From **Modern Khoisan** Languages to **Proto-Khoisan**: The Value of **Intermediate** Reconstructions

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0.0. INTRODUCTION.

0.1. In a previous article [STAROSTIN 2003] I have argued that a reasonable first step towards reconstructing Proto-Khoisan, or, in fact, towards ascertaining whether Proto-Khoisan exists in the first place, would be to run the attested lexical evidence through a general lexicostatistical test, bound by certain maximally formalised restrictions. My idea was that not only would such a test be useful in confirming (or refuting) our current theories of the genetic classification of Khoisan languages, but that it could also clarify our understanding of the nature of phonological correspondences between the various Khoisan subgroups, and thus provide us with a few practical clues on how to proceed with the actual reconstruction.

Despite several obvious problems with applying glottochronology to Khoisan material (such as the extreme scarcity of data on rare and extinct languages, as well as the lack of a well-established system of phonetic correspondences that would allow us to adequately determine cognation), the procedure still managed to yield what I would consider as rather significant results. In regard to the genealogical tree of Khoisan (see Fig. 1), it was shown that the resulting classification closely follows some of the already existing conceptions, if not in terms of absolute dating of the subbranches then at least as to their relations to each other.

Thus, glottochronology confirms the old subdivision of Khoisan into the North (Zhu), South (Taa-!Wi), and Central (Khoe) families, as well as the more recent split of the latter two into, respectively, the Taa and !Wi subgroups, and the Khoekhoe and Non-Khoekhoe subgroups. It also shows Sandawe as having separated from the rest of the bunch at least a couple millennia earlier, and Hadza even way before that. This positioning of Hadza as the earliest offshoot of Khoisan, in particular, may resolve the dilemma still left open after B. SANDS' works on the subject [SANDS 1998, 1998a] — whether Hadza is actually a member of «Khoisan» or not.

The three major differences between this tree and previously held views are as follows:
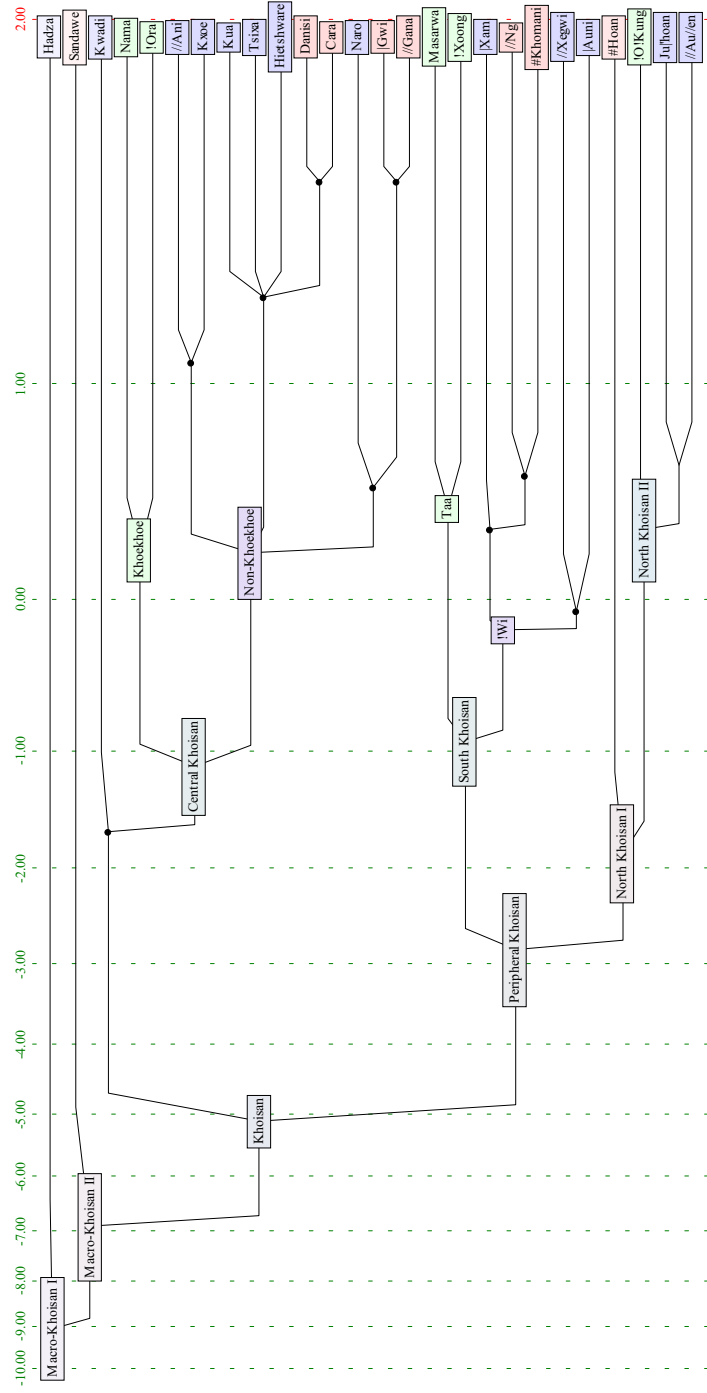
Fig. 1. Khoisan genealogy according to glottochronological calculations.

(a) the lack of a joint «West Central Khoisan» group, suggested by R. Vossen [Vossen 1997]; there does not seem to be enough lexicostatistic evidence to put the ‖Ani-Kxoe subgroup, on one part, and the Naro-|Gwi subgroup, on the other, into one subdivision. This may, however, yet turn out to be a slight calculation error, caused by the incompleteness of some of the lists. Note that for the East Central Khoisan languages, whose unity is seriously supported by a series of common phonological innovations (such as the affricativisation of the palatal click), glottochronological calculations are in full agreement with the previous classification;

(b) positioning of Eastern ǂHoan (which will be simply called ǂHoan from now on), earlier considered a separate branch of Khoisan, closer to the North Khoisan (Zhu) branch than anything else (cf. 43 % of common matches with Zhu|'hoan within the 100-wordlist as compared to, say, 29 % with !Xóõ or 12 % with Nama). This actually agrees with H. Honken's inclusion of ǂHoan into the Zhu family [Honken 1977; Honken 1988, p. 59], although both the results of lexicostatistics as well as historical phonological considerations demonstrate that ǂHoan must have separated from North Khoisan significantly prior to the disintegration of modern NK dialects;

(c) an extremely high level of lexical matches between North and South Khoisan languages as compared to the Central group (cf., for instance, 37 % between Zhu|'hoan and !Xóõ as compared to 22 % between Zhu|'hoan and Naro). The Central Khoisan, or Khoe, group is thus shown to be a distinctly elder relative of these two subgroups, and this result finds extra confirmation when we compare the morphological systems of the three subgroups — for instance, there is nothing like the relatively complex systems of Khoe verbal and pronominal morphology in either Zhu or Taa-!Wi, while, on the other hand, the class system of South Khoisan (and its scattered remnants in Zhu) finds little analogy in Khoe.

Out of these three conclusions, the first one is questionable; however, the latter two, as I am going to try to show below, are of crucial importance to the historical phonology of Khoisan languages.

Another important outcome of Khoisan lexicostatistical calculations is that it becomes possible to show that any reasonable classification of Khoisan necessarily involves postulating a set of *complex* rather than *simple* phonetic correspondences between various subgroups. The phonological systems of all modern Khoisan languages, with the exception of Hadza and Sandawe, are fairly similar in terms of inventory; yet if we assume that this similarity somehow reflects the original system, and all we need to do is postulate a one-to-one system of correspondences (in which, for instance, the Zhu|'hoan dental click always corresponds to the !Xóõ and the Nama dental clicks and

vice versa), we find ourselves left with such a minuscule proportion of matches within the 100-wordlist that genetic relationship between the various Khoisan subgroups would have to be either pushed back five or six thousand years compared to the results in Fig. 1, or — at worst — deemed non-existent.

The first choice is paradoxical: the simpler the system of correspondences that we assume for Proto-Khoisan (e. g., the one argued for in [EHRET 2003]), the wider the chronological gap between its subgroups. This is not very probable; normally, we should expect quite the opposite. It is, indeed, hard to believe that a language like !Xóõ could have lasted ten to twelve thousand years, right up to the XXIst century, without undergoing almost *any* significant changes in its click system at all, while other Khoisan languages like Nama and Zhu|'hoan have merely simplified the system a little, losing old phonological oppositions wherever possible. A situation like this would simply have no analogy in the history of long range comparison.

As for the second choice, there is, of course, nothing intrinsically wrong about the possibility of Khoisan languages being non-related; cf., for instance, Prof. E. WESTPHAL's well-known position on the subject [WESTPHAL 1962, 1963, 1965, 1971, 1974]. However, there is hardly any need to cling to such a rigid and radical conclusion once we admit the possibility that phonetic correspondences between North, South, and Central Khoisan languages may, in fact, be more complex and less easy to identify than the ones postulated according to the «one-to-one» principle. For instance, Zhu|'hoan items with a palatal click often correspond to !Xóõ items with a palatal click; however, careful analysis reveals that they also frequently appear in items where !Xóõ displays a lateral click. As for the !Xóõ lateral click, besides the Zhu|'hoan palatal one, it often corresponds to the Zhu|'hoan lateral *or* alveolar click, with sufficient data to show that these correspondences are more than coincidental. Once all of this data has been taken into account, the resulting glottochronological picture starts looking reasonable, yielding major (but not overwhelming) time depth accompanied by complex phonological change.

The basic idea behind this line of reasoning can actually be formulated in just two words: «clicks change». Within each of the three main subgroups of Khoisan, these changes are relatively small, but they do occur. Often, the change is from click to non-click (such as the already mentioned development *ǂ > *ć in East Central Khoisan), but occasionally it involves actually shifting the articulatory position of the click without changing the manner of articulation, such as the development of retroflex click to lateral in the Northern dialects of !Xũ. Cf. also, for instance, in the !Wi subgroup of South Khoisan: ǂKhomani *!ʔu* «two», but ‖Xegwi *‖ʔu* id. (alveolar click in the first case, lateral click in the second). Even more frequent and more obvious are multiple shifts in click effluxes (accompany-

ing consonants or consonantal features), which often find themselves in complex interaction with the prosodic features of accompanying vowels.

With all this in mind, there should be nothing surprising or unrealistic about the idea that, given bigger time depth, changes within click systems could have been far more drastic than anything that we witness today with the relatively young North, South, and Central subgroups. The fact that today these systems look so much alike can be explained by certain common tendencies of development, no doubt emphasized by the constant interaction between the various San and Khoe population groups; the similarity alone does not prove that the «Proto-Khoisan» system was little or no different from what we find in modern languages.

To summarize everything that has been discussed above, what we are left with at this preliminary stage is a linguistic family of an impressive, although not really overwhelming, time depth (without the inclusion of Hadza/Sandawe — about the same depth as the Altaic family; with the inclusion of both — about the same depth as the Nostratic family), consisting, for the most part, of several bunches of closely related languages and/or dialects, with phonetic correspondences that are relatively understandable *within* the smaller bunches, yet extremely complicated in between them. This is as far as lexicostatistics gets us, at this time.

Considering the lack of any Khoisan language material whatsoever that would be older than the late XIXth century (not to mention phonetically reliable language material, which, for Khoisan, is even younger), one reasonable way to get on with this situation is now to tackle the methodics of *intermediate reconstruction*. A direct comparison of, for instance, Zhu-|'hoan material with Nama material would almost certainly fail to take into account at least several important phonological changes that have taken place since these languages' respective separation from North and Central Khoisan (e. g. the merger of the retroflex click with the alveolar click in Zhu|'hoan or the loss of distinction between the zero and the voiced effluxes in Nama), not to mention changes that must have taken place even earlier, on the Proto-North and the Proto-Central stages. Only a gradual, step-by-step reconstruction, involving a detailed analysis of all the attested phonological oppositions and developments within as many Khoisan languages and dialects as possible, can qualify as a true attempt to penetrate into the nature of «Proto-Khoisan».

The intermediate reconstruction method by itself is not at all unusual; it is frequently employed by historical linguists whenever they have to deal with a language family of significant depth that also happens to be lacking in attested ancient stages of any of the languages (everything from Altaic to North Caucasian to Afroasiatic, etc.). In the Khoisan case, however, when it

comes to intermediate reconstruction, we are faced with a serious additional problem: not only are we devoid of «ancient» language material, we are also experiencing serious difficulties when it comes to «modern» material as well. Out of all the enormous variety of Khoisan languages that must have once been spread across Southern Africa, we are only familiar with around thirty of them; moreover, out of these thirty, only a small proportion can boast a more or less adequate quality of phonetic transcription, with the rest having been given only approximate phonetic descriptions in the first half of the XXth century and having since then completely died out. Finally, even out of those languages that were lucky to be described on an adequate level of linguistic competence, only a tiny portion is represented by extensive vocabularies (see below for more details).

Because of such severe limitations, intermediate reconstruction in Khoisan is predictably hampered. New data on «rare» languages usually comes in bits and pieces, often providing valuable clues but rarely giving any kind of full picture, whereas older data can only be used with numerous reservations about transcription quality. Nevertheless, even with all these extra problems, the amount of publicly available Khoisan material (both reliable *and* not too reliable) today allows us to make significant progress in tracing the prehistory of every major Khoisan subgroup, and the main goal of this paper is to try and summarize this progress, with the main emphasis on results obtained in the course of my work on comparative Khoisan within the Evolution of Human Languages project.

In accordance with lexicostatistical calculations and the ensuing genealogical tree of Khoisan, the paper will be structured «from bottom to top», i. e., I will start with the lower levels and advance from there in the following order:

a) Proto-North Khoisan (PNK, a.k.a. Proto-Zhu);

b) Proto-North Khoisan II, or Proto-North-‡Hoan (PNH; this includes PNK and the closely related Eastern ‡Hoan);

c) Proto-South Khoisan (PSK; a.k.a. Proto-Taa-!Wi);

d) Proto-Peripheral Khoisan (PPeK, including PNH and PSK. The term is of my own making, emphasizing the geographical distribution of NK and SK languages in relation to Central Khoisan);

e) Proto-Central Khoisan (PCK, a.k.a. Proto-Khoe, comprising Proto-Khoekhoe [PKK] and Proto-Non-Khoekhoe [PNKK]);

f) Proto-Khoisan (PK, a.k.a. «Proto-South-African Khoisan» — I am not a huge supporter of this term, since it can easily get confused with «Proto-South Khoisan»; the family itself comprises PPeK and PCK);

g) Proto-Macro Khoisan (PK + Sandawe and Hadza).

It should be noted that the summaries and examples of phonological correspondences provided below *by no means qualify as actual reconstructions*

of the respective language families, but should rather be taken as guidelines for further work in this department. Detailed reconstructions would require far more space than is presupposed by the scope of this work, and far more data analysis than has so far been accomplished. The main goal of this article is to demonstrate how intermediate reconstructions may be used as a tool to uncover valid phonological oppositions in the respective proto-languages that have either been completely lost in modern dialects or crop up only occasionally as valuable archaisms; everything else really lies beyond its scope. For all we know, a large part of the etymologies proposed and discussed below, as well as linguistic conclusions based upon them, may turn out to be incorrect in the nearest future; there will be absolutely nothing wrong with that, under condition, of course, that the incorrectness is proven by showing how they may be replaced by different etymologies, more satisfactory from both the phonetic and the semantic points of view.

A final point, probably obvious, but one that I still feel is worth mentioning, is that this article, unlike [STAROSTIN 2003], is *not primarily dedicated to proving the fact of genetic relationship* between the various Khoisan subbranches. Rather, it assumes such a relationship *as a given* and proceeds from there. This may sound like a bold statement, considering that a general consensus on the issue has not been reached, but, when taken in relation to the goals of the article, it should be viewed as a *methodological convenience* rather than a *categoric statement*. The logics is as follows: a) there exists significant linguistic evidence for Khoisan *and* Macro-Khoisan, accumulated through lexicostatistical calculations, typological analogies, GREENBERG's 'mass comparison', and B. SANDS' various methods of testing; b) if, after having amassed the preliminary evidence, it can be shown that conducting proper comparative work on Khoisan and Macro-Khoisan, based on the rigorous application of the comparative method, is *possible*, this may in itself serve as the ultimate proof of genetic relationship.

0.2. *Note on the principles of search for cognation.* It is obvious that even the most 'formulaic' application of the comparative method to Khoisan material will inevitably have to deal with certain restrictions imposed on it by the nature and quality of the linguistic material subject to our analysis. Therefore, before proceeding to the main part of the work containing actual language data, I find it necessary to say a few words about what seems to me the optimal methodology of looking for potential cognates within Khoisan. This is particularly appropriate since many of the comparisons below will inevitably raise a lot of questions concerning the validity of phonetic correspondences between them.

In my previous paper on the subject I have indicated that one of the main problems of comparative research on Khoisan is that too often, em-

phasis is placed on *similarity* of the forms compared. Naturally, there are different degrees of similarity. Extreme cases — when the two forms are phonetically identical, e. g. Naro ‖*kxa* and ǂHoan ‖*kxa* 'to wash' — obviously represent either cognation or borrowing. They, however, are quite rare compared to cases of *partial* similarity, and this is when the comparison in question becomes highly subjective and intuitive, as is frequently evident from, for instance, J. Greenberg's comparative data [Greenberg 1966]. That approach has been justifiedly criticized, among others, by E. Westphal [Westphal 1974], who, for instance, mentions Greenberg's comparison of North Khoisan !*xo* 'elephant' with Hadza *be‖k"au* id. as a typical example of overrating similarity. Indeed, while upon first glance the two forms appear to «resemble» each other, the «resemblance» is, in fact, limited to (a) both forms displaying labialised vocalism and (b) both forms having a click — although both the influx *and* the efflux of the click are quite different. (The *be-* element in Hadza is presumably a fossilized prefix). Moreover, Green-berg is quoting the form according to the old transcription of D. Bleek, the only one available at the time of writing; in reality, as has been shown with recent fieldwork by B. Sands and others, the actual Hadza form is *be-kʔau*, with an ejective velar stop, and does not contain any clicks at all.

Another inherent flaw of exclusive reliance upon similarity is that it leads to ignoring results of intermediate reconstructions. For instance, it would be very tempting to compare forms like Kua *ʒu* and !O!Kung *ʒu*, both meaning 'black'. However, while the !O!Kung form is indeed very similar to its PNK source (*ʒo*), the Kua form should first be compared with its nearest East Central Khoisan relatives, such as Deti and Cara *yu*, Tsua *du*, Danisi *ndu*, and |Xaise *nʒu*, all stemming from Proto-ECK *nʒu* [Vossen 1997, p. 488]; in its turn, PECK *nʒ-* is known to be a regular reflex of the PCK nasalised palatal click (undergoing regular affricativisation like all palatal clicks), and, in fact, all the other CK languages have the same root as ǂ*nu*, which is safely reconstructed as the original protoform. Once again, the similarity turns out to be deceptive; it cannot, of course, be excluded that PNK *ʒo* and PCK *ǂnu*, through some kind of early development similar to the one suffered by PECK several millennia later, do go back to the same Proto-Khoisan source, but it is already highly dubious that anyone would want to make such a positive statement without adducing further data in its support.

Likewise, just as looking for cognates based on the similarity principle can result in establishing heaps of false etymologies, so is it able to make us overlook quite a few authentic ones. Thus, forms like Hietšware *tšee* and !Ora ǂ*kxʔara* 'to spit' are, on the surface, even more dissimilar than the above forms for 'elephant'. Once, however, a careful investigation of the peculiarities of

Central Khoisan phonetics has been conducted by R. Vossen, it can be established that (a) Hietšware *tšee*, in S. Dornan's old transcription, corresponds to Kua and Tsua *cʔe* (in R. Vossen's transcription); b) Kua and Tsua *cʔ-* < Proto-Non-Khoekhoe *ǂkxʔ-*, with subsequent africativisation of the click influx and loss of the «velar» feature of the click efflux [Vossen 1997: 492–493]. These developments, as well as the transition *-e-* > *-a-* in Proto-Khoekhoe, can easily be established on the basis of this and several other examples.

In the appendices to [Sands 1998], the principle of similarity is, to a certain degree, made absolute, with the basic rule being that click influxes in compared languages *must* always match, regardless of any other factors, while click effluxes may be different. This leads, for instance, to such oddities as separating !Xũ *ǁgà* 'rain' from Zhuǀ'hoan *ǃgà* id. (p. 238), even if the two forms obviously belong together, and the correspondence is further supported by numerous other examples (see section **1.2.1** below); both forms are then compared with different forms from !Xóõ (*ǁài* 'persistent rain' and *ǃqhàa* 'water'), as if they really constituted different North Khoisan lexemes. It is true that such a rigid approach was chosen by Sands deliberately, in order to maximally formalise the procedure of evaluating genetic relationship between the compared languages (and also true that the possibility of a more «lax» approach, allowing for non-trivial correspondences, is admitted by the author in the main body of the work); there is, however, always the risk of mistaking this «testing» method for true etymological research, with which it actually has little in common.

It thus turns out that what we should be looking for is not so much *similarity* between the forms involved, but rather *regular patterns* of phonetic correspondences — provided, of course, that we assume Khoisan languages to behave like any other «normal» languages in that respect (and there is no clear reason why we should not). The *ǃxo — be-kʔau* connection should be rejected not because the two forms are «dissimilar», which should not be considered an argument by itself, but because there are no other examples of North Khoisan *ǃx* corresponding to Hadza *kʔ* — examples that, when placed next to the 'elephant' etymology, would constitute a regular pattern for all to see. Even if we dissect the click and compare its two parts separately (which is actually quite recommendable when dealing with high level comparisons), North Khoisan *-x-* cannot be shown to correspond to the glottalised articulation in Hadza in any way.

Basically, this means that in order to prove — or, at least, support — any given etymology, we have to be able to come up with as many etymologies illustrating a single phonetic correspondence as possible. Obviously, this approach is severely undercut by such obstacles as lack of ma-

terial; poor or uncertain quality of transcription; morphonological variations obscuring the root's original form; and the relative scarcity of quite a few phonemes and phoneme combinations in many of the compared languages. It can also hardly be determined exactly how many comparisons are necessary for a certain correspondence to become «acceptable» — some of the correspondences below are illustrated by dozens of examples, while others are limited to two or three. Nevertheless, the demand of regularity is essential in that it, from the very beginning, places us upon much firmer ground than we normally stand upon.

Exceptions from the regularity principle can only be made for the most rare of phonemes, such as, for instance, the labial click in ǂHoan and South Khoisan, or some of the rarer types of affricates. In these cases we often have no choice but to rely on similarity; naturally, such correspondences will always be less reliable than the ones confirmed by other examples belonging to the same pattern. That said, if it can be shown that they actually form an integral part of a larger, well-coordinated system of correspondences, sometimes even one example may be enough.

Certain problems arise at the stage of summarising the attested correspondences with reconstructed proto-phonemes. Multiple sets of such correspondences seem to suggest that early ancestors of modern day Khoisan languages boasted phonological systems even more complex than their descendants, and that some of the early phonological oppositions could have been lost forever several millennia ago. Considering our complete lack of typological experience when it comes to click systems outside of the Khoisan areal, some of these oppositions can only be guessed at, or logically deduced on the basis of indirect evidence. Judging, however, from the classic comparativist point of view, it is certainly more correct to postulate phonetically unclear, but phonologically relevant «unknown» oppositions (such as *| vs. *|₁ in **4.2.1**, etc.) rather than place too much emphasis on the possibility of irregular development through the so-called «lexical diffusion» (on the advocation of the principle for Khoisan see, for instance, [Argyle 1991, pp. 30–31]).

One other extremely important detail is the necessity to pay proper attention to differences in root semantics. With a system of phonetic correspondences as complex and twisted as in the Khoisan family, where phonemes number in multiple dozens and are frequently limited to just a tiny handful of lexical items, being too licentious in one's semantic comparisons *at the stage of identifying phonetic correspondences* can eventually lead to catastrophic consequences. This is why in demonstrating the possible correspondences below I will be strictly limiting myself to either exact semantic matches between compared items or etymologies where only a very slight,

or a typologically common and understandable, shift of meaning has taken place (although even these should often be taken with a grain of salt); for instance, the shift 'giraffe' ↔ 'springbok' (= 'big ungulate') would be far more acceptable than a shift like 'giraffe' ↔ 'lion' (= 'big animal').

I firmly believe that bringing in semantically distant comparisons can only become acceptable *after* the genetic relationship between the various Khoi-san subbranches has been proven and the basic phonetic correspondences already established, as has been the normal procedure with Indo-European and other long-recognized language families. Therefore, since the present article is entirely dedicated to *finding* these correspondences rather than *building* upon them, for the time being, it is necessary to keep semantic looseness at a minimum, thus allowing for less subjectivity in our choice of etymologies.

0.3. *Note on transcription.* The material, analyzed and discussed below, comes from a number of sources, many of which use their own individual transcription systems. In order to avoid confusion, especially among those not familiar with Khoisanology, I have attempted to unify the transcription throughout, with two major exceptions:

a) material quoted from [BLEEK 1956] remains mainly unchanged, because the general quality of the transcription is unreliable and unifying it would mean going beyond pure technical conventions and assuming extra responsibility for the phonology of the described languages;

b) Hottentot Nama forms are quoted in standard Nama orthography, although in a few cases «unified» forms can accompany standard ones for convenience, e. g. Nama *!kharu* (= *!xaru*).

Elsewhere, the transcriptional conventions are as follows (variants in parentheses represent the spelling of the corresponding phonemes in other sources):

<u>click influxes</u>: / = dental; ǂ = palatal; ! = alveolar; ‖ = lateral; !! = retroflex (in NK); θ = labial (in ǂHoan and SK);

<u>click effluxes</u> (using / as an example): / = zero efflux (usually = /k in [BLEEK 1956]); /ʔ = glottal stop efflux (usually = / in [BLEEK 1956]); /g = g/ = voiced efflux; /n = n/ = nasalised efflux; ʔ/n = preglottalised nasal efflux; /x = velar fricative efflux; /ɣ = voiced velar fricative efflux (= g/x); /kx = velar ejective affricate efflux (= /kxʔ = /xʔ); /gx = voiced velar ejective affricate efflux (= g/kx = g/kxʔ); /h = aspirated efflux (= /kh in [BLEEK 1956]); /ʔh = aspirated glottal stop efflux (= /h in [BLEEK 1956]); /nh = nasal aspirated efflux (= n/h); /ṇ = voiceless nasal efflux;

<u>affricates</u>: *c* = voiceless hissing (= *ts*); ʒ = voiced hissing (= *dz*); *č* = voiceless hushing (= *tš, tc*); *ǯ* = voiced hushing (= *dž*); *cʔ, ʒʔ*, etc. = ejective affricates; *ch, ʒh*, etc. = aspirated affricates; *š* = voiceless hushing fricative; *ž* = voiced hushing fricative;

<u>uvular consonants and click effluxes</u>: *q* = voiceless stop; ɢ = voiced stop; *qh*, ɢ*h* = aspirated stops; χ = voiceless fricative (never actually met in documentally attested languages, but possible on some proto-levels); *qʔ* = ejective stop;

<u>lateral consonants</u>: *𝒳* = voiceless stop (affricate); *Ł* = voiced stop; *𝒳ʔ* = ejective stop; *λ* = voiceless fricative;

<u>vowels</u>: *ε*, *ɔ* = open variants of *e*, *o* (with possible phonemic status on some levels); *ạ*, *ọ*, etc. = pharyngealised vowels; *aʰ*, *oʰ*, etc. (= *ah*, *oh*, etc.) = breathy vowels; *aⁿ*, *oⁿ*, etc. = nasalised vowels; *ā*, *á*, *à*, *â*, *ă*, *ắ*, *ã* = vowels with marked tone (tonal distinctions are not significant for the current article; see **4.2.4.3**).

The remaining transcription signs are more or less self-evident; for more details on pronunciation, please check the referred sources.

1.0. PROTO-NORTH KHOISAN (PNK).

1.1. *Overview.* The North Khoisan (NK) subgroup consists of a bunch of closely related and, to a large extent, mutually intelligible dialects; the most serious phonological and lexical divisions are those that separate the Northern cluster of these dialects from the Central and South clusters (see [Snyman 1997] for more details). Lexicostatistical calculations show around 80 % common basic vocabulary between these clusters, which sets the approximate date for their separation around the middle of the 1st millennium Æ.

The only NK dialect so far to boast an extensive vocabulary is Zhu‖'hoan, today represented by the dictionaries of J. Snyman [Snyman 1975] and especially P. Dickens [Dickens 1994]. However, additional dialectal data, available in smaller quantities, amply demonstrates that Zhu‖'hoan should by no means be treated as the equivalent of PNK, because it contains a certain amount of phonological and lexical innovations that become clear through comparison. The principal additional sources are as follows:

(a) data compiled by D. Bleek on ‖Au‖en (in her terminology — N1), !Kung (N2), and !O!Kung (N3), published in [Bleek 1956]. These materials are, of course, fairly variable in both quality and quantity; my experience shows that the most valuable information can be gotten out of D. Bleek's own recordings of !O!Kung and of C. Doke's recordings of an apparently Central dialect of !Xũ (also available in [Doke 1925]);

(b) J. Snyman's description of Angolan !Xũ [Snyman 1980], with a short comparative vocabulary with Zhu‖'hoan;

(c) J. Snyman's priceless comparative data on a dozen NK dialects, collected in [Snyman 1997];

(d) T. Heikkinen's data on the !Xũ spoken in Ovamboland [Heikkinen 1986].

1.2. *Phonology*. Any reconstruction of NK phonology must inevitably use Zhu|'hoan as the starting point, since it is currently the best described representative of NK (for a detailed description see [DICKENS 1994, pp. 10–17]; [SNYMAN 1970, pp. 13–65]). However, additional dialectal data forces us to make certain important modifications.

1.2.1. *Click influxes*. Zhu|'hoan demonstrates the «standard four» principal click articulations: dental (|), palatal (ǂ), alveolar (!), lateral (||). Elsewhere, however [STAROSTIN 2003; STAROSTIN 2005], I have already argued in favour of reconstructing a fifth click influx for PNK — the retroflex one (!!). In Zhu|'hoan, as in most other dialects of the Southern cluster, the retroflex click merges with the alveolar one; in the Northern cluster it becomes the same with the lateral click; and only in the Central cluster does it regularly preserve the original articulation. (The fate of the retroflex click can thus be considered one of the most important phonological isoglosses separating the three dialect clusters).

Cf., for instance, PNK *!!*ga* 'rain' > ||Au||en *!ga*, Zhu. *!gà*, !Xũ (Ll.) *!!ga*, !O!Kung *||ga*; acc. to SNYMAN's data — Tsum. *!gà*, Ok. *||gà*, Leeu. *!!gà*; PNK *!!*xui* 'tail' > ||Au||en *!khwi*, Zhu. *!xúí*, !Xũ (Ll.) *||khue*, !O!Kung *||kwe*; acc. to SNYMAN's data — Tsum. *!xúi*, Ok. *||xóe*, Leeu. *!xòe*, etc. (a complete list of roots for which we have to reconstruct PNK *!! is given in [STAROSTIN 2005]). The articulation is not always stable (there is considerable variation within Snyman's data, not to mention BLEEK's vocabulary), but, given sufficient data, it is always possible to distinguish between cases of the PNK alveolar click (stable alveolar articulation throughout), the PNK lateral click (stable lateral articulation throughout), and the PNK retroflex click (variation between the three types).

Elsewhere Zhu|'hoan seems to have preserved the original system. The only other more or less systematic discrepancy in dialectal data is a certain confusion between the alveolar (occasionally retroflex) and the palatal click before aspirated effluxes. Cf. for the palatal click: PNK *ǂ*ghaiᵑ* 'to wipe the mouth' > Zhu. *ǂghàiᵑ*, Ok., Leeu. *ǂʔhàiᵑ*, Mpu. *ǂháiᵑ*, but Cui. *!!ʔhaiᵑ*, Cnd. *!ʔhàiᵑ*; PNK *ǂ*khuni* 'elbow' > Zhu. *ǂhúní*, Kavango *ǂghúní*, Leeu., Mpu. *ǂhúni*, but Ok. *!húrú*, !Xũ (DOKE) *!!guni*; PNK *ǂ*hare* 'eye-tooth' > Zhu., Leeu. *ǂʔháré*, but Mpu. *!ʔhàré*, Cui., Cnd. *!ʔhàlé*; PNK *ǂ*hò* 'to plug, stuff' > Zhu., Leeu. *ǂʔhò*, but Ok., Mpu., Cnd. *!ʔhò*. For the alveolar click: PNK *!*hà* 'to scrape open (coals of fire)' > Zhu., Cnd. *!ʔhà*, but Tsin. *ǂʔhà*; PNK *!*nhau* 'to frown' > Zhu. *!nháú*, but Tsin. *ǂnʔhau*. These developments are sporadic (most roots with initial *ǂh, *ǂkh, etc., behave normally in all dialects) and may be confined to specific idiolects, but should nevertheless be paid attention, as should every example of articulation shift for click influxes. However, since the majority of dialects always agree with Zhu|'hoan on the matter, the NK reconstruction in all these cases should follow the Zhu|'hoan form and not be affected by these irregularities.

1.2.2. *Click effluxes*. For the most part, the Zhu|ʼhoan system of click effluxes seems to preserve the phonological oppositions of NK; the majority of the changes takes part in the Northern cluster of dialects, where some of the more complex effluxes tend towards simplification (e. g. PNK *|gx > |kx, *|ɣ > *|x in Angolan !Xũ, as in PNK *|gxoro ʻdry leaf' > |kxoro, PNK *‖ɣuⁿ ʻto lay down' > ‖xuⁿ, etc.). However, there is significant evidence to believe that at least in one area, namely, the nasal efflux subset, Zhu|ʼhoan has undergone a series of mergers.

a) T. Heikkinen [Heikkinen 1986] records the existence of a special set of preglottalised nasal clicks, distinct from the regular nasal clicks, in the Western area of the dialect he describes (in the Eastern area there is no such opposition); cf., for instance, ʔǂnùⁿ ʻbetween, in the middle' (East ǂnùⁿ) vs. ǂnùⁿ ʻto take', etc. Since this is the only case when preglottalisation of the nasal click is being set up as a distinctive phonological feature for any NK dialect, one might seriously doubt its validity; cases of overzealous hypercorrection in transcribing Khoisan are not unprecedented (although, of course, it is the opposite trend that is far more common).

However, a brief external comparison of these preglottalised items with NK's closest relative, Eastern ǂHoan, which also displays preglottalised nasal clicks as part of its inventory [Bell–Collins 2001], shows that the relations between the effluxes of Ovamboland !Xũ and those of ǂHoan are far from arbitrary. Cf. the following evidence: Zhu. |náí, Ov. ʔ|né (W), |né (E) ʻhead' — ǂHoan ʔmθuⁿ (< *ʔθnuⁿ) id. (on the click influx correspondences see **2.2.1**); Zhu. |náng, Ov. ʔ|náŋ (W), |níŋ (E) ʻto sit' — ǂHoan ʔ|na id.; Zhu. |nòm, Ov. ʔ|nòm (W), |nòm (E) ʻspringhare' — ǂHoan ʔ|ŋam id.; Zhu. |nhàⁿ, Ov. ʔ|nè (W), |nhàⁿ (E) ʻaardvark' — ǂHoan ʔ|na ʻant-eater'; Zhu. ǂnuù, Ov. ʔǂnùú (W), ǂnùú (E) ʻmiddle' — ǂHoan ʔǂnoⁿ id. There is only one known case when this correspondence appears to be violated: cf. Zhu. ǂnàʔm, Ov. ǂnàʔm̀ ʻto strike, hit', but ǂHoan ʔǂŋam id.; however, given the presence of an inlaut glottal stop in NK, one might suppose a non-trivial development (either a glottal stop metathesis in ǂHoan, or, if the preglottalised nasal efflux is original, dissimilation of two stops in NK).

This can only mean that not only has the preglottalised nasal click been correctly noticed by Heikkinen, but it also has to be reconstructed for the PNK level, having been preserved exclusively in one dialect of that subgroup (or, to be more correct, having been *attested* exclusively in that one dialect). Unfortunately, since the amount of lexical items collected by Heikkinen is relatively small, we have no clue as to what should be reconstructed in a vast number of cases when Zhu|ʼhoan has a nasal click and the corresponding Ovamboland item is missing.

b) Further difficulties are experienced when trying to establish dialectal correspondences for what is known as the Zhu|ʼhoan nasal aspirated click (*-nh-*). Here there is an amazing variability in J. Sɴʏᴍᴀɴ's data, with the exact correspondences practically impossible to determine; especially random-natured are reflexes that Sɴʏᴍᴀɴ marks as *-nh-* (simple nasal aspirated) and *-nʔh-* (nasal aspirated with glottal stop). There is, however, a certain parameter according to which all these cases can be separated in two different groups, and that is lack or presence of nasalisation in the Mpu.-Cui.-Cnd. dialect cluster. Cf. the following cases:

Zhu. |*nhàᵑ* 'aardvark' — Mpu. |*ʔhàáᵑ*, Cui. |*ʔhè*, Cnd. |*hè*; Zhu. |*nhàí* 'laughter' — Mpu. |*ʔhí*, Cui., Cnd. |*hí*; Zhu. |*nhuì* 'mouse' — Mpu., Cui., Cnd. |*ʔhùiᵑ*; Zhu. ǂ*nhaoh* 'to walk' — Mpu., Cui., Cnd. ǂ*ʔhāo*; Zhu. !*nhám* 'to hook (springhare)' — Mpu. ‖*ʔhám*, Cui., Cnd. ‖*hám* (< *‖!*nham*); Zhu. !*nhòbá* 'to speak a foreign language' — Mpu., Cui., Cnd. !*ʔhóbá*;

but Zhu. |*nhuì* 'to take (pl. action)' — Mpu., Cnd. |*nʔhùi*, Cui. |*nhuì*; Ok. ǂ*nʔhàí* 'to know' (the Zhu|ʼhoan form for this root is unavailable) — Mpu., Cui., Cnd. ǂ*nʔhāì*; Zhu. ǂ*nhaò* 'to fall, descend' — Cui., Cnd. ǂ*nʔhàó*; Zhu. !*nhàì* 'lion' — Mpu., Cui., Cnd. !*nʔhàé*; Zhu. čhì-‖*nháᵑ* 'to shoot' — Mpu., Cnd. čhī-‖*nʔhá*, Cui. čhíᵑ-‖*nʔhá*; Zhu. ‖*nhọʔòrù* 'aloe' — Cui. ‖*nòlú*, Cnd. ‖*nọ̀lù*.

These two sets of correspondences are anything but coincidental. There is little reason to doubt the quality of J. Sɴʏᴍᴀɴ's transcription when it comes to marking the presence or absence of nasalisation, especially when several different dialects seem to be in agreement over the issue. Sɴʏᴍᴀɴ's data on Angolan !Xũ, published earlier [Sɴʏᴍᴀɴ 1980], seems to reflect the same opposition: cf. |*ʔhàa* 'aardvark', |*ʔhòi* 'laughter', but |*nʔhui* 'to take', ǂ*nʔhāo* 'to fall', !*nʔhàè* 'lion' (there is, however, one exception: ǂ*nʔhào* 'to walk'). It is also interesting to note that there are actual lexical minimal, or quasi-minimal, pairs involved, such as |*nhuì* 'mouse' — |*nhuì* 'take', or ǂ*nhaoh* 'walk' — ǂ*nhaò* 'fall'.

All of this suggests that PNK had two types of the «nasal aspirated» click, distinguished by something like a 'strong' nasalisation (preserved in Mpu. et al.) and a 'weak' nasalisation (lost in these dialects). This fits in rather well with the idea of PNK having two types of the non-nasal aspirated click: simple aspirated (*-h-*) and glottalised aspirated (*-ʔh-*), still well distinguished in Zhu|ʼhoan and other dialects. In this case, by superimposing the nasalisation feature, we respectively get PNK *-nh-* and *-nʔh-*, although it is not exactly clear which of the two possible effluxes corresponds to which of the cases described above. [Note: while this opposition is, phonetically, exactly the same as described by J. Sɴʏᴍᴀɴ for his recordings of Zhu|ʼhoan — see [Sɴʏᴍᴀɴ 1970] — these two cases are, in fact, quite different. Sɴʏᴍᴀɴ's *n|ʼh, nǂʼh, n!ʼh, n‖ʼh* actually correspond to both

PNK *|nh- (*‡nh-, *!nh-, *‖nh-) and PNK *|nʔh- (*‡nʔh-, *!nʔh-, *‖nʔh-); as for Snyman's n‡h, n!h, n‖h, these are for the most part secondary formations, caused by the superimposition of the root vowel's breathiness onto the click influx: cf. ‡naùh 'to strike of lightning' (Dickens) — n‡heu id. (Snyman) < PNK *‡nauʰ; ‖nah 'tooth' (Dickens) — n‖ha id. (Snyman) < PNK *‖naʰ, etc.].

c) Finally, it is not excluded that preglottalised nasal clicks in PNK could also be aspirated, although there is only one example that speaks strongly in favour of this hypothesis — the root for 'aardvark' (see above). On one hand, Ovamboland material definitely shows a preglottalised nasal click (ʔ|nè in the Western area), and the preglottalisation is confirmed externally by the ‡Hoan form ʔ|na. On the other hand, practically all the *other* NK dialects agree in that the nasal click in this root is aspirated (cf. Zhu. |nhàⁿ, Ang. !Xũ |ʔhàa, East Ovamboland |nhàⁿ, Ok. |ʔháⁿ, Leeu. |nʔháⁿ, etc.). This may point to a PNK form like *ʔ|nhaⁿ.

Note that all of the suggested reconstructions are based only on the joint evidence of at least two sources (such as the agreement between Ovamboland and ‡Hoan data, or between several of the dialects described by Snyman), which significantly decreases the probability of our dealing with random irregularities and/or transcription errors.

1.2.3. *Non-click consonants.* Here the main attention should be paid to the affricate and sibilant sub-system, which is, unsurprisingly, the most complex among all the known Khoisan languages. According to P. Dickens, the Zhu|'hoan inventory is as follows.

Hissing: *c* (= D. *ts*; voiceless affricate); *cʔ* (= D. *tz*; voiceless ejected affricate); *ʒʔ* (= D. *ds*; voiced ejected affricate); *ch* (= D. *tsh*; voiceless aspirated affricate); *ʒhʔ* (= D. *dsh*; prevoiced ejected aspirated affricate); *s* (= D. *s*; voiceless sibilant); *z* (= D. *z*; voiced sibilant);

Hushing: *č* (= D. *tc*; voiceless affricate); *čʔ* (= D. *tj*; voiceless ejected affricate); *ǯʔ* (= D. *dc*; voiced ejected affricate); *čh* (= D. *tch*; voiceless aspirated affricate); *ǯhʔ* (= D. *dch*; prevoiced ejected aspirated affricate); *š* (= D. *c*; voiceless sibilant); *ž* (= D. *j*; voiced sibilant);

Clusters with velar fricative -*x*-: *cx* (= D. *tsx*), *ʒx* (= D. *dzx*), *čx* (= D. *tcx*), *ǯx* (= D. *djx*).

Despite the seeming hugeness of the system and, in particular, its distinct preservation of the hissing/hushing opposition (which in many other NK dialects gets neutralised in either the 'only hissing' or 'only hushing' direction), some additional observations need to be made.

a) The absence of simple voiced affricates (*ʒ*, *ǯ*) is exceedingly strange and begs for the conclusion that Zhu|'hoan *z*, *ž* actually < *ʒ*, *ǯ* (to which

they indeed correspond in many other dialects). There is, however, no evidence whatsoever for a *z/ʒ*, *ž/ǯ* phonological opposition in PNK.

b) The triple ejective opposition *cʔ — ʒʔ — ʒhʔ*, *čʔ — ǯʔ — ǯhʔ* is noticeably incomplete. Additional light may be shed on the problem if we consider cases like Zhu. *ʒhʔìí* ʻholeʼ — Ang. !Xũ *chì*, Ov. *chí* (E), *sí*, *shí* (W) as opposed to, for instance, Zhu. *ʒhʔàú* ʻwomanʼ — Ov. *ʒháo* (W), *sháo* (E). The first case may represent PNK **chʔ* (which in Zhu|ʼhoan has merged with **ʒhʔ*), while the second one clearly goes back to PNK **ʒhʔ*.

c) Ejective affricates in Zhu|ʼhoan often — but not always — correspond to *ckx-/ʒgx*-type clusters in other dialects. Cf. the following examples: Zhu. *cʔàà*ⁿ ʻto run away fromʼ — Ov. *cʔàá*ⁿ, *ckxàá*ⁿ id.; Zhu. *ǯʔàà* ʻto stealʼ — Ov. *cʔà*, *ckxà* id.; Zhu. *ǯʔì* ʻwet, moistʼ — Ov. *ʒgxái*, Mpu. *ckxài*, *čkxài* id., etc.; on the other hand, cf. Zhu. *cʔá* ʻto sleepʼ — Ov. *cʔá*, Mpu. *cʔá* id., etc. This could evidently indicate yet another old opposition lost in Zhu|ʼhoan (**Cʔ, *Ckx > *Cʔ*), especially considering that Zhu|ʼhoan does indeed lack *ckx-* and *čkx*-like clusters while at the same time possessing clusters like *tkx-* and *dgx-*.

d) In some cases Zhu|ʼhoan displays an unusual variation between *s-* and *ch-*, reflected in several other dialects as well: cf., for instance, Zhu. *sì*, *chì* ʻto laughʼ — Ov. *sì*, Ok. *šī*, Leeu., Mpu. *sī*, Cnd. *sī*, *čhī*, *sì*, *šì*, Lister *chi*; Zhu. *sú*ⁿ, *chú*ⁿ ʻto fartʼ — Tsin. *cháng*, Ok. *ší*ⁿ*ng*, Leeu., Cui. *chú*ⁿ, Cnd. *čhú*ⁿ, *sú*ⁿ, *chú*ⁿ, Lister *chú*ⁿ id.; Zhu. *sí*ⁿ, *chí*ⁿ ʻyounger brotherʼ — Ov. *chàŋ* (E), *sàŋ*, *shàŋ* (W), Tsin. *chí*ⁿ, Ok. *ši*ⁿ*ng*, Cnd. *čhà*ⁿ*ng*, *chè* id. This fluctuation, although not entirely regular, is confined only to several roots, and may point to yet another older phoneme, presumably an aspirated **sh*, which then merged either with the non-aspirated **s* or the aspirated affricate **ch*.

The resulting system would look something like this:

Hissing	*c	*ʒ	*ch	*cʔ	*ʒʔ	*chʔ	*ʒhʔ	*cx	*ʒx	*ckx	[*ʒgx]	*s	*sh
Hushing	*č	*ǯ	*čh	*čʔ	*ǯʔ	[*čhʔ]	*ǯhʔ	*čx	*ǯx	*čkx	[*ǯgx]	*š	[*šh]

with the following secondary developments in Zhu|ʼhoan: a) **ʒ > z*, **ǯ > ž*; b) **chʔ > ʒhʔ*; c) **ckx > cʔ*, **čkx > čʔ*; d) **sh > s~ch*. In most other dialects the system has undergone far more significant changes, often resulting in the complete loss of either the hissing or the hushing series.

1.2.4. *Vocalism*. Here there are two things that require special investigation: the fate of PNK **e, *i* and the status of the so-called «syllabic nasals».

a) In Zhu|ʼhoan, the vowels *e* and *i*, when not forming part of a diphthong, are rather frequently met after non-click consonants (primarily dentals and affricates); cf. *ti*ʰ ʻheavyʼ, *ci* ʻto comeʼ, *zé* ʻnewʼ, etc. By contrast, they are never encountered after clicks, and judging by Zhu|ʼhoan evidence alone, we would have to assume the same for PNK. A thorough

comparison with evidence provided by other dialects, however, shows that this situation is most probably secondary.

Cf. for PNK *e*: Zhu. ǀnáí 'head' — Ov. ʔǀné (W), ǀné (E), Tsin. ǀnàe, Ok., Leeu. ǀnè, Mpu., Cui., Cnd. ǀne, North Om., Lister ǀnáí; Zhu. ǃnhaì 'lion' — Tsin. ǃnē, Ok. ǃnʔhae, Leeu., South Om. nǃāe, Mpu., Cui. ǃnʔhàé, North Om., Kam., Lister ǃnʔhàì; Zhu. ǃgáí 'puff-adder' — Tsin. ǁǃgáe, Ok. ǁgàé, Leeu. ǁǃgàé, Mpu., Cui., Cnd. ǁgāè, North Om., Lister ǃgái, Kam. ǃgāè.

These and several other examples display a semi-regular alternation between *e*, *ai*, and *ae*, with Zhuǀ'hoan always choosing *ai* and the Ok.-Mpu. cluster leaning towards the *ae* — *e* variants. All of these cases should clearly be separated from instances of original **ai* and **ae*, diphthongs that are regularly preserved in all dialects (cf., for instance, PNK **ǁàe* 'to hold' > Zhu. ǁàè, and ǁàe in all of Snyman's dialects; PNK **ǁháí* 'to pull, smoke' > Zhu. ǁháí, and ǁhái in all of Snyman's dialects). The most reasonable solution here is to postulate PNK **e* and assume a subsequent diphthongisation in most of the dialects, including Zhuǀ'hoan.

For PNK **i* the situation is quite similar. Cf.: Zhu. ǀháí 'rhinoceros' — Om., Lister ǀhái, but Tsin., Ok., Leeu. ǀhí; Zhu. ǀnhàì 'laughter' — Om., Kam., Lister ǀnʔhái, but Tsin. ǀnʔhí, Ok., Mpu. ǀʔhí, Cui., Cnd. ǀhí; Zhu. ǂaìʰ 'malaria' — Om., Kam. ǂāì, Lister ǂàì, but Leeu., Cui., Cnd. ǂìì, etc. Again, these examples can be contrasted with the original **ai*, preserved throughout the entire area, cf. PNK **ǀkxái* 'foot' > Zhu. ǀkxáí, Tsin., Ok., Om. ǀkxái, Leeu., Mpu., Cui., Cnd. ǀxái, etc.

