht 'wick'
    áh-an 'day'   Goth. dag-s

for which I adopt the interpretation of Skt áhan from *dah-an (Bopp, Glossary). That Gk δαίω, δαίs does not belong here, as L. Meyer (Comparative Grammar 385) assumes, but rather stands for *δαϜjω, δαϜίs, and belongs to Skt du 'burn', from which Skt dava-s, davathu-s dāvá-s 'burning' develops, has already been indicated by Curtius (Grundzüge, No. 258); and that Lat. fax does not belong here, because of the contrasting final c, has been demonstrated above.

16. duhitár; Θυγάτηρ   ---   dauhtar [C. 318],

in which Greek has modified the second aspirate and indeed regularly; the Goth. h is conditioned by the following t. With this belongs the root:

17. duh   --   --   dug
    dogh-mi   daug.

Skt duhitar points back to the root duh; Goth. dauhtar to the Gothic root dug; both correspond exactly in sound. But the meaning of Goth. dug-an (συμ-φέρειν, χρήσιμον, εἶναι), with which Grimm, Grammar 2.23, rightly puts dauh-t-s 'guest meal, δοχή', seems to be quite remote from the concept of the Sanskrit root duh 'milk, give milk'; and the English dug 'teat, udder' could be suspected of borrowing from Celtic, deogh- 'mammas sugere'. But the abstract

concept of Goth. <u>dugan</u> must have risen from a sensuous meaning; and the root <u>duh</u> of Sanskrit places this transition before our eyes. In this way the meaning 'milk' is transferred to abstract concepts: 'to exploit something, draw a use or profit from it'; and the meaning 'milk', that is 'to give milk' to the abstract concepts: 'to provide something desired (useful)'. And from this concept the meaning: 'provide a use, be useful', as Goth. <u>dugan</u> shows it, as well as the concept of entertainment (<u>dauht-s</u> as translation of δοχή could very readily develop. Lat. <u>ducere</u>, Goth. <u>tiuhan</u> clearly does not belong here.

18. druh;   (Θελγ); fraud; OHG trug
    drúhyāmi; (Θελγω);   triugu (ON draug-r).

With regard to the meaning, as well as the Gk Θέλγω (the vowel of which still raises a question), I point to Kuhn's discussion in this journal (1.180), and note only that the basic concept is: 'to injure someone, especially through trickery, treachery, witchcraft'; and that ON <u>draugr</u> 'ghost, shadow of the dead' agrees precisely with Skt <u>druh</u> 'monster, witch', Zend <u>druj</u> 'evil spirit'. Lat. <u>fraus</u>, which agrees excellently in meaning (compare Skt <u>drógha-s</u>, droha-s 'insult, deception') I have put here experimentally; the organically corresponding form would have to be *<u>fraug</u>-. Since however an exchange of the aspirates of various speech organs is not at all infrequent, and since Lat. <u>d</u> in <u>fraud</u> would represent an aspirate, this attempt did not seem too daring. In Germanic a homophonous root, but starting from another meaning, seems to have mixed with this, namely Goth. <u>driuga</u> (theme <u>drug</u>) 'do military service' compared with OE <u>dryht</u>, ON <u>drött</u> 'companions, retinue', and especially with Lith. <u>drauga-s</u> 'companion', <u>draugé</u>, and in compounds: <u>draug</u>- with OSl., Russ. <u>drugŭ</u> 'companion, friend' also in the sense 'another'. We do not find anything in Sanskrit corresponding to these meanings, which go back to the concept of companionship, if one does not want to adduce the words cited by the lexicographers: <u>druha-s</u> 'son', druhī 'daughter'. Lat <u>trux</u> would indeed correspond initially with our root in accordance with the treatment above, by which initial Lat. <u>tr</u> can have arisen from older <u>dr</u>, originally <u>dhr</u>; but its final, as shown above, points to another origin for it.