A particularly interesting case is the NK root for 'go out; come out, rise (of sun)', that seems to display a directly *opposite* set of correspondences: Zhu. ǀgáí, Tsin., Ok., Leeu., Mpu., Cui., Cnd. ǀgái, Om., Kam., Lister ǀgi. It should be noted that the Snyman transcription for this root [Snyman 1975] in Zhuǀ'hoan also looks like ǀgi, differing from the more predictable ǀgáí in Dickens' dictionary. Whether we have to reconstruct PNK **ǀgi*, **ǀgai*, or something else in this particular occasion still remains to be seen. In any case, this does not prevent us from safely reconstructing **i* in roots like **ǀʔhi* 'rhinoceros', **ǀnhi* 'laughter', etc.

b) Zhuǀ'hoan is usually described as possessing at least two syllabic nasals, m̥ and ŋ̊ (actually, only the latter is «fully» syllabic; m̥ is only met in conjunction with a preceding first vowel, thus accounting for phonological oppositions like -*am* — -*am̥*, -*om* — -*om̥*). Since their nature is phonological, it is natural to reconstruct syllabic nasals for PNK whenever one is encountered in Zhuǀ'hoan. However, it seems that there are at least several occasions where Zhuǀ'hoan does not have a syllabic nasal, yet it is still necessary to postulate one for the PNK level. Cf. the following examples:

Zhu. *|auʰŋ* 'green' — Lister *|auŋ* id., but Tsum. *|āng*, Tsin., Ok., Leeu. *|āńg*, Mpu., Cui., Cnd. *|àńg*, Om. *|ang*, Kam. *|àng* id.; Zhu. *!gaiʰŋ* 'chin' — Tsum., Lister *!gaiŋ* id., but Ov. *‖gàŋ*, Tsin., Ok. *‖gàng*, Leeu. *‖!gàng*, Mpu., Cui., Cnd. *‖gāng*, Om., Kam. *!gàng* id.

These and a few other similar examples show mostly the same correspondences: an *ai-* or *au-*type nasalised diphthong in Zhu|'hoan vs. a syllabic nasal (marked as *ŋ* by HEIKKINEN and *ng* by SNYMAN) in the other dialects. Again, these cases should be kept separate from nasalised diphthongs as such (cf. PNK **|kxauŋ* 'a k. of snake' > Zhu. *|kxàùⁿ*, also *|kxàuⁿ* in most of SNYMAN's dialects), as well as from «plain» syllabic *ŋ* (which always stays the same in Zhu|'hoan). Presumably these cases reflect PNK combinations «diphthong + syllabic nasal», i. e. PNK **auŋ* and **aiŋ* respectively. The complete system of such combinations, including the ones with the bilabial syllabic vowel, should look as follows:

<div align="center">

syllabic bilabial: **-am̥, *-om̥*;
syllabic velar: **-aŋ* (= **-ŋ*), **-auŋ, *-aiŋ*.

</div>

1.3. *Lexics*. Just as it would be unwise to rely on Zhu|'hoan as the only source of our knowledge of PNK phonology, it is also imprudent to consider the vocabulary of Zhu|'hoan fully representative of PNK lexical inventory. This is, indeed, where the massive data archive of [BLEEK 1956] turns out to be especially useful. Since Zhu|'hoan speakers have for a long time been in tight contact with the Khoekhoe-speaking peoples, Nama elements have penetrated into almost every lexical area, including the basic lexicon as well, and it often takes some effort to tell between a lexical item that must have been already present in PNK and one that must have been borrowed into Zhu|'hoan at a much later date.

For instance, the difference between Zhu. *kxam* and Zhu. *cʔí* id., both meaning 'mouth' in P. DICKENS' dictionary, is that for *kxam*, no other parallels can be found in related NK dialects, while *cʔí* is well confirmed as a PNK root (cf. ‖Au‖en *tsi*, !Xũ *tsi* (Ll.), !O!Kung *tsi*, Ov. *cʔí*, etc.). Likewise, Zhu. *ǂao* 'heart' is isolated within NK, while Zhu. *!kxá* id. finds parallels in ‖Au‖en *!ka*, !Xũ *!ʔa* (DOKE), *!kxa* (Ll.), Ov. *!kxá*, etc. Zhu. *kxam* and *ǂao* thus can be viewed as borrowings from Khoekhoe (cf. PKK **kxam* 'mouth' > Nama *am-s* id., !Ora *kxam* 'gate'; PKK **ǂao* 'heart' > Nama *ǂgao-b*, !Ora *ǂáó-b* id.) and excluded from any etymological applications of NK material.

On the other hand, while Zhu. *|ám* 'sun' at first glance also looks like a possible Khoekhoe borrowing (cf. PCK **|áń* 'sun, day'), the root turns out to be well represented throughout NK — cf. also ‖Au‖en *|kʌm*, !Xũ *|kam* (Ll.), !O!Kung *|kʌm*; also among SNYMAN's dialects — Tsin. *|àm*, Leeu. *|ám*, etc. Addi-

tionally, within Khoekhoe itself the root does not even have the meaning 'sun'; Nama |gam normally means 'to heat up, become hot'. Given the fact that there are no other NK roots with the meaning 'sun', there is no reason whatsoever to suggest a borrowing from Khoekhoe, despite the phonetic similarity.

Unfortunately, for quite a large number of Zhu|'hoan roots the situation is far less clear. Since dialectal information is so scarce, it is impossible to establish the «age» of, for instance, Zhu. |orè 'rough-leafed raisin bush' and determine the exact probability of it being borrowed from Nama |gore-s id. The final decision on all these cases has to be postponed until the exact phonetic correspondences between PCK and PPeK have been ascertained.

Finally, there are numerous cases when a certain root, although present in multiple dialects, has obviously been lost (or, at least, left unattested) in Zhu|'hoan; sometimes these roots turn out to have valuable external parallels, which would have remained undiscovered if all our attention were concentrated exclusively on Zhu|'hoan. Cf., for instance, PNK *‖gai 'tortoise' > !Xũ ‖gai (Ll.), !O!Kung ‖gai-ša, Ov. ‖gái, Mpu., Cui., Cnd. ‖gái; PNK *ʒa 'to wear' > Tsin. ʒá, Ok., Mpu., Cui. ǯá; PNK *‖noa 'reed' > ‖Au‖en !nwa, !Xũ ‖noa, ‖nua (Ll.), Ov. ‖nòaⁿ. Many of these roots are isoglosses separating the Northern dialect cluster of NK from the Central and Southern clusters; this fully agrees with glottochronological calculations and places a particular emphasis on data from these dialects, such as collected in [HEIKKINEN 1986] and [SNYMAN 1980].

2.0. PROTO-NORTH-ǂHOAN (PNH).

2.1. *Overview.* A proper reconstruction of PNH, comprising PNK and Eastern ǂHoan, is, first and foremost, hindered by the extreme scarcity of published data on the latter. So far, the following data sources have been considered:

a) A. TRAILL's article [TRAILL 1973], which contains the first significant wordlist for ǂHoan (unfortunately, the quality of transcription is somewhat less than adequate);

b) studies on several aspects of ǂHoan grammar by J. GRUBER [GRUBER 1975] and C. COLLINS [COLLINS 1998, COLLINS 2001, COLLINS 2001a, COLLINS 2001b];

c) a brief description of ǂHoan click inventory in [BELL–COLLINS 2001];

d) lexical data on ǂHoan, publicly available at the Cornell University site on Khoisan syntax (http:‖ling.cornell.edu/Khoisan).

Even this severely limited amount of information, however, is sufficient not only to establish a close affinity between ǂHoan and PNK, but also to draw several important conclusions about the historical evolution of both subgroups after the disintegration of PNH.

2.2. *Phonology*.

2.2.1. *Click influxes*. The four principal click influxes seem to have undergone no serious changes in either PNK or ǂHoan, both subgroups usuall agreeing with each other. Cf. the following examples:

for the dental click: Zhu. |ʔò 'to be dry' — ǂHoan |qʔau id.; PNK *ʔ|nŋ 'to sit' — ǂHoan ʔ|na id.; PNK *|iʰ 'aardwolf' — ǂHoan |i id.; PNK *|nhui 'mouse' — ǂHoan |nǫe id., etc.;

for the palatal click: PNK *ǂuʰŋ 'star' — ǂHoan ǂoŋ id.; PNK *ǂɣai 'scorpion' — ǂHoan ǂxai id.; PNK *ǂʔai 'to ladle, scoop' — ǂHoan ǂqʔai 'to take (pl. action)'; PNK *ǂʔŋ 'to think' — ǂHoan ǂʔe id., etc.;

for the alveolar click: PNK *!u 'name' — ǂHoan !o id.; PNK *!nhe 'lion' — ǂHoan !haʔe id.; PNK *!ai 'mortar' — ǂHoan !ai!ai id.; PNK *!noʔo 'fast' — ǂHoan ki-!no 'to run', etc.;

for the lateral click: Zhu. ‖nharà 'camelthorn tree' — ǂHoan ‖ala id.; PNK *‖hai 'to pull; to smoke' — ǂHoan ‖hai 'to pull'; PNK *‖ʔhubu 'foam' — ǂHoan ‖hoʔobu id.; PNK *‖kxu 'to smell' — ǂHoan ‖kxo, etc.

The situation becomes far more complex when it comes to subbranchexclusive clicks. For the PNK retroflex click ǂHoan yields at least three different correspondences:

a) alveolar click: PNK *‼gaʔama 'to enter' — ǂHoan !ǥam 'to enter *(pl.)*'; PNK *‼ge 'puff-adder' — ǂHoan !gai, !gi id.; perhaps also PNK *‼uʔuru 'fingernail' — ǂHoan !ǫʔo id. (although lack of the inlaut resonant is somewhat puzzling);

b) labial click: PNK *‼xui 'tail' — ǂHoan θxui id.; perhaps also PNK *‼ʔoaŋ 'to kill *(pl.)*' — ǂHoan θoa id. (the etymology is somewhat problematic because of the glottal stop efflux in PNK);

c) hushing fricative (sic!): PNK *‼ai 'to die' — ǂHoan šiŋ id.; PNK *‼gau 'hand' — ǂHoan šiu id.; Zhu. !gàú 'to dig' (< PNK *‼gau?) — ǂHoan šiu id.; PNK *‼ga 'rain', *‼gu 'water' — ǂHoan žo 'water'.

While correspondence (a) might suggest that the regular development for the PNH retroflex click in ǂHoan was to merge with the alveolar one (i. e. *‼ > !), just as it happened in so many modern NK dialects, correspondences (b) and (c) are far trickier. Correspondence (c), in particular, seems to reflect a very specific phoneme (or several phonemes?), the exact articulation of which is undeterminable without bringing in external data. Given that in some NK dialects there seems to exist a specific link between the retroflex click and lateral articulation (see [TRAILL–VOSSEN 1997: 37]), and taking into consideration the possible parallels in CK and Sandawe (see below), we may assume that the correspondence «PNK *‼ — ǂHoan š~ž» goes back to PNH *ƛ (a non-click lateral affricate or fricative).

Correspondence (b), meanwhile, can only be judged in conjunction with the other NK correspondences for the ǂHoan labial click. These are not easily established given the scarcity of ǂHoan items with the initial labial click; however, the most frequent seems to be PNK *ǀ. Cf. the following examples:

PNK *ǀʔau 'duiker' — ǂHoan θʔu id.; PNK *ǀnaʔaⁿ 'sky' — ǂHoan ʔθnoa id.; PNK *ǀŋʊni 'brain' — ǂHoan ʔθnoa id.; PNK *ʔǀne 'head' — ǂHoan ʔθnuⁿ id.; PNK *ǀneʔe 'one' — ǂHoan θnuⁿ id. (vocalic correspondences should not be too surprising, since in ǂHoan the labial click is always accompanied by a labialized vowel — an obviously secondary situation).

One might therefore make a valid assumption that PNH *θ > ǂHoan θ, but > PNK *ǀ. This, however, would leave unexplained the cases for 'tail' and 'kill', pointed out above; there are also a few other interesting examples where PNK displays still *other* click influxes, e. g. ǂHoan θoa 'tortoise' — PNK *ǁoʔa id. Some of these might be dismissed as chance resemblances; however, in the light of a similar situation in the case of comparison between SK labial clicks and their equivalents in PNH, it seems more likely to suggest that there is no *single* correspondence for ǂHoan θ in PNK. This, in turn, implies one of the three following alternatives: (a) ǂHoan θ goes back to PNH *θ, while in PNK this influx could merge with at least three (if not more?) different «standard» influxes, probably depending on the root's consonantal and vocalic context; (b) ǂHoan θ is always secondary; it is PNK that preserves the original situation, whereas in ǂHoan a certain set of lexical items has undergone secondary labialization; (c) a combination of (a) and (b), i. e. *some* of the ǂHoan items with θ — for instance, those that have PNK *ǀ as their correlate — are primary, while others are secondary.

Out of these three hypotheses, (b) seems to be the most reliable at the present stage. Were we to assume variant (a), it would be expected that the ǂHoan labial click would have at least a small amount of external confirmation. It, however, does not; the *only* ǂHoan root with an initial labial click that has a fully reliable θ-parallel in !Xóõ (the only well-described SK language with a sufficiently large amount of attested roots with an initial labial click) is θʔu 'duiker' — !Xóõ θhán id. On the other hand, the very fact that, for instance, both the numerals for 'one' and 'two' have labial clicks in ǂHoan (θnuⁿ and θoa respectively) — no other Khoisan language has anything even remotely resembling a labial click or consonant in these two items, regardless of how many of the actual forms are genetically related — seems to be an indirect hint at the secondary character of this particular labialization. The exact reason for this change is at the present stage impossible to formulate precisely; most probably, it has to do with some old influencing factor, for

instance, a particular type of labial articulation after the click (either the click itself or the following vowel could be strongly labialized).

We can thus sum up the main developments from PNH to PNK involving click influxes as follows: a) PNH *‼ > ǂHoan ǃ; b) PNH *Ɬ > PNK *‼, ǂHoan š~ž; c) PNH *[I][ʷ] > PNK *[I], ǂHoan *θ*, where Ɬ = some kind of lateral non-click, [I] — click influx, [ʷ] — additional labializing factor.

2.2.2. *Click effluxes*. The ǂHoan click efflux system is notably richer than the corresponding NK system, primarily because ǂHoan distinguishes between velar and uvular effluxes, while in NK this opposition has never been noticed in any of the dialects. Some of the possible correspondences are as follows:

for ǂHoan *-(n)ɢ-*: a) PNK *-g-* (ǂHoan *ǀnɢui* 'weaver bird' — Zhu. *ǀgúí* 'red-billed quelea'); b) PNK *-nh-* (ǂHoan *ǀnɢai* 'to laugh' — PNK *ǀnhi* 'laughter');

for ǂHoan *-qʔ-*: a) PNK *-ʔ-* (ǂHoan *ǀqʔi* 'blood' — PNK *ǀʔŋ* id.; ǂHoan *ǀqʔau* 'dry, to dry up' — Zhu. *ǀʔò* 'to be dry'; ǂHoan *ǁqʔo* 'warmth' — PNK *ǁʔuⁿ* 'warm'; ǂHoan *ǂqʔai* 'to take *(pl.)*' — PNK *ǂʔai* 'to ladle, scoop'); b) PNK *-kx-* (ǂHoan *ǃqʔon* 'heart' — PNK *ǃkxa* id.);

for ǂHoan *-qh-*: a) PNK *-ʔh-* (ǂHoan *ǀqhoe* 'ear' — PNK *ǀʔhui* id.; ǂHoan *ǀqhoⁿ* 'steenbok' — PNK *ǀʔhuⁿ* id.); b) PNK *-h-* (ǂHoan *ǂqhoni* 'elbow' — PNK *ǂhuni* id.).

Although the currently available ǂHoan material is hardly sufficient to make adequate conclusions (notably, it has so far been impossible to find reliable NK parallels for the least marked ǂHoan uvular efflux *-q-*), it can be seen that for the most part, where ǂHoan has a uvular efflux, NK either presents a corresponding velar one (*-ɢ-* : *-g-*) or simply drops it altogether, replacing it with zero (*-qʔ-* : *-ʔ-*) or secondary glottalisation (*-qh-* : *-ʔh-*). The latter correspondence might, in particular, help to explain the NK phonological opposition of the simple aspirated efflux (*-h-*) vs. the glottalised aspirated efflux (*-ʔh-*), not present anywhere else in Khoisan. Given that, for the most part, PNK *-h-* always corresponds to ǂHoan *-h-* (cf. PNK *ǃhu* 'horn' — ǂHoan *ǃho* id.; PNK *ǃhuⁿ* 'to kill' — ǂHoan *ǃhoⁿ* id.; PNK *ǃhui* 'rope' — ǂHoan *ǃhui* id.; PNK *ǁhai* 'to pull' — ǂHoan *ǁhai* id.; PNK *ǂhi* 'many, much' — ǂHoan *ǂhi* 'wide, big'), it is reasonable to suggest that PNH *-qh-* > PNK *-ʔh-*, whereas PNH *-h-* > PNK *-h-*.

The lone exception, PNK *ǂhuni* / ǂHoan *ǂqhoni* 'elbow', might actually have featured a different click efflux in both PNH and PPeK, given its peculiar behaviour in NK dialects (cf. Ov., North Om. *ǂghuni*, with an unclear voicing), as well as the peculiar !Xóõ correlate *gǂqhúli* (= *ǂɢhuli*). Since ǂHoan seems to be lacking the voiced uvular aspirated efflux (*-ɢh-*), it is possible that the correspondence PNK *-h-*~*-gh-* : ǂHoan *-qh-* goes back to PNH *-ɢh-*.

As for what concerns the other isolated examples quoted above (‡Hoan -ɢ- — PNK *-nh-, ‡Hoan -qʔ- — PNK *-kx-), these can only be verified by additional data from ‡Hoan; at the present time, however, it is too early to firmly reject them as chance resemblances, since similar correspondences occasionally crop up between PNH and PSK as well (see below).

Apart from the uvular ones, most of the other effluxes in ‡Hoan and PNK normally display stable, one-to-one correspondences; even the ‡Hoan preglottalised nasal efflux, as we have seen in **1.2.2**, is now revealed as an archaic trait of PNK, still preserved in one dialect at least.

One noticeable phenomenon that will become much more prominent when we examine the relations between PNH and PSK is the occasional alternation between lack and presence of voiced articulation. Cf., for example, PNK *!gu 'stomach, belly' — ‡Hoan !o id.; PNK *|gaʔa 'eye' — ‡Hoan θoa id.; PNK *!geⁿ 'red' (?; cf. also the form !gaⁿʔaⁿ in [Doke 1925]) — ‡Hoan !aʔa id.; PNK *‖gaʔama 'to enter' — ‡Hoan !ạam id., vs. such 'regular' cases as PNK *!gaiʰ 'wildebeest' — ‡Hoan !g(a)i id.; PNK *|gui 'wood' — ‡Hoan |gui 'forest', etc. At the present stage it does not seem possible to offer any satisfactory explanation for this discrepancy; perhaps it is caused by the work of a hitherto undisclosed prosodic factor.

2.2.3. *Non-click consonants*.

Unlike NK, ‡Hoan actually boasts three series of affricates — in addition to the hissing (c, ʒ, etc.) and the hushing series (č, ǯ, etc.), there is also a series of palatal affricates which, depending on the dialect and the type of transcription used, are occasionally marked as hissing c, ʒ́ [Traill 1973; Traill 1980], palatalised dentals ty, dy [Traill 1980; Traill 1986], or palatalised velars ky, gy [Collins 2001; Gruber 1975]. The original articulation for this series is unquestionably dental, as can be amply demonstrated by such parallels as ‡Hoan ćhićhibi 'butterfly' — PNK *dhadhama~*dhadhaba id.; ‡Hoan ćxui 'bullfrog' — PNK *dxai id.; ‡Hoan ćxoⁿ 'kinship term' — PNK *txuⁿ id.; ‡Hoan ʒ́ọba 'leaf' — PNK *dọra id. (probably the same root with different suffixes); ‡Hoan ʒ́ụe 'smoke' — Zhu. dọe 'to smoke out bees; to inhale smoke'; ‡Hoan ʒ́e 'mother' — PNK *dê 'female'. Although a certain tendency to palatalise dental consonants can be found throughout the entire Khoisan region (cf., for example, in CK: |Gwi té, ‖Gana tê 'to stand' [in R. Vossen's transcription] — but the same root as |Gwi kiè, ‖Gana kiè(na) 'to be' [in J. Tanaka's transcription]), ‡Hoan — or at least some of its dialects — seems to be the only Khoisan language to have carried this tendency to its logical conclusion, having completely eliminated dental consonants from the system.

As for the hissing-hushing opposition, for the most part it corresponds to the same opposition in PNK, cf. the following examples (most of these are quoted from [HONKEN 1988]): ‡Hoan *chama* 'bird' — PNK **cʔama* id.; ‡Hoan *ca* 'to hear' — PNK **caʔa* id.; ‡Hoan *cʔi* 'louse' — PNK **cʔŋ* id.; ‡Hoan *cʔiu* 'tooth' — PNK **cʔau* id., but ‡Hoan *ča* 'to come to' — PNK **ča* 'to go and fetch'; ‡Hoan *čaⁿ* 'fat' — PNK **čiŋ~*šiŋ* id.; ‡Hoan *čhi* 'to shoot' — PNK **čhi* 'arrow'; ‡Hoan *čibo* 'kaross' — PNK **čg̣ʔabu* id.; ‡Hoan *čo* 'medicine' — PNK **čo* id. Occasional irregularities, like PNK **chu* 'to vomit' — ‡Hoan *čo* id., are extremely limited in quantity.

Voiced affricates in ‡Hoan normally seem to be developing into fricatives, just the way it happens in modern NK dialects (see **2.1.3**): cf. ‡Hoan *zǫe* 'to fly (straight)' — Zhu. *zǫiⁿ* (< **ʒǫiⁿ*?) 'to swarm (of bees)'; ‡Hoan *za* 'new' — PNK **ʒe* id.; ‡Hoan *za* 'to tease' — PNK **ʒa* 'to swear, insult'; ‡Hoan *ža* 'husband' — PNK **ʒu* 'person'; however, ‡Hoan *žiu* 'wife' — PNK **ʒhʔau* 'woman' (irregular hushing-hissing correspondence). Occasionally, however, we seem to be witnessing the same fluctuations of voicing as are evident in the click efflux subsystem: cf. PNK **ʒgxi* 'wet, moist' — ‡Hoan *čʔi* id.

One interesting feature of ‡Hoan is the apparent lack of initial *s-* in the inherited lexicon; closer comparisons with PNK show this to be the reason of a late-period merger of both **c-* and **s-* into one phoneme (at least in some positions). Cf.: PNK **s(h)ŋ* 'to see' — ‡Hoan *ci* id.; PNK **si* '*3rd person pronoun*' — ‡Hoan *ci* id. On the other hand, PNH **ci-*, **či-* > ‡Hoan *ši-:* cf. PNK **cʔi* 'mouth' — ‡Hoan *šiⁿ* id. (if both words are related to !Xóõ *síʔi* 'to bite', then both go back to PNH **ciʔi*); PNK **či* 'thing' — ‡Hoan *ši* 'place'.

A couple interesting examples may hint at an *original* third row of affricate correspondences for PNH, or at least at some kind of non-trivial initial clusters: cf. PNK **tǫm* 'to throw, pour *(pl. action)*' — ‡Hoan *čǫm* 'to throw away (many things)'; Zhu. *tǫⁿ* 'to skin' — ‡Hoan *čʔu* 'skin' (the latter example is not very convincing *per se*, but becomes much more reliable with the addition of SK forms like !Xóõ *tųm*, Masarwa *tʔym*, |Xam *ttuⁿ*, ‡Khomani *gjo* [= *ɗo*] 'skin'). Cf. also, perhaps, ‡Hoan *čʔeo* 'to do' — Zhu. *dù* 'to do, make, cause' (remembering the fluctuations in voicing).

Correspondences between initial velar stops and affricates are more or less predictable (cf. ‡Hoan *gu* 'flower' — PNK **go* id.; ‡Hoan *khora* 'to unroll' — PNK **khora* 'to untie, release'; ‡Hoan *kxa* 'earth' — PNK **kxa* id.). However, for the few ‡Hoan words with the initial uvular *q-* it has so far been impossible to find reliable NK correlates (although they do have some in SK, see below).

For the most part, then, it looks like the ‡Hoan consonantal system in general is far more innovative than the PNK one, even if it does retain the

important distinction between hissing and hushing series as well as at least some of the initial uvulars.

2.2.4. *Vocalism.* Here again, the NK system overall looks more conservative than the ǂHoan one. Immediately noticeable in the latter is the lack of syllabic nasals, in most cases replaced by simple or nasalised vowels:

a) *-i-*: PNK **/ʔŋ* 'blood' — ǂHoan */qʔi* id.; PNK **cʔŋ* 'louse' — ǂHoan *cʔi* id.; PNK **s(h)ŋ* 'to see' — ǂHoan *ci* id.;

b) *-e(ⁿ)-*: PNK **ɟʔŋ* 'to think' — ǂHoan *ɟʔeⁿ* id.;

c) *-a(ⁿ)-*: PNK **čiŋ~*šiŋ* 'fat' — ǂHoan *čaⁿ* id.; PNK **ʔ/nŋ* 'to sit' — ǂHoan *ʔ/na* id.

For the syllabic **-m̥-*, no correspondences have been found so far, except for PNK **ʔm̥* 'to eat' — ǂHoan *ʔam* id., suggesting a similar treatment of the two syllabic (or «semi-syllabic») resonants in that language.

PNH vowels also tend to depend far more on their consonantal surroundings in ǂHoan than they do in NK. The obligatory labialization of all vowels after the labial click has already been mentioned (see **2.2.1**); to this we could add a similarly obligatory transition **au > iu* after initial affricates and fricatives, cf. *šiu* 'hand' — PNK **‖gau* id., *cʔiu* 'tooth' — PNK **cʔau* id., *žiu* 'woman' — PNK **ʒhʔau* id., whereas, on the other hand, *!au* 'to move house' — PNK **!au* id. Although there are no examples of a similar contextually determined transition **ao > eo* that could be confirmed by NK data, one may safely assume such a transition based on external data; cf. *ʒeo* 'road' — !Xóõ (SK) *dào* id.

Another interesting detail is the correspondence pattern between NK and ǂHoan labial vowels, with NK **u* mostly present where ǂHoan has *o*, and vice versa. Cf.:

PNK **!gu* 'stomach' — ǂHoan *!o*; PNK **!hu* 'horn' — ǂHoan *!ho* id.; PNK **!huⁿ* 'to kill' — ǂHoan *!hoⁿ* id.; PNK **ǂuʰⁿ* 'star' — ǂHoan *ǂoⁿ* id.; PNK **/ʔhuⁿ* 'steenbok' — ǂHoan */qhoⁿ* id.; PNK **txuⁿ* 'kinship term' — ǂHoan *ćxoⁿ* id.; but PNK **!xo* 'elephant' — ǂHoan *!xu-i* id.; PNK **go* 'flower' — ǂHoan *gu* id.; PNK **kxo* 'pot' — ǂHoan *kxu* id.

Direct correspondences (PNK **u* : ǂHoan *u*, PNK **o* : ǂHoan *o*) are, on the other hand, mostly met in specific contexts — such as parts of diphthongs or bisyllabic roots with a second labial vowel — or in cultural lexics items commonly met in Khoisan languages and representing potential «Wanderworts», such as PNK **gu*, ǂHoan *gu* 'sheep'.

Unfortunately, at the present stage it seems impossible to determine which of the two subbranches more adequately reflects the original situation. External data does not help us either, since !Xóõ parallels for these roots contain either *-u-* or *-o-* without any obvious signs of distribution (see below).

2.3. *Lexics*. An isogloss between PNK and ǂHoan might not obligatorily serve as an argument in favour of their tight genetic connection — like the above-mentioned **gu* 'sheep' and other similar cultural items that are also found in «donor» languages like Nama. However, there are currently at least 50 isoglosses between these two subgroups without any obvious parallels in any other Khoisan language, most of them belonging to the basic layer of the vocabulary (out of which the following 7 are found in the Swadesh 100-wordlist: 'ear', 'horn', 'louse', 'not', 'see', 'sleep', 'tooth' — this is, of course, not counting numerous other matches for which parallels are found either in SK or CK, as well as partial matches with different semantics). Given the extreme scarcity of currently available ǂHoan material in the first place, this should be considered ample proof for our grouping PNK and ǂHoan together.

Apart from the parallels already quoted above, cf. the following interesting PNK-ǂHoan isoglosses: PNK **ʔe* 'self' — ǂHoan *ʔe* id.; PNK **ʔu* 'to insert, put in' — ǂHoan *ʔo* 'to put in, enter'; PNK **ʔǀnhaʸ* 'ant-eater' — ǂHoan *ʔǀna* id.; PNK **ǁnaoʰ* 'bow' — ǂHoan *ǁnao* id.; PNK **šoe* 'to take out, take off (pl. action)' — ǂHoan *šui* 'to drop off'; PNK **tu-iʰ* 'to rise' — ǂHoan *ću* id., etc.

3.0. PROTO-SOUTH KHOISAN (PSK).

3.1. *Overview*. Strictly speaking, this section should be consisting of at least two subsections, dedicated to intermediate reconstruction perspectives of the two main subbranches of PSK — Taa and !Wi (*taa* is the main word for 'person' in !Xóõ, *!wi* — in ǀXam, the main representatives for each of the respective groups). The number of 100-wordlist matches between ǀXam and !Xóõ is around 50 %, which places the bifurcation of PSK somewhere around 1000 BC. This is clearly a much earlier date than the split of PNK, meaning that independent intermediate reconstructions of Proto-Taa and Proto-!Wi would certainly be useful for us in order to arrive at PSK proper.

However, in the case of SK languages we are faced with even graver difficulties than in the case of comparing NK dialects. The Taa group, for instance, apart from !Xóõ (for which the excellent dictionary of A. Traill [Traill 1994] serves as main reference), is only represented by a seriously limited number of items from two languages, marked in [Bleek 1956] as SV (Masarwa or Sesarwa) and SVI (ǀNuǁen), with the data being highly unreliable in terms of transcription. Given the major disproportion between the quantity *and* quality of !Xóõ material, on one side, and the scarcity and poorly documented state of the rest of the dialects, on the other, there is very little probability of any version of «Proto-Taa», should it ever appear, being in any

way different from !Xóõ itself. (This, of course, does not mean that we do not have to take Bleek's SV and SVI data into account — for one thing, they frequently preserve important lexical archaisms that !Xóõ appears to have lost).

As for the !Wi group, [Bleek 1956] still remains the most common source of data on its languages, despite the presence of a small number of other descriptive works that could not have been incorporated in Bleek's dictionary for chronological reasons ([Lanham & Hallowes 1956, 1956a], [Ziervogel 1955]; [Westphal 1965] includes an important list of !Wi items from his collection as well). Recent fieldwork, conducted by N. Crawhall, B. Sands, and other researchers, with the last remaining speakers of the N|u (also known as N|huki or ǂKhomani) language, may shed some serious light on the historical phonology of the !Wi branch; however, the data remains as of yet largely unpublished, except for detailed 100-wordlists collected from all of the available informants [Crawhall 2004]. For now, any Proto-!Wi reconstruction should be primarily based on Bleek's dictionary — which makes it an exceedingly hard task, given the additional necessity of establishing a certain «reliability coefficient» for each of the language sources, since we can never fully trust any given form, especially when it comes to click effluxes. It is well known, for instance, that not a single data source on Khoisan until at least the 1970s distinguishes between velar and uvular articulation; the only hint at something 'uvular-related' may come from occasional fluctuations between simple velar consonants/effluxes and the velar ejective affricate *kx* (such as |Nusan, !Gã!ne |*ka* 'hand', but |Xam, ‖Ku‖e, |Auni |*kxa* id. — cf. N|u |*qʔaa* id.), but, since such fluctuations can also sometimes occur in cases of original **kx*, these correlations can by no means be judged diagnostic.

Another problem with rigidly separating SK into Taa and !Wi has to do with the still somewhat unclear classification of the latter. Glottochronological calculations for !Wi (only those languages for which it has been possible to assemble more than half of the items from the 100-wordlist are included) present us with the following percentages of matches:

	‖Ng	N|u	‖Xegwi	|Auni	|Haasi
|Xam	0.79	0.69	0.63	0.61	0.46
‖Ng		0.80	0.67	0.64	0.50
N|u			0.71	0.71	0.60
‖Xegwi				0.66	0.58
|Auni					0.69

This would suppose three main clusters of !Wi: a) the |Xam-‖Ng-N|u cluster (actually, the language referred to as «‖Ng» in [Bleek 1956] and described in [Bleek 2000] seems to be basically the same as Maingard's

[MAINGARD 1937] and DOKE's [DOKE 1936] ǂKhomani, as well as CRAWHALL's N|u, although, of course, with serious dialectal varieties; see [CRAWHALL 2004] for more details); b) ‖Xegwi; c) the |Auni-|Haasi cluster as the earliest offshoot of !Wi. However, these calculations are very rough; they are based on incomplete wordlists from most languages, and where the corresponding word *has* been located, it is very often unreliable and approximate both semantically and phonetically, not to mention that some of the proposed matches may eventually turn out to be look-alikes. Given that the percentage of matches between |Xam and !Xóõ (obviously a Taa language) currently stands at 52 % — more than the number of matches between |Xam and |Haasi! — it cannot be excluded (and, in fact, has been proposed by several researchers) that |Haasi should actually constitute a branch of its own, although in reality the relatively low percentages for |Haasi should be explained by the incompleteness of the list. The same cannot be excluded for ‖Xegwi, considering this language's significant differences from |Xam and N|u in quite a few respects other than just basic lexicon.

It thus turns out that reconstructing «Proto-Taa», without any doubt a *true* subbranch of PSK, would be theoretically possible, but not very practical; whereas a reconstruction of «Proto-!Wi», while perhaps useful *per se*, might turn out to be completely fictitious. Keeping that in mind, we will concentrate on pointing out key moments in SK historical phonology without trying to specifically classify them into «Taa-related» and «!Wi-related».

All the lexical material on !Xóõ is, naturally, taken from [TRAILL 1994]; the rest comes from [BLEEK 1929] and [BLEEK 1956], with the sole exception of a handful of additional sources listed above. I have also consulted some of the original sources for [BLEEK 1956], such as [DOKE 1936] and [MAINGARD 1937] for ǂKhomani, [MEINHOF 1929] for ‖Kxau (another poorly described !Wi dialect, also known as ǂUnkwe) and [STORY 1999] for |Haasi.

3.2. *Phonology*.

3.2.1. *Click influxes*. In many cases, all SK languages are found in complete agreement with each other on the matter. Cf.:

!Xóõ *θàje*, Mas. *θꞎwe*, |Nu‖en *θꞎwi*, |Xam, ‖Ng *θꞎwai*, N|u *θhoi*, ‖Xegwi *θa*, |Auni *θꞎwe* 'meat'; !Xóõ *|ɢhuaⁿ*, Mas. *|kwani*, |Haasi *|ɔ*, |Xam *|ku*, ‖Ng *|khu*, N|u *|khuke*, ‖Xegwi *|khuⁿ*, |Auni *|kho* 'hair'; !Xóõ *ǂʔán*, |Xam *ǂenn*, ‖Ng *ǂeⁿ* 'to think'; !Xóõ *!ɡǽe* 'tortoise shell container', |Xam *!goe*, ‖Ng *!gwe* 'tortoise', ǂKhomani *!goʔei* 'sand tortoise'; !Xóõ *‖āha* 'to set alight, torch, singe', Mas., |Nu‖en, |Xam, ‖Ng *‖ka* 'to burn', ‖Xegwi, |Auni *‖ka* 'to cook'.

There are, however, numerous instances when roots that are quite probably related in different languages contain different influxes. Some of

these differences can be ascribed to poor transcription; but even more often the differences are too crucial or too systematic to be ignored. Below I shall try to illustrate all the known types of such «irregularities», choosing !Xóõ as a starting point.

3.2.1.1. *Labial clicks*. Words with initial *θ-* in !Xóõ are relatively scarce, which severely limits the number of reasonable common SK etymologies. Apart from the usual correspondence (Taa **θ* — !Wi **θ*), however, there is a small set of cases which might point at a more complicated picture. Cf.:

!Xóõ *θxàa* 'elder brother' — |Xam ‖*kaⁿ*, ‖Ng ‖*kaŋ*, ‖*kauⁿ*, ‡Khomani ‖*kaⁿ*, ‖Xegwi ‖*gaⁿ*, |Auni ‖*ka-s[i]*, |Nusan ‖*gaⁿ* id.;

!Xóõ *θqâa* 'child' — ‖Xegwi ‖*a-le*, |Auni ‖*ha*, ‖*ha-sa*, |Haasi ‖*ha-sa* id. (? cf. also |Xam *!koa* id.); not to be confused with !Xóõ *θàa* 'young, small, child', for which cf. |Xam *θua*, ‖Ng *θpwa*, N|u *θun* id., etc.);

!Xóõ *θgxâi* 'to chew' — |Xam ‖*kwei*, ‖*khwai* id.

All of these cases may turn out to be chance resemblances; however, at the present moment there are no other available etymologies for these roots, especially for 'brother'. Note also some of the possible external correlates: a) in ‡Hoan, the root for 'child' is ‖*qoʔe* (reflecting the same influx as !Wi, but the same efflux as Taa); b) in PNK, both the root for 'elder brother' and for 'child, son' display retroflex influxes (**‼o* and **‼haⁿ* respectively). The probability of cognation is therefore rather high; as for the problem of whether it is the labial articulation of the click that is primary or some other one (retroflex?), it is very similar to the one described in **2.2.1**.

3.2.1.2. *Dental clicks*. In a few cases, |Xam shows an obvious affricate where !Xóõ has a dental click; cf. !Xóõ |*qa-* 'small' — |Xam *ts'e-* id.; !Xóõ |*qʔìi-sà* 'backwards, behind, rear', Mas. |*ī-ša* id. — |Xam *ts'eⁿ*, *ts'iⁿ*. Note that in both of these cases, !Xóõ also displays a uvular efflux, while the |Xam affricate is glottalised; this is in good agreement with some of the click/affricate correspondences between SK and NK (see **4.2.3**). (There is a third possible parallel of the same type: !Xóõ *ʔ|nṵ̄hn* 'to wink' — |Xam *ts'un* id.; however, !Xóõ does not have a uvular efflux here, which makes the comparison less effective.)

In another group of cases, the correspondence «!Xóõ *ʔ|n* — |Xam *d*» is observable: !Xóõ *ʔ|nâ̰ma* 'to blink, wink' — |Xam *dabba* 'to wink'; !Xóõ *ʔ|nɔ̀hlo* 'to limp' — |Xam *durru* 'to limp, walk slowly, painfully'; !Xóõ *ʔ|nǘm* 'throat' — |Xam *domm*, ‡Khomani *dom* id. The latter case is particularly interesting, since the word for 'throat' regularly appears as **dom* in both PNK and PCK (cf. Zhu. *dohm*, Nama *dommi*, etc.), and one could easily mistake the !Xóõ-|Xam pair as a coincidental match, if only it did not fit so

well into a regular SK pattern. As it is, !Xóõ, along with ‡Hoan ʔǀ*nǫo* id., seems to be preserving the more archaic form of the root.

On the other hand, no reliable examples of the Taa (!Xóõ) dental click corresponding to any other type of click in any of the !Wi languages have been detected, which makes it overall the most stable type of click articulation in SK.

3.2.1.3. *Palatal clicks.* Correspondences involving the !Xóõ palatal click are inarguably the most complicated of the whole bunch, and therefore require a somewhat more detailed analysis. By all means, the palatal influx is the least stable of all influxes in SK; its presence in the !Wi family ranges from complete disappearance (in ǁXegwi) to being severely limited in use (in ǀXam). This, however, does not mean that we have to automatically assume that it is !Xóõ that preserves the original situation; chances of secondary palatal articulation in that language — in at least some cases — are also rather high.

The main types of correspondences are as follows (note that I do not rely upon the Masarwa and ǀNuǁen data given in [BLEEK 1956], due to an extreme confusion of variants which cannot be explained by poor transcription alone — most probably, the forms represent several different dialects):

a) !Xóõ ǂ — ǂ in all !Wi languages (a relatively rare type, actually), cf.:

!Xóõ ǂʔán 'to think' — ǀXam ǂ*enn* 'to know', ǁNg ǂ*eⁿ* 'to think', ‡Khomani ǂʔ*iⁿ* 'thoughts'; !Xóõ ǂ*nàha* 'to twitch, jerk' — ǀXam, ‡Khomani ǂ*na*, ǁNg ǂ*naa* 'to kick'; possibly also !Xóõ ǂ*xū-a* 'elephant' — ǀXam ǂ*xoa*, ǁNg ǀ*xwa*, ‡Khomani ǂ*kxoa* (the dental click in ǁNg may have been a transcription error);

b) !Xóõ ǂ — ǀXam, ǁNg, ǁKuǁe ! — ‡Khomani, ǀAuni, ǀHaasi ǂ — ǁXegwi ǁ; cf.:

!Xóõ ǂ*qhai* 'dog' (Mas. ǂ*xai*, !*xai*, !*kai*, ǂ*gi*, ǂ*xi*; ǀNuǁen ǂ*khi* id.) — ǀXam !*kwiŋ*, ǁNg !*kwiŋ*, ǁKuǁe !*wiŋ*, ‡Khomani ǂʔ*лn*, ǀHaasi ǂ*haŋ*, ǀAuni ǂ*kɔⁿ*, ǁXegwi ǁ*kwi* id.; !Xóõ ǂ*nùhaⁿ* 'ear' (Mas. !*nwa*, ǀNuǁen ǂ*nu-ša* id.) — ǀXam !*nu-ntu*, ǁNg !*nwe*, ‡Khomani ǂ*nui*, ǀHaasi ǂ*naa-* id.; !Xóõ ǂ*kxàuⁿ* 'neck' (ǀNuǁen ǂ*kuⁿ* id.) — ǀXam !*kau*, !*khou*, ǁNg !*ku*, Nǀu ǂ*quu*, ǀAuni ǂ*koiⁿ* id.; !Xóõ ǂ*qhùe* 'wind' (Mas. ǁ*khwe*, ǀNuǁen ǂ*khwe* id.) — ǀXam !*kwe*, ǁNg !*khwe*, ‡Khomani ǂ*khwe*, ǀAuni ǂ*kwe* id.; !Xóõ ǂ*xóiⁿ* 'bad, ugly' — ǀXam !*xwiⁿ*, ǁNg !*xe*, ǁXegwi ǁ*xoa* id.; also ‡Khomani ǂ*ko*, but ǁXegwi ǁ*ko* 'man, male' (no parallels in Taa languages); possibly also !Xóõ ǂ*gúaⁿ* 'egg' (Mas. ǁ*gwa*, ǀNuǁen !*gwoiⁿ* id.) — ǀXam !*kaui*, ǁNg !*hauⁿ*, ‡Khomani ǂ*gwi*, ǀAuni !*uiⁿ* id. (acceptable if the ǀAuni form really = *ǂ*uiⁿ*);

c) !Xóõ ǂ — ǀXam ! — ǁNg, ‡Khomani, ǁKuǁe, ǁXegwi ǁ — !Auni ǂ~ǁ — ǀHaasi ǂ:

!Xóõ *ǂʔûaⁿ* 'one' (Mas. *!kwʔe*, |Nu‖en *!oe* id.) — |Xam *!kwai*, ‖Ng *‖kwe*, N|u *‖ʔoe*, ‖Ku‖e *‖k″oa*, ‖Xegwi *‖ka*, |Auni *ǂuⁿ*, |Haasi *ǂn-k′a* 'one alone'; !Xóõ *ǂnùⁿ* 'foot' (Mas. *ǂno*, *‖no*, |Nu‖en *ǂnu*) — |Xam *!noa*, ‖Ng *‖na* id., |Haasi *ka ǂny* 'fingernail' = !Xóõ *|kxàa ǂnùⁿ* 'front hoof, paw'; !Xóõ *ǂʔāⁿ* 'rib' (Mas. *!ga*, |Nu‖en *‖gan* id.) — |Xam *!auⁿ*, ‖Ng *‖auⁿ* id.; !Xóõ *ǂaⁿ* 'bone' — |Xam *!kwa*, (?) ‖Xegwi *!ka* id.; !Xóõ *ǂɢhèⁿ* 'breast, milk' (Mas. *ǂxe*, *!xe*, |Nu‖en *ǂgeⁿ* id.) -|Xam *!khwei*, ‖Ng *‖ke⁽ⁿ⁾* 'breast, milk', ‖Ku‖e *‖kwaŋ* 'milk', |Auni *‖keiⁿ-si* 'breast', |Haasi *ǂge* 'milk'.

A completely unique case (so far) is the SK numeral for 'two': !Xóõ *ǂnû-m* (Mas. *‖num*, *!num*, |Nu‖en *!num*) — |Xam *!ku*, ‖Ng *!ku*, *!u*, ǂKhomani, ‖Ku‖e *ʔʔu*, |Auni *!u*, ‖Xegwi *‖ku*, *‖u* id. (with ‖Xegwi standing on its own in displaying a lateral click).

The systematic and recurring character of these patterns makes it obvious that we are dealing with several sets of real correspondences, reflecting authentic phonetic developments rather than errors in transcription. The problem, then, lies with the interpretation of these series. It can be noticed that the relatively rare series (a) only includes words that can also be found in more or less the same meaning in Khoekhoe: cf. Nama *ǂan* (< PCK *ǂʔan*) 'to know, think' (also Nama *ǂâi* < PCK *ǂʔiⁿ* 'to think'); *ǂxoa-b* 'elephant'; *ǂna* 'to dance'. We can, therefore, make a reasonable conclusion that all such cases actually either represent old borrowings from the Khoe family or have undergone Khoekhoe influence later on.

The same cannot be said about series (b) and (c), where next to no items can be seen as results of borrowing from or contact with Central Khoisan. Drawing upon certain external evidence (see below), we may suggest that series (b) truly reflects the original palatal click (*ǂ). However, for series (c), distinguished from series (b) by a much more widespread occurrence of the lateral reflex, there can be no explanation other than postulating a separate click efflux (*ǂ₁). Its further development in SK, then, marks an interesting phonetic isogloss between !Xóõ, |Xam, and the |Auni-|Haasi cluster, on one hand, and ‖Ku‖e, ‖Xegwi, and the ‖Ng-ǂKhomani (N|u) cluster, on the other.

The phonetic nature of this «sixth» click is, of course, impossible to establish. In his work on ‖Kxau, C. Meinhof [Meinhof 1929] actually mentions a sixth type of click in it, which he calls «palatal» (as opposed to the «alveolar» ǂ and «cerebral» !, according to older terminology) and which by its description reminds one of the retroflex click in NK (see **1.2.1**). However, in his little vocabulary Meinhof only records three words as possessing that click, none of which fit into the (c) series of correspondences. (That said, some of ‖Kxau evidence does further support the phonological distinction between *ǂ and *ǂ₁; cf. ‖Kxau *ǂhuni* 'dog', *ǂhǫe* 'wind', *ǂǫ* 'man, male' < PSK *ǂ-, but *ʔǫe* 'one', *ṅa-xuṅ* 'leg', *ke-tn* 'bone' < PSK *ǂ₁-,

i. e. *ǂɟ₁- gets lost in ‖Kxau the same way the alveolar click *!- gets lost in ‖Xegwi or certain subgroups of CK). Furthermore, there is no evidence whatsoever to suggest any specific relation between PSK *ǂɟ₁ and PNK *‖!. It is most likely that an adequate interpretation will be impossible to offer until the problem of complex correspondences between click influxes has been decided on a higher (PPeK) level (see below).

As for what concerns series (b), some additional questions are raised by adding LANHAM & HALLOWES' limited, but extremely important data on ‖Xegwi into consideration [LANHAM–HALLOWES 1956]. It actually turns out that the regular ‖Xegwi correspondence for PSK*ǂɟ- is not the lateral click ‖-, but rather the lateral non-click affricate 𝒳- (= kↄ- in LANHAM & HALLOWES' notation), with such transcriptions as kl'oo (= 𝒳o) for 'male' and tlweng (= 𝒳eⁿ?) for 'dog'.

To this we should also add the following !Wi-only items (comparisons taken from [TRAILL–VOSSEN 1997: 41]): ‖Xegwi 𝒳olo 'moon' (klolo in [BLEEK 1956]) — |Xam !ka-!kauru, ‖Ng !korre, !kurru id., ǂKhomani !ʔↄrↄ, ‖Kxau !ʔọrọ id.; ‖Xegwi 𝒳ini 'small' (‖kxeni in [BLEEK 1956]) — |Xam ǂerri, ‖Ng ǂiⁿ, N|u ǂiⁿ, ǂeⁿ; ‖Xegwi 𝒳e, 𝒳eu 'person' — |Xam !ke, !kʔe 'people (pl.)', ‖Ng !kʔe, ǂe id., |Auni ǂe 'person, people', |Haasi ǂe 'person'. There is nothing surprising about the frequent confusion between the lateral click and the lateral affricate in [BLEEK 1956], given the phonetic proximity of the two phonemes; it is, however, notable that the one certain case of series (c) in ‖Xegwi, the numeral «one», definitely has a lateral click, confirmed by LANHAM & HALLOWES (‖ka).

There is, however, *another* correspondence (or even subset of correspondences) for PSK *ǂɟ- in ‖Xegwi, namely, its replacement by the hushing affricate series. Cf. the following: !Xóõ ǂqhùe 'wind' — ‖Xegwi šwee (šuwe in [BLEEK 1956]) id.; !Xòõ ǂnùhaⁿ 'ear' — ‖Xegwi dʒwe id.; also |Xam !kwaⁿ, ‖Ng !kwaⁿ, |Auni ǂkoaⁿ 'pot' — ‖Xegwi dʒwaa (tšwaⁿ in [BLEEK 1956]) id. This means that in certain cases, PSK *ǂɟ- undergoes secondary palatalisation in ‖Xegwi, again, not unlike the one regularly taking place in the East Central Khoisan subgroup. However, the limited evidence available to us gives no clue whatsoever as to the possible distribution between the lateral and hushing reflexes. A few examples from BLEEK's ‖Ku‖e recordings (such as tʔo 'man, male', tʔↄlo 'moon', but de 'ears' [?? = d́e]; see also below on other sources of initial d- in ‖Ku‖e) may indicate that this splitting was not limited to the ‖Xegwi area; however, postulating yet *another* archaic opposition based on so little ‖Xegwi and ‖Ku‖e material would be somewhat far-fetched. Still, the problem stands.

3.2.1.4. *Alveolar and lateral clicks.* In sharp contrast to the palatal click (or, rather, the «two» palatal clicks), alveolar ! and lateral ‖ seem to behave quite normally in most of SK languages — with the exception of ‖Xegwi, where in the absolute majority of cases *! > ∅; cf. |Xam !kui, ‖Ng !kwi, ‖Kxau !ui 'man, person' — ‖Xegwi kwi id.; |Xam !gwa-xu, ‖Ng !a-xu, !ka-xu, ǂKhomani !gạ

'sky' — ‖Xegwi *gaʔa-gu, dʒaʔa-gu* id.; |Xam *ǃkhwa*, ‖Ng *ǃkha* 'rain' — ‖Xegwi *gaa* id.; |Xam *ǃkwa, ǃkhwa*, ‖Ng *ǃkha, ǃha*, N|u *ǃqhaa*, etc. 'water' — ‖Xegwi *qha* id. The few cases of ‖Xegwi *ǃ*, either in [Bleek 1956] or in the Lanham & Hallowes data, mostly correspond to other clicks (such as *ǃka* 'bone' — ǃXóõ *ǂaⁿ* id.) and should probably be considered dialectal (or misheard) variants.

Despite the scarcity of data on ‖Ku‖e, it is important to observe that most of the cases of Proto-ǃWi *ǃ-* also seem to yield a non-click reflex in that language, although, unlike ‖Xegwi, ‖Ku‖e does not merely drop the click, but undergoes the development *ǃ- > d-:* cf. |Xam *ǃkau-gen* 'stone, mountain', ‖Ng *ǃkau* id. — ‖Ku‖e *dʔɔ* 'rock'; |Xam *ǃgoe* 'tortoise' — ‖Ku‖e *doaⁿ* id.; |Xam *ǃgwaxu* 'sky' — ‖Ku‖e *dɔaxu* id.; |Xam *ǃnwanna* 'three', ‖Ng *ǃnona* id. — ‖Ku‖e *dwene* id.; |Xam *ǃnuⁿ* 'black wildebeest' — ‖Ku‖e *dɔⁿ* id. This type of development, which seems to happen regardless of the nature of the click efflux, is rarely met in Khoisan, and should be taken into special consideration.

3.2.2. *Click effluxes*. This is, inarguably, the weakest point in the SK comparison. On one hand, Traill's description of ǃXóõ presents it as the most «efflux-rich» language, with no less than 17 phonological oppositions, including a whole subset of uvular effluxes. On the other hand, most of the data that we currently possess on other SK languages displays, on the average, not more than 9 or 10 different effluxes (often even less). If we also take into consideration all the innumerable cases of pattern-less efflux variation (cf. *ǃka, ǃha, ǃkha* for 'water' in ‖Ng; ‖*kau*, ‖*xau*, ‖*khau* for 'to fly' in |Xam, etc.), the perspective of finding a SK click efflux opposition on the basis of some other language rather than ǃXóõ, not to mention one that is not actually reflected in ǃXóõ, becomes extremely unprobable.

The only descriptive work on the ǃWi family which might seem of relative interest here is C. Doke's essay on ǂKhomani (N|u) phonetics [Doke 1936], in which he, among others, postulates such interesting efflux oppositions as *-kh-* vs. *-ʔh-* and *-ŋ-* (= *-n-*) vs. *-ŋh-*, typical of North Khoisan but never mentioned by Traill in relation to ǃXóõ (although quite possibly present in other SK languages as well, see [Traill 1995: 517–518]. Unfortunately, there is so little lexical material to illustrate these oppositions that no conclusions about their validity can be drawn. Hopefully further descriptive work on N|u will make the situation clearer; until then, we will assume that ǃXóõ is reflecting the PSK situation.

3.2.3. *Non-click consonants*.

Normally, the same problems that apply to click effluxes also apply to non-click consonants (i. e., unmarked dialectal variation and poor transcription quality). The following details, however, should be noted specially:

a) where !Wi languages have an initial affricate, !Xóõ usually shows a fricative: cf. !Xóõ *síʔi* 'to bite' — |Xam, ‖Ng *tsi, tsʼi*, ‖Xegwi, |Nusan *tsʔi* id., except for cases of correspondence between |Xam *tsʼ* and !Xóõ | (see **3.2.1.2**); the source of !Xóõ initial *c-*, on the other hand, still remains unclear;

b) in [BLEEK 1956] there are occasional cases of initial *tʔ-* for Masarwa and |Nu‖en, as in Mas. *tʔym*, |Nu‖en *tʔum* 'skin' — !Xóõ *tṳ̀m* id. This could indicate that glottalisation in initial consonants could be more widespread on the PSK level than is evident from the !Xóõ material (where glottalised consonants, especially dental ones, are extremely rare);

c) uvular consonants, presumably well preserved in !Xóõ, display some rather peculiar correspondences as far as the !Wi subgroup is concerned. Cf. the two best examples: !Xóõ *qû-je* 'ostrich' (|Nu‖en *koi* id.) — ‖Ng *kue*, but |Xam *toe, toi*, ‡Khomani *twe, tjwe, toi*, ‖Kxau *toe, tue*, ‖Ku‖e *toe*, |Auni *toi*; !Xóõ *qái^ŋ* 'beautiful, pretty, nice' (|Nu‖en ‖*xai* 'pretty') — ‖Ng *kiai* 'good', |Auni *xwe, xwoi* id., but |Xam *twai-i^ŋ*, |Nusan *toai* id. Note that similar variation between dental and velar reflexes — albeit with a somewhat different distribution — is often seen in the case of original dentals (as in |Xam *ta* 'to lie down', ‖Ng *tia, kia* id., N|u *ki^ŋ* 'to lay down', |Auni *toa* 'to lie down'; |Xam *tu^ŋ* 'skin', ‖Ng *tu^ŋ, twa^ŋ*, ‡Khomani *gjo* id.), but *never* with original velars. Dental consonants supposedly undergo that kind of shift due to their original strongly palatalised character (a feature common to the entire Khoisan areal — cf. palatalisation of dentals in ‡Hoan as well as various CK languages), which eventually brings the articulation backwards (see, for instance, the description in [DOKE 1936: 71]); by analogy the same could be supposed for the uvular series — although that still leaves the exact reason for palatalisation affecting uvulars instead of velars rather unclear.

3.2.4. *Vocalism.* Despite numerous cases in which !Wi and Taa are in perfect agreement with each other as far as vowel articulation is concerned, there are also numerous instances where the original phoneme is exceedingly hard to determine. This often has to do with the fact of strange vowel alternations in these subgroups, mostly in verbal roots — cf., for instance, variants like |*na*, |*ne*, |*nei^ŋ*, |*naʔa* for the verb 'to see' in ‡Khomani ([MAINGARD 1937: 252]) — and has even led some previous researchers to suggest that the reason may lie in 'the relative imprecision of Bushman speech' ([IBID.: 253]). Today, observations made by A. TRAILL on the class system of !Xóõ make it rather obvious that what we are dealing with in most of these cases has nothing to do with 'speech imprecision', but rather with traces of a class agreement system, which often obscure the original vocalism of the stem, replacing it with secondary developments of the «root vowel + class suffix» combination; considering that in Khoisan the

root always has a vocalic auslaut, this makes it almost impossible to determine the original situation in !Wi languages without a detailed and precise analysis of the respective languages' morphonemic and morphological structures, which, unfortunately, is hardly available for any of them.

Nevertheless, this situation only reaches an extreme point with a limited set of verbal roots, such as *|nV 'see', *sV 'come', *tV 'lie down', *kV 'to say', *‖qhV 'to be not, to refuse', etc. In nominal roots, the correspondences are usually far less chaotic, with less variation within any one given language. It is roots like these that allow us to notice what might be really non-trivial vocalic correspondences between Taa and !Wi rather than morphonemic differences. Cf.:

(a) !Xóõ |auⁿ 'name', pl. |aⁿ: Mas. |k'auⁿ, |Nu‖en |kaⁿ, but |Xam, ‖Ng, |Auni |keⁿ id.; !Xóõ |'aⁿ 'fire': Mas., |Nu‖en |aⁿ id., but |Xam, ‖Ku‖e |i, |e, ‖Ng, |Auni |Haasi |i, ‡Khomani |ʔi id.; !Xóõ |a̠-li 'blue wildebeest': Mas. |kari, |Nu‖en |ga̠re id., but ‖Ng, ‡Khomani, |Auni |ke, ‖Kxau |keⁿ id.; !Xóõ |qa̠-'small', but |Xam ts'e- id.;

(b) !Xóõ !gá̠-e 'tortoise shell container', but |Xam !goe, ‖Ng !gwe 'tortoise', ‡Khomani !goʔei 'sand tortoise'; !Xóõ à̠a 'father': Mas. a̠a, |Nu‖en a id., but |Xam, ‖Ku‖e, |Nusan oa id. (although ‖Ng, |Xegwi a id.); !Xóõ ‡qhà-i 'dog': Mas. ‡xai, ‡xi, |Nu‖en ‡khi id., but |Xam, ‖Ng !kwiŋ, N|u ‡khon, ‖Kxau ‡huni, ‖Ku‖e !wiŋ, Seroa kuenia, |Auni ‡kɔⁿ id. (although |Haasi ‡haŋ), etc.

These as well as other examples demonstrate a curious tendency for !Xóõ (and Proto-Taa) *a* to correspond not only to Proto-!Wi *a, but *e and *o as well. At the same time correspondences between Taa *e, *o and !Wi *e, *o (more frequently, *u) are also available: cf. !Xóõ ‡ɢhèⁿ 'breast, milk' — ‖Ng ‖keⁿ id., |Auni ‖keiⁿ-si 'breast'; !Xóõ ʔ|nòhaⁿ 'malevolent spirit(s)' — |Xam |nu 'dead, departed, spirit', etc.

It is, of course, possible that these differentiations are also secondary, having arisen from the same root being represented by different suffixal extensions in both subgroups. In that case, we would probably have to treat all the !Wi forms in group (a) as former structures of the [Ca + e] type, i. e. roots ending in -a- that have at one point received the extension *-e-, after which *-ae- > -e-, presumably on the Proto-!Wi level already, whereas the Taa subgroup retains the more archaic look of the root. The same approach hardly works for group (b), though, where the «secondary» apparition of a labialized vowel in !Wi is much harder to explain, especially since the vowel -o- is not known to function as a suffix extension or class marker in any of SK.

An alternate — and, at the present stage of knowledge, somewhat more adequate — solution would be to suggest that groups (a) and (b) represent separate vocalic phonemes, namely, open vowels *ɛ and *ɔ, which, in PSK, were quite separate from *e and *o. Later on, their open character caused

them to merge with **a* in Taa, whereas in !Wi they merged respectively with **e* and **o* (provided they *did* actually merge; there can be no guarantee that a subtle phonetic difference like that could not have gone unnoticed by some of the Bleek-era researchers — many of whom, moreover, did distinguish between *e/ɛ* and *o/ɔ*, although based on the records of individual languages alone, this differentiation cannot be proven to be phonological).

Whatever might be the final solution, one thing is clear: the vocalism of !Xóõ can in no way be fully relied upon as representing the PSK state of affairs. Its archaicness is, at best, dubious in the case of group (a) and, at worst, impossible in the case of group (b): for instance, with forms like N|u *ǂkhon* and ‖Kxau *ǂhuni*, there is absolutely no way that the PSK root for 'dog' could have contained a simple **a* on the PSK level — a fact further confirmed by external evidence (see below).

Additional vocalic discrepancies can also be noticed on lower levels, such as within !Wi itself. A few of these have been described by R. Hastings [Hastings 2001]; the most interesting one is the apparent «insertion» of the glide *-w-* in |Xam in a large amount of items which lack it in the other languages: cf. |Xam *!kwei* 'breast' — |Auni *‖kei^ŋ-si* id.; |Xam *!khwa* 'water' — |Auni *!ka* id.; |Xam *k″wa^ŋ* 'to cry' — |Auni *k″a* id., etc. The glide in question, apart from |Xam, is frequently seen in ‖Ku‖e (*‖kwaŋ* 'milk' = 'breast') and occasionally in ǂKhomani (*kxʔa, kxʔwa* 'cry'), but hardly anywhere else. Unlike the *e* and *o* vowels, however, |Xam *-w-* can be quite reasonably judged as an innovation; thus, it seems to appear almost automatically after the initial ejective affricate *kx-* (*k″-)* as well as former uvular consonants or effluxes (for 'breast', cf. !Xóõ *ǂɢhè^ŋ* id.; for 'water', cf. !Xóõ *!qha* id.; cf. also |Xam *twai-i^ŋ* 'good' — !Xóõ *qái^ŋ* id.). There are some cases that do not fall under this condition — like |Xam *‖noaŋ* 'liver' vs. ‖Ng *‖nain*, !Xóõ *‖na-m* id. — but they are too few to suggest a special phonological opposition based on |Xam evidence alone. (Besides, some of them could be accounted for by the already postulated opposition between **o* and **ɔ*; if PSK 'liver' = **‖nɔ*, then Proto-!Wi 'liver' = **‖nɔ-a-* > |Xam *‖noa-ŋ*, but Proto-Taa 'liver' = **‖na-a-* > !Xóõ *‖na-)*.

3.3. *Lexics.* As has been pointed out earlier, !Xóõ is the only Taa language that boasts an extensive and presumably well-transcribed vocabulary. Moreover, unlike Zhu|'hoan, !Xóõ seems to have incorporated a significantly smaller amount of CK lexics, which makes the material overall more reliable for external comparison. Nevertheless, any !Xóõ form that can be confirmed with extra Taa or !Wi data, be it from Bleek's dictionary or from other sources, is automatically more treasurable than those forms that do not find their equivalents in those sources. Thankfully, the number of such parallels is reasonably high, although major work still has to be done about the extraction of valuable !Wi material from Bleek's dictionary and its proper etymologization.

Among the 100-word list the following items present us with !Wi-Taa only isoglosses: 'all', 'blood' (|Xam, ‖Ng *‖xau*, |Auni *‖xauʔu*; not attested in !Xóõ, but cf. Mas. *‖x̱au*ᵑ), 'bone', 'breast', 'ear', 'foot', 'horn', 'lie', 'liver', 'neck', 'not', 'one', 'tooth', 'two'.

4.0. PROTO-PERIPHERAL KHOISAN (PPeK).

4.1. *Overview*. As we arrive at the significantly deeper level of Peripheral Khoisan, comprising the two main branches of Proto-North-ǂHoan (PNH) and Proto-South Khoisan (PSK), the situation immediately becomes both easier *and* more complicated at the same time. Easier, because we finally have the «right» to compare material from at least two major dictionaries, one from each branch — the Zhu|'hoan vocabulary of Dickens and the !Xóõ vocabulary of Traill; this significantly enlarges our capacity for building up an impressive comparative lexicon as well as permits us to check all of the available data against at least two phonetically well-validated sources. More complicated, because the increase in time depth also increases the discrepancies between compared families, and thus diachronic phenomena that were only occasional and disjointed on the lower levels assume an almost threateningly systematic character on the higher ones.

It is, however, exactly the complicated system of correspondences between NK and SK that ultimately serves as the best argument for the close genetic ties between the two families. With the amount of material available, there is certainly very little reason to doubt the existence of the correspondence «PNH *| — PSK *|» (dental click); however, there is almost always a slight possibility that the words demonstrating that correspondence have been borrowed from one family into another, or, even more probable, that they have penetrated into both of them from a third source (CK?). Yet if we also manage to demonstrate the validity of the correspondence «PNH *| — PSK *ǂ», the probability of borrowing is eliminated completely, which, of course, still leaves us with the problem of separating traces of contact from true cognates, but at least we can say for certain that we are dealing with two offshoots of a former proto-language.

Glottochronological evidence for postulating a family like PPeK has been discussed in details in [Starostin 2003]; since then the lion's share of my work on comparative Khoisan has been dedicated to creating an etymological database for PPeK and establishing patterns of possible correspondences for that family, and it is only fair that the main part of this work should be dedicated to that intermediate reconstruction as well. At the present time I even do not exclude that PPeK is as far as we are really able to go about reconstructing the earliest stages of Khoisan with sufficient precision

(although I still hold out hopes for the PPeK-PCK comparison; see **5.0**). This makes the work on PPeK an object of particular importance.

Note on etymology sources: many of the comparisons listed below have been suggested earlier, particularly those where the phonetic resemblances between NK, SK, and ǂHoan are especially strong. Out of all the works involving etymological comparison between those branches, the most important are [EHRET 1986], [HONKEN 1988], and [HONKEN 1998]; somewhat more chaotic, but nevertheless noteworthy is the list presented by J. ARGYLE [ARGYLE 1991]; [SANDS 1998] and [TRAILL 1986] also list multiple parallels, although the aims of these two works do not include establishment of systematic phonetic correspondences.

4.2. *Phonology*.

4.2.1. *Click influxes*. The system of click influx correspondences between PNH and PSK can be briefly summarized as follows:

PPeK	PNH	PSK
*ǀ	*ǀ	*ǀ
*ǀ₁	*ǃ	*ǀ
*ǂ	*ǂ	*ǂ
*ǂ₁	*ǀ	*ǂ
*ǃ	*ǃ	*ǃ
*ǃ₁	*ǃ	*ǁ
*ǃǃ	*ǃǃ	*ǃ
*ǃǃ₁	*ǃǃ	*ǁ
*ǁ	*ǁ	*ǁ
*ǁ₁	*ǂ	*ǁ

(Note: this table does *not* take into consideration any occurrences of the labial click either in PSK or in ǂHoan; this matter will be discussed separately, in section **4.2.1.13**).

The PPeK reconstructions in the table are, of course, highly provisional. Basically, they just show that the number of click influx correspondences that can be established with sufficient reliability between PNH and PSK is twice as high as the number of click influxes in PNH, which, in turn, means that either all of these correspondences represent different PPeK phonemes (not very likely) or that the subscript «1» in those reconstructions actually stands for some kind of extra distinctive feature that must have been present in PPeK but got neutralised in its daughter languages — significantly affecting click influx articulation in the process (in different ways, depending on the subbranch).

As is obvious from this table, neither the PNH nor the PSK system can be deemed to be more archaic than the other. Different mergers and splittings have afflicted both of them, and no matter how much we «rearrange» the phonetic interpretations in PPeK, it will be impossible to realign the table so that one influx in PNH would always have but two corresponding influxes in PSK, or vice versa; the evidence firmly speaks against it. It is, however, interesting to notice that this table is indirectly confirmed by statistical evidence. The most frequent click influx in Zhu|'hoan is the alveolar *!* (appr. 480 cases with the most obvious CK borrowings extracted from the list), which does indeed figure in 5 out of 10 cells in the above table (including the correspondences for the retroflex click, which in Zhu|'hoan merges with the alveolar one). In !Xóõ, on the other hand, the alveolar click is only second in frequency (appr. 430 cases) to the lateral click (appr. 460 cases) — whereas in Zhu|'hoan, on the other hand, the lateral click is significantly more rare (appr. 315 cases; the amount of counted lexical items is more or less equal in both dictionaries); this also perfectly corresponds to the data in the table, where the lateral click in is found in 4 cells in PSK, yet only in 1 cell in PNH. (See the diagrams in [Traill 1994a] for more details on statistics for classes of phonemes in Zhu|'hoan and !Xóõ).

The list of illustrative data that follows is by no means complete, but hopefully sufficient to demonstrate the validity of the correspondences. Since I am quite deliberately comparing click influxes and effluxes independently of each other, any commentary on the obvious discrepancies between click effluxes will be relegated to the corresponding section (**4.3**) with its own examples.

4.2.1.1. PPeK *|.

[1] PNH *|i 'aardwolf' (‡Hoan |i; Zhu. |aìh 'jackal sp.'; !Xũ (Ll.) |gi 'antbear') — !Xóõ |āhi 'aardwolf'.

[2] PNH *|uʔi 'thin, small' (‡Hoan |kxui 'narrow, small'; Zhu. |ùʔí 'thin /of paper, etc./') — !Xóõ |ʔûi 'small'.

[3] PNH *|qʔU '(to be) dry' (‡Hoan |qʔau; Zhu. |ʔò) — PSK *|ʔo (!Xóõ |ʔòo; |Xam |ko-wa 'dry'; ‖Xegwi |ko-wa 'thirsty').

[4] PNH *|ɢui 'a k. of bird' (‡Hoan |(n)ɢui 'weaver bird'; Zhu. |gúí 'red-billed quelea, finch') — !Xóõ |ɢùi 'redheaded finch'.

[5] PNH *|naʔni 'to refuse' (‡Hoan |niʔni; Zhu. |nàní-|nanì 'to dissuade') — !Xóõ |náʔni kV 'to reject, refuse'.

[6] PNH *ʔ|no̯m 'springhare' (‡Hoan ʔ|na̯m; Zhu. |nò̯m; ‖Au‖en |nʌm; !Xũ (Ll.) |nomm; Ov. ʔ|nò̯m (W), |nò̯m (E)) — PT *|nṵ- id. (!Xóõ |nṳ̀i; |Nu‖en |noe).

[7] PNK *|auŋ 'green, blue' (Zhu. |auhʸ; ‖Au‖en |kauʸ, |gauʸ; !Xũ (Ll.) |kuʸ, |kaʸ; !O!Kung |kaʸŋ) — PSK *|ga̱ʰ- id. (!Xóõ |ga̱hi; Mas. |ga̱i; |Xam |kain,

|kain-ya; ‖Ng |ka̰-la 'yellow'). Whether ǂHoan za̰ʔa 'green, yellow' has anything to do with this etymology is yet to be established (see ex. 24 in section **7.2.2** for more on the subject).

[8] PNK *|ga 'to marry; wedding' (Zhu. |gá 'wedding'; !O!Kung |ga 'to marry; wife') — PSK *ʔ|n[h]a- 'to marry; spouse' (!Xóõ ʔ|nàn 'spouse', ʔàhna ʔ|nàńa 'to marry'; |Nu‖en |ha 'husband'; |Xam |haⁿ id.; ǂKhomani |ŋau, |ŋou 'to marry'; ‖Xegwi |han id., |ha 'husband'; |Auni |haaⁿ 'to marry', |ha, |haⁿ 'consort').

[9] PNK *|gui 'hyaena' (Zhu. |guìh 'spotted hyaena'; !Xũ (Dоке) |gwi 'brown hyaena'; !O!Kung |gwiⁿ id.) — !Xóõ ʔ|nùⁿ 'brown hyaena'.

[10] PNK *|hi 'rhinoceros' (Zhu. |hái; ‖Au‖en |xi; !Xũ (Ll.) |khi) — !Xóõ |qhái 'buffalo'.

[11] PNK *|kxoaⁿ 'phlegm, cold' (Zhu. |kxòàⁿ; Tsum., Tsin., Ok. |kxòaⁿ, etc.) — !Xóõ |ɢòe 'phlegm'.

[12] PNK *|nam̥ 'to dance (of women)' (Zhu. |namm; Tsum., Tsin. |nām̄m̀, etc.) — !Xóõ |nāhm 'to play with, joke with; to hold a curing dance'.

[13] PNK *|nom 'to bewitch; medicine' (Zhu. |nom; ‖Au‖en |nu, |num 'medicine man'; !O!Kung |num k"au id.; Ov. |nɔ̀m 'curse') — PSK *ʔ|nU- 'spirit' (!Xóõ ʔ|nòhaⁿ 'spirits of an individual (malevolent)'; |Xam |nu 'dead, departed, spirit').

[14] Zhu. |na̰ʔó 'barn owl' — !Xóõ |a̰ho id.

[15] Zhu. |ganì-!a̋è!a̋ècè 'Karoo scrub robin' — !Xóõ |gàni-sè 'Kalahari robin'.

[16] Zhu. |ghá 'to shelter (from the weather)' — !Xóõ |gâa kV id.

[17] Zhu. |ghà 'to hang, lay out (meat)' — !Xóõ |gàhʔaⁿ 'mat of branches (e. g. for meat)'.

[18] Zhu. |hàì 'young, green' — !Xóõ |qhéⁿ 'raw, fresh'.

[19] Zhu. |hóró 'Corallocarpus sp.' — !Xóõ |qhúʔlu-kú 'Corallocarpus bainesii'. See [Honken 1998: 176].

[20] Zhu. |gxòró 'brown hyaena' — !Xóõ |ɢháli id.

[21] ǂHoan |oma 'large snake' — !Xóõ |ûma 'python'.

[22] ǂHoan |o̰a 'hare' — |Xam |o̰aⁿ id.

[23] ǂHoan |ga 'to try' — !Xóõ |gàha kV 'to try, exert oneself'.

[24] ǂHoan |goʔe 'chest (of animal)' — !Xóõ |gúi 'breastbone'.

[25] ǂHoan |qha 'women' — PSK *|a- id. (!Xóõ |a̰aⁿ; |Nu‖en |gaiⁿ; Proto-!Wi *|a-i-ti 'woman, girl' > |Xam |aiti; ‖Ng |aiti, |aiki, |gaiki, |gaiti; ǂKhomani |ʔai-tje, |ʔai-tji, |kei-ki; ‖Kxau |ka-ti; ‖Ku‖e |a-ti; ‖Xegwi |a-ze; |Auni |ge-ki).

4.2.1.2. PPeK *|₁.

[26] PNH *!u 'name' (ǂHoan !o; Zhu. !ú; ‖Au‖en !ku, !khu; !Xũ (Ll.) !ku, !gu; !O!Kung !ku; Ov. !ű) — PSK *|ɛ[u]ⁿ (!Xóõ |auⁿ, pl. |aⁿ; Mas. |k"auⁿ; |Nu‖en

|kaⁿ; |Xam, ‖Ng |keⁿ; N|u |iⁿ, |eⁿ; |Auni |ke, |keⁿn). The comparison is acceptable if PNH *-u- < PPeK *-ɛ-u- (where -u- = former suffixal extension).

[27] PNH *![g]u 'belly, stomach' (ǂHoan !o; Zhu. !gú; !Xũ (Lloyd, Doke) !gu; !O!Kung !gu) — PSK *|o[ʰ] 'stomach' (!Xóõ |ōh-aⁿ; |Xam, |Nusan |ko-a; ‖Xegwi |ku-bwa).

[28] PNH *!gai 'wildebeest' (ǂHoan !g(a)i; Zhu. !gaih; ‖Au‖en !geⁿ; !Xũ (Ll.) !gi; !O!Kung !ge, !gei) — PSK *|ɛ id. (!Xóõ |à-li; Mas. |kā-ri; |Nu‖en |ga-re; ‖Ng, |Auni |ke; N|u |e; ‖Kxau |keⁿ).

[29] PNH *!kxV~*!qʔV 'heart' (ǂHoan !qʔon; Zhu. !kxá; ‖Au‖en !ka; !Xũ (Ll.) !xa, !k'a, (Doke) ʔʔa; !O!Kung k'a; Ov. !kxá) — PSK *|qʔɛ- id. (!Xóõ |qʔàn, pl. |qʔaⁿ; Mas. |i; |Nu‖en |gaŋ; |Xam |iⁿ; ‖Ng |gai, |ge; N|u |ii; ǂKhomani |kē-kji; ‖Kxau |kae; ‖Ku‖e |ɛⁿ; |Auni |ɛ, |e; |Nusan |eⁿ).

[30] PNK *!o[ʰ]m 'dew' (Zhu. !ohm; !Xũ (Ll.) !kumm) — !Xóõ |ùh-li id.

[31] PNK *!gam 'to hide' (Zhu. !gám; ‖Au‖en !gʌm; !Xũ (Ll.) !gam) — !Xóõ |gàhʔo / |gahʔBV 'to hide, conceal'.

[32] PNK *!kxui 'hair' (Zhu. !kxúí; ‖Au‖en !k'we; !Xũ (Ll.) !k'we, (Doke) !kx'wi; !O!Kung !kwi, k'wi) — PSK *|ɢhu- id. (!Xóõ |ɢhùaⁿ; Mas. |kwa-ni; |Xam, ‖Ng |ku, |khu; N|u |huu-ke; ǂKhomani |khu, |khu-ke; ‖Xegwi |khuⁿ; |Auni |kho; |Haasi |ɔ; Khatia |koo; |Nusan |huⁿ).

[33] PNK *!nUm 'stone, mountain' (Zhu. !nòm; ‖Au‖en !num; !Xũ (Ll.) !num, !nom, (Doke) !num; !O!Kung !num; Ov. !nòm) — PSK *|nu- id. (!Xóõ |nū-le, pl. |nū-n; Mas. |nu-n 'mountain', |ny-le 'stone'). Curiously enough, Heikki-nen distinguishes between Ov. !nòm 'stone' and ʔ!nòm 'hill'; so does Doke, who places the differentiation on the tone (!nūm 'stone', !nûm 'mountain'). If these are indeed two etymologically different roots, then cf. also !Xóõ !ùhm 'hill, niche for trees' as an alternate etymology for the second one.

[34] Zhu. !ùⁿ 'to ask for' — !Xóõ |ūh-i kV 'to beg, request, ask for'.

[35] Zhu. !ùʔí 'to be constipated' — !Xóõ |gūʔ-ni, |gūʔ-li id.

[36] Zhu. !gàʔàⁿ 'bitter, sour' — !Xóõ ʔ|nâʔm 'bitter tasting'.

[37] Zhu. !gaʔànù 'to be stiff (of body)' — !Xóõ |ɢàli 'pins and needles, cramp, numbness'.

[38] Zhu. !gùʔúⁿ 'to watch' — !Xóõ |ʉ́-a id.

[39] Zhu. !gxárú 'to gnaw, scrape' — !Xóõ |gxùʔle 'to gnaw meat off a bone' (not very reliable due to differences in vocalism).

[40] Zhu. !nòó 'to yearn for, mourn, wish' — !Xóõ |nóo kV 'to desire someone intensely'.

[41] Zhu. !nom 'sex, promiscuity' — !Xóõ ʔ|nʉ́-aⁿ 'sex, over-sexed person, behaviour'.

[42] Zhu. !nòʔómá 'to blink' — PSK *ʔ|nɑma id. (!Xóõ ʔ|nậma; |Xam dabba).

[43] Zhu. *!nǫ-iʸ* 'to limp' — PSK **ʔ|nǫ-ro* id. (!Xóõ *ʔ|nǫ̀hlo*; |Xam *durru*).

[44] Zhu. *!noʔm* 'to suck' — !Xóõ *ʔ|nǫ̂m* 'to hold pips in the mouth'.

[45] ǂHoan *ʔ!nǫne* 'buttock' — !Xóõ *ʔ|nǎi kV* 'to insult someone by raising the leg and showing off the anus'.

4.2.1.3. PPeK *ǂ.

[46] PNH **ǂam* 'spoon' (ǂHoan *ǂam*; Zhu. *ǂnhàì-ǂàm*) — !Xóõ *ǂgàhm* id.

[47] PNH **ǂqhuni* 'elbow' (ǂHoan *ǂqhoni*; Zhu. *ǂhúní*; ‖Au‖en *ǂɔni*; !Xũ (Ll.) *ǂkwonni*, *ǂxwonni*, (Doke) *‖guni*; !O!Kung *ǂkuni*, *ǂkɔni*, *!kuni*; Ov. *ǂghǔ-ní*) — PSK **ǂɢuRV* (!Xóõ *ǂɢhúli*; |Nu‖en *ǂgunni*; |Xam *!kʔunni*; |Auni *ǂɔni-ke*). See [Honken 1998: 176].

[48] PNK **ǂgho-* 'dog' (Zhu. *ǂghú-íʸ*, *ǂghó-á*; !Xũ (Ll.) *ǂkwe*, (Doke) *ǂʔhwi*; !O!Kung *ǂkwe*; Ov. *ǂghóe*) — PSK **ǂqhɔ-* (!Xóõ *ǂqhà-i*, pl. *ǂqhà-ba-tê*; Mas. *ǂxai*, *ǂxi*; |Nu‖en *ǂkhi*; |Xam, ‖Ng *!kw-iŋ*; N|u *ǂkho-n*, *ǂkhu-in*; ‖Kxau *ǂhuni*; ‖Ku‖e *!w-iŋ*; Seroa *ku-enia*; ‖Xegwi (Bleek) *‖kw-i*, (Lanham & Hallowes) *tlweng*; |Auni *ǂkɔʸ*; |Haasi *ǂhaŋ*).

[49] PNK **ǂghui* 'rotten egg' (Zhu. *ǂghúí*; Tsum. *ǂghúi*, Tsin., Ok., Leeu. *ǂʔhúi*, Mpu., Cui., Cnd. *ǂʔúi*, etc.) — PSK **ǂgu-* 'egg' (!Xóõ *ǂgú-aʸ*, dimin. *kâ-ǂgúu-bê*; |Nu‖en *!gwo-iʸ*; |Xam *!kaui[ʸ]*; ‖Ng *!hauʸ*; ǂKhomani *ǂgwi* 'ostrich egg'; |Auni *!uiʸ* id.). See [Honken 1998: 176].

[50] PNK **ǂkxumi* 'to mix' (Zhu. *ǂkxúmí*; Tsum., Tsin., Ok., Leeu. *ǂkxúmi*, etc.) — !Xóõ *ǂkxúmi sV* id.

[51] PNK **ǂnu(ʸ)* 'to travel by night' (Zhu. *ǂnuhʸ*; !Xũ (Ll.) *ǂnu*) — !Xóõ *ǂnùiʸ* id.

[52] PNK **ǂʔau* 'care, slowness' (Zhu. *ǂʔáú-sí*; Tsum., Leeu. *ǂʔāù*; Tsin., Ok. *ǂˈāušè*) — !Xóõ *ǂqáʔu kV* 'to be careful, conserve, do gently').

[53] PNK **ǂʔui* 'caracal' (Zhu. *ǂʔùì*; ‖Au‖en *ǂwi*; Tsum., Tsin., Ok. *ǂʔùi*, etc.) — PSK **ǂʔu-* id. (!Xóõ *qhāa ǂʔùi*; ǂKhomani *ǂkui* 'rooikat'). See [Honken 1998: 181].

[54] Zhu. *ǂạʔàbè* 'shiny' — !Xóõ *ǂàba* id. Cf. also ǂHoan *ǂạʔana* 'white'; if the etymology is correct, the root must have had two different suffixal extensions on the PPeK level.

[55] Zhu. *ǂậʔí* 'springbok' — !Xóõ *ǂài* id.

[56] Zhu. *ǂạʔò* 'to be dented, dent' — !Xóõ *ǂqáo kV* 'to crush, squash between the fingers, dent'.

[57] Zhu. *ǂòà* 'reed mat' — !Xóõ *ǂûa* 'sleeping mat'. See [Honken 1998: 180].

[58] Zhu. *ǂòm* 'to divide, share out' — !Xóõ *ǂqúm-ǂqùm* 'to disperse or go off in numbers'.

[59] Zhu. *ǂuhʸ* 'ant-lion' — !Xóõ *ǂɢạ̀haʸ ǂhái* id. (The comparison is acceptable if the !Xóõ form < **ǂɢ̣ʸ^{hʸ}).

[60] Zhu. ‡gɔ̀ʔm 'to strangle, throttle' — !Xóõ ‡gõʔla 'to throttle'.

[61] Zhu. ‡hòànà 'to stretch out' — !Xóõ ‡qhòna kV 'to straighten'. See [Honken 1998: 176].

[62] Zhu. ‡hú 'banded spitting cobra' — !Xóõ either ‡qù-e 'cape cobra' (better semantically) or ‡qhúu 'small python' (better phonetically).

[63] Zhu. ‡ʔhárí 'to become chipped (of enamel)' — !Xóõ ‡qháʔle 'chipped, flaked, have a blemished surface'.

[64] Zhu. ‡ʔhо̣ò 'womb' — !Xóõ ‡nо̣̀ho 'ovary, womb'. See [Honken 1998: 176].

[65] Zhu. ‡xúbí 'shoulder joint' — !Xóõ ‡xúbi 'radius and ulna'. (Cf. also |Xam ‡xuiⁿ 'inner bone of forearm, ulna' for a potentially different suffixal extension).

[66] Zhu. ‡nо̣rì 'to stir (liquid)' — !Xóõ ‡nо̣̀hli sV 'to stir up the coals'.

[67] Zhu. ‡ʔábí 'to lift up (something flat)' — !Xóõ ‡hābi 'to be raised up; to raise *(pl.)*'.

[68] Zhu. ‡ʔàn 'to go ahead, be first' — !Xóõ ‡hàⁿ 'ahead, first'. See [Honken 1998: 176].

[69] Zhu. ‡ʔómá 'to kiss' — !Xóõ ‡ʔûmaⁿ kV id.

[70] Zhu. ‡ʔóré 'biceps' — !Xóõ ‡ʔólo 'bicep, upper arm muscle'.

[71] ‡Hoan ‡gole 'to be blind' — !Xóõ ‡gōle 'blind'.

[72] ‡Hoan ‡kxau 'black' — PT *‡a[ʔ] id. (!Xóõ ‡áʔ-ńa; |Nu‖en ‡ka-na).

[73] ‡Hoan ‡qа̣ma 'wing' — !Xóõ ‡ɢа̣̀hma id.

[74] ‡Hoan ‡[q]hoan '‡Hoan person' — !Xóõ ‡qhūaⁿ 'south'.

[75] ‡Hoan ‡qhui-‡qhui 'gray' — !Xóõ ‡ɢhúi 'yellow'.

[76] ‡Hoan ‡qʔui 'wind' — PSK *‡qhu- 'wind' (!Xóõ ‡qhùe; Mas. ‖khwe, ‖k'we; |Nu‖en ‡khwe, ‡kwe, ‡xe; |Xam !kwe, !khwe; ‖Ng !khwe; ‡Khomani ‡kowe, ‡khwe; ‖Xegwi šuwi; |Auni ‡kwe).

[77] ‡Hoan ‡ɢoe 'to whistle' — !Xóõ ‡ɢū-ni id.

[78] ‡Hoan ʔ‡nа̣ 'right (hand)' — !Xóõ ʔ‡nа̣̀uⁿ 'right side'.

4.2.1.4. PPeK *‡₁.

[79] PNH *|qhuⁿ 'steenbok' (‡Hoan |qhoⁿ; Zhu. |ʔhúⁿ; ‖Au‖en |hoⁿ; !Xũ (Doke) |kuⁿ; !O!Kung |hum) — Proto-!Wi *‡ʔu[i]ⁿ id. (|Xam !kuiŋ; ‖Ng !koiŋ; ‡Khomani ‡ʔun; |Auni ‡koⁿ).

[80] PNH *|nhụi 'mouse' (‡Hoan |nо̣e; Zhu. |nhuì; !Xũ (Ll.) |nuhi, (Doke) |nhwi) — !Xóõ ‡nû-je 'mouse, muscle'.

[81] PNK *|ani 'to shake' (Zhu. |àìⁿ-|anì; Ang. !Xũ |ānì) — !Xóõ ‡gа̣̀ni 'to tremble (of a limb), shake'.

[82] PNK *|о̣ 'gall' (Zhu. |о̣; Ang. !Xũ |о̣̀) — !Xóõ ‡gáu 'bile'.

[83] PNK *|γu 'African wild dog' (Zhu. |γùú; Tsin., Ok., Leeu. |kxùù, etc.) — !Xóõ ‡γū-i 'hunting dog'.

[84] PNK *|nuʔuʸ 'to swallow with difficulty, choke' (Zhu. |nù'úʸ; !Xũ (Ll.) |nuúʸ) — !Xóõ ǂɢų́hnu |ʔúʸ kV 'to choke on food'.

[85] Zhu. |ahm 'to pour out, to leak very much' — !Xóõ ǂà̰haʸ ‖hûʸ 'to leak, drip'.

[86] Zhu. |aboh 'to pile things on top of each other' — !Xóõ ǂɢàbo kV 'to pile up'.

[87] Zhu. |a̰rì 'umbrella thorn tree, Acacia heteracantha' — !Xóõ ǂɢà̰hli 'sp. of thornbush, Acacia Fleckii'.

[88] Zhu. |a̰ʔè 'armpit' — !Xóõ ǂɢāhʔm kV 'to hold under the arm'.

[89] Zhu. |uʔùʸ 'to tighten (knot)' — !Xóõ ǂgúni 'knot'.

[90] Zhu. |gà̰m 'a k. of grass (Hermannia sp.)' — !Xóõ ǂqà̰ʔn~ǂqà̰n 'Hermannia aethiopica'.

[91] Zhu. |nò̰í 'to drown' — !Xóõ ǂqʔòni síi 'to be enveloped, drown' (assuming a metathese of nasality in Zhu|'hoan).

[92] Zhu. |ʔú 'foot-prints, hoof-prints' — !Xóõ ǂʔùa kV 'to run after, follow tracks while running'.

[93] ǂHoan |a̰be 'belly' (TRAILL 1973) — PT *ǂɢa̰ba (!Xóõ ǂɢāba 'wall of the stomach'; |Nu‖en ‖gāba-n 'belly').

[94] ǂHoan |oe 'shoulder' — !Xóõ ǂúi 'collar bone'.

[95] ǂHoan |ui, |ʔui 'fat' (TRAILL 1973) — !Xóõ ǂúʔi 'fat on the waist'.

4.2.1.5. PPeK *!.

[96] PNK *!aʸ 'to wait' (Zhu. !à̰ʸ; !Xũ (Ll.) !ka⁽ʸ⁾; Tsum., Tsin., Ok., Leeu., Mpu., Cui., Cnd. !à̰ʸ, etc.) — PSK *!aʸ id. (!Xóõ !à̰ʸ; |Xam !ka⁽ʸ⁾; |Auni !kʔaʸ).

[97] PNK *!ai 'mortar' (ǂHoan !ai!ai; Zhu. !à̰i; ‖Au‖en !ke; !Xũ (Ll.) !ke, !khe; !O!Kung !gai, !kai, !ke) — !Xóõ !gâi id.

[98] PNK *!aʔò 'cheetah' (Zhu. !aʔò; !Xũ (Ll.) !kau 'hunting leopard') — !Xóõ !qāhû 'cheetah'. Cf., perhaps, also ǂHoan !a̰uʸ id. (although *!q- would be really expected).

[99] PNK *!a̰e 'to hunt' (Zhu. !a̰è; ‖Au‖en !ga̰i, !ka̰i) — !Xóõ !qāhe id.

[100] PNK *!o̰m 'cheek' (Zhu. !omm; !Xũ (Ll.) !kumm, (DOKE) ‖gum) — !Xóõ !gùm 'jaw muscle'.

[101] PNK *!u-!u 'assegai' (Zhu. !ú!ù; ‖Au‖en !kuku, kuku 'knife'; !Xũ (LLOYD, DOKE) !ku!ku; !O!Kung !ku!ku) — PT *!o 'knife' (!Xóõ !ōo; Mas. !gɔ, !ko, !kho).

[102] PNK *!go̰ 'heel' (!Xũ (DOKE) !goʔo; Ang. !Xũ !gò̰!gò̰; cf. also Zhu. gògòró?) — !Xóõ !gò̰-ba-kú id.

[103] PNK *!nao 'to load' (Zhu. !nàò; ‖Au‖en !nau, !naua) — !Xóõ !nàho kV 'to load up'.

[104] PNK *!nŋ 'inside' (Zhu. !náng; !Xũ (DOKE) !n̥̂) — !Xóõ !hàn 'inside, centre'.

[105] PNK *!nhae 'to dodge, duck, escape' (Zhu. *!nhàè*; Ang. !Xũ *!nʔhāè*) — !Xóõ *!n̰âʔm* — *!n̰âʔBV* 'to avoid, evade; to watch out for, fear'.

[106] PNK *!ʔoaⁿ 'to yawn' (Zhu. *ʔʔòàⁿ*; ‖Au‖en *!oaⁿ*; !Xũ (LLOYD, DOKE) *!koaⁿ*; Ov. *ʔm-!ʔðaⁿ*) — !Xóõ *!hûa* id. — Proto-!Wi *!goa* id. (|Xam *!goa-ken*; N|u *!goa*). (No PSK reconstruction is provided because the exact click efflux is hard to establish). See [HONKEN 1998: 176].

[107] PNK *!ʔuiⁿ 'to take care of' (Zhu. *ʔʔúíⁿ*; !Xũ (Ll.) *!kwiⁿ*) — !Xóõ *ʔúiⁿ kV* id.

[108] Zhu. *!aʔà* 'dry season' — !Xóõ *!á-e* 'cold dry season, winter'.

[109] Zhu. *!abòh* 'tracks of many people together' — !Xóõ *!qàba kV* 'to follow in the spoor, tracks; retrace one's tracks'.

[110] Zhu. *!àì* 'wild pear, Ochna pulchra' — !Xóõ *!àh-la* id.

[111] Zhu. *!aìhⁿ* 'to shake something out of container' — !Xóõ *!àhiⁿ kV* 'to beat (as a blanket)'.

[112] Zhu. *!àù* 'bag (from springhare, steenbok or duiker skin)' — !Xóõ *!āoⁿ* 'large sack, bag made from two steenbok skins'.

[113] Zhu. *!oò-!ò* 'toktokkie beetle' — !Xóõ *!óo-!ôo* id.

[114] Zhu. *!óbó* 'red-billed francolin' — !Xóõ *!ōbo* 'quail'.

[115] Zhu. *!o̰ʔùⁿ* 'vein, artery' — !Xóõ *!òhoⁿ* id.

[116] Zhu. *!o̰ʔòrù* 'trachea' — !Xóõ *!gúnu* id.

[117] Zhu. *!ù* 'back apron' — !Xóõ *!gúu* 'front apron'. (Cf. also ‡Hoan *guu* 'apron', although the loss of click influx is puzzling).

[118] Zhu. *!gohm* 'bottom, buttock' — !Xóõ *!ṵe*, pl. *!ṵ̀m-tê* 'buttocks'.

[119] Zhu. *!xàm* 'to make porridge' — !Xóõ *!xâm kV* 'to stir (e. g. mealie meal)'.

[120] Zhu. *!kxóbó* 'to heal, be healed, cool down (of food)' — !Xóõ *!kxòba* 'to cool down (of sun in the afternoon)'.

[121] Zhu. *!nám* 'space, room, opening' — !Xóõ *!nám* 'clearing, clear place'.

[122] Zhu. *!nahm* 'to reconnoitre, spy out' — !Xóõ *!n̰-* 'to notice, investigate'.

[123] Zhu. *!nòàⁿ* 'to wade, walk in water' — !Xóõ *!nòni* 'to flow' (alternatively, cf. in NK: Ang. !Xũ *!nòa* 'to swim' — or is that the same root?).

[124] Zhu. *!nòm* 'to be cripple, lame' — !Xóõ *ʔ!nùma* 'limp'.

[125] Zhu. *!nùʔúⁿ* 'to throw away' — !Xóõ *!nṵ̀huⁿ* 'to remove, move off'.

[126] ‡Hoan *!aⁿ* 'to sit (legs straight)' — !Xóõ *!āⁿ* 'to be straight'.

[127] ‡Hoan *!ani* 'to carry' — !Xóõ *!án* id. Cf., perhaps, also PNK *!ae* id. (if the original root form is *!a-)?

[128] ‡Hoan *!gam* 'left side' — !Xóõ *!gàhm* id.

[129] ǂHoan *!gome* 'bent around' — !Xóõ *!gōo* 'hunched, stooped, crouched'.

[130] ǂHoan *!(n)ɢama* 'chest (of human)' — !Xóõ *!ɢāhma* 'sternum'.

[131] ǂHoan *!hana* 'to snore' — !Xóõ *!nàhna* id. (Unclear if PNK *!ɣunV id. belongs here as well, but see section **6.1** on more details).

[132] ǂHoan *!na* 'bowl' — !Xóõ *!nàa* 'container'.

[133] ǂHoan *!nori* 'to destroy' — !Xóõ *!nóli* 'to spoil, waste'.

[134] ǂHoan *!ʔa-e* 'outside' — !Xóõ *!ʔàn-tí, !ʔàⁿ-ní* 'outside, out'.

4.2.1.6. PPeK *!₁.

[135] PNK *!aʰ 'bird *sp.* (korhaan)' (Zhu. *!ah* 'red-crested korhaan'; !Xũ (Ll.) *!ka* 'a bird'; !O!Kung *!ka* 'bustard') — !Xóõ *ǁā-ba,* pl. *ǁām-ká-tê* 'black korhaan'.

[136] PNK *!o[-ma] 'short' (Zhu. *!òmà;* ǁAuǁen *!go;* !Xũ (Ll.) *!koma;* !O!Kung *!ko-!ko*) — !Xóõ *ǁôhʔm* 'light, soft, insubstantial in weight'. (The etymology is somewhat dubious due to both semantic and phonetic reasons. The PNK root is clearly just *!o,* with *-ma* interpreted as the frequent nominal/adjectival diminutive suffix; whether the final *-m* in !Xóõ reflects the same suffix or has a different origin is unclear. However, the forms are comparable even if NK *ma and SK *m are proven to be of a different nature. As for the semantic shift, cf. also the possibly related PCK form *ǁom 'short').

[137] PNK *!goʔa 'chest' (Zhu. *!gòʔá;* ǁAuǁen *!gwa*) — !Xóõ *ǁgúu* id. (if the PNH form really = *ǁgoʔa, the comparison should rather be filed under **4.1.8**).

[138] PNK *!ɣoa 'knee' (Zhu. *!ɣoa;* ǁAuǁen *!kwa-ǀni;* !Xũ (Ll.) *!koa, !khoa,* (Doke) *!xwa*) — PSK *ǁɣU- id. (!Xóõ *ǁɣúⁿ-ǀnàn;* Mas. *ǁkoⁿ-ǀnaŋ;* ǀNuǁen *ǁguⁿ-ǀni;* ǀAuni *ǁkoe*). In all Taa dialects the root is always used as first component within the compound *ǁɣUⁿ-ǀnV,* which can be compared to the respective ǁAuǁen form *!kwa-ǀni.* (The meaning of the second component, however, remains unclear).

[139] PNK *!gxo 'to be pregnant' (Zhu. *!gxòó;* !Xũ (Doke) *!ʔo, ŋ!ʔo;* Ang. !Xũ *!kxòo*) — !Xóõ *ǁgxóu — ǁgxóV* 'to be pregnant' (also with the meaning 'to put a skin across the shoulder for gathering' — two omonymous roots?).

[140] PNK *ʔ!nuⁿ 'to stand' (Zhu. *!núⁿ;* ǁAuǁen *!nu;* !Xũ (Ll.) *!nu(ⁿ);* !O!Kung *!nw-a;* Ov. *ʔ!nừⁿ* (W), *!nűⁿ* (E)) — PT *ǁhuⁿ id. (!Xóõ *ǁhûⁿ;* Mas. *ǁkuⁿ, ǁkoⁿ, ǁhuⁿ;* ǀNuǁen *ǁhu, ǁkuⁿ*).