19. -----   Τυφ-λό-s ----- Goth. daub-s, dumb-s (L. 199)
20. *drāgh;   ----- traho; draga
    dīrgh-á-s; δολιχ-ό-s

From the root *<u>drāgh</u> (<u>drāghe</u>) 'make long' etc. are derived <u>dīrghá-s</u> 'long', compar. <u>drấgh-iyas</u>, superl. <u>drāgh-istha-s</u>; <u>drāgh-imán</u> or <u>drāgh-mán</u> 'length', <u>drāgh-áyāmi</u> 'extend'. Of especial interest here is the secondary form with two aspirates cited by the grammarians

which offends against the euphonic law: dhrāgh-e, from which the scholiast for Panini forms the perfect dadrāghe. It must be noted for Gk δολιχό-s, to which OSl. dlŭgŭ, Russ. dologŭ corresponds, that in accordance with the above the soft aspirate of Sanskrit often changes to the media in Greek before ρ and λ, a change that is not hindered by the (subsequently) intercalated o. The tr in Latin has been discussed above. Compare Leo Meyer (in this journal 6.223), who however associates HG träge, incorrectly, since this already at the Gothic stage has tr, which as is well-known is not shifted.

21. (jabh); κεφαλή ----- OHG gebal.

OHG gebal, gibilla means 'skull', as does the related gibil, gibili and ON gafl 'gable', with which also NHG gipfel is connected. It is difficult to separate from this gabala, OE gaflas pl., ON gaffal 'the fork', and also OE geaflas pl.; this leads us to the root, Skt jabh, jambh 'open the maw, snap at something'; in connection with its development of meaning the treatment of Kuhn, KZ 1.123ff., is to be compared. As well the Greek, in forms like γαμφ-ηλαί, γαμφ-αί, γόμφος = Skt jámbha-s, γόμφιο-s = jambhya-s, as also the Germanic, in forms like OE ceafle, ceaflas pl. 'throat', ON kiaptr 'snout, throat, cheek-bone' etc., in comparison with the forms cited above, point to a split of the root jabh attested in Sanskrit — a split previous to the linguistic separation — into a form with original aspirate initially (Gmc gab-, Gk κεφ) and into another with the corresponding media.

22. gadh-   ----   -----   *gad

The Sanskrit root gadh (according to the grammarians 'to be mixed') occurs in the Vedas with ā and pari in the participial form â-gadh-ita, pári-gadh-ita, which according to the editors of the Petersburger Dictionary probably has the meaning 'attached', 'surrounded'; gádh-ia-s 'that which one must hold fast, to exploit' also belongs to this. Grimm (No. 5456) ascribes the meaning 'jungere' to the Germanic root *gad, which occurs in OS gigado, OE gada, gegada, gädeling 'associate', in OHG gagat 'associated', in Goth. gadiligg 'ἀνέψιο-s', in OS, OE gador 'together' in OE gegäde 'assembly', in NHG gatte, gatten, gattung, gatter, gitter, ON gadda 'join together', Swed. gadda sig 'conspire'. The basic meaning seems to be that of firm, close association, possibly precisely in the special conception of 'attaching, joining to one another'.

23. ----- ἀγαθός   ---   gōds (L. 197).

The Gothic word points to an original form with two aspirates and the root vowel a, to which the Greek agrees, apart from the preposed a; for at the time when the one aspirate deprived the other of

its aspiration the medial Greek aspirate in accordance with the statements above was soft, the initial hard; accordingly either ἀηαθό-s or ἀκαθό-s (Hesychios) had to result, depending on whether the α was preposed before or after that time. As root we may hypothesize No. 22, with possibly a transition of meaning through the intermediate concept 'aptus'.

24. ----- γράφω ; (scribo); graba (L. 197)

With this the secondary forms with λ: γλάφω, γλύφω, Lat. glaber, glūbo. With regard to the initial, for Nos. 24 and 25 the first essay is to be consulted.

25. ----   -----   gradu-s; grid-s, ON grada (L. 198)

To the two roots given in 24 and 25 belong forms with initial s, namely Lat. scrib-o (to γράφω) and OE scrīd-e, OHG scrīt-u (to gradior), both with transfer to the i-series; further, Lat. scalp-o (to γλάφ-ω), sculp-o (to γλύφ-ω); and as original initial either sk is to be assumed, and then it must be posited that it changed in part to the weak aspirate before r and l even before the linguistic separation, or more probably that gh was the original initial, before which an s had been introduced as a type of compensation for the abandoned aspiration.