[141] Zhu. *!gánú* 'hipbone' — !Xóõ *ǁgànu* id. See [Honken 1978: 174].

[142] Zhu. *!gòʔíⁿ* 'ochre, red stone' — !Xóõ *ǁgàʔi* 'red oxide'. See [Honken 1998: 174].

[143] Zhu. *!gùʔúbú* 'to swell, be bloated' — !Xóõ *ǁúhʔbu* 'to swell up'.

[144] Zhu. *!gà* 'to belch, burp' — !Xóõ *ǁgàha* 'to belch'. See [Honken 1998: 173].

[145] Zhu. *ǃgxàrú* 'monitor lizard, leguan' — ǃXóõ *ǁGàhni-kà* 'sp. of lizard'.

[146] Zhu. *ǃnạ̀ʔì* 'crowned plover' — ǃXóõ *ǁnậeⁿ* id. See [Honken 1998: 175].

[147] Zhu. *ǃnà̰ʔú* 'mongoose species' — ǃXóõ *ǁnà̰h-be* 'yellow mongoose'.

[148] ǂHoan *ǃo̰* 'to be afraid' — PT *ǁṵ 'to fear' (ǃXóõ *ǁṵ-aⁿ*; Mas. *ǁkwo-i*).

[149] ǂHoan *kí-ǃnò* 'to run' — ǃXóõ *ǁnûu* id. Cf., perhaps, also Zhu. *ǃnoʔò* 'to do fast'.

4.2.1.7. PPeK *ǁ!.

[150] PNH *ǁ![g]à̰ʔám-* 'to enter' (ǂHoan *ǃg̰am* 'to enter (pl. action)'; Zhu. *ǃgà̰ʔámá* 'to enter'; ǃXũ (Ll.) *ǁ!gabba, ǁgabba*; ǃOǃKung *ǁgaba*; Ok. *ǁgàbá*) — ǃXóõ *ǃgâ̰ʔo / ǃga̰ʔBV* 'to put in; to enter (pl. action)'.

[151] PNK *ǁ!na̰ʔ-* 'big' (Zhu. *ǃna̰ʔà̰ⁿ*; ǁAuǁen *ǃna*; ǃXũ (Ll.) *ǁne-a* 'to be large', (Doke) *ǁ!n̰ʔa* 'big'; ǃOǃKung *ǁna*; Ov. *ǁnà̰ʔà*) — PSK *ʔǃna̰ʔ-* 'big, to grow' (ǃXóõ *ʔǃnāh̰ʔ-ni* 'to grow physically, mature'; ǁNg *ǃnai, ǃne* 'big, many'; ǁKxau *ǃnai* 'big', *ǃnai-n* 'many').

[152] PNK *ǁ!nŋ* 'to put down, sit down' (Zhu. *ǃnáng*; ǃXũ (Ll.) *ǁ!niⁿ, ǁniⁿ*; ǃOǃKung *ǁni, ǁŋ*) — ǃXóõ *ʔǃnàhaⁿ* 'to lay horizontal'.

[153] PNK *ǁ!gxa* 'rough; thorn' (Zhu. *ǃgxà*; ǃXũ (Ll.) *nǁka* 'rough'; Ang. ǃXũ *ǁkxàa* 'be coarse') — ǃXóõ *ǃGhàeⁿ, ǃGhàⁿ* 'quill, straight thorn'.

4.2.1.8. PPeK *ǁ!₁.

[154] PNH *ǁ!ṵʔuru* 'fingernail' (Zhu. *ǃṵ̀ʔúrú*; ǁAuǁen *ǁkuru*; ǃXũ (Ll.) *ǁkuru*; ǃOǃKung *ǁkɔnu, ǁkulu*; cf. also ǂHoan *ǃo̰ʔo* id. — is ǂHoan preserving the old suffixless form here?) — PSK *ǁqu[rV]* id. (ǃXóõ *ǁqû-le*, pl. *ǁqû-n-sâ*; ǀXam *ǁkuru*; ǁNg *ǁkurisi*; ǂKhomani (Mg.) *ǁkoro-[si]*; ǁXegwi *ǁkɔla*; ǀAuni *ǁkorasa*).

[155] PNK *ǁ!goVʰ* 'shoe' (Zhu. *ǃgoah* 'footwear', *ǃgoeh* 'shoe, sandal, footwear'; ǁAuǁen *ǃgwa* 'shoe'; ǃXũ (Ll.) *ǁgoa, ǁgua*; Ang. ǃXũ *ǁgòè*) — ǃXóõ *ǁgṵ̀ʔa* 'to put on sandals, shoes'. See [Honken 1998: 175].

[156] PNK *ǁ!xo* 'to be unlucky' (Zhu. *ǃxò*; Ov. *ǁxò* 'bad luck') — ǃXóõ *ǁxōo* 'to be out of luck'.

[157] PNK *ǁ!noa* 'reed' (ǁAuǁen *ǃnwa*; ǃXũ (Ll.) *ǁnoa, ǁnua*; Ov. *ǁnòaⁿ*) — ǀXam *ǃnoa* 'reed, arrow'.

4.2.1.9. PPeK *ǁ.

[158] PNH *ǁ[nh]a-ra* 'camelthorn tree' (ǂHoan *ǁala*; Zhu. *ǁnharà*) — ǃXóõ *ǁáa* id.

[159] PNH *ǁha-* 'to show' (ǂHoan *ǁha*; Zhu. *ǁhàèǁhàè*; Ang. ǃXũ *ǁhà*; Ov. *ǁhàáⁿ*) — ǃXóõ *ǁqhāa kV* id.

[160] PNH *ǁhoʔbu* 'foam' (ǂHoan *ǁhoʔobu*; Zhu. *ǁʔhúbú*; Ang. ǃXũ *ǁʔhùbu*) — ǃXóõ *ǁōhbu* 'froth, spray'. (Cf. also such forms as Ov. *ǁnhùrǘ* id. — indicating that *-bu* may be just one of several possible PPeK extensions). See [Honken 1998: 176].

[161] PNH *‖[h]oʔro ‘whirlwind’ (ǂHoan ‖hoʔolo; Zhu. ‖orò; Mpu. ‖ùri ‘wind’) — !Xóõ ʔ‖nòhʔlo id.

[162] PNH *‖nVbV ‘stork’ (ǂHoan ‖no-‖nobe; Zhu. ‖nábá) — !Xóõ ‖nûʔbe id.

[163] PNH *‖xaba ‘shoulderblade’ (ǂHoan ‖xaba ‘point between shoulder blades’; Zhu. ‖xàbà ‘hump; shoulderblade’) — !Xóõ ‖qhába ‘thoracic vertebra’.

[164] PNH *‖kxu ‘to smell’ (ǂHoan ‖kxo; Zhu. ‖kxú; ‖Au‖en ‖kʷo; !Xũ (Ll.) ‖ku, (Doke) ‖ku-sa; Ang. !Xũ ‖kxu ‘to stink’) — !Xóõ ‖kxâuⁿ ‘smell, scent (n.)’.

[165] PNK *‖aʰ ‘hat, cap’ (Zhu. ‖ah; ‖Au‖en, !Xũ (Ll.), Ang. !Xũ ‖ka) — !Xóõ ‖àa ‘to put on (a hat, a necklace)’. See [Honken 1998: 181].

[166] PNK *‖aⁿ ‘to appeal to, beg for’ (Zhu. ‖àⁿ; !Xũ (Ll.) ‖ka ‘to ask for by speaking’) — !Xóõ ‖gàⁿ ‘to beg for’.

[167] PNK *‖abe ‘to be hungry; hunger’ (Zhu. ‖àbè; ‖Au‖en ‖kabe) — !Xóõ ‖àhba ‘deprivation, hunger’.

[168] PNK *‖ạma~*‖ạba ‘to wear, get dressed’ (Zhu. ‖ạ̀mà; ‖Au‖en ‖kạmma, ‖kamma; !Xũ (Ll.) ‖kạba, ‖kabba ‘to sling on’, (Doke) ‖ava ‘to dress’; !O!Kung ‖kaba ‘to wear’) — !Xóõ ‖gāhm — ‖gahBV ‘to tie onto the body (e. g. a skin, blanket)’.

[169] PNK *‖oeʰ ‘still’ (ǂHoan ‖oe; Zhu. ‖oeh tè ‘but, but in fact’) — !Xóõ ‖ōe ‘still’.

[170] PNK *‖ʔhaba ‘to walk briskly’ (Zhu. ‖ʔhàbà; Ov. ‖hằbằ ‘hurriedly’) — !Xóõ ‖nằba ‘to walk briskly’. See [Honken 1998: 176].

[171] PNK *‖ʔhŋ ‘a k. of snake’ (Zhu. ‖ʔhàng ‘mole snake’; !Xũ (Ll.) ‖hiⁿn ‘a k. of snake’; !O!Kung ‖kauⁿ ‘a snake’) — !Xóõ ‖nậńa ‘sp. of snake’.

[172] PNK *‖nọʔorV ‘bark’ (Zhu. ‖nọ̀òrò; !O!Kung ‖nʌli, !nuli id.; Ov. ‖nùrì ‘peel or bark’) — PSK *‖ɢụrV id. (!Xóõ ‖ɢụ̀le ‘to peel, strip, remove bark’; Mas. ‖gole ‘bark’).

[173] PNK *‖nhọʔoru ‘aloe’ (Zhu. ‖nhọ̀ʔòrù; Tsin. ‖nʔhùrù; Leeu. ‖nʔhùrú; Cui. ‖nòlú; Cnd. ‖nọ̀lù; North Om. ‖nọ̀rú) — PT *‖ɢorV (!Xóõ ‖ɢólu ‘a sp. of aloe’; Mas. !golo ‘acacia’).

[174] PNK *‖xa ‘again’ (Ang. !Xũ ‖xàa; Ov. ‖xà) — !Xóõ ‖xâ-le id.

[175] PNK *‖xai ‘to sweep’ (Zhu. ‖xáí; ‖Au‖en ‖xi) — !Xóõ ‖xái kV ‘to clear, sweep’.

[176] PNK *‖xau ‘to set a trap’ (Zhu. ‖xáú; ‖Au‖en ‖kau; !O!Kung ‖kau; Ov. ‖xáo) — !Xóõ ‖xáu kV ‘to snare, trap’. See [Honken 1998: 181].

[177] PNK *‖xui ‘to ignore, belittle’ (Zhu. ‖xùì; Ang. !Xũ ‖xùi ‘to hate’) — !Xóõ ‖xûⁿ — ‖xuV ‘to berate, criticize, find fault with’.

[178] PNK *‖kxa ‘to be satiated’ (Zhu. ‖kxá; ‖Au‖en ‖aⁿ; !Xũ (Doke) ‖a) — !Xóõ ‖kxāⁿ ‘to finish’. (Some of the NK forms may be influenced by or directly borrowed from Nama ‖â < PCK *‖kxaⁿ id.).

[179] PNK *‖*kxom* 'to punch (with fist)' (Zhu. ‖*kxòm*; !Xũ (Doke) ‖*kɔm*; Ang. !Xũ ‖*kxòm*) — !Xóõ ‖*kxúm* — ‖*kxuBV* 'to bore, drill; to hit, punch'.

[180] PNK *‖*gxanV* 'gristle, cartilage' (Zhu. ‖*gxànú*; Tsum. ‖*gxàʔánú*; Tsin., Leeu. ‖*gkxàní*, etc.) — !Xóõ ‖*kxúnu* 'bridge of the nose, nasal bone'.

[181] PNK *‖*gxom* 'upper arm' (Zhu. ‖*gxóm*; ‖Au‖en ‖*gum*; Tsin., Cui. ‖*kxóm*, etc.) — PT *‖*kxo-* id. (!Xóõ ‖*kxō-a* 'upper arm, humerus'; Mas. ‖*xo-i* 'upper arm').

[182] PNK *‖*nǫʔobo* 'to wade' (Zhu. ‖*nǫʔòbò*; Ang. !Xũ ‖*nǫbo*) — !Xóõ ‖*nǎʔba kV* 'to walk on something wet'.

[183] PNK *‖*ʔaba* 'to step over' (Zhu. ‖*ʔàbà*; Ov. ‖*ʔàbá*) — !Xóõ ‖*ɢàʔbu kâ* id.

[184] PNK *‖*ʔŋ* 'to tie up' (Zhu. ‖*ʔàng*; ‖Au‖en ‖*eⁿ*, ‖*eiⁿ*, ‖*iⁿ*; !Xũ (Ll.) ‖*iŋ*, (Doke) ‖*ŋ*, ‖*kŋ*; !O!Kung ‖*eiⁿ*; Ang. !Xũ ‖*ʔang*) — !Xóõ ʔ‖*nāhaⁿ* 'to bind, tie, knot'.

[185] Zhu. ‖*à‖à* 'to warm (one's hands) at the fire' — PSK *‖*a[ʰ]* 'to burn' (!Xóõ ‖*āha* 'to set alight, set on fire'; Mas. ‖*ka* 'to burn'; |Nu‖en ‖*ka* 'to tattoo, burn'; |Xam, ‖Ng ‖*ka*, ‖*ke* 'to burn'; ‖Ku‖e ‖*ka* id.; ‖Xegwi, |Auni ‖*ka* 'to cook').

[186] Zhu. ‖*áú* 'well, good' — !Xóõ ‖*ám* 'well, nicely'.

[187] Zhu. ‖*aʔù* 'Cape lilac, Ehretia rigida' — !Xóõ ‖*gǎu* id.

[188] Zhu. ‖*òàⁿ-nà* 'francolin' — !Xóõ ‖*òa-‖òa-sè* 'red-billed francolin'.

[189] Zhu. ‖*gàáⁿ* 'to spend the day' — !Xóõ ‖*gàⁿ* id.

[190] Zhu. ‖*gàʔání* 'spotted, piebald' — !Xóõ ‖*gǎ̱a kâ sīi* 'flecked, spotted, striped'.

[191] Zhu. ‖*gùbí* 'to pull between the legs' — !Xóõ ‖*gōhʔbi kV* 'to put between the legs'.

[192] Zhu. ‖*xòàⁿ* 'to breathe heavily, pant' — PT *‖*qhoʔa* 'to breathe' (!Xóõ ‖*qhôʔaⁿ*; Mas. ‖*kǫa*).

[193] Zhu. ‖*kxàì* 'to be wrinkled' — !Xóõ ‖*gxāi* 'wrinkled (of skin or berry)'.

[194] Zhu. ‖*kxùbì* 'to shake (a person), twitch (of the skin)' — !Xóõ ‖*ɢōbi sV* 'to shake up a liquid'.

[195] Zhu. ‖*nàng* 'tuber of the morama bean' — !Xóõ ʔ‖*nā̱hn* 'morama nut creeper'.

[196] Zhu. ‖*noboh* 'to beckon, call towards oneself' — !Xóõ ‖*nǫ̀bo* 'to talk softly, murmur, talk to oneself'.

[197] Zhu. ‖*nùbù* 'to peel (of one's skin)' — !Xóõ ‖*ɣóʔbu* 'to peel off, become separated'.

[198] Zhu. ‖*nhahng* 'to scrape, sharpen (blade)' — !Xóõ ‖*nā̱hn sV* 'to sharpen, file'. See [Honken 1998: 176].

[199] ‡Hoan ‖*obo* 'to jump over' — !Xóõ ‖*ōhbo* id.

[200] ǂHoan ‖*gai* in *a̰ri-*‖*ga̰i* 'woman' — PSK *‖*ga̰-* 'female' (!Xóõ ‖*gá̰i*; ǂKhomani ‖*gai-*|*ka* 'girl'; Seroa ‖*ei-kje* 'woman, female').

[201] ǂHoan ‖*go̰ʔoa* 'black beetle' — !Xóõ ‖*gṳ̀ha* 'long horn beetle'. Cf., perhaps, also Zhu. ‖*go̰nì* 'jewel beetle'?

[202] ǂHoan ‖*xao* 'dense bush' — !Xóõ ‖*xáu* 'bushy area without heavy sand'.

[203] ǂHoan ‖*xou* 'bushpig' — !Xóõ ‖*xóu* 'warthog'.

[204] ǂHoan ‖*kxao* 'to chop' — !Xóõ ‖*ầa*, pl. ‖*ầoⁿ* id. (Cf., perhaps, also PNK *‖*ho* id.?).

[205] ǂHoan ‖*qa* 'dry, treeless plain' — !Xóõ ‖*qáa* 'drought; dry area'.

[206] ǂHoan ‖*qau* 'ice, cold' — !Xóõ ‖*qáⁿ* 'ice, frost'.

[207] ǂHoan ‖*qhori-ga* 'to be amazed' — !Xóõ ‖*qhúli kV* 'to be surprised, disappointed'.

[208] ǂHoan ‖*qʔoa* 'to be open' — !Xóõ ‖*óʔa tV* 'to open'. (Cf., perhaps, also Zhu. !*ʔoahⁿ* 'to open, uncover'; the form can be easily compared to the SK one, in which case the etymology should be grouped in **4.1.6**, but disagrees with the lateral click in ǂHoan).

4.2.1.10. PPeK *‖₁.

[209] PNH *ǂ*Uⁿ* 'star' (ǂHoan ǂ*oⁿ*; Zhu. ǂ*uhⁿ*; ‖Au‖en ǂ*goeⁿ*; !Xũ (Ll.) ǂ*koⁿ*, ǂ*kuⁿ*, (Doke) ǂ*kuⁿ*); O!Kung ǂ*kuⁿ*) — PSK *‖*o[n]-* (!Xóõ ‖*ōna*; Mas. ‖*gwana-te* 'stars'; |Nu‖en ‖*ana-te* id.; ‖Ng ‖*kʼw-e-sa*, ‖*kw-ai-sa* 'star'; ǂKhomani ‖*ʔw-ai-kje*; ‖Ku‖e ‖*kante* 'stars'). Many of the SK forms can be explained as products of secondary diphthongization: *‖*on-a* > *‖*oan-a* > *‖*wana-*, *‖*ana-*.

[210] PNH *ǂ*hi* 'big, many' (ǂHoan ǂ*hi* 'wide, big'; Zhu. ǂ*hái* 'many, much', ‖Au‖en ǂ*khi*, !Xũ (Ll.) ǂ*xi*, (Doke) ǂ*ʔhi*, O!Kung ǂ*khi*, etc.) — PSK *‖*a-* 'many, big' (!Xóõ ‖*á-li* 'many, big'; Mas. ‖*ka-ri* id.; |Nu‖en ‖*ka-nte* 'many', ‖*ka-rri* 'big, all'; ‖Xegwi ‖*xa-in* 'many, all'; |Auni ‖*kani*, ‖*kaři* id.). The comparison is acceptable if PSK *‖*a-* is really *‖*ɛ-* (the diagnostic forms in |Xam are not attested).

[211] PNH *ǂ*γai* 'scorpion' (ǂHoan ǂ*xai*; Zhu. ǂ*γàì*; ‖Au‖en ǂ*xai*; !Xũ (Ll.) ǂ*xi*) — PT *‖*a-* id. (!Xóõ ‖*âeⁿ*, pl. ‖*â-ma-tê*; |Nu‖en ‖*kai*).

[212] PNK *ǂ*aʔ[u]* 'cold' (Zhu. ǂ*àʔú*; !Xũ (Ll.) ǂ*kao*, ǂ*ka-ao* id.; cf. also ǂHoan ǂ*a̰* id.?) — PSK *‖*aʔ[u]* id. (!Xóõ ‖*âʔuⁿ*; Mas. |*kʼau*; |Nu‖en ‖*kʼauⁿ*; cf. also |Xam ‖*xwe*, |Auni ‖*xau* id.).

[213] PNK *ǂ*oahⁿ* 'giraffe' (Zhu. ǂ*oah*; ‖Au‖en ǂ*koa*; !Xũ (Ll.) ǂ*koa*, ǂ*kwa*, (Doke) ǂ*goa*; Ang. !Xũ ǂ*ōa*) — PT *‖*u-a* 'springbok' (!Xóõ ‖*û-a*, pl. ‖*ûm*; Mas. ‖*kwa*). Cf., perhaps, also ǂHoan ǂ*ɢo̰a* 'gemsbok' (although the click efflux correspondence would be rather unique).

[214] PNK *ǂ*gahⁿ* 'old *(of things)*' (Zhu. ǂ*gah*; ‖Au‖en ǂ*ga*; !Xũ (Ll.) ǂ*gaⁿ*, (Doke) ǂ*gʔa*; Ang. !Xũ ǂ*gàà*) — !Xóõ ‖*àhaⁿ* 'old, mature'.

[215] PNK *ǂ*gau* 'to roast' (Zhu. ǂ*gáú*; Tsin., Ok., Leeu. ǂ*gào*, etc.) — !Xóõ ‖*âo* 'to heat up, roast, bake'.

[216] PNK *ǂkxobo 'to trample, pound' (Zhu. ǂkxóbó; Ok., Mpu. ǂkxàbò; Lister ǂʔòbò) — !Xóõ ‖xùm — ‖xuBV 'to flatten, trample, squash'. (The etymology is somewhat dubious since the efflux correspondence NK *-kx- : SK *-x- is highly irregular.)

[217] PNK *ǂnam̰ 'small frog' (Zhu. ǂnàm̰; !Xũ (Ll.) ǂnam̰m; Tsin., Leeu., Mpu. ǂnàm̰, etc.) — !Xóõ ʔ‖nāhm id.

[218] Zhu. ǂàbè 'loincloth, underpants' — !Xóõ ‖gábi 'woman's rear apron'.

[219] Zhu. ǂàù 'giraffe' — !Xóõ ‖qhūⁿ, dimin. ‖qhùu-bâ id. (Etymology somewhat dubious due to the lack of aspiration in Zhu|'hoan).

[220] Zhu. ǂòà 'pelvis' — !Xóõ ‖òho 'male G-string of skin'.

[221] Zhu. ǂo̰e 'young man, youth' — PSK *‖qṵ[e] 'new, young, fresh' (!Xóõ ‖qṵV; Mas. ‖xwe; |Xam ‖kwe).

[222] Zhu. ǂo̰ʔòrò 'to urinate' — !Xóõ ‖à̰la 'to have diarrhoea'.

[223] Zhu. ǂú-ǂú 'sp. of black ant' — !Xóõ ‖úⁿ-‖úⁿ 'sp. of grasshopper'. (The semantics is not ideal, but note the reduplication in both cases).

[224] Zhu. ǂgóʔóàⁿ 'devil thorn' — !Xóõ ‖á̰-ba id. (the comparison is acceptable if the PPeK vowel is *ɔ > PNK *o, PT *a).

[225] Zhu. ǂgoʔòrò 'arrow-marked babbler' — !Xóõ ‖gúlu kâ |ùhm-sè 'giant eagle owl' (|ùhm = 'owl', i. e. '‖gúlu-like owl').

[226] Zhu. ǂghàò 'to fall asleep' — !Xóõ ‖gà̰o 'to be dizzy, giddy'.

[227] Zhu. ǂxúí 'to brush aside, brush away' — !Xóõ ‖xûⁿ — ‖xuV 'to throw away, discard'. (Note the interesting minimal pair — for !Xóõ — that this PPeK root constitutes with Zhu. ‖xùì 'ignore' — !Xóõ ‖xuV 'berate, criticize').

[228] Zhu. ǂɣàbù-ǂɣàbù 'to twitch, flutter' — !Xóõ ‖ùhbu kâ 'to flutter (as bird in snare)'.

[229] Zhu. ǂɣòmm 'to lose leaves in autumn' — !Xóõ ‖ɣáʔm |ʔêⁿ 'to be leafless'.

[230] Zhu. ǂná 'to throw (liquid) away' — !Xóõ ‖nà̰-i sV 'to throw out, get rid of, spill out'.

[231] Zhu. ǂna̰ng 'plate-thorn acacia, Acacia fleckii' — !Xóõ ‖nàhaⁿ 'candle acacia, Acacia hebeclada'.

[232] Zhu. ǂnubih 'to swing one arm while running' — !Xóõ ʔ‖nṵbi tshôe 'armpit' (lit. 'the inside of ʔ‖nṵbi', where ʔ‖nṵbi possibly = 'arm').

[233] ‡Hoan ǂgui 'ant-eater' — !Xóõ ‖gūʔm, dimin. ‖gùʔu-bà 'pangolin'. (Cf., perhaps, also PNK *ǂnhò̰í 'pangolin'?).

4.2.1.11. To these correspondences I would feel tempted to add one more series, that of PNH *! corresponding to PSK *ǂ. It does not fit too well into the already proposed scheme, and the examples are significantly less

numerous; however, dismissing them completely would not be reasonable at this preliminary stage. Perhaps some of these examples can be looked upon as occasional irregular (dialectal?) variants of PPeK *ǂ.

[234] PNH *ǃxU- 'elephant' (ǂHoan ǃxui; Zhu. ǃxó; ‖Auǁen ǃxo; ǃXũ (Ll.) ǃxo; ǃOǃKung ǃxo) — PSK *ǂxu- id. (ǃXóõ ǂxū-a; |Xam ǂxoa; ǂKhomani ǂkxʔoa). Cf., however, above (**3.2.1.3**) on the SK forms of this root and how they could actually represent borrowings from CK. It is not excluded that what we are dealing here is cognation between PNH *ǃxU- and PCK *ǂxoa on a higher level, while the SK forms are secondary.

[235] PNK *ǃnoʔm 'navel' (Zhu. ǃnòʔm; ‖Auǁen ǃnum; ǃXũ (Dokе) ǃnʔm; Ang. ǃXũ ǃnòm̀ʔm) — ǃXóõ ǂnṵ̂n id.

[236] Zhu. ǃa̰ʔm 'penis, sting' — ǃXóõ ǂʔàn id.

[237] Zhu. ǃgòʔm 'vagina' — ǃXóõ ǂgàʔaⁿ 'woman's sexual organs'.

Speaking of the palatal click, it would certainly be of interest to check if there are any reliable external confirmations for the SK opposition of ǂ₁ and ǂ₂ (see **3.2.1.3**); unfortunately, fully reliable parallels [ex. 48, 76] can only be found for SK *ǂ₁, which in both cases < PPeK *ǂ; as of now, it remains unclear if PSK *ǂ₂ < PPeK *ǂ₁ or if the SK opposition is «local» and has nothing to do with the earlier stages of development.

4.2.1.12. It can be easily seen that in general, «one-to-one» correspondences with well-matching semantics are more numerous than «non-trivial» ones. At first glance, this could throw suspicion upon at least some of the latter, causing us to raise the question whether we are not actually taking isolated chance resemblances and passing them off for cognates. This, however, can be easily refuted through the following considerations.

a) Since we are still lacking a formal method of separating genuine cognates from results of contacts and borrowing, a large part of the lexical examples grouped under the «one to one» sections may, in fact, turn out to represent such contacts and nothing else. This is particularly actual for cases where the segmental structures of compared forms match completely *and* find phonetically identic parallels outside PeK, most notably, in Khoekhoe or other CK languages. Cf., for instance, [203], which is obviously tied in with PCK *ǁxu 'warthog' — yet the nature of this connection cannot, at present, be fully ascertained. Needless to say, examples on «non-trivial» correspondences are much safer when it comes to strict filtering through the «potential borrowings» sieve.

b) If the «non-trivial» correspondences presented above really *were* chance resemblances, we would expect to be able to construct similar «series» for every possible click influx correspondence between Zhuǀʼhoan and ǃXóõ, or, wider, PNH and PSK; that is, «series» involving at least 10 to 15 different examples boasting strong semantic ties, and with at least a couple of them

belonging to the Swadesh 100-wordlist as well. This, however, has so far proved impossible. There is, for instance, no such connection between PNH *| and PSK *‖, nor are there any good examples on PNH *ǂ corresponding to PSK *| or *!. In other words, the correspondences presented above should not by any means give one the idea that «any North Khoisan click can correspond to any South Khoisan click», which is clearly not the case.

c) Finally, one has to consider the fact that the somewhat smaller proportion of «non-trivial» correspondences may simply indicate that the clicks marked as $|_1$, $ǂ_1$, etc., were considered as more highly marked in PPeK (possessing an «extra» phonological feature) and were therefore less frequently used.

Out of all the above series, only **4.2.1.7** and **4.2.1.8** (involving retroflex clicks in NK) stand out as very scarcely represented; this is, however, illusive, since practically every etymology under **4.2.1.5** and **4.2.1.6** in which the Zhu|'hoan form is not confirmed by Heikkinen's or Snyman's dialectal data can be regarded as potentially containing a retroflex click instead of an alveolar one; should there happen to be any additional data with lateral or retroflex reflexes for these etymologies, they will be immediately transferred to subgroups **4.2.1.7** and **4.2.1.8** respectively. It is interesting to note that items with retroflex clicks yield exactly the same reflexes as the ones with alveolar clicks in PSK; note also, however, that PPeK *$|_1$ always yields *! in PNK, never a retroflex *‼.

4.2.1.13. *Correspondences involving labial clicks.*

PSK, and even !Xóõ, etyma containing labial clicks are extremely scarce when compared to the rest of the click-containing material; nevertheless, they often represent important roots from the basic lexicon, including even such Swadesh 100-wordlist items as 'meat', 'tree', and 'sleep', and most probably go directly back to PPeK. Yet so far, no attempts to find just a single working correspondence for these roots in PNH have been successful.

Out of the 50-something roots with initial *θ-* in !Xóõ, around 15 can be offered semantically reliable and phonologically reasonable correlates in either NK or ǂHoan, which is more or less proportionate with the amount of parallels for all the other clicks. The problem, however, is that, unlike all of those, the !Xóõ (PSK) labial click truly seems to be able to correspond to *almost every other click influx* in the North Khoisan II subgroup. Cf.:

a) !Xóõ *θ-* : PNH *|-:

[238] Zhu. |aàⁿ 'wild cucumber, Coccinea rehmannii' — PT *θnV̰- 'a k. *of* cucumber' (!Xóõ *θn̰g̈e*, pl. *θn̰g̈m* 'edible cucumber (Coccinea rehman-

nii)'; Mas. *θnoaʔe* 'edible fruit of the Coccinea Rehmannii'; |Nu‖en *θmwai* 'onion, cucumber').

[239] Zhu. *|ʔhòaⁿ* 'true, real' — !Xóõ *ʔθnāhaⁿ* 'body, trunk; true, pure, very'. Cf., in particular, the possible root-for-root match between Zhu. *žu-|ʔhòaⁿ* 'the Zhu|'hoan, lit. the true/real people' and !Xóõ *tùu ʔθnāhn-sâⁿ* 'the !Xóõ, lit. the pure people'. (On the *žu* — *tûu* connection see below).

[240] ‡Hoan *|ʔoⁿ* 'tree' — PSK **ʔθnɔ-* 'tree, wood' (!Xóõ *ʔθnà-je*; Mas. *θtoe, θtoi*; |Nu‖en *θʔa*; |Xam *θho*; ‖Ng *θbo, θbɔ, θho*; ‡Khomani *θgo*; ‖Kxau *θo*; ‖Xegwi *θho*; |Auni *θbwaa, θbwasa, θpo*; |Haasi *θboei*).

b) !Xóõ *θ-* : PNH **ǂ-:*

[241] Zhu. *ǂgàó* 'omasum' — !Xóõ *θáʔi* 'abomasum'.

[242] Zhu. *ǂháró* 'to peel' — !Xóõ *θqhâla* 'to chip, peel, remove seeds from a pod'.

[243] Zhu. *ǂnà̰* 'louse' — PSK **θnṵ-* id. (!Xóõ *θnṵ́ⁿ*, pl. *θnà̰ⁿ-tê*; |Xam *θmwin, θmoen*; ‖Ng *θmoinja*). See [Ehret 1986: ex. 174].

[244] Zhu. *ǂnhò* 'to take a pinch of smth.' — !Xóõ *θnúʔlu* 'squash between the fingers', *θnûu kV* 'squash, collapse'.

c) !Xóõ *θ-* : PNH **!-:*

[245] PNK **!nhoba* 'to speak a foreign language' (Zhu. *!nhòbá*; Ov. *!nhóbá*) — !Xóõ *θnɔ̂m — θnɔ̀BV* 'to misunderstand, speak at the same time'.

[246] Zhu. *!gòm-šè* 'edible hairless caterpillar' — !Xóõ *θgòⁿ*.

[247] Zhu. *!kxú* 'happy, lucky' — !Xóõ *θkxúm* 'delicious, nice'.

[248] Zhu. *!naròh* 'to learn, teach, educate' — !Xóõ *θɣàle* 'to instruct, teach' (also in the meaning 'to twirl (as an eggbeater)'; probably two omonymous roots).

d) !Xóõ *θ-* : PNH **‖-:*

[249] PNK **‖ha* 'meat' (Zhu. *!há*; ‖Au‖en *!ka, !kha, ‖ka*; !Xũ (Ll.) *‖kha, ‖kha*, (Doke) *‖kha, ‖ka*; !O!Kung *‖kha, ‖ka*; Ang. !Xũ *‖ha*; Ov. *‖há*) — PSK **θV* id. (!Xóõ *θà-je*; Mas. *θpwe*; |Nu‖en *θpwe, θpwi*; |Xam, ‖Ng *θpwai*; N|u *θhoi*; ‡Khomani *θkwoe*; ‖Xegwi *θa*; |Auni *θpwe*; |Haasi *θwi*).

[250] PNK **‖ʔhaⁿ* 'son, child' (Zhu. *|ʔhán*; ‖Au‖en *!haⁿ*; !Xũ (Ll.) *‖haⁿ, ‖ha, ‖haⁿ, ‖aⁿ*; !O!Kung *‖haⁿ*; Ang. !Xũ *|ʔhàⁿ*; Ov. *|ʔháⁿ*) — !Xóõ *θqâa* 'child'. (See also **3.2.1.1** about further possible SK — and even ‡Hoan — cognates).

[251] PNK **‖goaⁿ* 'Kalahari raisin bush, Grewia retinervis' (Zhu. *!gòànⁿ*; Ov. *‖gòaⁿ*) — !Xóõ *θGhùⁿ* 'sp. of bush (wild currant *or* Kalahari sand raisin)'.

[252] PNK **‖guʰ* 'to sleep, be sleepy' (Zhu. *!guh*; !Xũ (Ll.) *‖gu*; !O!Kung *‖gu, ‖go*; Ov. *‖gù* 'be ill, be sleepy') — PSK **θɔ-[i]n* 'to sleep' (!Xóõ *θân*; Mas. *θpwoiⁿ, θpwoin*; |Nu‖en *θpwoin*; |Xam *θoen*; ‖Ng *θpoeŋ, θpwoiŋ, θpwoeŋ*; N|u *θunn*; ‡Khomani *θkun !kaʔa* 'to dream'; ‖Kxau *θan*; ‖Xegwi *θi*; |Auni *θpwaʔai(ⁿ)*; |Haasi *θwa ai*).

Not a single one of these four groups is really 'preferable' over the other one, unless it becomes possible to prove that examples [246–248] actually represent PNK *ǁ- and group (c) is thus left represented by only one example. It might be argued that group (d) presents a slightly better case, since it contains at least two stable 100-wordlist items; moreover, having as many as four cases of potential cognation between the most statistically rare North Khoisan click (retroflex) and the most statistically rare South Khoisan click (labial) is certainly extremely noteworthy. Nevertheless, this does not automatically invalidate the other series.

In order to put forward a trustworthy hypothesis, we should probably compare this situation with the one observable within PNH itself, i. e. those cases where we have the labial click in ǂHoan corresponding to non-labial clicks in North Khoisan proper. As has already been shown in **2.2.1**, the prevailing NK correspondence here is the dental influx ǀ; however, there are also those dubious cases where ǂHoan *θ* can be shown to potentially correspond to NK *ǁ and maybe even *ǁ as well, meaning that essentially the situation is quite similar to the one observable for Peripheral Khoisan overall.

It should also be noted that, although both ǂHoan and PSK have the labial click (in more or less the same proportions), ǂHoan *θ-* and !Xóõ *θ-* *almost never correspond to each other*. The *only* case where such a correspondence is possible is as follows:

[253] PNH *θʔU ~ *ǀʔU 'duiker' (ǂHoan *θʔú*; Zhu. *ǀʔáú*; !Xũ (Ll.) *ǀou*, (Doke) *ǀʔau*; !O!Kung *ǀau*) — PT *θhV 'a k. of antelope' (!Xóõ *θhán* 'duiker'; Mas. *θho* 'steenbok', *θpyn* 'duikerbok'; ǀNuǁen *θhoⁿ* 'duiker').

The other two possible PPeK etymologies involving the labial click in ǂHoan are:

[254] PNH *ʔθne ~ *ʔǀne 'head' (ǂHoan *ʔmθu-n*; Zhu. *ǀnáí*; ǁAuǁen *ǀne*; !Xũ (Ll.) *ǀne*, (Doke) *ǀne*, *ǀnai*; !O!Kung *ǀne*; Ov. *ʔǀné*) — PSK *ǀna- id. (!Xóõ *ǀnàn*; Mas. *ǀna*; ǀNuǁen *ǀnʌŋ*; ǀXam, ǁNg, ǂKhomani, ǁKxau, ǁKuǁe, Seroa, ǁXegwi, ǀAuni *ǀna*).

[255] PNH *θoʔa ~ *ǁoʔa 'tortoise' (ǂHoan *θoa*; Zhu. *ǁòʔá*; !Xũ (Ll.) *ǁkoa*, *ǁkʼoa*, (Doke) *ǁoʔa*; Ang. !Xũ *ǁgòʔa*; Ov. *ǁgòʔà*) — PSK *ǁɢo- id. (!Xóõ *ǁɢōhʔa* 'plastron of a tortoise, sternum'; ǀXam *ǁgo* 'tortoise'; ǁNg *ǁgɔ* 'large mountain tortoise'; ǂKhomani *ǁgou* 'tortoise'; ǀAuni *ǁgo* 'tortoise-shell').

Finally, it is interesting to note the anlaut parallelism in the following two cases: ǂHoan *θu* 'an edible nut' — !Xóõ *ǂnûm*, dimin. *ǂnʉ́-ju bà* 'Morama nuts'; ǂHoan *θoa* 'two' — !Xóõ *ǂnûm* id. Whether or not, however, the last two comparisons are justified, one thing is clear: there is no systematic

connection whatsoever between the labial clicks in ǂHoan and !Xóõ, and most probably, ǂHoan *θ-* has got numerous correspondences in !Xóõ just as it has numerous correspondences in Zhuǀʼhoan — and just as the !Xóõ labial click has numerous correspondences of its own in Zhuǀʼhoan as well.

All of this begs for an obvious conclusion — namely, that most, or, quite possibly, even *all* occurrences of the labial click, both in ǂHoan and SK, are an innovation, and that Proto-Peripheral Khoisan, despite having been an extremely «click-abundant» language, never had any labial clicks. What it *could* have, for instance, is a set of click-containing roots distinguished from the rest through extra «strong» labialization, e. g. a *-w*-like glide in between the click and the main vowel. Later on, depending on the vocalic (or prosodic?) environment, some of these roots had transferred this labialization onto the click influx itself, with the process happening independently in «Proto-ǂHoan» and Proto South-Khoisan. The labial click would thus turn out to be a relatively recent development, which accords well enough with external evidence — such as the complete and utter lack of labial click articulation beyond the borders of Peripheral Khoisan, be it the rest of the Khoisan family or Khoisan-influenced Bantu languages that had «adopted» clicks.

In North Khoisan proper this «extra» labialization has seemingly vanished without a trace. There is, however, one specific root where it might have been preserved due to outstanding circumstances. Cf.:

[256] PNK **ma* ʻlittle one, child; dim. suffixʼ (Zhu. *mà*; ǁAuǁen *ma*; !Xũ (Lloyd, Doke) *ma*; !OǃKung *ma*) — PSK **θa* id. (!Xóõ *θàa* ʻyoung (of animals); childʼ; Mas. *θpa* ʻgrandson, granddaughterʼ; ǀXam *θwa, θpwa* ʻlittle, youngʼ; ǁNg *θpwa* ʻlittleʼ; ǁXegwi *θoᵑ* ʻsonʼ; ǀAuni *θpa, θpwa, θpwɔn* ʻsonʼ, *θpwoe, θpwa-xe* ʻdaughterʼ; ǀHaasi *θpxwa* ʻchildʼ).

The correspondence here is completely unique and therefore rather questionable. However, it gets additional semantic confirmation due to the frequent use of the morpheme as a diminutive suffix in both NK and SK; cf. even such bimorphemic correlations as Zhu. *ǃháma* ʻanimalʼ < PNK **ǃǃha-ma* (lit. ʻmeat-smallʼ) — !Xóõ *θàje θàa* id. (for the first part of the component see [249]). If the original phoneme here was a «labialized» click, it is this function of the morpheme as a semi-auxiliary one that may have triggered the irregular development into a labial nasal in NK; since the root was mainly used in the intervocal position, it would be rather natural for it to undergo a «declickification» process. (Cf. also the facultative variant *-bà* in !Xóõ, e. g. *ʔθnàje-θàa, ʔθnàje-bà* ʻlittle treeʼ).

The main practical problem tied in with the hypothesis of secondary labialization, of course, is that this solution gives us way too much free-

dom in etymologizing the available labial click-containing material. This makes it all the more important not only to pay closer attention to semantics, but also to trace down the possible patterns of click *efflux* correspondences in order to filter out at least some of the multiple etymologies that can be thus offered for !Xóõ and ǂHoan words beginning with *θ-*.

4.2.2. *Click effluxes*. Correspondences between PNH and PSK click effluxes are even more complex and variegated than those between click influxes, and it can be stated with certainty that even after careful analysis of the available material from Zhu|'hoan and !Xóõ some of them still remain to be ascertained.

As far as we can tell, there are two main factors responsible for this tremendous diversity. One is that there may have been click effluxes in PPeK that have not been preserved — or, rather, *attested* — in any of the modern languages. Cf.: 'When we consider the wide variety of click accompaniments that do occur, then a number of other possibilities must be considered as just accidental gaps that might have occurred but are not attested. Combinations using additional phonation types would be possible. We should also consider other airstream mechanisms that might be used... We must constantly remember that although the world's languages contain, from our ethnocentric point of view, many unusual sounds, there are many other possible sounds that have not been found — yet.' [Lade-foged–Traill 1994, p. 62]. It is quite possible that certain non-trivial efflux correspondences established between PNH and PSK can be shown to have at one time filled some of the 'accidental gaps' mentioned in Lade-foged and Traill's overview of the existing click systems.

The other factor — an extremely important one, although studied only very superficially so far — is influence on the part of the surrounding vocalism. Concerning click influxes, it has so far been impossible to demonstrate any potential connections between them and the root vocalism — all of the correspondences presented above demonstrate few, if any, traces of distribution depending on the following vowel. Click effluxes, however, come into far more direct contact with the vowel, and numerous examples amply demonstrate how influxes and vowels are capable of «trading» phonological features between each other. At their most extensive (like in !Xóõ), Khoisan vowels can pack up to four extra distinctive features (rarely met all at the same time, though), and all of these can, to certain extent, influence the original character of the efflux. Thus, nasalised vowels (*aⁿ*, *oⁿ*, *uⁿ*, etc.) can «force» the efflux to become nasalised; pharyngealized vowels (*a̰*, *o̰*, *ṵ*, etc.) — to become 'uvularized'; breathy vowels (*aʰ*, *oʰ*, *uʰ*, etc.) — to become aspirated; glottalised vowels (*aʔ*, *oʔ*, *uʔ*, etc.) — to develop an extra glottal stop.

The exact rules are often extremely hard to formulate, since the developments involved can theoretically belong to either one of at least four categories: a) vocalism influencing the efflux, with preservation of features everywhere (e. g. $*ǂa^{\eta} > *ǂna^{\eta}$); b) vocalism influencing the efflux with subsequent dissimilation, i. e. the vocalic feature gets «transferred» onto the consonant (e. g. $*ǂa^{\eta} > *ǂna^{\eta} > *ǂna$); c) efflux influencing the vocalism, with preservation of features (e. g. $*ǂna > *ǂna^{\eta}$); d) efflux influencing the vocalism with dissimilation (e. g. $*ǂna > *ǂa^{\eta}$). Moreover, different developments can occur separately in both subbranches, further obscuring the original situation.

A particularly actual question is whether it is fully justified to treat click effluxes as entities completely independent from the accompanying click influx; to be more precise — whether it can be up to the click influx to influence the articulation of the efflux (and do that in several different ways depending on the subbranch). The answer is that so far, I have not been able to perceive any obvious signs of complementary distribution between any of the correspondences below that could be attributed to assimilative or dissimilative influence of the influx (although certain patterns do indeed occur more frequently with some types of click influxes than with others; see below). This means that, although on the *synchronous* level the click efflux forms a tight unity with the first part of the click, *diachronically* click effluxes are far tighter connected to the following segments of the root, i. e. its vocalism.

Below I am listing several types of correspondences and potential developments between the click efflux systems of PNH and PSK. It should, however, be noted that this list is by no means exhaustive; with all the possible types of efflux/vowel interaction, we may be sure that further correlations will eventually be brought to light as well. The following list, then, only includes the most frequently encountered correspondences that can be grouped into patterns, with emphasis on the non-trivial ones.

4.2.2.1. «*Trivial» correspondences* (identical effluxes in NK and SK). This is the most frequently encountered group of correspondences, accounting for about an entire half of the material presented above. Again, though, it should be noted that a certain part of this material, especially the one where the influxes are identical as well, may actually represent cultural lexicon that has recently penetrated into both NK and SK from a third source (such as Central Khoisan). Another factor is that «trivial» correspondences are much more easily seen than «non-trivial» ones, meaning that future, more detailed, research will probably yield more of the latter than of the former.

«One-to-one» correspondences involve practically every click efflux that is commonly shared by PNH and PSK. Most numerous are cases involving the zero efflux, the voiced efflux (*-g-*), and the nasal efflux (*-n-*); the

rare PNH effluxes *-gh- and *-nh- correspond to simply *-g- and *-n- in !Xóõ (although it is unclear whether the aspiration disappeared on the PSK level already or is only characteristic of !Xóõ). Surprisingly enough, cases of «one-to-one» correspondences for the glottal stop efflux (-ʔ-) are extremely rare, considering its rather high frequency. Somewhat more reliable are the velar fricative (*-x-, *-ɣ-) and affricate (*-kx-, *-gx-) accompaniments.

Uvular and preglottalised nasalised effluxes are, of course, only identifiable in PNH if the corresponding ‡Hoan etymon is present. It should be noted, however, that preglottalisation of the nasal efflux in ‡Hoan and !Xóõ do not always match (see below).

Zero efflux: PNH *|i — !Xóõ |āhi [1]; ‡Hoan |oma — !Xóõ |ûma [21]; ‡Hoan |oa — |Xam |oaᵑ [22]; PNH *!u — PSK *|ɛ[u]ᵑ [26]; PNK *|o[ʰ]m — !Xóõ |ùh-li [30]; Zhu. !ùᵑ — !Xóõ |ūh-i [34]; Zhu. ‡a̰ʔàbè — !Xóõ ‡à̰ba [54]; Zhu. ‡à̰ʔí — !Xóõ ‡ài [55]; Zhu. ‡òà — !Xóõ ‡ûa [57]; Zhu. |ahm — !Xóõ ‡à̰haᵑ [85]; ‡Hoan |oe — !Xóõ ‡úi [94]; PNK *!aᵑ — PSK *!aᵑ [96]; PNK *!u!u — PT *!o [101]; Zhu. !aʔà — !Xóõ !á-e [108]; Zhu. !àì — !Xóõ !àh-la [110]; Zhu. !aìhᵑ — !Xóõ !àhiᵑ [111]; Zhu. !àù — !Xóõ !āoᵑ [112]; Zhu. !oò-!ò — !Xóõ !óo-!ôo [113]; Zhu. !óbó — !Xóõ !ōbo [114]; Zhu. !o̰ʔùᵑ — !Xóõ !òhoᵑ [115]; ‡Hoan !aᵑ — !Xóõ !āᵑ [126]; ‡Hoan !ani — !Xóõ !án [127]; PNK *!aʰ — !Xóõ ‖ā-ba [135]; PNK *!o[-ma] — !Xóõ ‖ôhʔm [136]; ‡Hoan !o̰ — PT *‖ṵ [148]; PNK *‖aʰ — !Xóõ ‖àa [165]; PNK *‖abe — !Xóõ ‖àhba [167]; PNK *‖oeʰ — !Xóõ ‖ōe [169]; Zhu. ‖à‖à — PSK *‖a(ʰ) [185]; Zhu. ‖áú — !Xóõ ‖ám [186]; Zhu. ‖òàᵑnà — !Xóõ ‖òa- [188]; ‡Hoan ‖obo — !Xóõ ‖ōhbo [199]; PNH *‡Uᵑ — PSK *‖o[n]- [209]; PNK *‡aʔ[u] — PSK *‖aʔ[u] [212]; PNK *‡oaʰ — PT *‖u-a [213]; Zhu. ‡òà — !Xóõ ‖òho [220]; Zhu. ‡o̰ʔòrò — !Xóõ ‖à̰la [222]; Zhu. ‡ú‡ú — !Xóõ ‖úᵑ/‖úᵑ [223].

Voiced efflux: Zhu. |gani — !Xóõ |gàni- [15]; Zhu. |ghá — !Xóõ |gâa [16]; Zhu. |ghà — !Xóõ |gàhʔaᵑ [17]; ‡Hoan |ga — !Xóõ |gàha [23]; ‡Hoan |goʔe — !Xóõ |gúi [24]; PNK *!gam — !Xóõ |gahʔBV [31]; PNK *‡ghui — PSK *‡gu- [49]; Zhu. ‡go̰ʔm — !Xóõ ‡gō̰ʔla [60]; ‡Hoan ‡gole — !Xóõ ‡gōle [71]; PNK *!go̰ — !Xóõ !gò̰-ba-kú [102]; ‡Hoan !gam — !Xóõ !gàhm [128]; ‡Hoan !gome — !Xóõ !gōo [129]; PNK *!goʔa — !Xóõ ‖gúu [137]; Zhu. !gánú — !Xóõ ‖gànu [141]; Zhu. !gò̰ʔiᵑ — !Xóõ ‖gà̰ʔi [142]; Zhu. !gà̰ — !Xóõ ‖gàha [144]; PNK *!!goVʰ — !Xóõ ‖gùʔa [155]; Zhu. ‖gàáᵑ — !Xóõ ‖gàᵑ [189]; Zhu. ‖gàʔání — !Xóõ ‖gà̰a [190]; Zhu. ‖gùbi — !Xóõ ‖gōhʔbi [191]; ‡Hoan ‖gai — PSK *‖ga̰- [200]; ‡Hoan ‖go̰ʔoa — !Xóõ ‖gùha [201]; Zhu. ‡goʔòrò — !Xóõ ‖gúlu [225]; Zhu. ‡ghàõ — !Xóõ ‖gào [226]; ‡Hoan ‡gui — !Xóõ ‖gṵ̄ʔm [233]; Zhu. !gòʔm — !Xóõ ‡gàʔaᵑ [237]; Zhu. !gòmšè — !Xóõ ϴgòᵑ [246].

Nasal efflux: PNH *|naʔni — !Xóõ |náʔni [5]; PNK *|nam — !Xóõ |nāhm [12]; PNK *!nUm — PSK *|nu- [33]; Zhu. !nòó — !Xóõ |nóo [40]; PNK *‡nu(ᵑ) — !Xóõ ‡nùiᵑ [51]; Zhu. ‡no̰rì — !Xóõ ‡nà̰hli sV [66]; PNH *|nhṵi —

!Xóõ ǂnṵ̂-je [80]; PNK *!nao — !Xóõ !nàho [103]; PNK *!nhae — !Xóõ !ṇâ̰ʔm [105]; Zhu. !nám — !Xóõ !nám [121]; Zhu. !nahm — !Xóõ !nạ- [122]; Zhu. !nòàⁿ — !Xóõ !nòni [123]; Zhu. !nṵ̀ʔúⁿ — !Xóõ !nṵ̀huⁿ [125]; ǂHoan !na — !Xóõ !nàa [132]; ǂHoan !nori — !Xóõ !nóli [133]; Zhu. !nạʔì — !Xóõ ǁṇ̂êⁿ [146]; Zhu. !nạ̀ʔú — !Xóõ ǁnà̰h-be [147]; ǂHoan ki-!nò — !Xóõ ǁnûu [149]; PNK *ǁnoa — |Xam !noa [157]; PNH *ǁnVbV — !Xóõ ǁnṵ̂be [162]; PNK *ǁnọʔobo — !Xóõ ǁṇáʔba [182]; Zhu. ǁnoboh — !Xóõ ǁnòbo [196]; Zhu. ǁnhahng — !Xóõ ǁṇāhn [198]; Zhu. ǂná — !Xóõ ǁnài [230]; Zhu. ǂnạng — !Xóõ ǁnàhaⁿ [231]; PNK *!noʔm — !Xóõ ǂnṵ̂n [235]; Zhu. ǂnạ̀ — PSK *θnU- [243]; Zhu. ǂnhò — !Xóõ θnúʔlu [244]; PNK *!nhoba — !Xóõ θnòBV [245].

Preglottalised nasalised efflux (only ǂHoan-!Xóõ matches): ǂHoan ʔ!nạne — !Xóõ ʔ!nâ̰i [45]; ǂHoan ʔǂnạ — !Xóõ ʔǂnà̰uⁿ [78].

Velar fricative: Zhu. ǂxúbi — !Xóõ ǂxúbi [65]; Zhu. !xàm — !Xóõ !xâm [119]; PNK *ǁ!xo — !Xóõ ǁxōo [156]; PNK *ǁxa — !Xóõ ǁxâ-le [174]; PNK *ǁxai — !Xóõ ǁxái [175]; PNK *ǁxau — !Xóõ ǁxáu [176]; PNK *ǁxui — !Xóõ ǁxuV [177]; ǂHoan ǁxao — !Xóõ ǁxáu [202]; ǂHoan ǁxou — !Xóõ ǁxóu [203]; Zhu. ǂxúí — !Xóõ ǁxuV [227]; PNH *!xU- — PSK *ǂxu- [234]; PNK *ǀɣu — !Xóõ ǂɣū-i [83]; PNK *!ɣoa — PSK *ǁɣU- [138]; Zhu. ǂɣòmm — !Xóõ ǁɣáʔm [229].

Velar affricates: PNK *ǂkxumi — !Xóõ ǂkxúmi [50]; Zhu. !kxóbó — !Xóõ !kxòba [120]; PNH *ǁkxu — !Xóõ ǁkxâuⁿ [164]; PNK *ǁkxa — !Xóõ ǁkxā̰ⁿ [178]; PNK *ǁkxom — !Xóõ ǁkxúm [179]; Zhu. !kxú — !Xóõ θkxúm [247]; Zhu. !gxárú — !Xóõ ǀgxúʔle [39]; PNK *!gxo — !Xóõ ǁgxóV [139].

Uvular effluxes (only ǂHoan-!Xóõ matches): ǂHoan ǁqa — !Xóõ ǁqáa [205]; ǂHoan ǁqau — !Xóõ ǁqá̰ⁿ [206]; ǂHoan ǂqhoan — !Xóõ ǂqhūaⁿ [74]; ǂHoan ǁqhori-ga — !Xóõ ǁqhúli [207]; ǂHoan ǂɢoe — !Xóõ ǂɢū-ni [77]; ǂHoan !(n)ɢạma — !Xóõ !ɢāhma [130].

Glottal stop: PNK *ǂʔui — PSK *ǂʔu- [53]; Zhu. ǂʔómá — !Xóõ ǂʔûmaⁿ [69]; Zhu. ǂʔóré — !Xóõ ǂʔólo [70]; Zhu. ǀʔú — !Xóõ ǂʔùa [92]; PNK *ǁʔuiⁿ — !Xóõ ǀʔúiⁿ [107]; ǂHoan ǀʔae — !Xóõ ǀʔan- [134].

4.2.2.2. *Random behaviour of the voiced/voiceless feature*. The most frequent «non-trivial» type of correspondences involves a large group of cases in which PNH displays a voiceless efflux as opposed to a respective PSK voiced one. The reverse situation is also encountered, although much more rarely. This does not merely concern the «zero — -g-» opposition, but almost every single other efflux that distinguishes between voiced and voiceless variants as well, namely, uvulars (*-q- — *-ɢ-), aspirated uvulars (*-qh- — *-ɢh-), and velar affricates (*-kx- — *-gx-). Cf.:

PNH voiceless — PSK voiced: PNK *ǀauŋ — PSK *ǀgạʰ- [7]; Zhu. !ṵ̀ʔí — !Xóõ ǀgṵ̄ʔ- [35]; PNH *ǂam — !Xóõ ǂgàhm [46]; PNH *ǂqhuni — PSK *ǂɢhuRV

[47]; ǂHoan ǂqąma — !Xóõ ǂɢàhma [73]; ǂHoan ǂqhui — !Xóõ gǂqhúi [75]; PNK *|ani — !Xóõ ǂgàni [81]; PNK *|ǫ — !Xóõ ǂgáu [82]; Zhu. |uʔùⁿ — !Xóõ ǂgúni [89]; ǂHoan |ąbe — PT *ǂɢąba [93]; PNK *!ai — !Xóõ !gâi [97]; PNK *!oɱ — !Xóõ !gùm [100]; Zhu. !ǫʔòrù — !Xóõ !gúnu [116]; Zhu. !ù — !Xóõ !gúu [117]; ǂHoan !ɠam — !Xóõ !gaʔBV [150] (but cf. PNK *!!gaʔama); PNK *||aⁿ — !Xóõ ||gàⁿ [166]; PNK *||ąma~*||ąba — !Xóõ ||gąhBV [168]; Zhu. ||ąʔù — !Xóõ ||gą́u [187]; Zhu. ||kxài — !Xóõ ||gxāi [193]; Zhu. ǂàbè — !Xóõ ||gábi [218].

PNH voiced — PSK voiceless: PNK *!gu — PSK *|o[h] [27] (but cf. ǂHoan !o); PNH *!gai — PSK *|ɛ; Zhu. !gùʔúⁿ — !Xóõ |ú-a [38]; Zhu. !gohm — !Xóõ !ue [118]; Zhu. !gùʔúbú — !Xóõ |úhʔbu [143]; PNK *||gxanV — !Xóõ ||kxúnu [180]; PNK *||gxom — PT *||kxo- [181]; PNK *ǂgaʰ — !Xóõ ||àhaⁿ [214]; PNK *ǂgau — !Xóõ ||âo [215]; Zhu. ǂgóʔóàⁿ — !Xóõ ||á-ba [224]; Zhu. ǂgàó — !Xóõ θáʔi [241]; PNK *!!guʰ — PSK *θɔ-[i]n [252].

The reason underlying this strange variation is unclear. Seemingly irregular alternations between voiced and voiceless variants occasionally crop up on the lower levels as well (see **2.2.2**, as well as isolated cases like Zhu. ||òʔá 'tortoise' — Ang. !Xũ ||gòʔa id.; *not* to be confused with the regular devoicing of certain effluxes in a series of NK dialects, such as *-gx- > *-kx-, etc.). However, it is only on the PPeK level that this phenomenon assumes almost «epidemic» proportions. It would be tempting to try to relate it to certain prosodic features of the roots involved, most importantly tones (which are typologically often tied in with the laryngeal features of the root; in fact, occasional connections between tone registers and initial voiced/voiceless consonants have been noticed for Khoisan — Nama, in particular, is known to have replaced the original voiced/voiceless efflux opposition by tonal distinctions [BEACH 1938, p. 251]; see also [HONKEN 1998: 184–188]), but neither !Xóõ nor Zhu|'hoan, the only PeK languages with a more or less adequate tonal system description, provide us with any clues on the matter. The validity of this type of correspondences, however, will be further confirmed when we arrive at the correspondences for non-click consonants, where the fluctuation between voiced and voiceless variants is even more obvious.

4.2.2.3. *Preglottalised nasalised clicks.* In most cases, the !Xóõ preglottalised nasalised efflux corresponds to simple nasalisation in PNK. Cf.:

PNK *|nom — PSK *ʔ|nU- [13]; Zhu. |nom — !Xóõ ʔ|nų́-aⁿ [41]; Zhu. |nòʔómá — PSK *ʔ|nąma [42]; Zhu. |nǫ-iⁿ — PSK *ʔ|nǫ-ro [43]; Zhu. |noʔm — !Xóõ ʔ|nộm [44]; Zhu. |nòm — !Xóõ ʔ|nùma [124]; PNK *!!naʔ- — PSK *ʔ!naʔ- [151]; PNK *!!nŋ — !Xóõ ʔ!nàhaⁿ [152]; Zhu. ||nàng — !Xóõ ʔ||nāhn [195]; PNK *ǂnąm — !Xóõ ʔ||nāhm [217]; Zhu. ǂnubih — !Xóõ ʔ||nų́bi [232].

Note that the Ovamboland [HEIKKINEN 1986] form for many of these NK etyma is unknown; however, where it is actually present, it does not feature preglottalisation: /nə̀m [13], !nə̀m [41], ‖nà̀ʔà [151], etc. This means that preglottalisation in PNH must have eventually stemmed from a different source than in !Xóõ (SK), and the occasional coincidence (as between ǂHoan and !Xóõ in examples [45] and [78]) is just a coincidence, as far as that element of the phonetic structure is concerned. This can be further demonstrated by several examples which — vice versa — demonstrate preglottalisation in PNH (ǂHoan and Ov.), but not in !Xóõ, cf.:

PNH *ʔ/nǫm — PT */nṵ- [6]; PNH *ʔθne~*ʔ/ne — PSK */na- [254].

4.2.2.4. «*Extra» nasalisation*. A consistently emerging pattern is one where PNH seems to replace whatever efflux there has been in PSK with a nasalised release — or, occasionally, vice versa. Cf. the following:

PNH «+nasalisation» — PSK «-nasalisation»: Zhu. /nà̀ʔ̃ó — !Xóõ /ậho [14]; PNK */nuʔu^y — !Xóõ ǂɢṵ́hnu [84]; Zhu. /nǫ̀i — !Xóõ ǂqʔɔ̀ni [91]; PNK *!nŋ — !Xóõ !hàn [104]; PNK *ʔ!nu^y — PT *‖hu^y [140]; PNH *‖[nh]a-ra — !Xóõ ‖áa [158]; PNK *‖nǫʔorV — PSK *‖ɢṵrV [172]; PNK *‖nhǫʔoru — PT *‖ɢorV [173]; Zhu. ‖nùbù — !Xóõ ‖ɣóʔbu [197]; Zhu. !narò h — !Xóõ θɣàle [248].

PNH «-nasalisation» — PSK «+nasalisation»: Zhu. ǂʔhǫ̀ò — !Xóõ ǂnò ho [64]; ǂHoan !hạna — !Xóõ !nà̀hna [131]; PNK *‖ʔhaba — !Xóõ ‖nà̀ba [170]; PNK *‖ʔhŋ — !Xóõ ‖nậ́na [171]; PNK *‖ʔŋ — !Xóõ ʔ/nāha^y [184]; Zhu. /aà^y — PT *θnV- [238]; ǂHoan ʔoᵑ — PSK *ʔθnɔ- [240].

In the majority of these cases, the most plausible explanation is assimilation under the influence of an inlaut nasal. Sometimes this assimilation takes on the form of a metathese (ǂ₁qʔoni > ǂ₁noqʔi > /nǫi), but more often we see the final form containing two nasal segments — either a nasal efflux and an inlaut nasal consonant (!Xóõ !nà̀hna < *!hạna, ‖nậ́na < *‖ʔhŋ) or a nasal efflux and an inlaut nasalised vowel (PNK */nuʔu^y < */ɢunu, ʔ!nu^y < ʔ!₁hu^y, etc.). The degree of regularity of this process has yet to be established.

In another number of cases, however, the nasal efflux seems to be cropping up for no apparent reason ([14], [158], [172], [173], [197], [248], [64], [170]). For [64], we may suggest metathesis of aspiration in Zhu. (see below), resulting in *ǂnǫ^h- > *ǂhǫ-, i. e. the original efflux articulation gets replaced by the former vowel breathiness. This leaves us mostly with «extra» unmotivated nasalization cases in NK rather than SK, and their origin has yet to be established.

«Extra» nasalisation factor may actually explain some of the intricate correspondences involving preglottalised nasal effluxes as described in the previous section. Thus, one can easily see that the absolute majority of the examples listed there involve a nasal consonant and/or nasalised vowel in the inlaut po-

sition. It is therefore possible that some of these words, in fact, originally contained *just* a glottal stop as the efflux, while the nasal release has been developed later under the influence of this inlaut segment. Others, however, may actually reflect an «authentic» preglottalised nasal click, inherited from PPeK.

4.2.2.5. PNH *-g- — PSK *-ʔ-n-. A small, but interesting, group of cases is one where the preglottalised nasal efflux of PSK seems to correspond to a voiced efflux in PNK. Cf. the best examples:

PNK *|ga — PSK *ʔ|n[h]a- [8]; PNK *|gui — PSK *ʔ|nùⁿ [9]; Zhu. !gàʔàⁿ — !Xóõ ʔ|nâʔm [36].

Note that in all three cases, PSK has an inlaut nasal consonant or nasalised vowel (the !Xóõ form in [8] is actually ʔ|nàn). This does not constitute an exhaustive explanation all by itself, since there are numerous cases in !Xóõ when the voiced efflux is followed by a nasalised vowel without any assimilative tendencies; moreover, assuming a simple assimilation *-g- > *-n- would not account for the preglottalisation. The correspondence may thus point to a special kind of efflux, not preserved in daughter languages, e. g. something like a glottal stop with prevoicing — (so the forms could be reconstructed as *g|ʔa, *g|ʔu-, etc., with subsequent nasalisation in !Xóõ before nasal phonemes). This kind of articulatory mechanism is theoretically possible, considering that prevoicing in !Xóõ and other languages does not always predetermine the exact quality of the efflux itself (cf., for instance, !Xóõ clicks like g|x, g‡x, representing a *voiceless* velar fricative efflux paired with *prevoicing*).

4.2.2.6. *Loss of uvular articulation in PNK.* As has been already stated in **2.2.2**, PNK lacks both uvular effluxes and consonants, which implies that they must have been simplified sometime after the split between PNK and ‡Hoan. Indeed, in an absolute majority of cases PSK and !Xóõ uvular effluxes correspond to PNK and Zhu|'hoan simple velar effluxes (voiced or voiceless, based either on the «trivial» subset of correspondences or the seemingly irregular alternation of both variants as described in **4.2.2.2**). Cf. the following examples:

Simple voiced/voiceless uvular effluxes: Zhu. |gúí — !Xóõ |ɢùi [4]; Zhu. !gaʔànù — !Xóõ |ɢàli [37]; Zhu. ‡aʔò — !Xóõ ‡qáo [56]; Zhu. ‡òm — !Xóõ ‡qum [58]; Zhu. ‡uhⁿ — !Xóõ ‡ɢàhaⁿ [59]; Zhu. |aboh — !Xóõ ‡ɢàbo [86]; Zhu. |gri — !Xóõ ‡ɢàhli [87]; Zhu. |aʔè — !Xóõ ‡ɢāhʔm [88]; Zhu. |gàm — !Xóõ ‡qà̰ʔn [90]; PNK *!aʔò — !Xóõ !qāhû [98]; PNK *!ge — !Xóõ !qāhe [99]; Zhu. !abòh — !Xóõ !qàba [109]; PNK *!!uʔuru — PSK *||qu[rV] [154]; Zhu. ‡ǫe — PSK *||qṵ[e] [221]; PNK *!!ʔhaⁿ — !Xóõ θqâ̰a [250]; PNH *θoʔa~*||oʔa — PSK *||ɢo- [255].

Aspirated effluxes: PNK *|hi — !Xóõ |qhái [10]; Zhu. |hài — !Xóõ |qhéⁿ [18]; Zhu. |hóró — !Xóõ |qhúʔlu- [19]; PNK *‡gho- — PSK *‡qhɔ- [48]; Zhu. ‡hòànà — !Xóõ ‡qhòna [61]; Zhu. ‡ʔhárí — !Xóõ ‡qháʔle [63]; PNH *||ha- —

!Xóõ ‖*qhāa* [159]; Zhu. *ǂàù* — !Xóõ ‖*qhū^ŋ* [219]; Zhu. *ǂháró* — !Xóõ θ*qhâla* [242]; PNK *‖*ǃ*goa^ŋ* — !Xóõ θ*Ghù^ŋ* [251].

In a few cases, like [255] and [159], ǂHoan surprisingly demonstrates a non-uvular efflux as well, despite generally preserving uvular articulation; the scarcity of these cases, however, makes it impossible to determine whether these are just occasional (dialectal?) irregularities or if there is some kind of pattern to be found here as well.

Note that in all but one or two cases, !Xóõ -*qh*- is regularly represented in PNK by simple aspiration (*-*h*-) rather than aspiration with glottal stop (*-*ʔh*-); since phonetically |*h*, ǂ*h*, etc. = |*kh*, ǂ*kh*, etc., this is in perfect agreement with the development of the non-aspirated uvular efflux, i. e. all the uvular effluxes in PNK merge with the corresponding velar effluxes rather than «regress» into glottal stops. In one obvious case of exception [63], the glottal stop efflux can be explained as metathesis (*ǂ*qhaʔRi* > *ǂ*khaʔRi* > *ǂ*ʔhari*); in yet another example [219], if the etymology is correct in the first place, we may be dealing with a case of irregular aspiration in !Xóõ.

4.2.2.7. PNH *-*x*- — PSK *-*qh*-. This correspondence appears in two reliable cases: PNH *‖xaba* — !Xóõ ‖*qhába* [163]; Zhu. ‖*xòà^ŋ* — PT *‖qhoʔa* [192]. A third one can possibly be seen in Zhu. ‖*xàrà* 'to plant, cultivate' — !Xóõ ‖*qhàla* 'field for cultivation, garden', although this lexeme is clearly a cultural term; it is obviously connected with PCK *‖hara* 'field, garden', but whether through borrowing or genetic relationship is hard to say (the !Xóõ form positively looks like a borrowing, but the Zhu|'hoan form, with its velar fricative efflux, is harder to explain that way). In any case, it is quite probable that this correspondence is systematically tied in with the next one.

4.2.2.8. PNH velar affricate (*-*kx*-, *-*gx*-) — PSK uvular stop (*-*q*-, *-*qʔ*-, *-*G*-, *-*Gh*-). There is a relatively small, but important group of cases where PNH velar affricates can correlate with PSK uvular effluxes. Cf. the following examples:

PNK *‖kxoa^ŋ* — PSK *|Gòe* [11]; Zhu. *ǃgxàrú* — !Xóõ ‖*Gᶏhni-kà* [145]; Zhu. ‖*kxùbi* — !Xóõ ‖*Gǭbi* [194]; Zhu. |*gxòró* — !Xóõ |*Gháli* [20]; PNK *‖ǃkxui* — PSK *|Ghu*- [32]; PNK *‖ǃgxa* — !Xóõ ǃ*Ghà(e)^ŋ* [153]; PNH *‖ǃkxa* — PSK *|qʔɛ*- [29] (but cf. ǂHoan *ǃqʔon*).

In [STAROSTIN 2003], where I have briefly discussed cases [29] and [32] due to their belonging to the 100-wordlist, it was suggested that NK velar affricates may turn out to be the only phonemes to correspond to such rare !Xóõ effluxes as -*qʔ*- and -*Gh*-. Since then, however, new material has cropped up showing that this kind of correspondence is not actually limited to these two effluxes, but also involves material with !Xóõ -*G*- at least (whereas it would normally be expected for !Xóõ -*G*- to correspond to

PNK *-∅- or *-g-, see **4.2.2.6**). All of this means that what we are dealing with here possibly represents yet another PPeK click efflux (or even subset of click effluxes), one that can be realized as a velar affricate or a uvular stop depending on the subbranch. In PPeK, this could have, for instance, been a uvular fricative, voiceless (*-χ-) or voiced (*-ʁ-).

4.2.2.9. *PNH glottal stop — aspiration in PSK.* It has already been noted above that «one-to-one» correspondences for the glottal stop efflux are surprisingly rare in PeK. Even more rare are «one-to-one» correspondences for simple (non-uvular) aspiration. One of the reasons is that in a group of cases aspiration in !Xóõ actually corresponds to *-ʔ- in PNH. Cf.:

Zhu. ǂʔábí — !Xóõ ǂhābi [67]; Zhu. ǂʔàⁿ — !Xóõ ǂhàⁿ [68]; PNK *!ʔoaⁿ — !Xóõ !hûa [106]; PNH *θʔU~*ʔU — PT *θhV [253].

We may conclude that normally, PPeK *-h- > !Xóõ (PSK) *-h-, but > PNK *-ʔ-; in this case, all, or most of the material with *-h- and *-ʔh- in PNK probably go back to roots with uvular effluxes (see **4.2.2.6**) or «pre-metathesis» forms (see **4.2.2.10**). This makes somewhat difficult the position of ǂHoan ǂqʔui — PSK *ǂqhu- [76], where the main release is uvular, but the basic opposition stays the same; however, it is but one example and needs to be further investigated.

4.2.2.10. *«Metatheses».* Some of the most interesting examples on non-trivial correspondences are provided by roots in which a formerly vocalic feature seems to have «shifted» towards the beginning of the word, eventually ushering out the original efflux. One such feature — nasality — has already been discussed in **4.2.2.4**; two others are glottalisation (> glottal stop efflux) and breathiness (> aspirated efflux). Cf.:

Glottal stop vs. zero: PNH */uʔi — !Xóõ ǀʔûi [2]; if ǂHoan ǀkxui belongs here as well, one might suppose an original *ǀkxuʔi witsh subsequent dissimilation in Zhuǀ'hoan (since the velar affricate is always phonetically ejective, *ǀkxʔuʔi > *ǀkuʔi) and assimilation in !Xóõ (*ǀkxʔuʔi > *ǀʔuʔi); ǂHoan ǀʔui — !Xóõ ǂúʔi [95]; Zhu. !aʔm — !Xóõ ǂʔàⁿ [236].

Glottal stop vs. uvular stop: PNK *ǂʔau — !Xóõ ǂqáʔu [52] (normally we would expect PNK *ǂaʔu (or *ǂgaʔu), but the glottal stop has shifted to efflux position); PNK *ǁʔaba — !Xóõ ǁGáʔbu (same type of correlation); ǂHoan ǁqʔoa — !Xóõ ǁóʔa [208].

Aspiration vs. breathiness: PNH *ǁhoʔbu — !Xóõ ǁōhbu [160]; PNH *ǁ[h]oʔro — !Xóõ ʔǁnòhʔlo [161]; Zhu. ǀʔhòaⁿ — !Xóõ ʔθnāhaⁿ [239].

In most cases it is difficult to establish which form is the primary one; the relatively complex individual structure of most of the roots involved also prevents us from finding out the degree of regularity of these changes.

(It is not even excluded that the PPeK form of some or all of them contained the feature in question in *both* the efflux *and* the vowel — i. e. what we are dealing here is PPeK *ǂ₁ʔuʔi*, *ǂqʔaʔu*, *‖hoʰ(ʔ)bu*, etc. — in which case the witnessed process is dissimilation rather than «metathese»). That said, the connection between click effluxes and vocalic features is obvious, and further research may yet bring more precise results and reconstructions.

4.2.2.11. To sum up, one may say that, although upon first sight the general picture may look absolutely chaotic, with everything in the efflux series corresponding to everything else, a stricter analysis reveals certain unmistakable patterns, which may be used as a basic foundation for further research. These patterns are as follows:

a) «One-to-one» correspondences between PNH and PSK are numerous and involve items from all the levels of the lexicon. Therefore, an item whose click effluxes show an exact match between PNH and PSK may well go back to an old PPeK root rather than constitute a cultural borrowing from a third source. That said, words with «one-to-one» correspondences still need to undergo a very serious «borrowing check» each time one is encountered.

b) The feature of *voice* can, and, in fact, *should* be overlooked in our search for PPeK etymologies, at least, until a solid enough etymological base has been built up in order for us to be able to look for prosodic and other patterns which could explain the «juggling» of this feature between NH and SK.

c) On the other hand, such inlaut consonants/vocalic features as nasal consonants/nasalised vowels, glottal stops/glottalised vowels, and aspiration/breathy vowels, should never be overlooked, since they might often provide an explanation for a particularly non-trivial efflux correspondence; particularly in those cases where the correspondence in question does not seem to be forming a pattern, but the etymology still looks reliable (**4.2.2.10**).

d) Finally, *not* every efflux can correspond to any other efflux. There are certain types of potentially real correspondences that are practically never encountered (except in case of really poor transcription). The most important rule is that a glottalised efflux can *never* correspond to a «simple» efflux, unless, of course, there is «extra» motivation for it like an inlaut glottal stop (as in case [2]); the only exception is PNH *-ʔ-* — PSK *-h-*, but, since !Xóõ at least does not distinguish between *-h-* and *-ʔh-*, we may suggest that historically the aspiration simply followed the glottal stop before finally replacing it.

The final results may be summed up in the following table (preglottalised nasals, «extra» nasalisation, and «metatheses» have been excluded due to their secondary nature):

PPeK	PNH	PSK
*-∅- / *-g-	*-∅- / *-g-	*-∅- / *-g-
*-n-	*-n-	*-n-
*-x- / *-ɣ-	*-x- / *-ɣ-	*-x- / *-ɣ-
*-kx- / *-gx-	*-kx- / *-gx-	*-kx- / *-gx-
*-q- / *-ɢ-	*-q- / *-ɢ- (‡*Hoan*) *-∅- / *-g- (*PNK*)	*-q- / *-ɢ-
*-qh- / *-ɢh-	*-qh- / *-ɢh- (‡*Hoan*) *-h- (*PNK*)	*-qh- / *-ɢh-
*-ʔ-	*-ʔ-	*-ʔ-
*-h-	*-ʔ-	*-h-
*-gʔ-	*-g-	*-ʔn-
*-χ- / *-ʁ-	*-x- / *-kx- / *-gx-	*-q- / *-ɢ- / *-qh- / *-ɢh-

4.2.3. *Non-click consonants*. For correspondences involving non-click consonants, it will be convenient to set up two sub-sections: one involving non-click consonants corresponding to non-click consonants in both sub-branches of PPeK, and one in which non-click consonants in PNH correspond to clicks in PSK, and vice versa. The first group should naturally be regarded as representing the non-click consonant inventory of PPeK; in the second group, the situation is more difficult, since there is reason to believe that development from PPeK could include processes of secondary «clickification» as well as «declickification».

Note that this section is dedicated exclusively to the *word-initial* consonants of PPeK. Unlike clicks, non-click consonants are not restricted to the anlaut position in any Khoisan language; however, the inventory of allowed inlaut consonants is always extremely limited, and there is reason to believe that this reflects the original situation. It is, therefore, preferable to briefly touch upon the problem in the section dealing with PPeK vocalism and root structure problems (**4.2.4**).

4.2.3.1. *Non-click consonants in both subgroups*.

4.2.3.1.1. *Labials*. It is well known that initial labial consonants are extremely rare in both PeK and CK languages, and in most cases are found only in external borrowings from Bantu or European languages. In particular, phonemes like **p-* or **b-* cannot be reconstructed for PPeK. There is, however, a small group of cases speaking in favour of an initial **m-*, cf.:

[256] Zhu. *mànì* 'to turn, answer, change' — !Xóõ *mâli kV* 'to turn, return, answer'.

[257] PNK *m̥anV 'to speak a non-click language' (Zhu. *m̥ànì*; Tsum. *mànì*; Tsin., Ok. *mànà*; Leeu. [with metathesis] *nàmà*) — !Xóõ *m̥án* 'to speak Kgalagadi', *m̥áni* 'to speak a non-Khoisan language'.

[258] Zhu. *mání* 'to spark (of fire, electricity)' — !Xóõ *ʔmála* 'lightning and thunder, flash of lightning'. (In the latter case, provided the !Xóõ preglottalization is archaic, we would have to set up a PPeK *ʔm-, if only for just one root).

Yet another etymology involving initial labials should also draw our attention:

[259] PNK *ba 'father' (Zhu. *bá*; ‖Au‖en *ba*; !Xũ (Ll.) *bba, ba*, (DОКЕ) *ba*; !O!Kung *ba*; Ang. !Xũ *pa*) — PSK *ʚa id. (!Xóõ *ḁa*; Mas. *g̥a*; |Nu‖en *a*; |Xam *oa*; ‖Ng *a*; ‖Ku‖e *oa*; Seroa *aʸw*; ‖Xegwi *a*; |Nusan *oa*).

Here, a certain labial element in SK (reflected as initial *o-* in |Xam and ‖Ku‖e and vowel labialisation in Seroa) is paired with initial *b-* in PNK; this could hint at a PPeK form like *wa-*. The root is, of course, fairly widespread in the area (as well as elsewhere in the world), but there is nothing inherently wrong about supposing straightforward genetic relationship between the forms above.

4.2.3.1.2. Dentals.

Normally, dental consonants in PNH correspond to dentals in PSK. One thing that is immediately noticeable, however, are the seemingly random correspondences between voiced and voiceless variants — rendering the system more loose than one would wish for, but also perfectly correlating to the same type of correspondences between click effluxes (see **4.2.2.2**). Cf. the following examples for PPeK *t~*d (as well as initial clusters *tx~*dx and *tkx~*dgx).

«One-to-one» correspondences:

[260] PNK *taʸ 'to win, beat, conquer' (Zhu. *taàhʸ*; Tsum., Tsin., Ok. *tāàʸ*, etc.) — !Xóõ *tàha kV* 'to be overcome by, baffled by'.

[261] Zhu. *tàʔm* 'to feel (like)' — !Xóõ *tậʸ* 'to intend; to resemble'.

[262] Zhu. *tàò* 'to be shy, ashamed' — !Xóõ *tāhʔo kV* 'to calm, console, pacify, scold'.

[263] ǂHoan *ćam* 'near' — !Xóõ *tàhm chôe* 'in front of, vicinity of'. (Cf., perhaps, also PNK *toʔma 'near', although the vocalism is unclear).

[264] Zhu. *txómá* 'to thread closed, darn' — !Xóõ *txóm — txoBV* 'to space regularly, i. e. thread (beads)'.

[265] PNK *da̰ 'striped mongoose' (Zhu. *da̰*; !Xũ (Ll.) *da̰* 'polecat') — !Xóõ *dằʸ* 'striped polecat'.

[266] PNK *dxoro* 'to peel, remove beans from pod' (Zhu. *dxòró*; Tsum. *dxoro* 'thresh grain') — !Xóõ *dxóʔla* 'to strip off berries, leaves'.

«Reverse» correspondences:

[267] PNK *taʰ* 'Bushman orange, Strychnos pungens' (Zhu. *tah*; Tsum., Tsin. *tā*; Ok., Mpu. *tāa*, etc.) — !Xóõ *dāhaʸ* 'Kgalagadi domestic melon'.

[268] PNK *ta[b]uʰ* 'to be slack (of rope)' (Zhu. *taùh*; Ang. !Xũ *tābò*) — !Xóõ *dą̄hbu* 'to be slack, loose'.

[269] Zhu. *tǫ* 'non-stinging honey-making bee sp.' — !Xóõ *dą̀h-be |ɢhòo* 'mudwasp'.

[270] Zhu. *txòàn* 'stretch-marks (from pregnancy)' — !Xóõ *dxôʔa* 'stretch marks on breasts or thighs'.

[271] PNH *da-~*dą-* 'child' (‡Hoan *ǯąm*; Zhu. *daʔà-mà*, pl. *dàʔá-bí*; ‖Au‖en *daba*; !Xũ (Ll.) *daba*; !O!Kung *daba*; Ang. !Xũ *dàʔabà*) — !Xóõ *tą̀hʔaʸ* 'young of, infant, weakling'.

Equally «unstable» is the additional feature of aspiration; since aspirated dentals are quite rare in NK and even more rare in SK, only a couple reliable examples can be found, and even these are contradicting each other, cf.:

[272] PNK *thui* 'boil, abscess' (Zhu. *thúí*; Tsum. *thúí*; Ok. *thúi*, etc.) — PSK *thu-* 'wound, sore' (!Xóõ *thúa-tê* 'pox, sores, leprosy'; Mas. *twi* 'wound, sore'; |Xam *twi*, *ttwi* id.); but

[273] PNK *thara* 'flash of lightning' (Zhu. *thárá*; ‖Au‖en *tara* 'to lighten'; !Xũ (Ll.) *tara*, *tarra*, (Doke) *thaRa* 'lightning'; Ang. !Xũ *thala*) — !Xóõ *tāli* 'lightning'.

In addition to the more or less expected 'dental vs. dental' type of correspondences, however, comparison of NK material with possible cognates in SK yields several more patterns. Cf., first of all, the following comparisons:

[274] PNK *ta* 'alone, apart' (Zhu. *táà*; Ang. !Xũ *ta*; Tsum., Tsin., Ok. *tàa*, etc.) — !Xóõ *ʔáa* 'to be alone, distinct, separate'.

[275] PNK *thuru* 'to slough' (Zhu. *thúrú*; Tsum. *thuru*; N. Om., Kam. *thúrú*) — !Xóõ *húli kV* 'to cast off skin, change into another creature'.

[276] Zhu. *tǫ̀ʔórótǫʔòrò* 'to stand on tip-toes to reach something' — !Xóõ *hǫ́lo* 'to stand on tiptoe'.

[277] Zhu. *tàʔábí* 'to peep under, lift something up' — !Xóõ *āhbi tV* 'to lift the edge of something and peep under it'. See [Honken 1998: 175].

In each of these cases, initial *t-* or *th-* in Zhu|'hoan corresponds to a zero-type or *h*-type reflex in !Xóõ. (The only dubitable case is PNK *thuru*, whose

phonetic similarity to PCK *thuru* 'to skin, plume, shed skin' may hint at borrowing — even in that case, however, the !Xóõ form would have to stay as a possible cognate with the PCK form on a higher level). This «lenition» of the initial consonant might, of course, be perceived as a semi-irregular dialectal feature, but even more probable is that this correspondence may go back to PPeK glottalised *tʔ- — especially considering such supporting evidence as the presence of a «leftover» glottal stop in Zhu|'hoan in cases [276] and [277], as well as the possible *tʔ- > ∅- development in Nama (see **5.0**), which is quite analogical to the one that must have taken place in !Xóõ.

Next, it would be useful to consider the following group of cases:

[278] PNK *txom* 'to pull closed (e. g. a slip-knot)' (Zhu. *txòm*; Tsum., Tsin., Ok. *txòm*, etc.) — !Xóõ *ʒxàʔm kV* 'to tie by drawing closed, tighten'.

[279] PNK *txuru* 'to pull loose (a knot)' (Tsum. *txùrù*; Tsin., Mpu. *txùrú*, etc.) — !Xóõ *ʒxòli kV tàm* 'to undo, loosen the noose, pull out'.

[280] Zhu. *txútxùbí* 'to submerge (e. g. a bottle to fill it)' — !Xóõ *cxōbu ʉ̂lu* 'to slosh into'.

[281] Zhu. *txàtxàbé* 'to be irritated (of eyes)' — !Xóõ *ʒxâʔa* 'to experience stinging or burning pain'.

[282] PNK *tkxona* 'to fold, twist' (Zhu. *tkxoànà* 'fold into (e. g. a seam of clothing)'; Ang. !Xũ *tkxoana* 'twist around') — !Xóõ *ʒgxáni* 'compacted, tight', *ʒgxáni kV* 'twist, wring out, tighten'.

[283] Zhu. *tkxam* 'to soak' — !Xóõ *ckxâa* 'soaking wet'.

[284] Zhu. *dxò* 'to skewer (*esp.* meat on a stick)' — !Xóõ *ʒxôʔni* 'to stick something into, spec. into one's hair'.

[285] Zhu. *dxùbú* 'bald, featherless' — !Xóõ *cxūm — cxuBV* 'to pluck, rip off hair'.

In each of these, we find a PNK dental-plus-velar cluster (*tx-~*dx-, *tkx-)* paired with a !Xóõ affricate-plus-velar cluster (*cx-~ʒx-, ckx-~ʒgx-)*. However, they cannot reflect either PPeK *t(k)x~*d(g)x* (presumably reflected in examples [264] and [266]) or PPeK *c(k)x~*ʒ(g)x* (see **4.2.3.1.3**); one has to assume that they are pointing to a different series of PPeK phonemes, for instance, a special «palatalised dental» series like *ćx, *ʒ́x, *ćkx, *ʒ́gx, which had later on merged with the simple dentals in PNK, but with the affricate series in PSK.

It is, of course, rather strange to postulate a special consonantal series consisting exclusively of clusters; however, the fact remains that there is much more material with PNK *tx, *tkx, etc. corresponding to !Xóõ items with *cx, ckx*, etc., than there are instances of PNK *t, *d corresponding to !Xóõ *c, ʒ*. The only interesting example that could hint at the latter is

[286] PNK *duʔuⁿ 'to bleed from the nose' (Zhu. dùʔúⁿ; Tsum., Tsin. duʔúⁿ, etc.) — !Xóõ ʒ̣ậuⁿ kV id. See [Honken 1998: 172] (although H. Honken himself dismisses the comparison as too unreliable).

Future research may yet throw additional light on this problem; running a little ahead, one may note that, although not a single example of !Xóõ *c* corresponding to PNK *t or *d is available so far, this does not actually enlighten us on the subject of the origins of !Xóõ *c* anyway, since there are next to no instances of it corresponding to PNK affricates either.

Initial *n- is almost as rare in PPeK as initial labials, but the number of reliable cognates is still somewhat higher, cf.:

[287] Zhu. nàrì 'creamy, fatty, greasy' — !Xóõ n̥ậli 'smooth, soft *(of hair)*'.

[288] Zhu. na̱ʔà-be 'to beckon, lure' — !Xóõ nā̱hni tV 'to beckon'.

[289] Zhu. nàùⁿ 'to be how?, do how?' — !Xóõ naBV 'to appear, seem to be, be like'.

[290] Zhu. nè 'to be which one, what kind of' — !Xóõ nêⁿ 'like this, be this way'.

[291] Zhu. noahⁿ 'to expose one's glans penis, pull back the foreskin' — !Xóõ nāⁿ 'to leave the genitals exposed'.

In addition, cf. the following examples:

[292] PNK *da̱[e]ⁿ 'gums' (Zhu. dậèⁿ-dậèⁿ; Ang. !Xũ dạ̀ng) — !Xóõ ʔnậhn-ʔnậhn-tê id.

[293] ‖Au‖en da̱ni `a plant (tragia duoica) *of which the berries are eaten*' — !Xóõ ʔn̥ận `a sp. of plant (Cassia italica)'.

[294] PNK *daʔa 'fire' (Zhu. dàʔá; ‖Au‖en da; !Xũ (Ll.) da, ddʔa, (Doke) daʔa; !O!Kung da; Ang. !Xũ dàʔa) — !Xóõ nậhʔ-ni-kà 'flame'.

The first two forms [292] obviously belong together (cf. even the same reduplication in both subgroups) and suggest the correspondence «PNK *d : PSK *ʔn» < PPeK *ʔn. The second example is a little vague semantically (and for NK is only attested in [Bleek 1956]) but is nevertheless in perfect phonetic agreement with the first one. Finally, the last example can also belong here if one suggests a late-period dissimilation in !Xóõ: *ʔna̱hʔ-ni > *na̱hʔ-ni.

4.2.3.1.3. *Affricates.*

A detailed analysis of the patterns of correspondences between Khoisan affricates has already been conducted by H. Honken [Honken 1988].

His main purpose, however, was to use these patterns as evidence for the general relationship between all branches of Khoisan rather than just PeK, with particular emphasis placed on the fate of the series in Hadza and Sandawe; this, of course, means that certain «local» parallels between NK and SK have been neglected.

In general it can be said that the !Xóõ affricate system has been greatly simplified from the PPeK level; moreover, even the PSK system seems to have been relatively more complex than the !Xóõ one (see **3.2.3**; detailed correspondences between !Xóõ and the other SK languages have yet to be studied). This simplification can be said to have taken place along two main lines: a) the merger of hissing and hushing consonants in one series; b) deaffricativisation (*c*, *č* > *s*). The following correspondences can be established:

PNH *c~*ʒ — PSK *s (< PPeK *c):

[295] PNK *ci 'to come' (Zhu. *ci*; ‖Au‖en *tsi, tši*; !O!Kung *tsi, tši*; Ov. *cíˊ*) — PSK *sV id. (!Xóõ *síi* — *saV*; Mas. *se, si*; |Nu‖en *sa, se, si*; |Xam *sa, se*; ‖Ng *sa, se, si*; ǂKhomani *sa, si*; ‖Kxau *sa, se*; ‖Ku‖e *sa, si*; ‖Xegwi *sa*; |Auni *sa, se, si*; |Haasi *tsʔi*).

[296] PNK *ʒa 'to wear' (Tsum. *zá*; Tsin. *ʒá*; Ok., Mpu., Cui. *ǯá*; Leeu. *ʒā̆*, etc.) — !Xóõ *sáʔaⁿ* — *saʔV* 'to wear, put on (blanket, shirt)'.

[297] Zhu. *cunih* 'to flow out (of blood)' — !Xóõ *sṵ̀ni* 'to flow (of water)'. See [HONKEN 1998: 173].

[298] PNK *cʔi 'mouth' (ǂHoan *šiⁿ*; Zhu. *cʔí*; ‖Au‖en *tsi*; !Xũ (Ll.) *tsi*; !O!Kung *tsi*; Ov. *cʔíˊ*) — PSK *siʔi 'to bite' (!Xóõ *síʔi*; |Nu‖en *tseja ‖kai*; |Xam, ‖Ng *tsi, tsˊi*; N|u *tsˊi*; ǂKhomani *tsʔii*; ‖Xegwi *tsʔi*; |Auni *tsʔi*; |Haasi *tsi*). The original form here is probably either *ciʔi or *siʔi, with subsequent reduction of the first syllable — this explains the affricate in SK languages other than !Xóõ: *siʔi > *sʔi > *cʔi.

PNH *ʒ — PSK *ʒ (< PPeK *ʒ):

[299] PNH *ʒa 'to swear, insult' (ǂHoan *za* 'to tease'; Zhu. *zá*; !Xũ (Ll.) *ʒàⁿ* 'to curse'; Ov. *zá* 'revile') — !Xóõ *ʒáa kV* 'to illtreat, be disrespectful'.

[300] PNH *ʒo̰e(ⁿ) 'to fly' (ǂHoan *zo̰e* 'fly straight'; Zhu. *zo̰in* 'to swarm (of bees, etc.)') — PSK *ʒo̰ɛʰ 'to fly' (!Xóõ *ʒḛ̄hiⁿ*; Mas. *ʒoiⁿ, ʒwḛ* 'to fly away'; |Auni *ze* 'to fly').

PNH *cx — PSK *cx/*ʒx (with the usual fluctuation of the voice feature) (< PPeK *cx/*ʒx):

[301] Zhu. *cxànà* 'diarrhoea' — PT *cxaN- 'dung, excrement' (!Xóõ *cxàⁿ*; Mas. *tšane*).

[302] Zhu. *cxàìⁿ-!gáúsì* 'fork' — !Xóõ *ʒxāiⁿ* 'to be in a fork'.

PNH (PNK) *c* — PSK *cʔ* (only one case) (< PPeK *cʔ* ?):

[303] PNK *caʰŋ* 'to taste' (Zhu. *caàhʸ*; !Xũ (Ll.) *shaʸshaʸ*, *tchaʸtchaʸ*) — !Xóõ *cʔán kV* id.

PNH (PNK) *s* — PSK *s* (surprisingly enough, also only one case, and not very reliable at that) (< PPeK *s?*):

[304] PNK *sa[u]* 'to set a dog on someone' (Zhu. *sạ*; Ov. *sàǘ*) — !Xóõ *sáu kV* id.

PNK *sh* — PSK *ʒh* (< PPeK *sh*):

[305] PNK *shuʸ* 'to fart' (Zhu. *súʸ*, *chúʸ*; Tsum. *chúʸ*; Tsin. *cháng*; Ok. *šíʸng*; Leeu. *chúʸ*, etc.) — !Xóõ *ʒháa* 'to secrete a substance, break wind, fart'.

PNH *č* — PSK *s* (< PPeK *č*):

[306] PNH *ča* 'to come to' (‡Hoan *ča*; Zhu. *čá* 'to go and fetch'; Ov. *cá* id.) — !Xóõ *sâa* 'to go'.

[307] PNH *čŋ* 'fat' (‡Hoan *čaʸ*; Zhu. *šìʸ*, *čìʸ*; ‖Au‖en *tšiʸ*; !Xũ (Ll.) *tchaŋ*, *dzhaŋ*, (Doke) *šaŋ*; !O!Kung *tšiʸ*; Ang. !Xũ *càng*) — PSK *sʒeʸ* (!Xóõ *sə̀ʸ*; Mas. *šaaʸ*; |Xam *soeŋ*; ‖Ng *soa*, *syŋ*; ‡Khomani *soeʸ*; ‖Xegwi *swiʸ*; |Haasi *tswaa*).

[308] PNH *čạʔabu* 'a k. of bag' (‡Hoan *čibo* 'kaross'; Zhu. *čạʔàbù*) — !Xóõ *sáʔbi* 'blanket, pelt, kaross'.

[309] PNH *či* 'thing; place' (‡Hoan *ši* 'place'; Zhu. *čí* 'thing'; ‖Au‖en *tši* id.; !Xũ (Ll.) *tchi*; !O!Kung *tši*; Ov. *cí*) — !Xóõ *sīi* 'generic locative, side, place, it'.

[310] PNH *čo* 'medicine' (‡Hoan *čo*; Zhu. *cò*; Ov. *cò* 'practice magic') — !Xóõ *sòo* 'medicine, potent forces'.

[311] PNK *čaʸ* 'gravy, sauce' (Zhu. *čàʸ*; Ov. *càáʸ*) — !Xóõ *sāʸ* 'gravy, soup'.

[312] PNK *ču* 'yellow-billed hornbill' (Zhu. *čù*; Ov. *cù*) — !Xóõ *sûʔuʸ* 'red-crested korhaan (Eupodotis ruficrista)'.

[313] Zhu. *čàm* 'to sip (a hot liquid)' — !Xóõ *sàm kV* id.

[314] Zhu. *čámčàm* 'to wag the tail (of dog)' — !Xóõ *sām-sām kV* 'to flick the tail (as a lion)'.

[315] Zhu. *čòà̃ʸ* 'to eat ritually' — !Xóõ *sōo kV* 'ritual feeding'.

[316] Zhu. *čọnì* 'to peel' — !Xóõ *sūiʸ kV* 'to flay, skin'.

PNH *čh* — PSK *ch* (< PPeK *čh*):

[317] PNK *čhoa* 'to begin' (Zhu. *čhòàčhòà*; Ov. *choachoa*) — !Xóõ *chōa* id.

PNH *ǯ* — PSK *ʒ* (< PPeK *ǯ*):

[318] PNH *ǯani* 'helicopter toy' (‡Hoan *zini*; Zhu. *ẓ̌ạnì*; Tsum. *ẓ̌ạnì*; Leeu. *dẓ̌ạ̃nì*, etc.) — !Xóõ *ʒàni* id.

[319] PNK *ǯạm* 'thin' (Zhu. *ẓ̌ạm*; ‖Au‖en *ʒạm*; !Xũ (Ll.) *zshamm*, (Doke) *ʒam*; Ang. !Xũ *ẓ̌ạm*) — !Xóõ *ʒába* 'emaciated, thin'.

[320] PNK *ǯoʔoma 'millipede' (Zhu. *žoʔòmà*; ‖Au‖en *tšuma*; !Xũ (Wilhelm) *džuba*) — !Xóõ *ʒū̃ʔmaⁿ* 'snouted harvester termite'.

[321] Zhu. *žàbì* 'to rotate, spin' — !Xóõ *ʒǎbi tâ* 'to turn round suddenly while moving'.

PNK *ǯhʔ — PSK *ʒh (< PPeK *ǯh):

[322] PNK *ǯhʔuⁿ 'to blow (with the mouth)' (Zhu. *ǯhʔùúⁿ*; ‖Au‖en *dʒuⁿ*, *tšuⁿ*; !Xũ (Ll.) *dzhuⁿ*, *tchuⁿ*; !O!Kung *tsuⁿ*; Ang. !Xũ *čhùⁿ*, *chùⁿ*) — PSK *ʒhu- id. (!Xóõ *ʒhúm*; Mas. *dʒum*; ǀXam *suⁿ*; ǀHaasi *tsʔu* 'to blow into').