26. gṛdh   -----   -----   gred-u-s (L. 198)

The meaning of the Sanskrit root gṛdh, gṛdh-yāmi 'be greedy for something' is mirrored in Goth. gredu-s 'hunger', ON grad-ug-r, OE grædig 'greedy'.

All words cited above go back to original root forms with two soft aspirates, which in the Germanic and Italic languages are treated precisely as such, and of which in the Aryan and Greek languages one, generally the first, loses its aspiration. Some instances still remain to be treated, in which the hard aspirate, whether it was originally present or developed only later from the tenuis, exerted in the same way an influence on an originally present, soft aspirate, so that it lost its aspiration. For we note that like roots with two soft aspirates, those with hard aspirate initially and soft finally, or the converse, are avoided in Sanskrit (and Greek), apart from some individual ones which were probably taken from the dialects, and in addition partly secondary forms of grammarians resting on uncertain readings. Actually, Germanic makes this assumption very probable for the following two roots:

27. chid; σχιδ; scid; skaid   ) C. 295
    chinadmi; σχίζω; scindo; skaido)

Here Germanic (Gothic) points to the original root final dh. But

from this does not necessarily follow a root with two aspirates; rather it is possible, indeed probable, that the original initial was sk and only in the common Greek-Aryan language branch did the tenuis, as we see happen so frequently, also subsequently, after the separation of the two branches, change under the influence of the preceding s to the hard aspirate, which then merged with s in Sanskrit to ch. Then we would have to assume an original form *skidh, whose final aspirate had to change to d, Gk δ, after the k was aspirated and the euphonic law became effective, by which the simultaneous occurrence of aspirates initially and finally in roots was avoided.

28. chad   ----   ----   skad-u-s

The meaning 'shadow' goes naturally with the meaning 'cover up, cover over, conceal' also 'darken' of the Sanskrit root chad (chādáyāmi). In accordance with the statements about the previous root we would here have to assume an original form *skadh.

If at this point we review the exceptions to the first consonant shift, as Lottner so usefully assembled them recently, we see that they almost vanish completely, apart from a small number of dialectal variations and from the instances to be mentioned below which rest on a type of elective affinity between the liquids and the following media. If we examine first the initial, then of the instances in which the media is said to remain unshifted (p. 197) the following disappear, in connection with which I always refer to the number in the foregoing treatment: 1. god-s (No. 23), 2. graban (No. 24), 3. gredu-s (No. 26), 4. root drug (No. 18), 5. dauhtar (No. 16), 6. bindan (No. 3), 7. biudan (No. 2), 8. ON botn (No. 1), 9. ON bōg-r (No. 6), 10. OE geaflas (No. 21), 11. Goth. gibla, ON gafl (No. 21), 12. dumb-s, daub-s (No. 19), 13. dag-s (No. 15), 14. OE beado (No. 5), 15. OE drygge 'dry'; for Skt *drākh 'be dry', which is not yet attested, actually shows the original aspirate in the form *dhrākh (same meaning), which to be sure is similarly unattested. And this example was passed over above only because the root simply is unattested and no derivatives from it appear; also the vowel u of Germanic, like the irregularity of the final arouses some suspicion. Among the remaining exceptions, Goth. gagga, OHG gā must definitely be excluded, however much it is placed together with Skt gā. For since Skt gam (Gk βαίνω etc.) is represented by the Germanic root kvam (Goth. kviman etc.), and since Skt gā (Gk βιβά-s) stands in very close relationship with it, for this reason alone one cannot accept that equation; Skt gā, Gk βα would have to yield Gmc ** kvā. Now for the Germanic root gā, the exactly corresponding root with the same meaning is found in Skt hā, jihāmi, and there seems to be no reason for not equating the Germanic gā