[323] Zhu. *ǯhʔùúⁿ* 'to bump, knock' — !Xóõ *ʒhǫ̀huⁿ kV* 'to bash into, to punch'.

PNK *ǯgx — PSK *cʔ (< PPeK *čʔ/ʒʔ ?):

[324] PNK *ǯgxa 'to steal' (Zhu. *ǯʔàà*; ‖Au‖en *tša*; !Xũ (Ll.) *tcha*, (Doke) *ntšʔa*; !O!Kung *tšʔa*; Ang. !Xũ *čʔàa*; Ov. *cʔà*, *ckxà*) — !Xóõ *cʔàa* 'to hide away, conceal, steal'.

PNK *š — PSK *s (< PPeK *š):

[325] Zhu. *šàbì* 'to turn, spin, revolve' — !Xóõ *sàmi* 'to spin (e. g. a top)'.

[326] Zhu. *šùà* 'to fall (of rain)' — !Xóõ *sáu làa* 'to fall (of the first rains)'.

[327] PNK *šui 'swelling' (Zhu. *šùì*; Mpu. *sùì*; Cui. *šùí*, etc.) — !Xóõ *sų́i* 'wart'.

PNK *š — PSK *ch (< PPeK *šh?):

[328] PNK *šao 'wide, broad' (Zhu. *šàò*; Ang. !Xũ *šào*) — !Xóõ *chào* id.

Obviously, these correspondences do not present us with the full picture; more details will be evident in the «non-click to click correspondences» section (see **4.2.3.2**), and still others remain completely obscure, since the affricate inventory of PNK is so large that many of the phonemes/clusters are only represented by a few items for which there remain no correlates in modern day !Xóõ. Still, one may draw several important conclusions:

a) The differentiation between the hissing affricate *c and the hissing fricative *s is, at best, vague. Initial *s- in PNK is rather rare and has almost no correlates in !Xóõ; the exact same thing can be said about !Xóõ *c, whereas the other SK languages seem to have positionally conditioned reflexes of *c* and *s*. There is, therefore, a strong possibility of the two phonemes not having been distinguished in PPeK.

b) No evidence whatsoever seems to suggest that !Xóõ, or any other SK language, have at one point known the difference between the hissing and hushing series; this opposition must have been eliminated already on the PSK level.

c) Correspondences involving PNH glottalised affricates; aspirated affricates; and initial clusters with velar fricatives and affricates, are extremely rare ([301], [302], [317], [324]), despite the relative importance of some of these phonemes in that subbranch (well represented in the basic lexicon, etc.). It is therefore not unreasonable — and, in fact, necessary — to look for their correlates elsewhere.

Finally, there is one very specific correspondence between PNK and PSK that needs to be discussed separately. Cf.:

[329] PNK *žo 'black, dark' (Zhu. žó; ‖Au‖en ӡɔ; !Xũ (Ll.) dzho, zho; !O!Kung dӡo, dӡu; Ang. !Xũ žo; Ov. zó) — !Xóõ tòhoᵑ 'to be dark'.

[330] PNK *žu 'person' (Zhu. žù; ‖Au‖en ӡu; !Xũ (Ll.) dju, dzhu, zhu, (Doke) dӡu; !O!Kung dӡu, ӡu; Ang. !Xũ žù; Ov. zù) — PSK *tu 'person' (!Xóõ tûu 'people'; Mas. tu; |Nu‖en tu; |Xam tu-ken «males»; ‖Ng tu, tuᵑ; |Auni tu-ke 'men, boys').

[331] Zhu. žoba 'to be shortened' — !Xóõ tùʔm-tùʔm 'to have contractions, tighten (of sphincter)'.

[332] Zhu. žom 'paw, fist' — !Xóõ tàh-i, pl. tàh-ba-tê 'pad (of lion or dog), ball of human foot' (Zhu. o : !Xóõ a < PPeK *ɔ).

[333] Zhu. žomm 'to roll, wrap up' — Mas. tom-ke, tum-ke 'to wrap'.

While the latter three comparisons may be found somewhat problematic (semantic reasons in [331], phonetic in [332], underrepresentation in [333]), the first two, especially the parallelism between PNK *žu and !Xóõ tûu, constitute extremely powerful evidence in favour of this correspondence. That said, it hardly fits into any of the «slots» left open in the system presented above (especially since there is some evidence for PPeK *ž regularly > PNH *ž, PSK *ӡ).

Note that !Xóõ tûu is the plural form; the suppletive singular stem is tâa. If this alternation represents some kind of archaic ablaut-like gradation and both forms originally stem from this root, then it is also worth noticing the other parallels for tâa: !Xóõ dialectal lâa; Mas. da, la, lạ; |Nu‖en da; |Auni da, de; and perhaps also — outside PSK — ǂHoan ža 'husband'. (According to [Westphal 1965, p. 139], the form laʔa is typical of the dialect he calls ǂhũa, and the form tạʔa for what he calls N|amani).

Initial lateral *l-* in words of obviously Khoisan origin is practically unique for this root, yet it may turn out to be an extremely important archaism, preserved in a few dialects due to the root frequency. This does not necessarily mean that the five forms above have to be reconstructed with PPeK **l-;* it may have, with equal probability, been a lateral fricative (**λ-)* or some kind of retroflex resonant. In any case, this phoneme's affricate-like character in PNK is most probably secondary.

4.2.3.1.4. *Velars*. Correspondences involving PNH and PSK velar stops are generally fairly predictable; note only the usual «randomness» between voiced and voiceless reflexes. It is interesting to note, however, that

a) only very few Zhu|'hoan items with initial *k-* are involved in these correspondences, despite initial *k-* being much more frequent in Zhu|'hoan than it is in !Xóõ; this is explained by Zhu|'hoan *k-* actually resulting from several extra sources, including uvular stops and «declickification» (see below);

b) the few examples that we have of aspirated *kh-* regularly display aspiration in both PNH and PSK (unlike the situation in, say, the dental series).

Cf. the following material:

[334] PNH **kaRe* 'to want, wish' (‡Hoan *kini*; Zhu. *kàrè*; Tsum. *kàrè*; Ok. *kàlè*, etc.) — !Xóõ *káne/káni kV* 'to want'.

[335] PNK **gani* 'to roll' (Zhu. *gànì*; !Xũ (Ll.) *ganne, ganni*, (Doke) *gani*; !O!Kung *gale*; Ang. !Xũ *gàrè*) — !Xóõ *gàni kV* id. See [Honken 1998: 181].

[336] PNK **ge* 'to stay, remain, be (in a place)' (Zhu. *gè*; ‖Au‖en *ge, ga*; !Xũ (Lloyd, Doke) *ge*; !O!Kung *gɛ*) — PSK **kV* 'copula (to be)' (!Xóõ *kV*; ‖Ng, ‖Xegwi, |Auni *ki*; ‡Khomani *kja, kje, kjə*).

[337] Zhu. *gábá* 'to walk with feet turned toward each other' — !Xóõ *gába* 'to walk pigeon toed'.

[338] Zhu. *gáró* 'to lie in a curled up position' — PT **garo* 'to knead into a lump, clench as fist' (!Xóõ *gàlo kV*; Mas. *garu-ba*).

[339] Zhu. *gàʔáró* 'to drink too little' — !Xóõ *gólo* 'to drink or eat an inadequate amount to still one's hunger'.

[340] Zhu. *gạm* 'to wake someone up' — !Xóõ *gáhʔn — gahʔJV* id.

[341] Zhu. *goarah* 'erect (of hair)' — !Xóõ *kòhla* 'to erect the dorsal crest of hair (of a springbok)'. See [Honken 1998: 176].

[342] Zhu. *góbá* 'navel' — !Xóõ *góbo* 'umbilical cord, navel'.

[343] Zhu. *gùí* 'to hold up (weapon) in threatening attitude' — !Xóõ *gúi kV* 'to lift up'. (Cf. also |Xam *ui* 'to lift'?).

[344] Zhu. *gùrùgùrù* 'sty of the eye' — !Xóõ *gừle* 'to be irritated (of one's eyes)'.

[345] ǂHoan *kala* 'to fly' — !Xóõ *kála* 'to go round, circle as vultures'.

[346] PNH **khora* 'to untie, release' (ǂHoan *khora* 'to unroll'; Zhu. *khóárá*; ‖Au‖en *kwara*; Ang. !Xũ *khùlà*) — !Xóõ *khàla* 'to separate, divide'.

[347] PNK **khobo* 'sweat' (Mpu., Cui., Cnd. *khòbò*) — !Xóõ *khúʔbu* id.

For the velar fricative **x-* cf. examples like:

[348] PNK **xauⁿ* 'to singe, scorch' (Zhu. *xàùⁿ*; Tsum., N. Om. *xàuⁿ*; Leeu., S. Om. *xào*; Tsin., Ok. *xàoⁿ*, etc.) — !Xóõ *xáʔoⁿ* 'to cause a burning sting, irritation'.

[349] PNK **xoro* 'to hang (of fruit)' (Zhu. *xòrò-xòrò* 'to hang heavily (of fruit on branch)'; Ang. !Xũ *xòloxòlò* 'be laden with fruit') — !Xóõ *xôʔlo kâ* 'to hang, lower the head'.

[350] Zhu. *xòìàⁿ* 'to grind' — !Xóõ *xái kV* id.

[351] Zhu. *xómxòm* 'to dry one's hands with sand' — !Xóõ *xòʔbo* 'dry sand'.

[352] Zhu. *xò* 'temple (of head)' — Proto-!Wi **xu* 'face' (|Xam, ‖Ng, ǂKhomani *xu*; ‖Xegwi, |Auni *xu* 'head'; |Haasi *xɔ* 'head').

When it comes to correspondences for the velar affricate *kx-*, the situation gets more complicated. Out of all the available material, only two examples speak in favour of a direct correspondence between PNK **kx* and PSK **kx*, cf.:

[353] PNK **kxa[i]* 'first' (Zhu. *kxái-šè*; ‖Au‖en *kʼeiše*; !Xũ (Ll.) *kʼeiya*; Ang. !Xũ *kxàkxàkè*) — !Xóõ *kxâm* id.

[354] PNK **kxàùⁿ* 'red sky (at sunset or sunrise)' (Zhu. *kxàùⁿ*; Tsin., Ok., Leeu. *kxàó*, etc.) — !Xóõ *kxāo* 'pre-dawn'. See [HONKEN 1998: 181].

Given that at least one of these cases can be a Khoekhoeism (cf. Nama *ai-*, !Ora *kxʔai-si* 'first'), it becomes rather evident that we must look elsewhere for possible correspondences. Three of the most «basic» common SK roots with initial **kx-* display rather interesting matches within PNK, cf.:

[355] PNK **čhi(ⁿ)* 'to drink' (Zhu. *čhì*; ‖Au‖en *tši*; !Xũ (Ll.) *shiŋ, tchiŋ*, (DOKE) *šn̩*; !O!Kung *tšiⁿ*; Ang. !Xũ *čhāng, chīⁿŋ*; Ov. *chàŋ* (East), *s̩s̩àŋ, s̩hàŋ* (West)) — PSK **kx(o)εⁿ* id. (!Xóõ *kxāhaⁿ*; Mas. *kʼaⁿ, kʼe, ‖kʼaⁿ*; |Nu‖en *kʼaa, kʼauⁿ*; |Xam *kʼwaⁿ, kʼoaⁿ*; ǂKhomani *kxʔwaⁿ, kxʔweⁿ, kxʔaⁿ, kxʔeiⁿ*; ‖Ku‖e *kwaⁿ, ‖kʼwaiⁿ*; Seroa *oaⁿw*; ‖Xegwi *kʼa, ‖kʼeⁿ*; |Auni *kʼa, kʼeⁿ, ‖kʼa*; |Haasi *kʼa*).

[356] PNK **čʔiⁿ* 'to cry' (Zhu. *čʔíⁿ*; ‖Au‖en *tsiⁿ, tsi, tšiⁿ*; !Xũ (Ll.) *tchiŋ, tchuⁿ*, (DOKE) *tšʔŋ̄*; !O!Kung *tšiŋ*; Ang. !Xũ *čàng*; Ov. *ʒʔắŋ*) — PSK **kx(o)a* id.

(!Xóõ *kxāa*; Mas. ‖*k'a*; |Nu‖en *k'a*; |Xam *k'wa*, *k'oa*; ‖Ng *k'a*; ǂKhomani *kxʔwa*, *kxʔa*, *kxʔeija*; ‖Xegwi *k'a*; |Auni *k'a*).

[357] PNK **shi* 'to laugh' (Zhu. *sì*, *chì*; ‖Au‖en *tsi*; !Xũ (Ll.) *ssi*, *si*, *tsi*, (Doke) *si*; Ov. *sì*) — PSK **kx(o)εi(ᵑ)* (!Xóõ *kxái*; Mas. ‖*k'ai*, ‖*k'ei*ᵑ; |Xam *k'ein-k'ein*, *k'we*ᵑ; ‖Ng *k'aiʔa*ᵑ; ǂKhomani *kxʔai*ᵑ, *kxʔwei*ᵑ).

All of these roots are also present in CK (PCK **kxa* 'to drink', **kxe* 'to cry', **kxai*ᵑ 'to laugh'), however, there is little reason to suppose borrowing of any kind, since all three are so well represented in most SK languages and are clearly archaic. Instead, the CK forms seem to indicate that the velar affricate is original here, and if the NK forms are indeed related, we have to assume that some sort of palatalisation must have taken place in that subbranch, with PPeK **kx-* merging with several different affricates/fricatives, probably depending on the vocalic context. (Speculatively, the aspiration in **čhi*ᵑ may reflect the former breathy vowel, still evident in !Xóõ, while the ejectiveness in **č'ʔi*ᵑ may represent the 'default' ejective character of the former velar affricate). Running slightly ahead, we may support this evidence with a fourth root, not present in SK, but preserved in CK: NK **čhi*ᵑ 'liver' (Zhu. *čhí*ᵑ; ‖Au‖en *tši*; !O!Kung *tši*ᵑ; Ov. *sǎ*ᵑ) — PCK **kxei*ᵑ id. (Nama *âi-*; !Ora *kxai*ᵑ*-b*; Naro *kxái*ᵑ, etc.).

This, of course, does not account for the origins of initial *kx-* in PNK and Zhu|'hoan; as shall be shown below, some of these roots owe their existence to click loss, while still others are probably not original, having penetrated the language due to Khoekhoe influence.

Finally, in order to complete the picture we should probably take a closer look at two roots for which it may be possible to reconstruct an initial velar nasal **η-* (in the second case, possibly a preglottalised **ʔη-*):

[358] PNH **m-* 'I' (ǂHoan *ma*; Zhu. *mí*; ‖Au‖en *m*, *me*, *mi*; !Xũ (Ll.) *me*, *mi*, *m*, (Doke) *m*, *mi*; !O!Kung *m*, *me*, *mi*; Ang. !Xũ *ma*, *mi*) — PSK **η* id. (!Xóõ *n̄*; Mas. *n*, *na*, *nja*; |Nu‖en *η*, *na*; |Xam, ‖Ng *η*, *n*; ǂKhomani *η*, *n*, *na*; ‖Kxau *n*, *η*; ‖Ku‖e *η*, *nie*; ‖Xegwi *n*, *η*, *aη*; |Auni *n*, *η*, *an*, *na*, *ne*; |Haasi *n*, *η*).

[359] PNH **ʔm* 'to eat' (ǂHoan *ʔam*; Zhu. *ʔm*; ‖Au‖en *m*; !Xũ (Ll.) *mm*, *emm*, (Doke) *ʔm*; !O!Kung *m*; Ang. !Xũ *ʔm*) — PSK **ʔε*ᵑ id. (!Xóõ *ʔâ*ᵑ; Mas. *a*ᵑ, *a*, *e*; |Nu‖en *a*ᵑ, *e*ᵑ; |Xam *a*ᵑ, *ha*ᵑ; ‖Ng *a*ᵑ, *e*ᵑ; ǂKhomani *a*ᵑ; ‖Ku‖e *e*ᵑ; ‖Xegwi *a*ᵑ, *e*ᵑ; |Auni *ha*; |Haasi *a*).

The development **η-* > **m-* is typologically possible and has been attested in several other language families (an especially amusing detail is that in one language family at least, namely, Yenisseian, it has been postulated for the 1st person pronoun as well, where Proto-Yenisseian **η-* > Ket **m-* > *b-* in the anlaut position). It is noteworthy that for [358], the variant **m-* is also reconstruct-

able on the PSK level already, since in most SK languages the 1st person pronoun assumes the form of *m-* before any forms beginning with a labial consonant.

4.2.3.1.5. *Uvulars*. The absolute majority of PNK or Zhu|'hoan correlates for !Xóõ items with initial uvulars show a predictable shift from uvular to velar articulation. Since ǂHoan normally preserves uvular consonants, this development must have taken place on the PNK rather than PNH level. However, it must also be noted that at the present stage of research NK-!Xóõ (numbers 360 to 370] and ǂHoan-!Xóõ [numbers 371 and 372] etymologies with non-click uvular consonants do not overlap, thus, it cannot be excluded that the actual correspondences between the major and minor subbranches may turn out to be more complicated. Cf. the material:

[360] PNK **kahⁿ* 'to do in secret' (Zhu. *kaahⁿ*; Tsum., Tsin., Leeu. *kaàⁿ*, etc.) — !Xóõ *qāha* 'cleverness, slyness, dishonesty, cunning, stealth'.

[361] PNK **kU* 'to say' (Zhu. *kò*; !Xũ (Ll.) *kue*) — !Xóõ *qúma, qúba, qóma, qóba* 'it is said'.

[362] PNK **goʔa* 'to open the mouth' (Zhu. *gòʔá*; !Xũ (Ll.) *goa*; Mpu., Cui., Cnd. *gòʔā*) — PSK **qa* id. (!Xóõ *qàa kV* 'to open the mouth, gape'; ǁNg *ka̰aŋ* 'to inhale').

[363] PNK **goa̰* 'long ago' (Zhu. *goà[hà]*; ǁAuǁen *goa* 'yesterday') — !Xóõ *qâ̰a* 'long ago'.

[364] PNK **gom* 'to swallow' (Zhu. *gòm*; !Xũ (Ll.) *ggomm*; Tsum., Tsin., Ok. *gòm*; Leeu., Mpu. *góm*, etc.) — !Xóõ *qûm* 'to suck out (and swallow)'.

[365] Zhu. *kà̰á* 'already, now, a little while ago' — !Xóõ *qà̰m* 'near past or future, yesterday'.

[366] Zhu. *kà̰íàⁿ* 'annoy, torment, gossip' — !Xóõ *qā̰i* 'painful'.

[367] Zhu. *kà̰ʔm* 'to suck' — !Xóõ *qâm* 'to suckle, kiss'.

[368] Zhu. *kà̰ʔúá* 'to take carefully' — !Xóõ *qáoⁿ* 'gently, calmly'.

[369] Zhu. *koa̰-e* 'let, allow (interjection)' — !Xóõ *qâa* 'can be'. (Cf. also |Xam *ka* 'particle of probability').

[370] Zhu. *gòʔm* 'gum, glue' — !Xóõ *qáⁿ* 'gum, latex'.

[371] ǂHoan *qaʔana, qana* 'salt' — !Xóõ *qáʔna* id. (Cf. also Mas. *!xane* id.).

[372] ǂHoan *qhaen* 'good' — PSK **qai(ⁿ)* id. (!Xóõ *qáiⁿ* 'beautiful, pretty, nice'; |Nuǁen *ǁxai* 'to be pretty'; |Xam *twai-iⁿ, toai-iⁿ* 'good'; ǁNg *kiai*; Seroa *tae*; |Auni *xwe, xwoi*; |Nusan *toai*).

Apart from the usual fluctuation between voiced and voiceless reflexes (this time, only in NK), it is important to observe the frequent rate of pharyngealized vowels in this type of roots. Items [363], [365], and [366] have pharyngealisation in both NK and SK, which means that it should probably be

reconstructed on the PPeK level; on the other hand, in the case of items [367], [368], and [369] this extra feature is only present in NK. A plausible explanation is that in these roots, pharyngealisation represents a trace of the former uvular consonant. (As for the other cases where we should also expect pharyngealisation in NK but in which it does not appear, there might have been certain contextual restrictions — for instance, secondary pharyngealisation does not appear after a voiced reflex, nor is it interpolated onto a breathy vowel).

Finally, two more cases present evidence for the correspondence «PNK *x : !Xóõ uvular»; although rare, it presents a perfect correlation to the respective click efflux correspondence (see **4.2.2.7**). Cf.:

[373] PNK *xana^h 'marihuana' (Zhu. *xanah*; !Xũ (Lloyd, Doke) *xana*) — !Xóõ *qhàna* id.

[374] PNK *xuru 'larynx, Adam's apple' (Zhu. *xúrú*; Tsum., Tsin., Ok., Leeu. *xúrú*, etc.) — !Xóõ *g̊òlo* 'muscles of the tongue, pharynx'.

Note, as usual, the lack of correlation between voiced/voiceless reflexes [374]; aspiration in !Xóõ *qhàna* may have something to do with the breathy vowel in Zhu|'hoan *xanah*. Of course, this evidence is somewhat insufficient for the reconstruction of a separate PPeK phoneme (e. g., uvular fricative *χ, normally only attested in a few Khoisan dialects as a free variant of *x*, cf. [Chebanne 2000, pp. 25–26]), but the final decision will ultimately have to be postponed until the discovery of further data.

(Cf., in this respect, the curious transcription *qxana* for the same word in Naro, given by R. Vossen [Vossen 1992: 384]; H. Visser simply puts the form down as *kxana* in his dictionary. Unfortunately, no other examples of this «uvular affricate» have been encountered, but if it turned out to reflect an actual phonemic entity, it would be a wonderful way to explain the velar vs. aspirated uvular contrast in PeK).

4.2.3.1.6. *Laryngeals.* Initial aspirated *h- is potentially reconstructible in a handful of cases, such as:

[375] PNK *huni 'to stir' (Zhu. *hùní*; Tsin., Leeu., S. Om. *hùní*, etc.) — !Xóõ *húni sV* 'to mix in, stir in'.

[376] PNK *hui 'to help' (Zhu. *hui*; !Xũ (Ll.) *wwi*) — |Xam *hhui* id.

[377] PNK *ha̰ʔare 'to fetch water' (Zhu. *ha̰ʔáré*; ‖Au‖en *a̰re*; Ang. !Xũ *ha̰rè*) — |Nu‖en *hare* id.

[378] PNK *ho 'to find, get' (Zhu., ‖Au‖en, !Xũ (Doke), Ang. !Xũ *ho*) — PSK *ho 'to bring, take' (Mas., |Nu‖en, |Auni *ho*; |Xam *ho, hho, hoa*). See [Ehret 1986: ex. 39].

[379] Zhu. *ham* 'to take a bite' — |Xam *hamm, hemm* 'to eat devour'.

Some of these roots (*huni, *hui, *hare*) are well represented in Khoe-khoe, meaning that there is a high possibility of borrowing; however, the possibility of these forms going back to Proto-Khoisan common proto-forms with initial *h-* is hardly any less. No other correspondences for PNK *h-* have been attested, although !Xóõ *h-* does occasionally result from «lenition» of initial dentals (see **4.2.3.1.2**).

4.2.3.2. *Click consonants in SK (NK) vs. non-click consonants in NK (SK).*

The phenomenon of clicks corresponding to non-clicks within closely related Khoisan languages, most often belonging to the Khoe (Central Khoisan) branch, has been well studied by specialists in the field (see, for instance, [Traill 1986a]; [Traill–Vossen 1997]). Most often, these correspondences are assumed to be conditioned by dynamic change factors such as «click loss», when the original click influx becomes eliminated and the original click efflux assumes full consonantal status (e. g. PCK *!ga* 'needle, nail' > Naro *!ga*, but Buga *ga*, etc.); and «click replacement», when the original click influx shifts articulation and itself becomes a non-click consonant, usually an affricate (e. g. PCK *ǂgo* 'springhare' > Hietšware *žo*, etc.). In both cases the original consonant is naturally assumed to have been a click, with non-click reflexes being secondary. The opposite process, i. e. the secondary formation of a click from a non-click consonant or consonant cluster, is much more rare, but it can nevertheless be seen in such cases as !Ora *|kxa* 'sharp', Nama *|a* (< *|kxʔa*) id. < PCK *cʔe* (cf. Naro *cʔe*, etc.), where the glottalised affricate is definitely primary, since clicks with velar affricate effluxes are fairly common in all CK languages and do not normally evolve into affricates.

There is ample reason to believe that processes quite similar to the ones observed in CK languages, as well as a few other tendencies of secondary click replacement/formation with no direct analogies, were also typical of both subbranches of PPeK. A detailed analysis of those will certainly help fill in quite a few obnoxious gaps in the system of correspondences between PNH and PSK, as well as help us find etymologies for a lot of lexical material that would otherwise unjustly remain outside the borders of our comparison. Below I will present some evidence for the most obvious of click to non-click correspondences; it may well be that there are still others waiting to be uncovered.

4.2.3.2.1. PNH glottalised hissing affricate (*cʔ, *chʔ*) — !Xóõ dental click.

[380] PNH *c[h]ʔama* 'bird' (ǂHoan *cha̰ma*; Zhu. *cʔàmà*; ‖Au‖en *tsama*; !Xũ (Ll.) *tsaba*, (Doke) *tsʔava*; !O!Kung *tsaba, tsama*; Ov. *cʔámà*) — !Xóõ *|qà̰hʔm* 'sp. of bird'.

[381] PNK *c?e[-ma]* 'small' (Zhu. *c?è-mà*; ‖Au‖en *tse-ma*; !Xũ (Ll.) *tsema*, (DOKE) *dema*, *ts?ema*, (VEDDER) *ts'e*, (WILHELM) *tsema*, *tse*; !O!Kung *deme*, *tsema*; Ov. *c?ema*) — !Xóõ *|qa̱-* id. — |Xam *ts'e-tten*, *tse-rre* id.

[382] Zhu. *c?íⁿ* 'to walk along' — !Xóõ *|qhíi* 'to walk *(pl.)*, regularly walk about (sg.)'.

[383] PNK *c?uⁿ* 'nose' (Zhu. *c?úⁿ*; ‖Au‖en *tšuⁿ*; !Xũ (Ll.) *ssuⁿ*, *tsuⁿ*, *tsaŋ*, (DOKE) *ts'uⁿ*; !O!Kung *tsuŋ*, *tsaŋ*) — PSK *|nuʰ-* id. (!Xóõ *|nùh-ńa*; Mas. *|nu*, *|nu-tša*; |Nu‖en *|nuša*; |Xam *|nutu*, *|nuⁿtu*; ‡Khomani *|ŋutu*; ‖Kxau, ‖Ku‖e *|nutu*; ‖Xegwi *|nu*; |Auni *|nu*, *|noⁿ*; |Haasi *|nu*).

This situation is fairly similar to the one in Khoekhoe, where PCK *c?-* > *|kx?-*. Three out of four examples feature !Xóõ *|q-*, which gives us a very good idea of the nature of this development: PPeK *c?-* (or maybe even *cq-*) > !Xóõ *|q-*, with secondary «clickification». The opposite development, i. e. «click replacement» in NK, is much less probable, since there are examples of !Xóõ *|q-* and *|qh-* corresponding to NK clicks, whereas PNK *c?-* seems to always correspond to clicks in !Xóõ.

Since the fourth case [383] deviates from the formula, the etymology is somewhat less reliable, as we would expect !Xóõ *|quʰ-* rather than a nasal efflux. Nevertheless, it should not be rejected unless in favour of a better one, considering the possibility of «extra» nasalisation such as described in **4.2.2.4**; note, above everything, that in SK the root frequently operates in conjunction with some kind of nasal suffix — *|nuh-ńa*, *|nu-ŋtu* — which may have acted as catalyst for the efflux replacement.

4.2.3.2.2. PNK palatal influx — !Xóõ dental/affricate cluster.

[384] Zhu. *‡kxà-‡kxà* 'termite *sp.*' — !Xóõ *dgxām* id.

[385] Zhu. *‡kxàrà* 'to flatten by hammering, hammer flat' — !Xóõ *tkxāla-tkxàla kV* 'to pat flat (e. g. the sand)'.

[386] Zhu. *‡gxòó-‡gxòró* 'to empty out (dregs)' — !Xóõ *tkxúla* 'to push out, squeeze out'.

[387] Zhu. *‡gxú* 'hairy pubic area' — !Xóõ *tkxáu* 'to have intercourse, copulate'.

[388] PNK *‡kxao* 'damp; dew' (Zhu. *‡kxàò*; !Xũ (Ll.) *‡ou*; Tsin. *‡?ào*; Leeu., Mpu., Cui., Cnd. *‡?ào*) — !Xóõ *ʒgxáu-ʒgxáu* 'to rain lightly'.

[389] Zhu. *‡kxàm* 'to be tired' — !Xóõ *ʒgxòm* 'to feel unwell, enervated'.

[390] Zhu. *‡kxáíⁿ-‡kxání* 'to be very wet *(esp.* of clothes)' — !Xóõ *ckxàni* 'to be wet, rain heavily'.

[391] Zhu. *‡gxàm* 'to squeeze, hug, embrace' — !Xóõ *ckxáli kV* 'wring out by twisting', *ckxám sV* 'squeeze out (something wet)'.

[392] Zhu. *ǂgxòʔm* 'milky sap' — !Xóõ *ckxōa* 'froth, bubble, milky sap'.

Again, the click variant (this time in PNK) seems to be secondary, since there are reliable examples of PNK *ǂkx* corresponding to PSK *ǂkx* (< PPeK *ǂkx*; cf., for instance, [50]). For cases [388] to [392] it is therefore reasonable to suggest PPeK *ckx~*ʒgx* (voiced and voiceless reflexes are, as usual, scattered). Cases [384] to [387], then, have to be interpreted as representing PPeK *tkx~*dgx*; remember that these should be distinguished from PPeK *t́kx~*d́gx* (see cases [282], [283], where PNK *tkx* corresponds to !Xóõ *ckx~ʒgx*).

4.2.3.2.3. PNK affricate cluster — !Xóõ palatal influx.

[393] PNH *ʒxom~*čxom* 'to hide' (ǂHoan *čxoam* 'to hide'; Zhu. *ʒxòmá* 'to creep, crawl, hide'; Tsin., Ok. *ʒòmá*) — !Xóõ *ǂɣūʔm* 'to withdraw from social contact, hide away from people, disappear'.

[394] PNK *ʒxani* 'to dance' (Zhu. *ʒxàní*; ‖Au‖en *tšanne*; !Xũ (Doke) *ntšʔxani, txani, ʒxani*) — !Xóõ *ǂxāla* 'initiation dance for the female initiate'.

[395] PNK *ʒxo-* 'to push, wear under the belt' (Ov. *ʒxòm* 'fix, tuck', *ʒxðe* 'put in under one's belt'; Tsin., Leeu. *ʒxóm* 'wear under the belt'; S. Om. *ʒxòm* id.; Ok., Mpu., Cui., Cnd. *čxóe* id.) — !Xóõ *ǂɣôʔe kV* 'to push something into the belt, socks, hat'.

[396] Zhu. *čxòà-čxòàrà* 'to fall down, tumble (e. g. out of a tree)' — !Xóõ *ǂɣūʔli tûu* 'to slip'.

[397] PNK *ʒxom* 'Pleiades' (Zhu. *ʒxóm*; ‖Au‖en *tšǫm*) — !Xóõ *ǂɢà̰ⁿ-tê* id.

[398] Zhu. *ʒxò̰í* '*a k. of* bird' — !Xóõ *ǂɢāi* 'blackchested prinia'.

In this little group, the situation is reversed: North Khoisan demonstrates an affricate, while !Xóõ has a ubiquitous palatal click. Note, however, that this group is strictly limited to items with NK initial *čx-* and *ʒx-*. As in the previous case, reconstruction of PPeK *ǂx* is excluded (cf. case [65] for an example of PPeK *ǂx* > PNK *ǂx*, PSK *ǂx*), which means the NK variant is probably more archaic. Note, however, that PPeK *cx~*ʒx* apparently preserves affricate articulation in !Xóõ (see [301], [302]); therefore, the «clickification» of *čx~*ʒx* must have taken place *before* the general merger of the hissing and hushing series in PSK.

Cases [397] and [398] have to be considered separately; the comparisons are acceptable, since NK velar elements can sometimes correspond to uvulars in PSK (see **4.2.2.8**), and the common etymology for 'Pleiades' looks especially promising. However, it is hard to propose a straightforward interpretation; the direction could be either from click to affricate (PPeK *ǂʁ-* > PNK *ʒx-)* or, if one suggests a special type of cluster in PPeK,

vice versa (PPeK *ǯʁ- > !Xóõ ǂɢ-). In any case, more material is needed to verify the suggested etymologisation.

4.2.3.2.4. *Click loss in PNK.* In a few cases, most of them involving the palatal (occasionally, the lateral) click, there is ample reason to suggest irregular elimination of click influx in PNK. Similar behaviour is observed in a number of CK languages, most notably for the alveolar click in West Khoe languages and the lateral click in East Khoe languages; no precise rules of distribution for the preservation of the original phoneme have been formulated yet, and it is not excluded that they never will be, due to the exceedingly random character of the phenomenon. That said, additional research may yet help us at least establish clearer patterns, as well as limitations that are applicable to this development.

Thus, it is interesting to note that out of the six etymologies presented below with supposed «click loss» in PNK, five have uvular effluxes in !Xóõ, suggesting that the uvular efflux after a palatal click may have acted as catalyst for its elimination. Cf.:

[399] PNK *gǫru 'lizard, gecko' (Zhu. gɔ̀rú; !Xũ (Ll.) goru, ngǫru) — !Xóõ ǂɢǫ̂lo 'bushveld lizard'.

[400] PNK *gui 'salt' (Zhu. gúí; !Xũ (Ll.) gwi; !O!Kung gwi; Ang. !Xũ gui) — !Xóõ ǂɢùh-aⁿ 'salt lick'.

[401] Zhu. gám 'to be dented, dent' — !Xóõ ǂɢàʔm 'to squash, crush, dent'.

[402] Zhu. kɔ̀bú 'to cook (skin or hide)' — !Xóõ ǂqhóʔbu 'to scorch (of living skin)'.

[403] Zhu. kɔ̀ʔóbú 'blister' — !Xóõ ǂqhóʔbu-sé id.

[404] Zhu. kuùhⁿ-šè 'pimple, spot' — !Xóõ ǂùⁿ 'abcess, boil'.

Loss of the lateral click is far less frequent, with but two obvious examples:

[405] PNK *kǫa 'to fear' (Zhu. kɔ̀ǫ̀; ‖Au‖en kǫa; !Xũ (Ll.) kǫa; !O!Kung koa) — !Xóõ ‖ʉ́aⁿ id. Cf. also ǂHoan !ǫ id.; although, if the form belongs here, not only do we have to reconstruct the root as *!ǫ-, but we will also have to assume that click loss could happen on the PNK level already after the split of the ǂHoan subbranch.

[406] Zhu. kxúrí 'louse' — !Xóõ ‖gxóni id. The etymology is acceptable if the Zhu‖'hoan form is not a Khoekhoeism (< PCK *kxuri id.); even if it is, however, the click loss problem is still actual for the comparison between PCK and !Xóõ.

Two more interesting cases are provided by the ǂHoan-!Xóõ comparison, where ǂHoan initial uvular *q-* is pitted against the lateral click in !Xóõ. It should be noted, though, that both ǂHoan forms are quoted according to [Traill 1973], and it is not clear whether the initial *q-* in that source is really a non-click consonant or a poorly transcribed lateral click. In the latter case, both comparisons should be grouped together with the regular patterns for PPeK *‖-*.

[407] ǂHoan *qaʔeⁿ* 'springbok' — !Xóõ *‖gàʔaⁿ* 'lone male springbok or hartebeest'.

[408] ǂHoan *qaeⁿ* 'three' — !Xóõ *‖âe* id.

All of the above examples only feature click loss in subbranches of the PNH family. It is not yet clear if the process was in any way characteristic of the PSK subbranch; so far, the only interesting example of a possible «irregular» click loss in !Xóõ is

[409] Zhu. *!gxàú-šè* 'pied babbler' — !Xóõ *gxàmi* id.

However, even if click loss was ever allowed in !Xóõ, it must have been much more seriously restricted than in PNH. This also finds indirect confirmation in the statistical frequency of non-click consonants in both families: initial velars occur far more often in Zhu‖'hoan than in !Xóõ, and relatively extensive click loss is definitely one of the main factors responsible (along with the merger of former velars and uvulars into one series).

4.2.3.2.5. *The fate of PPeK laterals.* In section **2.2.1** we have already discussed the curious correspondence between the PNK retroflex click and the hushing fricatives *š-, ž-* in ǂHoan, with a preliminary hypothesis that this correspondence may reflect a separate old PNH consonantal series — like, for instance, the lateral one. Proposed reconstructions included roots like *Ӽai* 'to die' (PNK *‖ai* — ǂHoan *šiⁿ*); *Ӽau* 'hand (PNK *‖gau* — ǂHoan *šiu*); *Ӽau* 'to dig' (Zhu. *!gàú* — ǂHoan *šiu*); and *Ӽa~*ӼU* 'water, rain' (PNK *‖ga* 'rain', *‖gu* 'water' — ǂHoan *žo* 'water').

Out of these roots, 'die', 'hand', and 'dig' do not seem to have any reliable parallels in !Xóõ. The word for 'water', however, is quite possible to etymologise, cf.:

[410] PNK *‖ga* 'rain' (Zhu. *!gà*; ‖Au‖en *!ga*; !Xũ (Ll.) *‖ga*, *‖ga*; !O!Kung *‖ga*; Ov. *‖gà*); PNK *‖gu* 'water' (Zhu. *!gú*; ‖Au‖en *‖gu*, *!gu*; !Xũ (Ll.) *‖gu*, (Doke) *‖guⁿ*; !O!Kung *‖gu*, *‖go*; Ov. *‖gű*) — ǂHoan *žo* 'water' — PSK *!qha* 'water' (!Xóõ *!qhàa*; Mas. *!kha*, *!xa*; |Nu‖en *!kha*; |Xam *!kwa*, *!khwa*; ‖Ng *!ha*, *!kha*, *‖kha*; ǂKhomani *!kha*; ‖Xegwi *qha*; |Auni *‖kha*; |Haasi *ka*).

Assuming the hypothesis that PPeK *X̯ undergoes «clickification» in PSK, with the regular development being PPeK *X̯ > PSK *!q(h)-, we may examine the rest of !Xóõ material with initial !qh- and see if there are any further possible etymologies to be found. At least two more seem to confirm this pattern, cf.:

[411] PNK *‖go?o ‘to cough’ (Zhu. !gò?ó; ‖Au‖en !go; !Xũ (Ll.) !goo, ‖go'o, ‖koo; Ov. ‖gò?ó) — !Xóõ !qháa kV ‘to cough up and expectorate’. Unfortunately, the ǂHoan equivalent is missing, but if the PNK retroflex does indeed go back to *X̯, the root can be possibly reconstructed as PPeK *X̯ɔ?ɔ.

[412] ǂHoan šu ‘to give’ — PT *!qha id. (!Xóõ !qháⁿ — !qhaV; Mas. !xe, !xa). Here, PNH is only represented by the ǂHoan form, but the consonantal correspondences are nevertheless exactly the same; discrepancies in vocalism may be due to «vocalic ablaut» (fossilized root vowel + class marker fusion) that so often obscures vocalic correspondences within PSK roots.

Further evidence for the «lateral hypothesis» will be found on the Proto-Khoisan level (see below).

4.2.3.6. *Alternations between dental consonants and nasalised dental clicks.* Finally, mention should be made of two cases which display a peculiar «scattering» of *d*-type and *[?]|n*-type reflexes in between the major and even minor branches. These are:

[413] PNK *doʰm ‘throat’ (Zhu. dohm; ‖Au‖en dom; !Xũ (Ll.) ddomm, (Dоке) dom; !O!Kung dɔm) — ǂHoan ?|nǫo id. — PT *?|nųm id. (!Xóõ ?|nų́m; Mas. ūm; |Nu‖en |um) — Proto-!Wi *dom (|Xam ddomm; ǂKhomani dom; but cf. |Haasi |oem id.).

[414] PNK *dhari ‘tongue’ (Zhu. dharì; ‖Au‖en tari; !Xũ (Ll.) terri, (Dоке) ṇthali; !O!Kung tali; Ang. !Xũ thārì) — ǂHoan cela id. — PT *?|nạ- id. (!Xóõ ?|nạ̀n; Mas. |nān; |Nu‖en |āni) — Proto-!Wi *|?ɛ- id. (|Xam |erri, |enni; ‖Ng |eⁿ; ‖Kxau |?a-nansi; |Auni |aⁿri).

It can be seen that the correspondences are not the same in the two cases; namely, the Proto-!Wi form in [414] definitely contains a click, whereas the one in [413] has an initial *d-* just like the one in PNK, and only the |Haasi variant deviates from the standard and is actually closer to PT *?|nųm. This may possibly be explained by the influence of the common PCK form *dom ‘throat’; in fact, one might go as far as to suggest that all of the !Wi forms with initial d-, as well as PNK *doʰm, have penetrated into Peripheral Khoisan from a CK source. This is, however, not very probable, since there are next to no other examples of such an important

sector of the basic lexicon as body parts being borrowed into Peripheral Khoisan at such an early age. (It is interesting to note, though, that ǂHoan has both *ʔ/nǫo* 'throat' and *ȝoam* < **dom* 'river bed'; the latter meaning is commonly met as secondary meaning for both PCK **dom* and PNK **doʰm*. The obvious explanation for the «doublet» in ǂHoan is that *ʔ/nǫo* is the original form, while *ȝoam* is a recent borrowing from a CK source).

More reasonable is the suggestion that PSK **ʔ/n-* > Proto-!Wi > **ʔ/n-* > |Haasi */-*, but |Xam-ǂKhomani **d-* (an interesting phonetic argument in favour of treating |Haasi — or, perhaps, |Auni-|Haasi — as the oldest branch to split from Proto-!Wi, which is in perfect agreement with glottochronological calculations); the development PSK **ʔ/n-* > |Xam *d-* is, in fact, supported by additional data (see **3.2.1.2**). Unfortunately, the same development does not apply to [414], where all the !Wi forms share a dental click with no initial *d-*. Likewise, ǂHoan in this instance has initial *c-* instead of the expected *ʔ/n-*.

The two examples, therefore, do not share a single pattern, and case [414] is particularly «aggressive» in its overall irregularity. Nevertheless, I would not abandon the etymology, mainly because the word 'tongue' is commonly known for its 'erratic' behaviour in language families all over the world, and, in fact, it offers hard to explain surprises at the individual subbranch level as well; note, for instance, the fluctuation of voiced/voiceless — aspirated/non-aspirated variants in NK, or, outside PeK, such variants of the root as Nama *nam-mi*, *lam-mi*, *tam-mi* (but NOT **dam-mi*, which would be the expected form given the Proto-Non-Khoekhoe correlate **dam-*).

4.2.3.3. *Summary*. The fairly extensive non-click consonant system of PPeK can be preliminarily sketched in the following table.

PPeK	PNH	PSK
*m	*m	*m
*w [?]	*b	*w~*ɔ
*t~*d	*t~*d	*t~*d
*tx~*dx	*tx~*dx	*tx~*dx
*tkx~*dgx	*ǂkx~*ǂgx	*tkx~*dgx
*t(h)ʔ	*t(h)	*ʔ~*h
*n	*n	*n
*ʔn	*d	*[ʔ]n
*c~*s	*c	*s
*cʔ	*cʔ	*|q
*sh [?]	*sh	*ȝh
*ȝ	*ȝ	*ȝ

PPeK	PNH	PSK
*cx~*ʒx	*cx	*cx~*ʒx
*ckx~*ʒgx	*ǂkx~*ǂgx	*ckx~*ʒgx
*č	*č	*s
*ǯ	*ǯ	*ʒ
*čx~*ǯx	*čx~*ǯx	*ǂx~*ǂɣ
*ǯh	*ǯhʔ	*ʒh
*š	*š	*s
*šh [?]	*š	*ch
*ć~*ʒ́ [?]	*d	*ʒ
*ćx~*ʒ́x	*tx~*dx	*cx~*ʒx
*ćkx~*ʒ́gx	*tkx	*ckx~*ʒgx
*λ̓	*λ̓ (> PNK *ǁg, ǂHoan š~ž)	*!qh
*λ (*ž?)	*ž	*t~*l
*k~*g	*k~*g	*k~*g
*x	*x	*x
*kx	*čʔ~*čh; *kx (?)	*kx
*ŋ	*m	*ŋ
*q~*G	*k~*g	*q
*χ [?]	*x	*q[h]~*G
*h	*h	*h

The numerous question marks, variations, and systematic lacunae found in the table should not, in our opinion, invalidate the overall results, but rather act as pointers indicating locations around which further research should be indicated. Some of the most important tasks would include:

a) an attempt to establish conditions responsible for the «random» behaviour of voiced and voiceless reflexes throughout the system;

b) more detailed reconstruction of the affricate system with extensive use of data from NK dialects and ǂHoan;

c) finding more evidence for such «tricky» developments as the palatalisation of *kx-* in NK or that of the supposedly lateral non-click consonants in PNH and PSK.

4.2.4. *Vocalism*. The vocalic systems of all Peripheral Khoisan languages are generally nowhere near as complex as the consonantal ones, and the same was evidently true of PPeK. That said, there are at least two significant factors presenting rather large difficulties for an adequate reconstruction of

PPeK vocalism. First is the vocalic «interaction» with the word-initial consonant or click efflux, with the two segments «trading» features between each other (see **4.2.2**); normally this only applies to the «extra» distinctive features of the vowels, such as pharyngealisation or breathiness, but in certain cases we do witness qualitative assimilation, such as in ǂHoan words with the labial click, all of which either contain a labial vowel or a labialised diphthong.

The second factor is of a morphological nature. There is ample reason to believe that the structure of the PPeK nominal and verbal stems was more or less akin to the one witnessed in !Xóõ, i. e. the average stem consisted of a monosyllabic root joined with a vocalic class suffix, which could differ depending on the form's syntactic and morphologic features. Later on, with the gradual decay of the class system, some of these suffixes became fossilized, with the process happening independently in different languages. Already within SK we frequently encounter the same roots with different suffixes in different languages: cf., for instance, |Xam *|ku* 'hair' (zero suffix) vs. !Xóõ *|ɢù-aⁿ* id.; ‖Ng *!nu-e* 'ear' vs. !Xóõ *ǂnùh-aⁿ* id.; |Xam *!no-a* 'foot' vs. !Xóõ *ǂnù-ⁿ* id., etc. Naturally, when we bring in comparative material from more distant relatives, such as NK, this variation can be expected to be extended to a significant part of the lexicon.

The implication of all this for PPeK vocalism is that, while the «main» system of vowels can be reconstructed with relative ease, there is very little certainty when it comes to such a major part of Khoisan vocalic inventory as diphthongs. In NK, diphthongs normally function the same way as monophthongic vowels, i. e. form part of the root. In !Xóõ, however, whenever one sees a diphthong, it can always be expected to disappear in certain morphological contexts. Cf., for instance, !Xóõ *ǂɣūi* 'hunting dog' — pl. *ǂɣūa-tê*; *ǂqháe* '*sp. of* bush' — pl. *ǂqhám*; *|àuⁿ* 'name' — pl. *|àⁿ*, etc.

This tendency alone cannot serve as proof of the fact that PPeK did not have diphthongs as part of the root, and that, whenever we see a diphthong in any PeK language, we have to immediately «split» it into the final root vowel and a former class suffix. But it certainly takes away a lot of credibility from the diphthongs, and makes it possible for us to compare forms like Zhu. *!aʔ-à* and !Xóõ *!á-e* [108], or PNK *ǂghu-i* and !Xóõ *ǂgú-aⁿ* [49] without necessarily being hindered by the obvious incompatibility of the vocalic auslauts.

Quite often, the latter do match, as in PNK *ǂghu-iⁿ* and Proto-!Wi *ǂkhɔ-in* 'dog' (cf., however, !Xóõ *ǂqhà-i* without the nasal, as well as the plural *ǂqhà-ba-tê*); in these cases, it is possible to suggest the presence of an original PPeK stem with the suffix *-iŋ* (*-iⁿ*) as one of the main variants of the root. However, this is far from the general rule, and overall, it is only the first element of the «vocalic core» of the root that we can rely upon during comparative research on PeK.

4.2.4.1. *The basic system.* For PPeK, there is little reason to reconstruct anything more extensive than the system already proposed for PSK, i. e. the classic five-vowel system (**a, *e, *i, *o, *u*) increased by the two additional open vowels (**ε, *ɔ*). The latter two, in addition to being 'carried over' to PPeK from those PSK items in which they have to be reconstructed, would also account for all the cases in which Zhu‖'hoan *e*-coloured (somewhat rarely) and *o*-coloured (much more frequently) vowels correspond to *-a-* in !Xóõ, such as PNK **cʔema* — PT **‖qa̰-* id. [381]; Zhu. *ǂɣòmm* — !Xóõ ‖*ɣáʔm* [229], etc.

The detailed correspondences between the vowels are not always of the «one-to-one» variety; PeK vocalism is subject to various kinds of assimilations and vowel harmony tendencies, acting in different ways on every level from PPeK to modern NK and SK dialects. Many of these changes are obvious from the data presented above; since, however, none of them give any hints at important PPeK phonological oppositions that we may have missed, a detailed description will not be given here.

4.2.4.2. «*Extra*» *features.* For PeK, as has already been mentioned in **4.2.2**, these constitute nasality, breathiness, and pharyngealisation (found in both PNK and PSK), as well as superimposition of any of these (breathy pharyngealised vowels, called 'sphincteric' by A. Traill, are only attested in !Xóõ).

As of now, no exact system of correspondences between NK and SK is available when it comes to tracing these features back to PPeK. The features are rarely stable (see, for instance, the NK material in [Snyman 1997], where pharyngealisation often appears to behave in extremely random ways); more or less reasonably transcribed only in a few languages like Zhu‖'hoan, ǂHoan, and !Xóõ; and, moreover, we cannot always be sure about the transcription — thus, breathiness can often be confused with the aspirated efflux, and vice versa. Nevertheless, certain tendencies can be traced, even if they rarely apply to the entire amount of material. Let us illustrate this on the example of the 'pharyngealised' or 'pressed' vowels and their fate in Zhu‖'hoan and !Xóõ (ǂHoan, which also has this feature, shall be left out of the discussion due to insufficient data).

There are five main groups of correspondences involving vocalic pharyngealisation, namely:

a) Pharyngealised vowel in Zhu‖'hoan — pharyngealised vowel in !Xóõ: PNH **ʔ‖no̰m* — PT **‖nṵ-* [6]; Zhu. *!no̰ʔómá* — PSK **ʔ‖na̰ma* [42]; Zhu. *!no̰-iⁿ* — PSK **ʔ‖no̰-ro* [43]; Zhu. *ǂa̰ʔàbè* — !Xóõ *ǂa̰ba* [54]; Zhu. *‖gàm* — !Xóõ *ǂqà̰ʔn~ǂqà̰n* [90]; PNK **!go̰* — !Xóõ *!gò̰-ba-kú* [102]; Zhu. *!na̰ʔi* — !Xóõ *‖na̰eⁿ* [146]; PNK **‖no̰ʔo-rV* — PSK **‖ɢṵrV* [172]; Zhu. *‖a̰ʔù* — !Xóõ *‖ga̰u* [187]; Zhu. *ǂo̰e* — PSK **‖qṵ[e]*

[221]; Zhu. ‡ò̰ʔòrò — !Xóõ ‖à̰la [222]; Zhu. ‡nà̰ — PSK *θnṵ- [243]; PNK *ma̰-nV — !Xóõ mán̰ [257]; PNK *da̰ — !Xóõ dà̰ʸ [265]; Zhu. tò̰ʔóróto̰ʔòrò — !Xóõ hó̰lo [276]; Zhu. čo̰ni — !Xóõ sṵ̄iʸ [316]; PNK *ӡa̰m — !Xóõ ӡá̰ba [319]; PNK *go̰a — !Xóõ qâ̰a [363]; Zhu. kà̰á — !Xóõ qà̰m [365]; Zhu. kà̰íàⁿ — !Xóõ qā̰i [366]; Zhu. ӡ̌x̰ò̰i — !Xóõ ‡ɢā̰i [398]; PNK *go̰ru — !Xóõ ‡ɢô̰lo [399]; PNK *ko̰a — !Xóõ ‖ṵ́aʸ [405].

b) Simple vowel in Zhu‖'hoan — pharyngealised vowel in !Xóõ: PNK *‖auŋ — PSK *‖ga̰ʰ- [7]; PNH *!gai — PSK *‖ɛ̰ [28]; Zhu. !gùʔúʸ — !Xóõ |ṵ́-a [38]; Zhu. !nom — !Xóõ ʔ|nṵ́-aʸ [41]; Zhu. !noʔm — !Xóõ ʔ|nô̰m [44]; PNK *nhui — !Xóõ ‡nṵ̂-je [80]; PNK *|ani — !Xóõ ‡gà̰ni [81]; Zhu. !gohm — !Xóõ !ṵ̀e [118]; Zhu. !nahm — !Xóõ !na̰- [122]; Zhu. !nòàⁿ — !Xóõ !nò̰ni [123]; PNK *‖ʔhaba — !Xóõ ‖na̰ba [170]; PNK *‖ʔhŋ — !Xóõ ‖nâ̰ńa [171]; Zhu. ‖gàʔání — !Xóõ ‖gà̰a [190]; Zhu. ‖kxùbi — !Xóõ ‖ɢō̰bi [194]; Zhu. ‖noboh — !Xóõ ‖nò̰bo [196]; Zhu. ‡góʔóàⁿ — !Xóõ ‖á̰-ba [224]; Zhu. ‡ghàò — !Xóõ ‖gà̰o [226]; Zhu. ‡ná — !Xóõ ‖nà̰-i [230]; Zhu. ‡nubih — !Xóõ ʔ‖nṵ́bi [232]; PNK *!noʔm — !Xóõ ‡nṵ̂n [235]; Zhu. |aàʸ — PT *θnV̰- [238]; PNK *!nhoba — !Xóõ θnò̰BV [245]; PNK *‖ʔha̰ʸ — !Xóõ θqâ̰a [250]; PNK *ba — PSK *o̰a [259]; Zhu. tàʔm — !Xóõ tâ̰ʸ [261]; PNK *duʔuⁿ — !Xóõ ӡâ̰uʸ [286]; Zhu. nàrì — !Xóõ nâ̰li [287]; Zhu. cunih — !Xóõ sṵ̀ni [297]; PNH *čŋ — PSK *so̰ḛʸ [307]; Zhu. ӡ̌abi — !Xóõ ӡá̰bi [321]; PNK *ӡ̌ui — !Xóõ sṵ́i [327]; Zhu. gùrùgùrù — !Xóõ gṵ̀le [344]; PNK *xuru — !Xóõ ɢò̰lo [374]; PNK *cʔe- — !Xóõ |qa̰- [381]; PNK *ӡ̌xom — !Xóõ ‡ɢà̰ʸ-tê [397]; PNK *doʰm — PT *ʔ|nṵm [413]; PNK *dhari — PT *ʔ|na̰- [414].

c) Pharyngealised vowel in Zhu‖'hoan — 'sphincteric' (i. e. pharyngealised + breathy) vowel in !Xóõ: Zhu. |nà̰ʔó — !Xóõ |à̰ho [14]; Zhu. ‡ʔho̰ò — !Xóõ ‡nò̰ho [64]; Zhu. ‡no̰rì — !Xóõ ‡nà̰hli [66]; Zhu. |ari — !Xóõ ‡ɢà̰hli [87]; Zhu. !nà̰ʔú — !Xóõ ‖nà̰h-be [147]; PNK *‖a̰ma~*‖a̰ba — !Xóõ ‖ga̰hBV [168]; Zhu. to̰ — !Xóõ dà̰h-be [269]; Zhu. na̰ʔà-be — !Xóõ nā̰hni [288]; PNK *da̰[e]ʸ — !Xóõ ʔnà̰hn- [292]; PNH *ӡo̰e(ʸ) — PSK *ӡo̰ɛ̰ʰ- [300].

d) Simple vowel in Zhu‖'hoan — 'sphincteric' vowel in !Xóõ: Zhu. ‡uhʸ — !Xóõ ‡ɢà̰haʸ [59]; PNK *ɲuʔuʸ — !Xóõ ‡ɢṵ́hnu [84]; Zhu. |ahm — !Xóõ ‡à̰haʸ [85]; Zhu. !nùʔú ʸ — !Xóõ !nṵ̀huʸ [125]; Zhu. !gxàrú — !Xóõ ‖ɢà̰hni-kà [145]; Zhu. ‖nàng — !Xóõ ʔ‖nā̰hn [195]; Zhu. ‖nhahng — !Xóõ ‖nā̰hn [198]; PNK *ta[b]uʰ — !Xóõ dā̰hbu [268]; PNK *daʔa-ma — !Xóõ tà̰hʔaʸ [271]; PNK *daʔa — !Xóõ nà̰hʔ-ni-kà [294]; Zhu. ӡ̌hʔùúʸ — !Xóõ ӡhò̰huʸ [323]; PNK *cʔama — !Xóõ |qà̰hʔm [380].

e) Pharyngealised vowel in Zhu‖'hoan — simple vowel in !Xóõ: Zhu. !ga̰ʔànù — !Xóõ |ɢàli [37]; Zhu. ‡a̰ʔi — !Xóõ ‡ai [55]; Zhu. ‡a̰ʔò — !Xóõ ‡qáo [56]; Zhu. ‡go̰ʔm — !Xóõ ‡gō̰la [60]; PNK *|o̰ — !Xóõ ‡gáu [82]; Zhu. |a̰ʔè — !Xóõ ‡ɢāhʔm [88]; Zhu. |nò̰i — !Xóõ ‡qʔòni [91]; PNK *!a̰e — !Xóõ !qāhe [99]; Zhu. !o̰ʔùʸ — !Xóõ !òhoʸ [115]; Zhu. !o̰ʔòrù — !Xóõ !gúnu [116]; Zhu. !go̰ʔiʸ — !Xóõ ‖gà̰ʔi [142]; Zhu. !gà̰ — !Xóõ ‖gàha [144]; PNK *‖nho̰ʔoru — PT *‖ɢorV [173]; PNK *‖no̰ʔobo — !Xóõ ‖ɲá̰ba [182]; PNK *‡na̰m — !Xóõ ʔ‖nāhm [217];

Zhu. ‡ŋaŋg — !Xóõ ‖nàhaⁿ [231]; Zhu. ča̰ʔàbù — !Xóõ sáʔbi [308]; PNH *ǯa̰ni — !Xóõ ʒàni [318]; Zhu. gam — !Xóõ gáhʔn [340]; Zhu. kà̰ʔm — !Xóõ qâm [367]; Zhu. kà̰ʔúá — !Xóõ qáoⁿ [368]; Zhu. ko̰a-e — !Xóõ qâa [369]; Zhu. kò̰bú — !Xóõ ‡qhóʔbu [402]; Zhu. kò̰ʔóbú — !Xóõ ‡qhóʔbu-sé [403].

Upon first sight, everything seems to correspond to everything else. However, careful analysis of the evidence leads to the emerging of patterns, and these, in turn, allow us to formulate a set of rules that would account for more than 3/4 of the material presented. The rules are as follows (in starred forms, $V̰$ stands for pharyngealised vowel, $V̰^h$ — for 'sphincteric').

[I] PPeK *$V̰$ ⇒ PSK *$V̰$, but PNK *V. This is the «default» rule, most evident from examples like [287] and the like, where the situation is completely transparent, with no additional factors whatsoever influencing the change. This rule covers all of group (b), which also happens to be the most numerous of all.

[II] PPeK *$V̰^h$ ⇒ PSK *$V̰^h$, but PNK *$V̰$. 'sphincteric' vowels are absent in NK, but, unlike simple pharyngealised vowels, they normally end up preserving their 'pressed' quality in that subgroup. This accounts for all of group (c).

[III] PPeK *QV ⇒ PNK *$KV̰$ (where Q = uvular consonant or click efflux). This rule explains quite a few cases in group (e), where !Xóõ has a simple vowel, such as [37], [56], [91], [99], etc. In other words, uvular articulation is *normally* reflected as vowel pharyngealisation in NK. A large group of exceptions is one in which !Xóõ displays a uvular aspirated efflux (see the respective examples under **4.2.2.6**).

[IV] PPeK *$V̰ʔV$ ⇒ PNK *$V̰ʔV$. I. e., pharyngealisation is normally preserved if the vowel forms part of a bivocalic sequence separated by a glottal stop; see examples [42], [54], [146], etc.

[V] Early PNK *$ṵ$, *$ṵ^h$ ⇒ PNK *$u(^h)$. Zhu‖'hoan allows for no pharyngealisation in the upper vocalic row, whereas in !Xóõ both the pharyngealised and the sphincteric $ṵ$, $ṵh$ are fairly common. Obviously, !Xóõ is more archaic in that respect. This accounts for numerous exceptions from rule [II], such as in cases [59], [84], etc.

[VI] Early PNK *-$V̰^h$-b- ⇒ PNK *-V-b-. Zhu‖'hoan shows a near-total lack of pharyngealised vowels before an inlaut -b-, unlike !Xóõ. This explains case [268].

[VII] On the contrary, both inlaut and anlaut *m seem to have a tendency to «protect» pharyngealisation; see [6], [257], etc. A direct rule cannot be formulated, though, because occasionally we find breathiness in its place ([85], [118], etc.).

[VIII] Early PNK **kxV̱-*, **gxV̱-* ⇒ PNK **kxV-*, **gxV-*. This rule does not actually apply to the original PPeK velar affricates and velar affricate ef-fluxes, since these are never met in conjunction with pharyngealised vow-els. However, it does apply to those cases in which NK velar affricates correspond to SK uvulars, like [145] and other examples.

[IX] Early PNK **cʔV̱-* ⇒ **cʔV-* ([380], [381]). This and the previous rule both follow the ban on «ejective consonant + pharyngealised vowel» se-quences.

After all of these rules have been applied, surprisingly few exceptions are left; these may be explained by additional contextual developments that have not been spotted, dialectal irregularities, inadequate transcription, or — at worst — occasionally incorrect etymologisation. It is most probable that similar rules can be formulated for breathy and glottalised vowels; less certain is the position of nasalised vowels, since nasalisation often seems to come and go «at random» even within a single PeK language, as well as oc-casionally assume morphological value (cf., for instance, !Xóõ *|nà-n* 'head', pl. *|nà-ⁿ*), which radically distinguishes it from the other «extra» features.

4.2.4.3. *Tones*. So far, nothing has been said about the tonal contrasts in any of the subbranches of PPeK and their place in the system. There is a rea-son for that. It is reasonable to assume that PPeK must have been a click lan-guage, given that both PNK and PSK possess click systems fairly reminiscent of each other; however, as it eventually turns out, the PPeK system of clicks also must have been significantly different from the PNK and PSK ones. Like-wise, it is reasonable to assume that PPeK was a tonal language — since all of its offspring have tonal systems. However, just because these tonal systems are also reminiscent of each other does not guarantee that the PPeK system of tones will eventually come to be modelled exactly after one of them.

Indeed, tones are so far the shakiest element in Khoisan phonetics, and tonal characteristics are even less reliable than click effluxes. Out of all PeK languages, adequate description of the tonal system is only avail-able for !Xóõ and Zhu|'hoan. Given that these two languages provide the bulk of material for our comparisons, we could try to compare their tones directly, without resorting to intermediate reconstructions. The results, then, would be very complicated — a detailed look at the comparative data presented above reveals an enormous number of possible patterns without any clear distribution — and, above all, *a priori* dubious, as be-comes evident from the dialectal data collected in [SNYMAN 1997].

All the 400 or so NK etyma for which dialectal data are available in that source can be loosely divided in two groups: «tonally stable», in

which all or almost all of the dialects are in agreement on the tonal characteristics, and «tonally unstable», in which there are at least two or three different tonal patterns scattered throughout the dialects, with little hope of detecting any kind of distribution. For example, PNK *|àò 'buffalo' is tonally stable, since every single NK dialect, including Zhu|'hoan, shows the low tone on both morae. On the other hand, *ʔ|ne 'head' is tonally unstable — cf. the high tone in Zhu. |náí, Ov. ʔ|né, N. Om., Lister |nái, but the low tone in Tsin. |nàe, Ok., S. Om., Kam. |nè. Statistically, «tonally stable» items are somewhat more frequent than the second group, but not by much; and there is, of course, no guarantee that whenever we fall upon a «tonally unstable» item, the Zhu|'hoan variant is going to be primary. (In fact, outside of the items represented in Snyman's short list, we do not even have any idea which NK roots *are* «tonally stable» in the first place).

The phenomenon of 'tonal unstability' may have two different interpretations, but each one is rather pessimistic. First, it may represent inadequate transcription, in which case we will have to admit that even today, there is no reliable methodology of recording Khoisan tonal oppositions. Hopefully, this is not the case; but if so, and if «tonally unstable» items are indeed a phonetical reality, the assumption must be made that tone as such is not very rigid in PeK languages, and that tonal characteristics may easily shift due to various circumstances — vocalic and consonantal context, frequency of usage, maybe even some kind of morphemic or phrasal samdhi. In this case, of course, any direct comparison of Zhu|'hoan and !Xóõ tones will be extremely suspicious.

I would, therefore, postpone a serious discussion of tonal oppositions in PPeK (and, in fact, in Khoisan overall) until a more or less acceptable reconstruction of segmental phonology has been effectuated. It is not excluded that there are areas of PPeK consonantism which are tightly linked with tones, such as, for instance, the «random shift» of voiced and voiceless reflexes of PPeK click effluxes and non-click consonants (see **4.2.2.2**). On the whole, however, such interaction has not been shown to be very tight in any of the modern day Khoisan languages, and there is so far no reason to think the situation were to be any different in the proto-language.

4.3. *Lexics*. Apart from the 414 lexical parallels between PNH (PNK, Zhu|'hoan, ǂHoan) and PSK (PT, !Xóõ, Proto-!Wi) presented above, the comparative PeK database currently includes about 400 more parallels that have not been presented for various reasons, such as lack of space; additional phonological problems that make the etymologies highly dubious until further evidence has been found; questionable semantics; and numerous items that are (a) scarcely represented in daughter languages

(mostly Zhu|'hoan-!Xóõ isoglosses), (b) are completely or almost completely identical as to their phonetic structure, and (c) are also present in that same form in Proto-Central Khoisan, Proto-Khoekhoe, or Nama, meaning that the probability of borrowing from those sources is very high.

Nevertheless, the amount of comparative material is still inspiring — especially keeping in mind that the bulk of it comes from only two languages with around 35–37 % of matches within the 100-wordlist. With the perspectives of seeing more lexical material from ǂHoan and N|u published in the near future, and not having yet exhausted the seemingly inexhaustible resources of D. Bleek's comparative vocabulary (granted, the latter cannot be relied upon for phonetic precision, but is nevertheless an invaluable means of supporting — or refuting — the antiquity of Zhu|'hoan-!Xóõ isoglosses), the database is bound to become much larger in the near future.

In my opinion, there are two main criteria to define the representativeness of a certain etymological lexicon — semantic and phonetic. The *semantic* criterion means that the lexicon should necessarily include numerous basic items as well as a certain amount of cultural lexics, preferrably from as many semantic fields as possible. This requirement appears to be fully satisfied. The *phonetic* criterion means that the compared phonological systems must be analysed as thoroughly as possible, with no significant gaps left unaccounted for. It would, for instance, be very strange if the glottalised affricates of Zhu|'hoan were not to be represented in the table of correspondences for PPeK — now that it has been shown that at least the hissing affricate *cʔ* has a reliable match in !Xóõ |q-, the reconstructed system, and the etymological lexicon in general, becomes much more satisfactory. Overall, it can be said that for an absolute majority of both Zhu|'hoan and !Xóõ phonemes, we now have at least *some* idea where they are coming from. (One notably mysterious exception is !Xóõ *c-*, for which not a single fully reliable Zhu|'hoan parallel is available).

The most serious problem connected with etymologising PeK material still remains distinguishing potential cognates from external borrowings. Since, however, it is even more closely tied in with the problem of establishing cognates between PPeK and PCK, it will be appropriate to discuss the question at length in the corresponding section.

5.0. PROTO-CENTRAL KHOISAN (PCK).

This is the only major subbranch of Proto-Khoisan for which an intermediate reconstruction has already not merely been sketched, but given a detailed justification and laid out in terms of informative tables of phonetic cor-

respondences and numerous etymologies ([VOSSEN 1997]; for an earlier, far more brief and much less successful attempt, mainly due to relying on insufficient and inadequately transcribed data, see [BAUCOM 1974]). A major reason for this is the relative abundance (at least, in comparison with NK and SK) of well-preserved CK languages, and availability of at least several major dictionaries (for Nama — [RUST 1969] and [HAACKE 1998]; for !Ora — [MEINHOF 1930] and [WURAS 1969]; for Kxoe — [KILIAN-HATZ 2003]; for Naro — [BARNARD 1985] and [VISSER 2001]; for |Gwi and ‖Gana — [TANAKA 1978]), as well as impressive collections of field data, amassed by R. VOSSEN and others.

Since both the supportive lexical material and a detailed description of the reflexes of PCK phonology in daughter subbranches and individual languages have already been provided by R. VOSSEN in his monograph, I will simply reproduce the original system as postulated for PCK (in R. VOSSEN's terminology, Proto-Khoe), without too much commentary:

a) Clicks:

*|	*‡	*!	*‖
*|g	*‡g	*!g	*‖g
*|n	*‡n	*!n	*‖n
	*‡N (?)	*!N (?)	
*|x	*‡x	*!x	*‖x
*|kx	*‡kx	*!kx	*‖kx
*|h		*!h	*‖h
*|ʔ	*‡ʔ	*!ʔ	*‖ʔ

b) Non-clicks:

*p	*t	*c	*k	*ʔ
	*th		*kh	
*b	*d		*g	
		*cʔ	*kxʔ	
	*s		*x	*h
*m	*n			

c) Vowels: *i, *u, *e, *o, *a; nasal — $*i^\eta$, $*u^\eta$, $*a^\eta$.
d) Diphthongs: *ai, *ae, *ao, *au, *oe, *oa, *ui; nasal — $*ai^\eta$, $*au^\eta$, $*oa^\eta$, $*ui^\eta$.

In addition to this, the phonemic inventory of Proto-Non-Khoekhoe displays several extra phonemes, which R. VOSSEN does not postulate on the PCK level, either due to lack of lexical evidence that would prove the original character of the items containing these phonemes, or because he

suspects that they might represent later innovations. These include: *$\sharp h$, *q, *ch, *$ʒ$, *cx, *$tʔ$, *y. Furthermore, a number of Non-Khoekhoe languages show a full subset of clicks accompanied by the uvular efflux -q-, most notably the ones in the Kxoe subgroup (‖Ani, Buga, |Ganda) and the Shua subgroup (Danisi, Cara); according to [VOSSEN 1992], these are most likely to have been local innovations in these languages.

The general impression seems to be that Central Khoisan phonology has not changed too much since the original proto-state. One branch — East Central Khoisan — has undergone a major «declickification» process, with the palatal click turning into an affricate and the alveolar click mostly just disappearing, leaving its original efflux as a new initial consonant. Another branch — Khoekhoe, including Nama — has demonstrated a tendency to decrease the number of click efflux oppositions, culminating in Nama's drastic reduction of the system to but five of them (the actual developments are *$|$, *$|g >$ $|g$; *$|ʔ$, *$|kx > |ʔ$, etc.). On the other hand, numerous West Central Khoisan languages, such as Naro, have preserved the original system in an almost intact state, and various archaic features can be traced within other branches as well.

None of this is particularly surprising, since Central Khoisan is, on the whole, a relatively «young» language family; glottochronological calculations show that the first splitting — between Khoekhoe and Non-Khoekhoe — must have taken place around the same time that PSK became divided into Taa and !Wi, and the separation of Non-Khoekhoe languages even much later than that. This must be always kept in mind whenever one wishes to speculate about the possible ways of evolution of Khoisan phonology by using the CK family as an example: essentially, it is *too young* to have ever really had the possibility to undergo any kind of major «click shift» like the one that must have been going on during the period in which PNH and PSK became two different language families. We should also remember that the last two thousand years for CK speakers have passed under the sign of intense cultural and language contact with the Bantu, at times bordering on 'linguistic union' between the two — this constant interaction may have been an important factor in determining the main tendency of development of CK phonetics, i. e. in the direction of simplifying the click system, stripping it of its 'excesses', rather than preserving all the old oppositions and 'refreshing' them by undergoing the kinds of processes characteristic of PPeK.

Nevertheless, I would like to stress that, no matter how straightforward and non-ambivalent the results of the CK reconstruction may seem to be, it is definitely not free from quite a few questionable moments — and that some of these questionable moments are oddly reminiscent of

similar questionable moments when it comes to reconstructing PPeK. Not having analysed these in enough detail, I will limit myself to merely naming some of them and speculating on the possible solutions.

(a) CK *click influxes*, as has already been said, usually either drop out completely or evolve into affricates. However, I suspect that in at least a very limited number of cases, there may have been actual shifting of click articulation in between PKK and PNKK. Cf., above all, such cases as Nama *!uni-b* 'elbow' — PNKK **ǂhuni-* id.; PKK **ʔubu* 'egg' — PNKK **ǂʔubi* id.; PNKK **ǂnoru* 'back' (in R. Vossen's reconstruction, **ǂnadu*; however, I do not feel that the lone ‖Ani form *ǂⁿnádú* is enough to justify an inlaut **-a-*) — Nama (with an obvious semantic shift) *!noro-s* 'back of head'. A detailed study might reveal more of these cases, although whether they will be sufficient to postulate a new opposition for PCK (**ǂ* vs. **ǂ₁*?) remains to be seen.

(b) CK *click effluxes* are overall more stable than the ones in PPeK, but certainly less stable than click influxes. Many problems are evident with the aspirated efflux (**-h-*); cf. such cases as PKK **ǂhom* 'locust' — PNKK **ǂom* id.; PKK **ǂho* 'placenta' — PNKK **ǂho~*ǂo* id. (e. g. Naro has *ǂhǒ*, but Buga and |Ganda have *ǂo*; ‖Ani even has *ǂⁿnǒ*, with an unexplained nasality — would it not be interesting, however, to compare these forms with their potential cognates in PeK: Zhu. *ǂʔhọ̀*, !Xóõ *ǂnọ̀ho* 'womb', which seem to be experiencing the same kind of problems?); Nama ‖*hom* 'to chop' — Naro ‖*om* id., etc. This is not a regular correspondence, yet it crops up relatively often to be dismissed as occasional irregularity or chance coincidence.

(c) «Extra nasality», so typical of PPeK, also shows up from time to time — apart from the ‖Ani form above, cf., for instance, PKK **‖au* 'to show' — Proto-Kxoe **‖au* id. — but PECK **‖nau* id.; PKK **‖habo* 'shoe' — PWCK **‖nabo* id. — PECK **‖abo* id., etc. These and other cases are too scattered in order for patterns to be detectable, but these may eventually emerge with the addition of new material. They are also tightly linked with the problem of the second nasal efflux, raised by R. Vossen due to the presence of this binary opposition in a large group of CK languages, but not yet resolved.

(d) There is no real evidence for uvular effluxes (and consonants) actually being innovations in West and East Central Khoisan languages other than their not being represented elsewhere (most notably, in Khoekhoe). A strong argument would consist of demonstrating, for instance, that words with uvular segments in Buga, Kxoe, Naro, etc., do not have any parallels at all outside the «uvular areal» — in which case we might think of them as remnants of some kind of old substrate. Instead, they are frequently found in Nama — with velar consonants replacing uvular ones.

Cf.: |Gwi, ǁGana *qábà* 'new', Naro *kạba* id., Nama *kawa* id.; ǁAni *qáń* 'to cover (with sand)', Kxoe *qàń* 'sand', |Gwi *qàǹ* 'to bury' — Nama *kan* 'to cover with hot ash'; Proto-Kxoe **qoara* 'to peel' — PNKK **kora* id.; Proto-Kxoe **|que* 'tired' — Nama *|gui* id.; PNKK **ǂqáè* 'marrow' — PKK **ǂae* id.; PNKK **ǁqara* '*a k. of* acacia' — Nama ǁ*gara-s* 'quiver tree'; ǁAni ǁ*qòń* 'to rinse (the mouth)' — Nama ǁ*gom* 'to rinse (calabash)', etc.

Moreover, examples like PNKK **qon* 'to stir' — PKK **gon* 'to stir; to move'; ǁGana *qáè* (< **ǃqáè*) 'darkness' — PKK **ǃxae* id. may even hint at more than one uvular consonant/efflux on the PCK level; the first of these can easily be reconstructed as **ɢon*, with a voiced uvular, while the second one could point to a protoform like **ǃqhae*. Unfortunately, occurrences of such correspondences are very restricted to pronounce final judgement.

The only alternative explanation for all these phenomena is to relate them all to the influence of pharyngealised vowels — i. e. postulate these for the PCK level and assume that uvularisation is secondary in forms beginning with **kạ-*, **gạ-*, **|ạ-*, etc., so that Naro forms like *kạba* would turn out to be actually archaic. However, it is not quite clear why languages like |Gwi or ǁGana, where pharyngealised vowels are quite common, should ever wish to transfer their 'pressed' character onto the preceding velar consonant — while at the same time retaining it after all the other ones. Besides, such a development would be without any local parallels — whereas the reverse process, i. e. «uvular consonant» ⇒ «pharyngealised vowel», has only just been described for North Khoisan (see **4.2.4.2**).

(e) As far as non-click consonants are concerned, the PCK system is obviously much poorer than the PPeK one (or, in fact, that of either PNK or PSK). However, once again, there is little reason not to include the consonants reconstructed «exclusively» for PNKK into the inventory of PCK, unless not only the phonemes themselves but also the lexical items containing them happen to be exclusive for PNKK as well.

Thus, PNKK **tʔ-*, observable, among a few other cases, in PNKK **tʔu* 'pus' (ǁAni, Tsixa *tʔú*), may simply have been dropped in Khoekhoe — cf. Nama *ū-b* id.; perhaps also PNKK **tʔuiⁿ~*tʔoeⁿ* 'good, pretty' — Nama *iⁿ* 'pretty, handsome' (the vocalism would be a little hard to reconcile here, but there are so few cases of initial diphthongs in Nama — at least, ones dating back to Proto-Khoekhoe, not being the result of the recent dropping of initial **kx-* — that the etymology should not be discarded). Again, such a development would be quite similar to the one observed in ǃXóõ in **4.2.3.1.2**.

Likewise, for PNKK **ʒiⁿ* 'foot', with an initial voiced affricate, cf. Nama *tsî-s* 'big toe' (cf. also the meaning 'toe' for ǁAni *ʒê*), suggesting that the regular development could have been devoicing: **ʒ > *c*.

(f) The opposition between open and closed vowels, so important for
SK and PPeK languages in general, is often encountered in CK in regard
to front row vocalism at least; *e* and *ε* find themselves regularly opposed
in quite a few CK languages, most notably the (generally archaic) Western
subbranch of PNKK. In some of them the two sounds are considered allophones (e. g., in the ‖Ani language, see [Vossen 1986, p. 337]), but in others, like Kxoe, the phonological opposition is quite transparent (cf. ǀʔe
'fire' — ǀʔɛ 'a k. of bush', etc.); moreover, diphthongic pairs like *oe* — *oε*,
ue — *uε* always form clear oppositions as well (cf. ‖Ani ‖óé 'to lie down' vs.
‖óέ 'knee'), and a situation where two vocalic segments are phonologically
distinctive only within dipthongs would be typologically strange.

According to R. Vossen, this opposition is probably secondary. He
notes the following series of correspondences for *e*-type monopthongs and
dipthongs (we will choose Nama, ‖Ani, and Naro as the most typical
cases, with most reflexes in other languages deductible from these three):

	Nama	‖Ani	Naro
1	e	e	e
2	ai	ai	ai/ei
3	ai	e	e
4	a/ei	ε	e
5	oa	oε	oe
6	oa	uε	ue

For series (1), R. Vossen reconstructs **e*; series (2)-(4) represent PCK
*ai, with unclear distribution; series (5) and (6) are left without a concise
explanation, most probably representing either variations on PCK **oa*
(which, under normal conditions, > *oa* in all languages) or contractions of
an original sequence **oai* [Vossen 1997, pp. 311, 313–317].

It seems, however, that this scheme can be somewhat reduced. First of
all, series (1) is practically illusive. The only roots for which R. Vossen reconstructs PCK **e*, with reflexes evident in all of the three languages in question,
are: **hàré* 'to fetch water', where the vowel is present in the second syllable and
should therefore be judged separately; and **be* 'to run away', a rather suspicious case, being one of the very few common CK roots with an initial labial
stop. Clearly, the correspondence works well within NKK languages (as part of
series (3) rather than series (1)), but does not translate at all onto a higher level.

Second, in series (4) only Nama *a* should count as a real correspondence. The only case of Nama *ei* (actually, *ai*, since the quoted form is from
Rust's vocabulary, which regularly transcribes Nama *ai* as *ei*) correspond-

ing to ‖Ani ε is Nama |khai 'be absent' — ‖Ani cέ 'to send', also dubious for a whole bunch of reasons, such as (a) semantics, (b) rare correspondence of Nama |kh (= |x) to PNKK *c (one of only two cases), (c) the fact that out of all WCK, only ‖Ani has ε here, whereas Buga, |Ganda and the rest all have closed e, meaning that the situation in ‖Ani may be secondary.

Finally, it should be noted, that Nama *ai* in series (2) and (3) are by no means the same *ai*; *ai* (2) is really *ai*, transcribed by Rust as *ei* and by Haacke as *ai*, but *ai* (3) is actually *ae*, transcribed by Rust as *ai* and by Haacke as *ae*.

The adjusted and corrected system would therefore look thus:

	Nama	‖Ani	Naro
1	ai	ai	ai/ei
2	ae	e	e
3	a	ε	e
4	oa	oε	oe
5	oa	uε	ue

The first two of these five series can now safely be reconstructed as PCK *ai (1) and *e (2), with subsequent diphthongisation in Nama and !Ora — quite analogous, we should note, to the development *e > ai in some NK dialects (see **1.2.4**). (Reconstructing *ae for series (2) is out of the question, since PCK *ae > ae in all languages).

As for the remaining three series, in our opinion, the problem of their origin becomes completely eliminated once we suggest that the opposition between e and ε could, in fact, have been phonological already on the PCK level. In that case, series (3) represents PCK *ε, series (4) — PCK *oε, series (5) — PCK *uε, as opposed to PCK *e (series (2)) and *oe (> oe in all languages; no examples of PCK *ue as opposed to *uε have been found so far, although a few cases of seemingly irregular alternation between oe and ue might indicate that PCK *ue has simply merged with oe in most languages). In Nama and !Ora PCK *ε > a in all possible contexts, exactly the way it must have happened with Taa languages (see **3.2.4**).

Cf. the following examples:

PCK *e: *|e 'gnu' (Nama |gae-b 'gemsbok'; ‖Ani, Naro |é); *ǂe 'ear' (Nama ǂgae-b; ‖Ani, Naro ǂé);

PCK *oe: *khoe 'person' (Nama khoe-; ‖Ani khóé; Naro khóè); *‖oe 'to lie down' (Nama ‖goe; ‖Ani, Naro ‖óé);

PCK *ε: * cʔε 'sharp' (Nama |ā; ‖Ani cʔê̂; Naro cʔê̂); *yε 'hole' (Nama ā-s; ‖Ani ʔε̆); PCK *ǂkxε 'spit' (Nama ǂā-b; ‖Ani ǂkxε̆); PCK *sε 'to take' (Nama sā 'to gather, pick up'; ‖Ani sê̂);

PCK *oɛ: PCK *|kxoɛ (Nama |oa; ‖Ani |kxóɛ̀; Naro |kxóé); PCK *‖oɛ 'knee' (Nama ‖goa-s; ‖Ani ‖óɛ́);

PCK *uɛ: PCK *!nuɛ 'porcupine' (Nama !noa-; ‖Ani !núɛ́; Naro !núé).

(‖Ani has been chosen as a typical representative of Non-Khoekhoe, due to its being somewhat better described than other closely related languages, such as Buga or |Ganda (apart from [VOSSEN 1997], cf. also the data in [VOSSEN 1986] and [VOSSEN 2000]); there is, however, ample reason to think that the same opposition is quite valid for many other CK languages as well, although the contrast between Nama and ‖Ani alone, in my opinion, is quite sufficient to postulate it on the proto-level, rather than think of irregular developments in either Nama or ‖Ani).

Note that all of these differentiations mostly arise on the level of comparison between Khoekhoe and Non-Khoekhoe, and are much less characteristic of closer subgroupings. As has been indicated above, the separation of these two branches had to take place at about the same time as the separation of the Taa and !Wi branches of PSK — and, in fact, the discussed problems are oddly similar: occasional, relatively infrequent, but noticeable discrepancies within click influxes, more noticeable discrepancies within click effluxes, etc., with an overall situation that can be characterised as the last «faint turbulences» of a system that had just finished undergoing a major overhaul. Unfortunately, since PCK is younger than PPeK, it reaches us in an already «overhauled» state, and there is no way we can get a look at the phonology of «early PCK» or «pre-PCK» that would be dated by the same time period as PPeK (according to glottochronology — around 3000 BC). The best guess, so far, is that it probably looked quite a bit different from «classic» PCK; however, the only way to place this on firmer ground would be to effectuate a direct comparison between PCK and PPeK, i. e. attempt a reconstruction of «Proto-Khoisan» proper.

6.0. PROTO-KHOISAN (PK).

6.1. *Overview. The borrowings issue.* This and the section on «Macro-Khoisan» will be much briefer than the one on Peripheral Khoisan, mainly because there is very little yet to account for — no reconstruction of PK, much less PMK, will make much sense before we have in our possession a proper PPeK reconstruction, based on an exhaustive analysis of available lexical material. Nevertheless, it will probably do no wrong to vote a few preliminary considerations on the subject.

Arguably the most serious problem on the way to an adequate PK reconstruction, one that would bring together material from PPeK and PCK and bind it with a system of regular correspondences, would be distin-

guishing between genuine cognates and later period cultural contacts and borrowings. Within PPeK, this issue is not quite as crucial; there is little, if any, evidence for «recent» cross-borrowings between NK and SK (if anything, both families' geographical positioning would prevent them from any such opportunity), and the only items that could raise suspicion are, as has already been stated, those that are scarcely represented in PPeK (mostly Zhu|'hoan — !Xóõ isoglosses) but well-represented in CK, i. e. could have been independently borrowed into both NK and SK from a CK source. While such items are quite numerous, even their total exclusion will not prevent us from being not only able to prove genetic relationship between NK and SK, but formulating sets of phonetic correspondences as well.

The situation, however, becomes much more difficult when it becomes *necessary* to include CK material into the comparison. Out of the 12 contact zones between speakers of different Khoisan languages, counted by B. Sands (see [Sands 2001: 200–201]), *all* 12 include an NK or SK participant, on one part, and a CK participant on the other; of course, this is only counting historically attested contacts — one might imagine just how many more of these 'zones' there could be in the distant (or even not so distant) past. Given the general similarity of the phonological systems of the compared families, the issue might look practically irresolvable.

Let us, for instance, consider a random example of parallelism between CK and non-CK brought forward by A. Traill [Traill 1986]. The word for 'road' has the form *dao* in most CK languages (Nama *dao-b*, Kxoe *dáó*, Deti *dáó*, etc.). It is also found, in the exact same form, in !Xóõ (*dào*) and ǂHoan (*ӡeo* = *deo*); Traill also mentions Zhu|'hoan *dao*, although the word is not present in Dickens' dictionary. This may certainly indicate an original PK form **dao*, preserved as it was in so many languages — *or* it may have been borrowed into !Xóõ, ǂHoan, and Zhu|'hoan (if the Zhu|'hoan form exists) independently from a variety of CK sources (cf. the contacts between Zhu|'hoan and Khoekhoe; ǂHoan and |Gui; and !Xóõ, |Gui, and Naro). Neither solution looks more preferrable without bringing in additional considerations.

Traill's data has been presented in the form of two appendices — 28 items which are «widespread» in both CK and non-CK languages, and 52 more in which the distribution among non-CK languages is more limited. The truth, however, is that the differentiation between the two appendices is not very important. Most of the non-CK items in Appendix 1 could just as easily turn out to be old loanwords as the items in Appendix 2 — **dao* 'road', in particular, is taken from Appendix 1. In addition, one particularly discomforting feature is how seriously underrepresented the 100-wordlist is: *two* words in Appendix 1 and but eight more in Appendix 2. In the light of all this, perspectives for CK/PeK comparison are rather feeble.

That said, such a comparison is still possible if we try to follow two principal guidelines. These are:

a) *Representability*. The better the PK word is represented in various subbranches of the family, the more chances there are of it being inherited from PPeK rather than being borrowed. The best cases are those when some equivalent is found in the languages least likely to have been in extensive contact with the CK family — *particularly* representatives of the !Wi subgroup, which is why bringing in material from D. Bʟᴇᴇᴋ's dictionary is so important. The worst cases, then, are those when the word is found in Zhu|'hoan but not in any other NK language; lone !Xóõ entries; and !Xóõ-ǂHoan isoglosses not backed up by data from other SK or NH languages (*dao*; out of the above PPeK material, cf., for instance, case [203] vs. PCK *‖xu* 'warthog', etc.). These are not always 100 % certain borrowings, but it would not be recommendable to rely heavily on these comparisons for the establishment of the PK phonological system.

b) *Reliance on non-trivial correspondences*. Even extensive representation of a certain root does not fully exclude the possibility of its being borrowed, especially if it denotes a cultural term. However, if within PPeK the item in question is known to demonstrate non-one-to-one correspondences, independent borrowing into SK and NK from an outside source is obviously excluded. We could, at best, speak of some kind of contacts between PPeK and «pre-PCK», but that would be taking the borrowings issue somewhat too far. For instance, there is no doubt that PNH *čo*, !Xóõ *sòo* 'medicine' [310] are somehow related to PCK *co* 'medicine' (Nama, !Ora *so*, ‖Ani, Buga, |Ganda, Naro, |Gwi, ‖Gana, ǂHaba *co*). It is possible to suspect that the !Xóõ form may be borrowed from PCK, since we know that PPeK *c* > !Xóõ *s-*, and presumably this process may have been active in the language until the most recent times. However, the idea of PCK *c* being, for some reason, reflected in modern NK dialects as *č* would be extremely strange; NK has a hissing *c* of its own, and, as far as we know, there is not a single CK language or dialect that regularly substitutes the phoneme for a hushing *č*. Therefore, PNH *čo* cannot be a CK borrowing, and, since the correspondence «PNH *č* : !Xóõ *s*» is perfectly legitimate, there is no necessity to suspect a borrowing in !Xóõ either.

Sometimes, on the contrary, it is the *lack* of a particular correspondence that gives us a hint at how we are supposed to resolve the borrowings issue. There is, for instance, a root in NK with a distribution wide enough to have it reconstructed for the PNK level, meaning 'spirit, ghost, devil': PNK *‖gauⁿ-ua* > Zhu. *‖gàòàⁿ*; ‖Au‖en *‖gauⁿwa*; !Xũ (Ll.) *‖gaŋʔa*; !O!Kung *‖gauⁿa*; Angolan !Xũ *‖gàⁿuwà* 'God'. The exact same root is also met — with an equally wide distri-

bution — in CK: cf. Nama ‖*gâua-b* 'Devil'; Naro ‖*gàùⁿá* 'spirit (ancestral)'; ‖Ani, |Ganda ‖*gáúⁿà* id.; Buga ‖*gáúⁿá* id., etc. Since the word is so frequent, one could suggest that the PCK and PNK forms are genetically related. The situation is certainly suspicious — the word is a cultural (religious) term, naturally prone to borrowing and diffusion, and the forms match each other so perfectly, down to the rare bisyllabic structure of the stem, that it is very tempting to postulate a case of borrowing (even if the direction of the borrowing remains unclear) and consider the case closed. However, from a formal point of view, there is no *definitive* argument here to prefer one solution over the other.

The situation, however, becomes somewhat more transparent once we consider the !Xóõ word for the same notion, which is ‖*kxúⁿ*, pl. ‖*kxúaⁿ-nî*. The click influx and the vocalism (as well as the semantics, of course) indicate that this might be the very same root. However, none of the comparative material collected so far suggests the existence of a regular correspondence like «PNK voiced efflux *-g-* : PSK velar ejective affricate *-kx-*» or even, if we consider the 'randomness' of the voicing, «PNK zero efflux : PSK *-kx-*». Therefore, if !Xóõ ‖*kxúⁿ* belongs here indeed, it is not in a relation of being cognate with PNK *‖*gauⁿ-ua*.

On the other hand, there may well be a possibility of !Xóõ *-*kx-* (i. e. PPeK *-kx-) regularly corresponding to PCK *-*g-*, and, while I have not systematically explored this possibility, examples like !Xóõ *‖*kxaBV* 'to chew' — Nama ‖*gae* id.; !Xóõ *‖*kxúnu* 'bridge of the nose' (see ex. [180]) — Nama ‖*nunu* id. (very possibly through assimilation out of < *‖*gunu*) support it at least indirectly. If the existence of such a correspondence is proved by further examples, the problem can be considered solved: what we have, in that case, is genetic relationship between CK and SK forms, whereas all of the items in NK should be considered as borrowings from a CK source, either independently of each other or already on the PNK level.

Consequently, another application of the «reliance on non-trivial correspondences» rule supposes that we should also be looking for such correspondences *between* PPeK and PCK rather than merelywithin PPeK. Considering the complexity of correspondences between NK and SK, it is only logical to expect a similar (if not bigger) complexity between these families on a higher level.

For instance, it is hard to spot any relationship between !Xóõ *!nà̰hna* 'to snore' and Nama *!kharu* (= *!xaru*) id. Once additional material is brought in, though, it becomes probable that what we are dealing with here is a non-trivial correspondence case. The Nama form goes back to PKK **!xaru* and should be compared with PNKK **!xunu* id. (the *-r-/-n-* alternation, although not entirely formalised, is rather frequent in CK; as for the vocalism, the

PKK form is more archaic, while the PNKK one is assimilated). The !Xóõ form belongs together with ǂHoan *!hɡ̣na* (in A. Traill's transcription, *!nɡ̣na*) and, quite possibly, PNK *ǀʸunu* id. The unclear question here is how could the original velar fricative efflux be «driven» out of the !Xóõ and ǂHoan forms — perhaps additional vocalic features such as sphincteric articulation and nasality may have had something to do with that. Nevertheless, this at least gives us a certain direction in which we can proceed, e. g. looking for more cases of potential correspondences between PCK *-x- and !Xóõ -n- (or, rather, zero efflux, since -n- clearly represents secondary nasalisation), instead of simply looking at phonetically identical forms like *dao* or *ǁxou* and wondering whether they really are cognate or not.

6.2. *Phonology.* At the present time, no comprehensive list of possible correspondences between PPeK and PCK is available. Certain hypotheses, however, can nevertheless be formulated about the relations of the two systems, most importantly, on potential PCK correlates to PPeK «non-trivial» developments.

6.2.1. *CK correspondences to PPeK «split» influxes.* Below is a short list of PPeK roots whose influxes are provisionally reconstructed as *ǀ₁, *ǂ₁, etc., with their potential correlates in CK (actual CK lexical material is given from only a few languages — complete etymologies can usually be easily located in [Vossen 1997]):

PPeK *ǀ₁ — PCK *ǀ: [26] PNH *ǀʔu, PSK *ǀɛ[u]ʸ ʻname' — PCK *ǀkxóǹ id. (Nama ǀon-s; Kxoe ǀkxóŋ; Naro ǀkxoèʸ; Deti ǀʔúǹ; Kua ǀʔúǹ); [28] PNH *ǀʔgai, PSK *ǀɛ̣ ʻwildebeest' — PCK *ǀé ʻblue wildebeest' (Kxoe ǀé; Naro ǀé; Deti ǀé; Kua ǀé; cf. also Nama ǀgae-b ʻgemsbok'); [32] PNK *ǀkxui, PSK *ǀʛhu- ʻhair' — PCK *ǀʔûʸ id. (Nama ǀû-b; Kxoe ǀʔûʸ; Naro ǀʔûʸ; Detiǀʔûʸ; Kuaǀʔûʸ); [33] PNK *ǀnUm, PSK *ǀnu- ʻstone, mountain' — PCK *ǀʔúí id. (Nama ǀui-; Deti ǀʔúí); [42] Zhu. ǀnɡ̀ʔómá, PSK *ʔǀnɡ̣ma ʻto blink' — Nama ǀgami id. (hence also Nama ǀgami-ro-s ʻstar'); [44] Zhu. ǀnoʔm, !Xóõ ʔǀnɡ̂m ʻto suck' — PCK *ǀóm̀~*ǀúm̀ id. (Nama ǀgom; Kxoe ǀóm̀; Naro ǀúm̀; Deti ǀúm̀); [45] ǂHoan ʔ!nɡne, !Xóõ ʔ!nɡ̂i ʻbuttock, anus' — Nama ǀnunu ʻto slide on one's buttocks'.

PPeK *ǂ₁ — PCK *ǂ: [80] PNH *ǂnhu̧i, !Xóõ ǂnû-je ʻmouse' — PCK *ǂnú-ní id. (Naro ǂnɡne; Danisi ńúní; note the pressed vowel in Naro); [87] Zhu. ǀɡ̀rì, !Xóõ ǂɢ̀hli ʻa k. of acacia' — PCK *ǂkxaro ʻa k. of thorn tree' (Nama ǂaro- ʻbuffalo thorn'; Naro ǂkxárò ʻZizyphus mucronata').

PPeK *ǂ₁ — PCK *ǀ: [86] Zhu. ǀaboh, !Xóõ ǂɢàbo kV ʻto pile up' — PCK *ǀgabV id. (Nama ǀgawo; Naro ǀgàbà).

PPeK *!₁ — PCK *ǁ: [136] PNK *!oǀ-ma], !Xóõ ǁôhʔm ʻshort; light' — PCK *ǁóm̀ ʻshort' (Kxoe ǁom̀; Naro ǁúm̀; Deti ǁóm̀; Kua ǁóm̀); [137] PNK *!goʔa,

!Xóõ ‖*gúu* 'chest' — PCK *‖*gǔ* id. (Naro ‖*gǔ*; Deti ‖*gǔ* 'flank of body'; Kua ‖*gǔ*); [138] PNK *!*ɣoa*, PSK *‖*ɣU-* 'knee' — PCK *‖*óὲ* id. (Nama ‖*goa-s*; Deti ‖*òé*; Kua ‖*ùì*); [145] Zhu. !*gxàrú*, !Xóõ ‖ɢ*ậhni-kà* 'sp. of lizard' — Nama ‖*nâre-b* 'monitor lizard', Naro ‖*nɑno* 'common skink'.

PPeK *!*₁ — PCK *!: [144] Zhu. !*gậ*, !Xóõ ‖*gàha* 'to belch' — PCK *!ai* id. (Nama !*gai*; Naro !*ậì*).

PPeK *‼*₁ — PCK *‖: [154] PNK *‼*uʔuru*, PSK *‖*qu[rV]* 'fingernail' — PCK *‖*órò* id. (Nama ‖*goro-s*; Naro ‖*oro*; Deti ‖*óró*; Kua ‖*órò*).

PPeK *‖*₁ — PCK *ǂ: [209] PNH *ǂ*Uⁿ*, PSK *‖*o[n]-* 'star' — Naro ǂ*ɔnò* id.; [211] PNH *ǂ*ɣai*, PT *‖*a-* 'scorpion' — Nama ǂ*khâi-b* (= ǂ*xaiⁿ*-) 'yellow scorpion'.

PPeK *ǂ*₂ (?; the potential correspondence is PNK *! — PSK *ǂ) — PCK *ǂ*x: [234] PNH *!*xU-*, PSK *ǂ*xu-* 'elephant' — PCK *ǂ*xóà* id. (Nama ǂ*xoa-b*; Kxoe ǂ*xóà*; Naro ǂ*xòá*; Deti ć*xóá*; Kua ć*xóà*).

PPeK *ǂ*₂ — PCK *|: [235] PNK *!*noʔm*, !Xóõ ǂ*nṵn* 'navel' — PCK *|*um* id. (Naro |*ùm̀*; Deti |*ùm̀*).