and the reduplicated gaggan with it; this equation is established to a certain extent through Lith. żeng-iu 'stride', for Lith. ż is virtually the regular representative of Skt h. Obviously Skt hā, jáhāmi, jáhīvas (1. du), ptc. hīná-s, which have the meaning 'desert' and, in the related languages and to some extent also in derivatives in Sanskrit, the meaning 'to separate, gape', are closely connected; yet in this root an i or j often develops after the initial (* χα-, hia-re, ON gi-a, HG gi-en. That Goth. gras does not belong to Skt gras 'devour' has been shown in the first essay in connection with the replacement of the initial aspirate through Latin media (No. 2); and that ON bulla = Lat. ebullire provides no exception has been demonstrated there (No. 11). Relationship of OE gilpan with Skt garva, garba had already been doubted by Lottner and indeed justly; rather, Skt garva 'pride' is to be associated with Skt gurú 'heavy, weighty, honorable', compar. gárīyas, for which the form and the meaning fit excellently. Moreover ON gala 'sing, croak', gella 'yell' are hardly to be placed with Skt gr̥, jr̥, for these, as Lottner correctly remarks, p. 165, are represented by ON kalla; but for these the onomatopoeic Skt gharghara 'crackling, rustling, laughter', ghargharā and ghargharikā 'bell, lute' might possibly be adduced. In connection with placing diup-s 'deep', daupjan 'baptize' with Gk δύπτω it must be noted that δύπτω is an extension, though a late one, of δύω, and that Lith. dub-u-s, dumb-u gives us no clarification about the original sounds. Goth. dal 'valley', dail-s 'part' belongs to be sure with Skt dal 'burst', dala-m 'torn-off piece, part'; but because of the final l (see above) it is dubious whether d or dh was the original initial; dhalila (the name of a valley in northern India) might well speak in favor of the latter. To be sure, Skt dal is related to dr̥, dar; but just as OE derjan 'harm' stands beside teran 'tear', terjan 'incite', the corresponding parallelism between initial d and dh might well extend into the time before the linguistic separation. Goth. gavi 'county', however attractive the relationship with Gk γαῖα may be, is nonetheless not to be placed here but rather following Grimm with Gk χαμαί etc. (see above), and the frequent change of m to v at the final of roots must be assumed (cf. Schweizer, KZ 2.305 and 7.155). Finally, placing ON draum-r HG traum with Skt drā 'sleep' Lat. dormire is dubious in every respect. Gmc au, OE eá before labials generally points back to a lost palatal [HG baum = bagm-s; haubi-þ = Skt kakubha; ON taum-r 'bridle' = *tuhm from tuh 'pull', cf. HG zuhil, zügel, 'bridle'; so also OE teám 'suboles, what is reared', Grimm, Grammar 2.146, from the same root; OE hreám 'cry' beside Goth. hruk-jan; OE seám, OHG saum = σάγμα]. A readily available root for draum-r is the above-treated drug (No. 18), and the naming of a dream for the deceptive or shadowy figures (cf. ON draug-r above) with which it bewitches the mind (cf. Homer's Θέλγειν) is highly

suitable; similarly OE dreám 'music' would represent music as that which charms and enchants the mind.

As exceptions, in which Gothic mediae are to have replaced the old tenues, Lottner (p. 187) adduces only two examples for initial position, which he himself however subsequently designates as dubious: gretan 'weep' to Skt krand and dragan to Lat. traho. That the latter does not form an exception has been shown above (No. 20). The basic meaning of krand is 'roar, bellow', partly of animal cries (of the horse, the ox, the screaming bird), partly of the roaring of the ocean, of the thundercloud, of crackling fire, of the creaking wheel; then also of the cries of man, particularly of cries of battle and sorrow. To the latter the meaning of Goth. gret-an 'weep' might be related. Yet the sound relationships lead us to another root of similar meaning, namely to Skt *hrād 'roar, thunder', from which: hrādinī 'the lightning of Indra'; hrāduni 'bad weather'; and with short vowel hradinī 'river' (named from its roaring), hradá-s 'pool', used in the Vedas of a pool into which brooks plunge with a roar, later of the deep pool of Tartarus. Accordingly gretan can just as well be associated with hrād, since the basic meaning coincides so closely with that of krand, and hrād fits exactly with regard to form.