PPeK *ǂ*₂ — PCK *!: [236] Zhu. !*ɑʔm*, !Xóõ ǂʔ*àn* 'penis' — PCK *!*am* id. (Kxoe k*ǎm*; Naro !*àm̀*; Cua k*ám̀*).

One definite tendency is that PCK generally tends to side with PSK in its choice of the reflexation. Opposite examples, in which PCK stands closer to PNK, are much more rare, although their presence should not go unnoticed either. The important thing is that this tendency is very hard to explain in contact terms. There have certainly been more contacts between CK and NK than there have been between CK and SK, and thus, there does not seem to be any other reasonable explanation for the similarities between, e. g., PNK *!*ɣoa*, PSK *‖*ɣU-*, and PCK *‖*óὲ* except for genetic relationship (unless, of course, we are still willing to raise the question of chance resemblance).

6.2.2. *Uvular effluxes.* The establishment of provisional correspondences between the hypothetical PCK uvular effluxes (as well as non-click consonants) and PPeK would serve a double purpose: prove, or refute, the archaic character of these segments in CK, and provide one more strong argument in favour of genetic relationship between PCK and PPeK. So far, it has been possible to find PK etymologies for fourteen CK items with uvular articulation. Cf.:

PCK *qae 'marula tree' (Kxoe *qàé*; Buga *qáé*; Kua *qáè*) — Zhu. k*ậé* id. (pharyngealised vowel indicates possible uvular articulation in the past).

PCK *qám̀ 'to hold (liquid) in mouth' (Nama *kam* 'to take a sip'; ‖Ani, Buga, |Ganda *qám̀* 'to hold in the mouth') — cf. [367] (Zhu. k*ậʔm* 'to suck', !Xóõ *qâm* 'to suckle, kiss').

PCK *qan 'to cover (w. sand, ashes)' (Nama *kan* 'to cover with hot ash'; Kxoe *qàń* 'sand'; |Gwi *qàǹ* 'to bury') — cf. !Xóõ ɢ*án* 'hot sand of a fire'.

PCK *qárí 'good, pleasant' (Buga qárí; |Gwi qárè; Tsua qárí) — cf. [372] (ǂHoan qhaen 'good' — PSK *qai(ᵑ) id.).

PCK *qora 'to peel' (Nama kora; Kxoe qwǎrá; Buga, |Ganda qwárá) — cf. either [172] (PNK *‖noʔorV 'bark', PSK *‖ɢu̞rV 'bark; to peel, strip') or !Xóõ ‖qʔúli kâ 'to peel, remove a cover'. Both variants presuppose an old click loss in PCK, completely identical to the one seen in PCK *kxuri/*kxuni 'louse' — !Xóõ ‖gxóni id.

PCK *|qhUn 'to itch' (Nama |xon, |xen; ‖Ani |qû²; Buga, |Ganda |qûᵑ 'to hiccough') — cf. !Xóõ |ɢū̄-e 'omen, sign, portent (such as itchy glabella, hiccoughs)'.

PCK *ǂqô 'vertical' (Nama ǂgō 'vertical, upright'; ‖Ani, Buga, |Ganda ǂqô 'to re-erect (plants)') — cf. [61] (Zhu. ǂhòànà 'to stretch out', !Xóõ ǂqhòna kV 'to straighten').

PCK *ǂqháré 'to break apart' (Nama ǂkhare 'to chip, burst, split'; Kxoe, Buga, |Ganda ǂqáré 'to break, peel, thresh') — cf. [63] (Zhu. ǂʔhárí 'to become chipped', !Xóõ ǂqháʔle 'chipped, flaked').

PCK *!qàúᵑ 'cheetah' (Buga qáúᵑ; Naro !à̞ú̞ᵑ; Hie. khao) — cf. [98] (PNK *!aʔò — !Xóõ !qāhû id.)

PCK *‖qárà 'a k. of acacia/aloe' (Nama ‖gara-s; Kxoe ‖qárè; Naro ‖árà; Kua ‖árà) — cf. [173] (PNK *‖nho̞ʔoru 'aloe', PT *‖ɢorV).

PCK *‖qom 'to rinse' (Nama ‖gom; ‖Ani |qòm̥) — cf. PNK *‖o̞ʔm 'to rinse (the mouth)' (Zhu. ‖o̞ʔm|o̞ʔmà; Ang. !Xũ ‖ò̞mʔm-‖ò̞m); pharyngealisation may go back to an initial uvular if the word is cognate with !Xóõ ‖ɢo̞m kV 'to stuff the mouth with food'.

PCK *‖qho- 'to open' (Nama ‖kho-wa; Buga qùɛ-dɛ 'aufdecken'; Kxoe qùě-dɛ; Naro ‖xòbé; ‖Gana ‖kxóbè; Deti ‖xòré; Kua ‖xóré) — cf. [208] (ǂHoan ‖qʔoa 'to be open', !Xóõ ‖óʔa tV 'to open'). The PCK reconstruction is not quite clear; R. Vossen reconstructs the original form as *‖xo(-ba), but it is clear that there must have been some uvular articulation present, judging by the Kxoe and Buga forms as well as the irregular velar affricate reflex in ‖Gana. The variant *‖qh- is here postulated arbitrarily.

PCK *|qúì 'tired' (Nama |gui 'to get tired of'; Kxoe |qwê 'tired'; Buga, |Ganda |qúè id.) — cf. PSK *|hu- id. (!Xóõ |húu; |Auni |hu-bu).

PCK *ǂqám̥ 'to wrap up' (Nama ǂgam; ‖Ani, Kxoe ǂqám̥; Buga, |Ganda ǂqàm̥) — cf. PNK *ǂam 'to wrap around, twist' (Zhu. ǂám; ‖Au‖en ǂkam; !Xũ (Ll.) ǂkam), !Xóõ ǂám-ǂàm 'to take a cirCui.us route, creep away from'.

Out of these 14 roots, the first 12 show either a uvular consonant in !Xóõ or pharyngealisation (possible sign of former presence of a uvular consonant) in NK — certainly a much more significant number than 3, found in [Traill 1986]. We can try to explain some of the forms away as

potential borrowings; e. g., the form *kɑ̀é* may have penetrated into Zhu-|'hoan from Kxoe, considering the attested contacts between these two languages. However, much too often the forms are too drastically different in order to constitute recent borrowings; certainly PSK *∥ɢu̯rV* cannot be seen as a borrowing from *qora*, or vice versa. Likewise, certain slight, but important, differences in root semantics (cf. 'itch, hiccough' vs. 'itch, hiccough (as omen)'; 'cover with ash/sand' — 'hot sand'; 'rinse' — 'stuff into the mouth', etc.) seem to confirm the idea that what we are dealing with are not borrowings, but rather signs of distant relationship.

Of course, one should not forget that uvular consonants are generally more widespread in !Xóõ than in any CK language, and that, therefore, if uvular consonants/effluxes constituted a part of the PK phonemic inventory, a large part of them must have merged with simple velar segments on the PCK level already anyway. (Cf., for example, PCK *∥órò* 'fingernail' vs. PSK *∥qu[rV]* id., etc.). If so, once work on the PK reconstruction really gets under way, we will be faced with the task of providing the historical conditions for this two-way development. In any case, looking at the material presented above, it is rather hard not to think of CK uvulars as a «local archaism» rather than a «local innovation».

6.2.3. *The «lateral» hypothesis.* Finally, the last question I would like to briefly touch upon in this section is the CK evidence that can be used to prop up the provisional setting of a non-click lateral series for PPeK. Again, any potential correlates for PeK roots with the so-called «lateral» consonant would constitute a major argument in favour of old genetic ties between the two subgroups.

Cf., first of all, the amazing parallelism between these two cases: ‡Hoan *šiu* 'hand' — ∥Ani *chàú* id.; ‡Hoan *šiu* 'to dig' — ∥Ani *chào* id. Borrowing (at least recent) is naturally excluded, since we would expect a closer phonetic resemblance; besides, ‡Hoan is not normally known to borrow basic words meaning body parts from outside sources. As we have suggested earlier, the ‡Hoan forms should be grouped together with PNK *∥!gau* 'hand' and *∥!gau* (~ *!gau*) 'to dig' as going back to a single PPeK prototype (*Ӽau*). It is, therefore, reasonable to extend this hypothesis to CK and suggest that the phoneme was represented on the Proto-Khoisan level as well, with regular affricativisation in CK (*Ӽ > *ch-*).

Moreover, the root for 'dig', reconstructed as *chào* on the PNKK level, has also been compared with Khoekhoe *khao* id. (Nama, !Ora *khao*). If this etymology is correct, and what we are dealing with here is not chance resemblance, the correspondence «PKK *kh — PNKK *ch» can be perfectly explained in terms of setting up an original lateral non-click stop for PCK as

well, with affricativisation in PNKK and velarisation in PKK. The root for 'hand', unfortunately, has not been preserved either in Nama or in !Ora.

Apart from 'hand', the most important root with a «lateral» to be reconstructed for PNKK is the one for 'water' ([410]). Conveniently enough, the main PCK root for 'water' is reconstructed as *cha* (‖Ani, Buga *chǎ*; Kxoe *cǎ*; |Ganda, Naro *chà*, etc.). This word is not represented in Khoekhoe either; the most natural parallel would be Nama *tsā-b* 'saliva', although, if we accept the etymology, we will have to drop the **khao — *chàó* comparison.

On the other hand, if we accept Khoekhoe **kh-* as a regular reflexation of an original «lateral», we may add yet another interesting etymology to the pool by comparing PPeK **ΧV* 'to give' [412] with the archaic Nama form *khā* 'give' (Haacke marks the form as 'obs.'; Rust gives the meaning 'zum Brautgeschenk geben').

No other etymologies are available; however, given the extreme rarity of both PPeK **Χ-* and PCK **ch-* (both reconstructed for half a dozen cases at most), it would be a miracle if we were to have more of them. Nevertheless, future data may yet turn out to be holding a few surprises.

6.3. *Conclusions*. Based on all these, as well as a few additional considerations we must state the following:

a) PCK and PPeK are genetically related. The relationship is established on the basis of lexicostatistical calculations and can be demonstrated in terms of at least *some* regular phonetic correspondences, including non-trivial ones (like the ones for «laterals»).

b) The relationship is a distant one (according to glottochronology, PK is no less than seven millennia old), which means that dealing with the two families by comparing modern languages, although fruitful in a way, cannot lead to a well-argumented reconstruction. Proper comparison between the two families can only begin once the work on PPeK has been more or less accomplished, and the relations between Khoekhoe and Non-Khoekhoe languages fully cleared out.

c) On the other hand, as is the common practice with distantly related families all over the world, «external» comparison is occasionally useful in that it can help clarify, confirm, or refute certain hypotheses that are hard to validate while staying «within» one family (e. g. comparison with PPeK provides extra support for the hypothesis of the archaic character of PCK uvulars). There is, therefore, nothing inherently wrong with occasionally — and with great care, so as not to be misled by «modern» forms — drawing upon CK data for inner-PeK comparison, or vice versa.

d) It is dubious that we will ever be provided with a method that would allow us to separate genetically related CK-PeK items from contact lexics

fully and unequivocally. Nevertheless, any potential confusion is only limited to one part of the comparative lexicon, demonstrating «one-to-one» correspondences. Moreover, the more material we add to our comparison, the more any chances of such confusion are bound to decrease, since we will be able to discern the possible patterns of borrowing much more clearly.

7.0. PROTO-MACRO-KHOISAN (PMK).

7.1. *Overview*. The status of the «Khoisan isolates», Hadza and Sandawe (as well as Kwadi, of which, however, only a few dozen lexical items have been published, as opposed to significant collections of available Hadza/Sandawe material)[1] has been an important issue for numerous specialists in the field. In a way, it has interested researchers even more than the question of relations between the rest of Khoisan, if only because these two languages are obviously so different from the «average» Khoisan language and yet display no specific genetic ties with any other language family either.

For all the interest, however, precious little work has actually been done about finding Khoisan etymologies common to Hadza, Sandawe, and Proto-Khoisan proper. Apart from Greenberg's highly speculative — and often based on erroneous transcription — list of parallels [Greenberg 1966], the most important contribution so far belongs to C. Ehret [Ehret 1986], who offers a list of some 180 parallels based on either direct similarity or provisional correspondences. Valuable parallelisms have also been spotted by H. Honken [Honken 1977; Honken 1988], whose research, however, has been limited to just a couple of areas (such as the pronominal system and initial affricates).

A rigorous study has been also conducted by B. Sands [Sands 1998], who, having run the available evidence through a series of lexicostatistical, phonological, semantical, and other tests, eventually comes to the conclusion that, while Sandawe definitely displays a significant number of shared features with the rest of Khoisan, Hadza does not, and is therefore less probable to be genetically related to these languages. Nevertheless, such a possibility is not altogether dismissed, and in Appendix 2 to her monograph, Sands still gives a bunch of Hadza items that, according to her opinion, could look like potential correlates to similar words in other Khoisan languages.

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[1] It was only upon completion of the present article that the author became aware of recent works by T. Güldemann and D. Elderkin [Güldemann 2004], [Güldemann–Elderkin], in which it is proven beyond a reasonable doubt — primarily due to the authors' access to E. Westphal's hitherto unpublished fieldnotes — that Kwadi is not only Khoisan, but demonstrates particularly strong lexical and grammatical ties with the Central (Khoe) group.

Altogether, the evidence collected by GREENBERG, HONKEN, EHRET, SANDS, myself (see [STAROSTIN 2003]), and other researchers, the way I see it, may well be interpreted in terms of genetic relationship. If so, the question should not be «are Hadza, Sandawe, and PK related?», but rather «how *tightly* they are related», i. e. the main problem would be that of time depth. Given the difficulties in establishing phonetic correspondences between multi-language families and language isolates (especially those that must have had a very long period of independent development), glottochronology, at the present time, offers only the most approximate of results. It does, however, agree with B. SANDS' observation about Sandawe being, in a way, «more Khoisan» than Hadza; Sandawe seems to generally yield more matches with PPeK and PCK (around 14 % and 18 % respectively) than Hadza (around 10 % with each).

Whatever the exact numbers are, one thing is clear: adding Hadza and Sandawe to the overall Khoisan comparison takes us back at least for a matter of three or four millennia, and maybe much more than that. With such a vast chronological differentiation, we would correspondingly expect to meet an equally vast distance between the phonological systems of the compared subgroups, and indeed we do. In fact, it could be said that the main reason which has always prevented researchers from doing detailed work on Hadza/Sandawe vs. «Khoisan proper» comparison is that they simply would not know where to begin comparing.

It would be appropriate to formulate here the main dividing lines between Hadza & Sandawe (HS), on one part, and Khoisan proper (PK), on the other (for a more detailed discussion, see [EHRET 1986]). (Note that I am only using the abbreviation HS to denote Hadza and Sandawe as two languages not belonging to the Khoisan proper family; this should not by any means imply that they form a language family of their own). These are as follows:

a) PK languages generally have a richer system of click influxes. The majority of them distinguish between the alveolar click (ǃ) and the palatal click (ǂ), while HS do not. Besides, only in PK do we actually encounter the labial click and the retroflex click.

b) Likewise, PK languages have extremely flourishing click efflux systems. HS have nothing like the ten to fifteen number of effluxes typical for PK, with their rich arrays of velar and uvular releases; both languages have no more than five or six different influxes, all of them also represented in PK.

c) The number of roots beginning with click sounds in PK is generally much larger than in HS. Cf., for instance, the proportion of click words in ǃXóõ (approximately 3/4 of the entire lexicon) vs. that in Sandawe (approximately 1/3 of the entire lexicon).

d) On the other hand, in HS we can occasionally witness clicks in the intervocal position (cf., for instance, Sandawe *ho‖ʔo* «to fill up»; Hadza *khwa‖a* «to vomit»). In PK this is strictly prohibited; clicks are always restricted to the word initial position.

There are striking differences in the non-click consonant systems as well — the uvular series is not represented in HS, while, on the other hand, lateral consonants, so rarely met in PK (and even then, reconstructed rather than attested — see **6.2.3**), are quite frequent. Glottalisation is much more common among consonants, and labial stops and all kinds of resonants are frequent in the word initial position, a thing unimaginable for most of the PK representatives. Only the vocalic system looks more or less the same (basic five phoneme opposition, extra features of pharyngealisation and tone), although neither Sandawe nor Hadza seem to have the 'breathy' feature, so typical of PK.

With all these discrepancies, it is only natural that proper room for comparison appears limited to but a few areas in which these systems actually coincide. One such area happens to be word-initial affricates, fortunately well-developed (well-preserved?) both in HS and PK, which has provided H. Honken with a good opportunity to argue in favour of the HS/PK genetic relationship; a relatively small, but nevertheless quite impressive list of parallels with initial hissing and hushing affricates/fricatives can be found in [Honken 1988: 62–65]. This, however, obviously does not provide us with a systematic perspective on the issue, and gives no clue as to where exactly we should proceed from here if we ever wish to advance beyond the «affricate stage».

7.2. *The hypothesis of secondary click formation*. It has already been noticed that, apart from the differences in phonemic inventory, one other important element of linguistic structure that separates HS from PK is that of root structure; the HS structure is normally bisyllabic (CVCV), while the PK structure is normally monosyllabic (CV). Both groups allow for exceptions, but monosyllabic roots in HS are simply not very frequent, whereas in PK the second syllable of bisyllabic roots is only limited to a small number of combinations (usually *b/m* or *n/r/l* with a subsequent vowel) and in many cases actually looks more like a fossilized suffix of some sort.

This observation, in particular, led C. Ehret [Ehret 1986] to the hypothesis that some of the PK monosyllabic roots could have originally developed out of Macro-Khoisan bisyllabic roots. These would undergo vowel reduction, after which the former anlaut and inlaut consonants would merge, resulting either in a consonant cluster (like NK/SK *tx-*, *tkx-*, *cx-*, etc.) or a click, with the influx reflecting the anlaut consonant and the

efflux reflecting the inlaut. Such a hypothesis, were it to be true, would in one flash explain most of the major differences stated above — from root structure to the abundance of clicks in PK vs. their relative scarcity in HS.

Unfortunately, C. Ehret was not quite able to give this hypothesis the full etymological support it requires (at least, not in the 1986 article). Thus, out of the 31 examples supposed to illustrate this development only 13 actually show how non-click consonants can become clicks, with the rest dedicated exclusively to secondary consonant cluster formation. This looks somewhat odd, since we would normally expect the opposite — aren't clicks supposed to be much more frequent in PK than consonant clusters? In addition, quite a few of Ehret's examples allow for a different interpretation. Cf., for instance, ex. 158: San. *ʒwáxé* 'female not yet bearing young' — !Xũ *chao*, Zhu. *ʒhʔau* (PNK **ʒhʔau*) 'woman' — even if the two forms are related, there is no obvious evidence that the NK forms actually go back to a form like **ʒwxV-;* we might as well suppose regular lenition and elimination of the inlaut **-x-*. Finally, some of the comparisons should be altered in the light of recent work on Khoisan historical phonology — thus, San. *cʔúkʔà*, Had. *cʔikʔo* 'smoke' (ex. 173) are supposed to undergo «clickification» in Khoisan, but the compared form, CK **|kxʔan* 'smoke', is now reconstructed by R. Vossen as **cʔan-,* with the dental click representing only a recent Khoekhoe innovation.

One of the factors hindering further investigation of this hypothesis is that it merely formulates the basic principle, but does not provide any exact clues when it comes to actually comparing lexical material. If, over a certain time period, a large number of lexical items with initial non-click consonants have been transformed into items with initial clicks, it is obvious that we should be able to establish at least certain correlative patterns between clicks and non-clicks. There are five series of non-click consonants in Sandawe (labial, dental, hissing affricates, lateral, velar) plus one more in Hadza (hushing affricates). Likewise, there are five series of clicks in PPeK (dental, palatal, alveolar, retroflex, lateral), plus, hypothetically, the labial one (if it is not completely secondary). The optimal solution would be to be able to establish one-to-one correspondences between the series, however, at the present time this turns out to be an almost impossible task to accomplish, considering the incompleteness of the PPeK reconstruction and the total lack of a PK one.

Nevertheless, once again, we may try to achieve at least some kind of preliminary result by hauling out what seems to be the best evidence and hope that in the future, additional data and further work on the intermediate reconstructions may add extra support to these comparisons. Note that Sandawe generally seems to be of more help than Hadza, which can be seen as an additional clue for regarding Hadza as, indeed, the furthest

branch of «Macro-Khoisan» that certainly does not form a separate branch with Sandawe — or, perhaps, not Khoisan at all.

(Lexical data on Sandawe is for the most part quoted according to [KAGAYA 1993]; a few other forms, collected by D. ELDERKIN, are taken from [EHRET 1986]. Hadza items are taken from [SANDS 1998]; in a few cases unpublished material from B. SANDS' collection has also been used. Some of the data have been cross-checked according to [TUCKER 1977] and [ELDERKIN 1983]).

7.2.1. *Laterals.* Curiously enough, the best evidence for «clickification» in PK comes from comparing the HS lateral series with the PK lateral click. This pattern covers 8 out of 13 examples in EHRET's article (although I would exclude several of them for either semantic reasons or because of the presence of better etymologies), and it is possible to add at least several more. The inherent weakness of these comparisons is, of course, that they are basically selected on the strength of the correlation between just the initial phonemes, but nothing better can be expected: given the grand scope of phonetic variation even within PPeK languages, we cannot even begin to surmise about all the possible developments in the inlaut position that must have taken place over at least 12 or 14 millennia of independent development separating PPeK from Sandawe. Cf., however, the following examples:

(1) San. *ꭕana* 'horn' — PCK *‖*nâ* id. (Nama ‖*nâ-b*; Naro ‖*nâ*, etc.); PSK *‖*ae^ŋ* id. (!Xóõ ‖*āe^ŋ*; |Xam ‖*ke^ŋ*; |Auni ‖*kei^ŋ*, etc.). Development: **ꭕana > *ꭕna > *‖na*. See [EHRET 1986: ex. 165].

(2) San. *ꭕaki* 'to lack; not to have' — PSK *‖*qhV* 'not' (!Xóõ ‖*qhúa*; |Xam *k'au*; ‖Ng ‖*ku*, ‖*ke*, etc.). Development: **ꭕakV > *ꭕkV > *‖q[h]V* (although the uvular efflux is, of course, unclear).

(3) San. *ꭕʔakume* 'shoe, sandal' — PCK *‖[nh]ábò* id. (the efflux displays strange variation in all the subgroups, see **5.0**; Nama ‖*hawo-*; Naro ‖*nàbó*; Kua ‖*ábò*, etc.); PNK *‖*gaba* 'to put on shoes' (Zhu. ‖*gábá*; ‖Au‖en, !O!Kung ‖*gaba*, etc.). Development: **ꭕakV- > *ꭕkV- > *‖h- ~ *‖g-*. It is not excluded that San. *-me* is actually the same element as PCK **-bo*, PNK **-ba*. Cf., perhaps, also Had. *kwaꭕʔa* 'shoes' (metathese < **ꭕʔakwa*?).

(4) San. *ꭕʔaŋga* 'lizard' — PCK *‖*na-* id. (Nama ‖*nâ-re-b*, ‖*nâ-si-b* 'leguan'; Naro ‖*na̱-no* 'common skink'). Development: **ꭕaŋa > *ꭕŋa > *‖na*. If the PCK root really belongs with PPeK [145], this means that what has been provisionally reconstructed above as PPeK **!₁* (> PNK **!*, PSK **‖*) actually had a lateral articulation in PPeK. Cf., perhaps, also Hadza *laŋguʔé-* 'lizard', although the initial consonant is not a stop.

(5) San. *ꭕʔaxe* 'to peck; to cut with axe' — PCK *‖*kxáó* 'to chop, hack' (Naro ‖*kxáó*; Kua ‖*ʔáó*, etc.) — PPeK *‖[kx]ao* id. [204]. Development: **ꭕaxV*

> *ǁxV > *ǁkxa-. The ejective efflux *-kx(ʔ)- may have something to do with the ejectiveness of the Sandawe lateral, although, as can be seen from the rest of the examples, such a correlation is anything but obligatory.

(6) San. *X̌ʔaŋ* 'mongoose' — PPeK *ǃₗnáʰ- 'mongoose sp.' [147] (Zhu. *ǃnà̰ʔú* — ǃXóõ *ǁnà̰h-be* 'yellow mongoose'). Again, the ǃXóõ variant seems to be primary.

(7) San. *λakʔa, λakʔe* '(be) similar' — Khoekhoe *ǁxa* id. (Nama *ǁkhā*; ǃOra *ǁxa*). Development: *λaka > *λka > *ǁxa. Could the velar fricative efflux in Khoekhoe somehow reflect the original fricativeness of the anlaut lateral?

(8) San. *λuba* 'lungs' — PSK *ǁU(ʔ)- id. (ǃXóõ *ǁúʔńa*, pl. *ǁúʔn-tê*; ǁNg *ǁkoi(ⁿ)*; ǁKxau *ǁʔoŋu*; |Auni *ǁkoⁿnuke*). Development: *λVBV > *λBV > *ǁU-. There is a slight chance that ‡Hoan *ǁxau* 'lung' also belongs here, although the correspondence «PSK *-∅- : ‡Hoan *-x-» is not attested anywhere else; if so, cf. the previous case and the possibility of correlation between *λ and *ǁx.

(9) Had. *X̌ʔakwe* 'girl' (Eld.) — PCK *ǁgae 'female' (Naro *ǁgae*; Kua *ǁgae*, etc.); PPeK *ǁga̰-[i] id. [200]. Development: *X̌ake > *X̌ke > *ǁg[a]e.

(10) Had. *X̌ʔakwa* 'to carry in arms', San. *X̌ā* 'to carry *(pl.)*': PNK *ǁa-e 'to hold, carry, keep' (Zhu. *ǁà̰è*; ǁAuǁen *ǁkai*, *ǁke*, etc.). Development: *X̌- > *ǁ-, or, if the Hadza bisyllabic form is a more direct correspondence, *X̌aka- > *X̌ka- > *ǁa- (phonetically = *ǁka-).

(11) Had. *kweX̌ʔè-* 'jackal' — PCK *ǁʔá 'bat-eared fox'. If the situation in Had. is the same as in (2), i. e. *kweX̌ʔe-* < *X̌ʔekwe-* with metathesis, then the development is: *X̌VkV > *X̌kV > *ǁʔV- (glottal stop as another reflexation of ejectiveness?). Alternatively, it is not excluded that inlaut lateral consonants could influence the articulation of the newly-produced click as well.

(12) San. *Łomo* 'to buy' — PCK *ǁʔámà id. (Nama *ǁama*; Naro *ǁʔámá*). Here the development is somewhat different: *ŁVmV > *ǁʔama instead of the expected > *ŁmV > (?) *ǁna-. Considering the obviously «cultural» status of the form, it is not excluded that the two forms are not in a state of genetic relationship here, but are rather due to old lexical contacts (the same kind that yields odd isoglosses like San. *haka*, PCK *haka 'four').

Speaking of laterals, it would, of course, be tempting to deviate from the set course for a second and attempt to use Sandawe and Hadza evidence to check the validity of the «lateral hypothesis» (see **4.2.3.2.5**; **6.2.3**), which so far has been to a certain extent upheld by CK data. Since both these languages have a full set of lateral consonants, we would expect that the few items for which we have provisionally set up reconstructions with non-click laterals in PPeK and PK would correspond to lateral-containing items in these languages. And indeed, what we find is two excellent examples (13, 14) and several more with limited distribution, but nevertheless quite acceptable:

(13) San. *X̂ʔwa(ŋ)* 'rain' — cf. PPeK **X̂V* 'rain; water' [410], PCK **chǎ* 'water'.

(14) San. *X̂ʔuŋ* 'hand' — cf. PPeK **X̂au* 'hand' (PNK **ǁgau*; ‡Hoan *šiu*), PCK **chàú* id.

(15) San. *X̂a-si* 'to die; death' — cf. PPeK **X̂[a]i-* 'to die' (PNK **ǁai*; ‡Hoan *šiⁿ*). Cf., perhaps, also Had. *ƛowa* 'to kill'.

(16) San. *X̂ʔa* 'to take *(pl.)*' — cf. PPeK **X̂V* 'to give' [412].

(17) Had. *uX̂ʔu-* 'to dig up roots' — cf. PPeK **X̂au* 'to dig' (Zhu. *ǃgau*; ‡Hoan *šiu*), PNKK **chàó* id.; in the light of Hadza semantics, cf. also San. *X̂ʔaku* 'to uproot'.

Considering just how few «lateral» roots can, with a certain degree of probability, be set up for PK, it is nothing less than admirable that practically all of them find some «lateral» equivalent in Sandawe (although only one can be found in Hadza). Note that, with the exception of *X̂ʔaku*, all of the Sandawe stems are monosyllabic (*-si* in *X̂a-si* is a rather frequent verbal suffix), meaning that in PK they could not undergo reduction and subsequent 'clickification', which explains why the development is different from the one in ex. (1)-(12).

7.2.2. *Affricates vs. dental clicks*. Sandawe and Hadza both yield numerous cases of items with affricates corresponding to similar items in PK as well; a list of such items can be found in [HONKEN 1988] and will not be fully reproduced here. However, a certain amount of evidence also shows that HS affricates have a tendency to undergo «clickification» as well, in which case the most regular correspondence in PK is some kind of dental click. Cf.:

(18) San. *cʔaŋkʔe* 'guinea-fowl', Had. *chʔako* id. — PCK **ǀxani* id. (Nama *ǀkhena-s*, *ǀkhina-s* (with vowel metathesis); Naro *ǀxáné*).

(19) San. *cʔima(ŋ)* 'mosquito' — Naro *ǀoma* id.; ǃXóõ *ǀqómi*, *ǀqúmi* id.

(20) San. *cʔimaŋ-kʔoe* 'to glitter, shine' — PCK **ǀám̋* 'sun, day' (Nama *ǀgam* 'to heat up'; Naro, Kua *ǀám̋* 'sun, day', etc.); PNK **ǀam* id. (Zhu. *ǀám*; ǁAuǁen *ǀkʌm*, etc.).

(21) San. *cʔini*, *cʔwini* 'bee-sting', Had. *cʔuna-* 'a k. of bee' — cf. either PNK **ʔǀnuiⁿ* 'mopani bee' (Zhu. *ǀnuìⁿ*; Ov. *ʔǀnùiⁿ* 'insect *sp.*') or PT **ǀqhu* 'bee, honey' (ǃXóõ *ǀqhū-je*; ǀNuǁen *ǀkhu*), or maybe both, although correspondences within PPeK are unclear.

(22) San. *cʔumbu* 'navel' — PCK **ǀum* id. (Naro, Deti *ǀùm̀*, etc.).

(23) San. *chawa* 'cold' — Naro *ǀhaàⁿ* 'coldness'; ‡Hoan *ǀaba* 'cold', Zhu. *ǀàbò* 'to shiver', perhaps also ǃXóõ *ǀàma* 'to shiver, tremble'.

(24) San. *ʒaŋga* 'green' — Naro *caaⁿ*, *zaaⁿ* id., but PNK **ǀauŋ*, PSK **ǀgaʰ-* id. Colour-denoting lexicon in Khoisan should always be approached with care, since it is extremely prone to being borrowed; cf. also ‡Hoan

zaʔa 'green, yellow', which does not fit into the PPeK scheme of correspondences and may have penetrated into the language out of a CK source. Nevertheless, the Sandawe affricate : PPeK dental click opposition is still relevant from a genetic point of view.

It can be seen that the nature of this development is, however, different from the one described in **7.2.1**. Here, in most cases, the word does not actually «fold» in two, but remains bisyllabic in PK; the affricate becomes a click, but the second consonant does not become its efflux. Doubtless, this has to do with the second consonant being in most cases represented by a resonant — since this kind of bisyllabic structure is formally allowed in all Khoisan languages, it generally has a better chance of withstanding the «reduction pressure». Conversely, whenever we encounter a **cVkV*-type structure in Hadza or Sandawe, it corresponds to a **cxV*- or **ckxV*-type root in PK, without undergoing clickification on the proto-level. Later on, of course, the initial clusters can become clicks in individual languages. Cf.:

(25) San. *cʔúkʔà*, Had. *cʔikʔo* 'smoke' — PCK **cʔán[i]* id. (out of an earlier **ckxani*?; Kxoe *cʔánì*; Naro *cʔínì*; Deti *cʔání*, but Nama *|anni-s*; !Ora *|kxan*); !Xóõ *ckxâ-je* id. See [EHRET 1986: ex. 173]; [HONKEN 1988: 63].

(26) San. *cʔikʔa* 'sap' — PPeK **ckxo-* ~ **ʒgxo-* 'sap, froth' [392].

7.2.3. *Dentals vs. palatal clicks*. This possible correlation can be best demonstrated upon the following example:

(27) San. *thukʔa* 'spit, spittle' — PCK **ǂkxě* id. (Nama *ǂā-b* 'spittle'; ‖Ani *ǂkxě*; Deti *cʔě*; Kua *cʔê* 'spittle', etc.). Development: **t(h)ukʔV > *tkʔV > *ǂkxV*, with the ejective velar perfectly reflecting the original ejectiveness.

Further analysis of HS roots with similar structure yields several more examples:

(28) San. *degera* 'thorn tree' — PCK **ǂkxaro* 'a k. of thorn tree' (Nama *ǂaro* 'buffalo thorn'; Naro *ǂkxárò* 'Zizyphus mucronata'); PPeK **ǂ₁Gɡʰri* 'a k. of acacia' [87].

(29) San. *tukʔu* 'to take away, take off (clothes)' — cf. Naro *ǂkxòó* 'to take out'.

(30) San. *tekele* 'hyaena' — cf. Nama *ǂhīra-s* id.

Unfortunately, no other direct semantic/phonetic matches have been found; this may be due to the relative scarcity of palatal clicks in both CK and PK (at least, relative to the other click types) and too few bisyllabic roots with initial dentals actually attested in HS.

7.2.4. *Velars vs. alveolar clicks*? Considering the tentatively established correlations, it would be natural to suppose that secondary alveolar clicks in PK (when they actually *are* secondary) arise out of former velar consonants; additionally, this is hinted at by their actual manner of articulation as well as the tendency to «leave behind» a velar non-click consonant after having been eliminated (as in numerous Central Khoisan languages). However, only two examples can be produced to illustrate this possibility:

(31) San. *khoᵑkora* 'elbow' — PCK *!úrù* 'knee' (Naro, ǂHaba *!úrù*; Buga, |Ganda *kúrù*). Curiously, the East Khoisan subgroup also has this root in a reduplicated variant, just like HS — |Xaise, Deti *kúkúrù*. Hadza has a very similar form in *guruŋguri-* 'knee', but in this case we probably deal with a Cushitic borrowing (cf. Iraqw *guruŋgura* id.).

(32) San. *kheʔe* 'to hear, listen', Had. *kaʔa-sa* 'to notice' — PCK *!ʔaᵑ* 'to know, hear' (!Ora *!ʔaᵑ* 'to hear'; Naro *!ʔáᵑ* 'to know', etc.), PNK *!haᵑ* 'to know' (Zhu. *!ʔhàᵑ*; ‖Au‖en *!haᵑ*, etc.).

As in the previous case, this is obviously not enough evidence to make a definitive statement. Nevertheless, both examples fit well into the overall scheme, are quite strong from the semantic point of view, and, unless better etymologies are proposed for these items, the hypothesis should be considered valid.

7.2.5. *Click loss in HS.* Along with the hypothesis of secondary click formation in PK, it is important to point out that the discrepancies in click frequency between PK and HS may also partially be due to yet another factor — that of actual click loss in HS, similar to the one described by R. Vossen and A. Traill for the CK languages and the one postulated in this work for the NK subgroup (see **4.2.3.2.4**). Cf. the following examples:

(33) San. *gawa* 'mountain' — Naro *‖ábí* id.

(34) San. *gwara* 'forefinger' — PCK *‖órò* 'fingernail, claw', PNH *‖uʔuru* 'fingernail' [154].

(35) San. *koba* 'wing' — Nama *‖gawo-b* id.; PNK *!nabu* id. (Zhu. *!nabù*; !Xũ (Doke) *!khavu*, *ŋ!khavu*).

(36) San. *kuru* 'tortoise', Had. *kʔoloʔa* id. — Nama *‖xuri-* id.

(37) San. *ne* 'this here' — PCK *‖na* 'that; this' (Nama *‖naᵑ* 'that'; Naro *‖nà* 'this').

(38) San. *ne* 'to stay, dwell *(pl. action)*' — PSK *‖na* 'to be, stay'.

At this stage, it would be useless to even begin to discuss the factors and conditions responsible for this process; however, these cases should certainly

be noticed and considered important, because they show that click loss, usually only analysed in relation to PK languages, could also be typical for Hadza and Sandawe. From a theoretical point of view, this looks quite reasonable, considering the long time periods which these two languages have spent next to their non-click neighbours of the Afrasian and Niger-Cordofanian variety. However, the click loss factor could never be as high in HS as it has been in CK, if only for the reason that there was less to lose in the first place. Additionally, it is interesting to notice that all of the above examples feature a lateral click in CK (and a retroflex click in two examples containing NH material); presumably the other clicks were not subject to loss in HS at all.

7.3. *Summary.* The 38 examples given in this section do not by any means exhaust the available evidence for a genetic relationship between HS and PK. Thus, I have not listed a large number of «one-to-one» correspondences (as far as click influxes and non-click initial consonants only are concerned, of course) between these representatives of Macro-Khoisan; many of these can be found in [EHRET 1986], [HONKEN 1988], and the appendices to [SANDS 1998]. The emphasis here was rather on finding non-trivial differences between the compared languages, ones that could somehow help to advance the comparison rather than merely summarize the available etymologies.

That said, it is very unlikely that any attempt to produce a Macro-Khoisan reconstruction will be highly successful. In order for a particular reconstruction to be reliable, we need to be able to move beyond the stage of rough, approximate correspondences and understand the more intricate details of the processes underlying phonetic change in the compared languages. For instance, we need to be able to tell why the ejectiveness in San. *X̷ʔaxe* 'to chop' has been carried over into PCK *‖kxao* (= *‖kxʔao*) id., whereas the ejectiveness in *X̷ʔaŋga* 'lizard' was lost in PCK *‖na-*.

An additional problem is posed by the results of our PPeK reconstruction. Most of the compared material involves either CK items or those PK items that do not feature «split» click reflexes (only examples (4), (6), and (28) feature PPeK *!$_1$, *!$_1$, and *ǂ$_1$, respectively). It is therefore impossible to say whether there is any specific correlation between HS and PK in this matter, much less try to explain the PK «bifurcation» of click reflexes on the grounds of Hadza and Sandawe data.

From a purely theoretical standpoint, such a process as «click bifurcation» certainly could have something to do with secondary click formation. One possibility is that the original *$C_1V_1C_2V_2$ root structure, being reduced to *$C_1C_2V_2$ on the PK (PPeK) level, actually retained certain features of the original V_1 by «incorporating» them within C_1; e. g., «early» clicks could be

labialised if V_1 originally was labial, or palatalised (frontalised?) if V_1 was originally **e* or **i*. In fact, we cannot even guarantee that «bifurcating» clicks, if they do go back to simple non-click consonants, *were* clicks on the PK or even the PPeK level. For all we know, they may have remained clusters for a long time after the splitting of Macro-Khoisan and only gradually turned into clicks in daughter subbranches, quite independently of one another.

However, despite the convenience of this scheme, without supporting lexical evidence it, along with any other, is bound to remain an empty speculation. Yet with only two languages (not even forming one subbranch) at our disposal on one side of the comparison, supporting examples become a luxury that is extremely hard to afford. Ehret's paper presents us with 177 etymologies; discarding the semantically questionable ones and adding about 100 more that had remained unnoticed, we will still arrive at no more than 200 — 250 comparisons. Needless to say, this is quite a laughable number, particularly when dealing with a macrofamily of such impressive time depth.

Nevertheless, these 38 examples, as well as some of Ehret's and Honken's etymologies, show one important thing: it *is* possible to discuss the HS/PK relationship in terms of phonetic correspondences rather than mere «similarities». The systematic examples on lateral clicks/consonants in **7.2.1** alone cannot be explained away through chance resemblance. This means that not only are the languages related, but the time depth between them actually allows for occasional «direct» comparison. And this, in turn, means that we can use Hadza and Sandawe evidence «actively» when discussing such things as the origin of click sounds or even the possible external relations of Khoisan languages.

8. CONCLUSION.

The goals of this article have primarily been of a purely practical nature — to present several examples of how it is possible to apply the classic comparative method to Khoisan material by concentrating on regular sound patterns and correspondences rather than chaotically hunting for look-alikes. Nevertheless, the amount of examined material and the actual results of the conducted work still allow us to offer a few general theoretical conclusions as well. These are as follows.

a) The methodics of *intermediate reconstruction*, when applied to Khoisan, works infinitely better than «mass comparison» within that family. It is true that, due to a severe lack of material, deep level reconstructions such as PPeK are still very much based on lexical items from modern languages (Zhu|ʼhoan, !Xóõ) rather than low-level reconstructions (PNK, PSK); how-

ever, very often even «minor» Zhu|'hoan-!Xóõ parallels take on a different look in the light of such reconstructions. On the other hand, placing our emphasis on closely related languages helps us discover numerous intricacies and non-trivial correspondences that could have been missed without a systematic, detailed approach to the lexicon of the languages involved.

b) Absolute reliance on «one-to-one» correspondences brings on the danger of mistaking numerous results of cultural contacts between Khoisan languages for evidence of genetic relationship. Conversely, «non-trivial» correspondences, if based on a significant number of semantically close etymologies, are much more reliable, since the possibility of borrowing for items with such correspondences is more limited.

c) Attempts to discover and describe «non-trivial» correspondences lead us to believe that historical phonetical processes on the PPeK and pre-PCK levels were generally of a different nature than the ones attested and depicted for the lower levels. In particular, «click shifting» from one type of articulation to another was a more common change than click loss or replacement of clicks by non-clicks, although the latter two processes were also moderately active. Later on, the priorities have swapped places, with «declickification» becoming the primary tendency, possibly due to influence on the part of non-click neighbouring languages.

d) The extreme similarity between click systems in modern day Khoisan languages is illusive — while some of the features probably are inherited from a common ancestor, many others must have developed independently due to *similar*, but not *same* tendencies over a period of several millennia. On the other hand, a detailed study of these processes within one subgroup of Khoisan may seriously aid their study in the other branches (cf. all the numerous similarities between «non-trivial» correspondences within PPeK and PCK, such as click articulation shifts; the development $t\mathord{?}\text{-} > \emptyset\text{-}$; elimination of the open vs. closed vowel opposition; «irregular» click loss, etc.).

e) Up to a certain extent, it is quite possible to apply the comparative method to Khoisan languages exactly the way it is supposed to be applied, i. e. by building up collections of etymologies based on regular correspondences, on the strength of available data. Thus, comparison between PK languages shows that one can not only delineate the main types of phonetic change, but trace specific contextually determined developments as well. It is on the higher levels, especially the Macro-Khoisan one, that the perspectives of detailed reconstruction, backed by numerous etymologies, become much more pessimistic.

In the light of these conclusions it becomes clear that future work on the prehistory of Khoisan languages must inevitably be centered around a

meticulous reconstruction of PPeK, PCK, and PK, with particular emphasis on bringing in as much data from as many different languages and dialects as possible. Binary language comparison, such as the one carried out by O. Köhler between Kxoe and Zhu|'hoan [Köhler 1973], may be useful for certain purposes, but is ultimately ineffective, not being able to offer us a clear distributional picture of the compared lexics; same with comparison between subbranches that are seriously distant from each other by means of choosing one best described representative from each of them. This is why, in particular, I would advocate for extensive use of D. Bleek's dictionary, not so much for clarifying phonetic correspondences, an area in which that source is relatively helpless, but for broadening our perspective in general.

A question often asked of researchers specializing in historical Khoisan phonetics is whether their work on internal Khoisan reconstruction can offer any insight into the origins of the click system. The correct answer, as it seems to me, would be «*some*, but definitely not enough». Some, in that it is possible to demonstrate that there are numerous ways in which clicks appear secondarily, as it happens (in small doses) in Nama, PNK, PSK, and (in much larger doses) in PK itself, along with the transition from bisyllabic to monosyllabic root structure. Not enough, because even after eliminating all these cases we are still left with click-containing words in Hadza and Sandawe, particularly the ones which also have click correlates in PK. A comparison between PNK *‖ʔaⁿ 'to fight', PCK *‖ʔaⁿ id., and San. ‖ʔaŋ-ki id., for instance, shows that this may be a very archaic root, and that the lateral click in it may date back to the Proto-Macro-Khoisan period. However, we still have absolutely no clue as to where that click actually comes from, and such clues are not to be gotten through internal Khoisan reconstruction.

It is, of course, always possible to make use of the approximate «clickification» scheme described in section **7.2** in order to make an attempt at finding the «closest relatives» of Macro-Khoisan or in order to attach Khoisan data to the so-called «global etymologies». This would mean, very roughly, that we have to substitute dental clicks for hissing affricates, palatal clicks for dentals, alveolar clicks for velars, and lateral clicks for lateral affricates. However, there are so many immediate limitations that we would have to append to this scheme that it becomes completely unreliable. For instance:

a) «primary» clicks, i. e. the ones already observed in Hadza and Sandawe, may actually be connected with non-click consonants in non-Khoisan languages in a radically different way from «secondary» clicks. That is, even if we can show that some lateral clicks in CK and PK languages correspond to lateral non-clicks in Sandawe, this does not mean that lat-

eral clicks in Sandawe itself have either evolved from earlier lateral non-clicks or evolved into lateral non-clicks in non-Khoisan languages;

b) as has been shown through the PPeK reconstruction, without a deep enough level of reconstruction we can rarely be sure that the actual articulation of a given click is exactly the same as it was a few thousand years ago. Typical case: that of the labial clicks, which are usually without further thought assumed to be primary and compared to non-click labial consonants, both within Khoisan (as in [EHRET 1986]) and without it (as in [ARGYLE 1994]) — yet, as I have argued in **4.2.1.13**, there is actually a fair chance of the labial clicks representing an independent innovation in both ǂHoan and PSK;

c) a major obstacle is «irregular» click loss, observable on practically every level of Khoisan, from modern day languages to Macro-Khoisan (**7.2.5**). In order to be able to successfully compare Khoisan material to non-Khoisan languages, we would have to learn to deal with this situation and to determine the conditions of such loss. Otherwise, it is not clear in which cases we should simply «throw away» the click influx and compare the rest of the word and in which cases we should substitute the influx with an actual non-click consonant.

That said, it would be wrong to state that Khoisan languages are completely «incomparable» with any others. Click consonants are often thought of as forming a completely autonomous system, without any systematic ties to non-click consonants, but this is obviously not the case. It has been recently shown, in an article by T. GÜLDEMANN, how well clicks can actually be integrated with non-click consonants within a single system on the synchronous level [GÜLDEMANN 2001]; likewise, diachronic research gradually unveils more and more connections between the two «sub-systems».

On the whole it must be said that the possibilities of historical work on Khoisan, both in terms of internal reconstruction and external comparison, are not only far from being exhausted, but, in fact, have so far been barely tapped. The majority of the problems associated with this work are of a purely technical nature — lack of linguistic data as well as not enough qualified specialists in the field, rather than any substantial theoretical obstacles that would somehow hinder the application of the classic comparative method to Khoisan. Hopefully this article, expanding on the important results already achieved by C. EHRET, H. HONKEN, B. SANDS, A. TRAILL, R. VOSSEN and others, will serve as one more tiny step towards confirming this statement, as well as help refute the widely held (and, in my opinion, severely erroneous) notion that the traditional comparative method is almost completely inapplicable to linguistic families of such profound time depth as the Khoisan one.

Abbreviations

(P)CK	(Proto)-Central-Khoisan
(P)ECK	(Proto)-East-Central-Khoisan
(P)K	(Proto)-Khoisan
	(or Khoisan proper as opposed to Macro-Khoisan)
(P)KK	(Proto)-Khoekhoe
(P)NH	(Proto)-North-ǂHoan
(P)NK	(Proto)-North-Khoisan
(P)NKK	(Proto)-Non-Khoekhoe
(P)PeK	(Proto)-Peripheral-Khoisan
(P)SK	(Proto)-South-Khoisan
Ang. !Xũ	Angolan !Xũ [SNYMAN 1980]
Cnd.	Cuando dialect of NK [SNYMAN 1997]
Cui.	Cuito dialect of NK [SNYMAN 1997]
Had.	Hadza
Kam.	Kameeldoring dialect of NK [SNYMAN 1997]
Leeu.	Leeunes dialect of NK [SNYMAN 1997]
Ll.	Lucy LLOYD's records of !Xũ [BLEEK 1956]
Mas.	Masarwa (Sesarwa)
Mpu.	Mpunguvlei dialect of NK [SNYMAN 1997]
N. Om.	North Omatako dialect of NK [SNYMAN 1997]
Ok.	Okongo dialect of NK [SNYMAN 1997]
Ov.	Ovamboland !Xũ (as in [HEIKKINEN 1986])
S. Om.	South Omatako dialect of NK [SNYMAN 1997]
San.	Sandawe
Tsin.	Tsintsabis dialect of NK [SNYMAN 1997]
Tsum.	Tsumkwe dialect of NK [SNYMAN 1997]
Zhu.	Zhu|'hoan

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В статье суммированы результаты пятилетней работы автора над материалом койсанской семьи языков в сравнительно-историческом освещении. После краткого изложения основных проблем, связанных с койсанской реконструкцией (недоказанность существования койсанской семьи как таковой; уникальность фонологических систем современных койсанских языков; нехватка новых языковых данных и неадекватная транскрипция старых), автор приходит к выводу, что только тщательная реконструкция ряда промежуточных праязыков (северно-койсанский, южно-койсанский, центрально-койсанский и т. п.) может позволить приблизиться к окончательному ответу на вопрос о возможном родстве всех языков этой предположительной макросемьи.

Большая часть статьи посвящена описанию предварительных результатов, полученных как лично автором, так и западными койсанологами при попытке осуществления таких промежуточных реконструкций, а также рекомендациям по дальнейшей работе над материалом. Один из основных выводов заключается в том, что, несмотря на внешнее типологическое сходство между фонологическими системами разных койсанских подгрупп, перспективным в сравнительно-историческом плане является исключительно установление между ними много-многозначных фонетических соответствий, т. к. в противном случае велика опасность того, что за признаки генетического родства будут на самом деле приняты многочисленные межъязыковые контакты.