According to Lottner the initial Gothic aspirates furnish no exception to the shift, though the initial tenues do, yet only to the extent they seem to correspond to old tenues in some examples (p. 185). First of all OE päd = $\pi\acute{\alpha}\tau o$-s along with the corresponding forms of the old dialects provides a real exception, though only in the special sense of 'path'; for the root fanþ (Goth. finþ-an), whose original meaning must be 'go', and all its derivatives in use (OE feða = OHG fendo 'pedestrian', OE feða 'stride' etc.) show the regular shift. In this way OE cal-o 'bald', which is put erroneously among the initials by Lottner, has been demonstrated above to be a regular correspondent of Skt khal-atí-s. If in addition Goth. tek-an corresponds to Lat. tango, Gk $\tau\epsilon$-$\tau\alpha\gamma$-$\overset{\rightharpoonup}{\omega}\nu$, I believe that the irregularity exists in the old languages and is caused by a sound law demonstrated above for Greek. For Goth. tek-an would correspond to an old *dang, *dag if regularly shifted. Now we have seen that in Greek, roots with two mediae and between them a simple vowel or vowel expanded by a nasal are absolutely avoided; in Latin this law was necessarily obscured because of the representation of aspirates through mediae. If we therefore take as original that root which Gothic suggests, then when a disinclination against such a root form began to develop in Greek and Latin, a change of the one sound had to take place, by which a reason was afforded for hardening of the initial. The remaining exceptions which Lottner cites there, all concern Germanic k, and particularly in its position before v and r,

where however the organic forms with initial h in part occur beside it, as in kvainon, ON hvīna, in ON kringla, hringr; and Lottner already rightly observed that here the h (which however must have been closer in sound originally to the ch) is to be viewed as the original sound on Germanic soil; only later (when it inclined more towards the soft spirant), because of the difficulty to make it audible before r, v (l, n), did it disappear in part, in part harden to k. This can be applied to all the examples adduced there; for also the ON kynda 'kindle' stands for *kvinda in accordance with the Old Norse sound laws.

For medial position Lottner demonstrated (pp. 188-197), as Grimm had already pointed out at various times, that frequently in this position the old Germanic aspirates (which correspond to the tenues of other languages) had sunk downward to mediae; further, that this transition, which can be pursued historically in many individual instances, was the reason why we frequently, and in particular after liquids, find mediae corresponding to medial tenues of other languages on the first grade of the Germanic shift, where the more frequent aspirate would be expected. And he also showed (p. 200) that the shift of mediae is frequently not carried out, so that here too a kind of elective affinity makes itself known between liquids and mediae (p. 196). But in all other instances the exceptions turn out to be only apparent, if one applies the laws developed above; or they are limited to an exceedingly small number of cases, which in addition are nearly all dubious or limited to dialect variations. In this way, all the exceptional instances adduced by Lottner (p. 202) in which Gothic tenues are supposed to correspond to old aspirates vanish first of all; for the aspirates showed up as hard originally, and therefore, in accordance with the above, regularly correspond to Gothic tenues. These are: 1. skip, skapan (see the first essay towards the end, No. 8); 2. meki (No. 1); 3. OE macjan (No. 7); 4. tacan (No. 6); 5. greipan (No. 10). A similar situation applies for the exceptions which are medially preserved mediae (p. 201), for here the Gothic mediae correspond to original weak aspirates, as has been demonstrated in this second essay of mine for the following instances: 1. grid-s (No. 25), for which I demonstrated at least that also Lat. gradus can be taken back to a root with two aspirates; 2. deigan (No. 14); 3. skaidan (No. 27); 4. skadus (No. 28); 5. biben (No. 12); 6. biber (No. 13). Similarly OE glād 'be happy', if it really belongs to Skt hlad, which however does not seem certain to me, would point to the fact that the original final was dh, whose aspiration had to defer later to the initial aspirate. Moreover, OHG sweben, sweibon 'vary, waver', Goth. sveiban 'διαλείπειν', ON svīfa 'waver, hurry' seem to me to have to be separated from OHG sweif = σοβή OS suepan, OE svīpan, svăpan 'sweep' = σοβέω, Goth. sveipan

(in <u>midja-sveipains</u>), which correspond exactly to the Greek forms in meaning and form (apart from the varying vowels in Germanic). As single exception would then remain OHG <u>swīgan</u> = Gk σιγάω, for which it is not clear however whether the irregularity lies on the side of the Germanic or Greek, or whether a relationship exists at all.

Most numerous are the exceptions cited by Lottner (p. 185) for the instances in which medial tenues seem to be maintained. But first, all those exceptions must be excluded in which the Germanic words only correspond to words in Latin, Lithuanian, Slavic (Irish), for in all of these languages (apart from Lat. <u>f</u> which represents initial <u>sph</u>) the tenues are not distinguished from the original hard aspirates; and in accordance with the statements above, Gothic tenues correspond to hard tenues. Moreover, those instances must be excluded in which the remaining languages (as Lottner too remarks) show mediae, which then correspond regularly to tenues on the first grade of the shift (like <u>hruk-jan</u> beside κραυγ-ή, <u>hveit-s</u> beside Skt <u>çvid</u>, <u>ut</u> beside <u>ud</u>, <u>þata</u> beside <u>tad</u>; in this connection it should be noted that Pānini already posits these words in the forms <u>ud</u> and <u>tad</u>). Moreover those instances should be disregarded in which the deviation occurs only in one or the other secondary dialect form, while all other forms and dialects show the regular correspondence (ON <u>spak-r</u> 'intelligent' beside ON <u>spā</u> for *<u>spah</u> 'prophecy', OHG <u>spahi</u> 'wise', <u>spahī</u> 'wisdom' <u>spehon</u>, etc.; further, OE <u>sūcan</u> beside the normal <u>sūgan</u> etc. of Old English and the other dialects). The situation is quite different in OE <u>vīc</u>, OHG <u>wīch</u> = Lat. <u>vīcus</u>, Gk Foῖκο-s, for here only Gothic provides the regular form <u>veih-s</u>. Moreover those examples are excluded in which the Gothic tenues regularly correspond to original hard aspirates, namely in <u>vairpan</u> (Essay I, No. 9), in ON <u>flat-r</u> (No. 5), and probably in NHG <u>flach</u>, which may be recognized as a secondary form beside <u>flat-r</u> since Old High German almost exclusively shows the form <u>flaz</u> corresponding to ON <u>flat-r</u>. Finally, those words are excluded whose association with those of the related languages rests on erroneous comparison. Here I put the association of <u>taikn-s</u> 'sign' with δείκνυμι, Skt <u>diç</u>, to which the generally distributed Germanic root <u>tih</u> 'show' regularly corresponds. It seems to me that <u>taikn-s</u> has lost an initial <u>s</u> and that it belongs to the root: Zend <u>çtij</u>, στιγ, Lat. <u>stig</u>, Goth. <u>stik</u>, <u>stak</u> 'stick', which loses its <u>s</u> also in Sanskrit; this association is demonstrated by the meaning of στίγμα 'spot, characteristic', and through Lat. <u>signum</u>, which Ebel in this journal 6.441 correctly explains from *<u>stig-num</u> and which, except for the loss of the second element of the consonant combination, corresponds exactly with Goth. <u>taikn-s</u>. Further, I count as erroneous the association of ON <u>hvat-r</u> 'sharp' with Lat. <u>catu-s</u>, or with Skt <u>katu-s</u>; the

Latin word, to which also c̄os belongs, leads to a root *ca = Skt çā̄ (ço) 'sharpen' (Aufrecht in this journal 7.74). Skt katu-s 'sharp in taste' does not belong with hvat-r either; for this purpose kath-ora-s 'hard, sharp' (cf. kath-ina-s 'hard') is much more probable — for the ax kuth-āra, for example, is called a kathora-nemi provided with a sharp edge, and kathora (Petersburger Lexicon) is used of a sharp bite, a sharp wind, of piercing cries (of the donkey). The associated kuthāra 'ax' makes an original initial of kv probable at the same time through the exchange between a and u. The sounds then agree very exactly, since the hard aspirate regularly corresponds to ON t. Accordingly there remains among the exceptions cited by Lottner only one, namely OE vīcan, ON vīka, OHG wīchan 'yield' beside Gk Fἐικω, Skt vic 'separate' for which the secondary form vij of the grammarians (or indeed a derivation from vi-yuj) cannot be taken into consideration.

If in this way the numerous exceptions to the first sound shift vanish almost without a trace, as soon as one recognizes the laws developed above, I believe I have found through this fact no negligeable confirmation of the theory I have proposed.

Stettin, 4 September 1862