Person-gender-number marking from Proto-Khoe-Kwadi to its descendents: a rejoinder with particular reference to language contact[1]

Tom Güldemann

Humboldt University Berlin/ Max Planck Institute for Evolutionary Anthropology Leipzig

1. Introduction

In Güldemann (2004b) I have argued that the Khoe family (alias Central Khoisan) and Kwadi display a number of form-meaning correspondences in the grammatical marking of person, gender, and number. These allow one to reconstruct a common proto-system of personal pronouns and to outline approximate scenarios of how the different marking systems in the modern languages emerged from it. This and strong lexical affinities (cf. Elderkin and Güldemann forthcoming) represent robust evidence for the hypothesis that the two units originate in a common ancestor language called for convenience Proto-Khoe-Kwadi.

Most of the linguistic substance involved in person-gender-number marking of the descendants of Proto-Khoe-Kwadi can be traced back to the reconstructed pronoun system. However, their overall systems were restructured to a considerable extent and also incorporated elements which cannot be reconstructed plausibly.

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1   The paper was presented on the 13/04/04 at the "Work in Progress" meeting at the MPI for Evolutionary Anthropology Leipzig. The abbreviations used in examples are: AD addressee, C common, D dual, DECL declarative, DEI deictic, DIM diminutive, DIST distal deixis, E exclusive, F feminine, I inclusive, INTENS intensifier, IRR irrealis, OBL obligation, P plural, PROX proximal deixis, REL relative, S singular, SP speaker. Arabic numbers, if not followed immediately by S, D, and P, indicate nominal agreement classes.

Languages of the other Non-Bantu families in the geographical area display structural properties in pronouns (outlined in Güldemann 2004a) and even a few individual elements which match fairly closely certain innovations after the Proto-Khoe-Kwadi stage. This paper tries to outline in more detail the idea raised by Güldemann (2004b: 300) that the restructuring of person-gender-number marking in the Khoe family can be explained in part by the interference of languages related to Ju, ǂHoan, and Tuu.

Since this paper involves different language families and sub-groups, I give a brief overview of the lineages involved. All units are commonly subsumed under the umbrella "South African Khoisan (SAK)", which at the present state of knowledge must be viewed as a non-genealogical language group comprising three larger units (underlined in the figures) and two isolated languages, Kwadi and ǂHoan; the latter two are likely related to one of the larger groups (see below). The languages as a whole can be classified into two typologically based groupings.

The first one is the proposed genealogical entity Khoe-Kwadi and represents the main focus of this paper. Its internal breakdown is given in Figure 1.

Figure 1: Subgrouping of Khoe-Kwadi († = extinct, DC = dialect cluster)

Kwadi: single language†

Khoe (= Central SAK)

   Kalahari

      West: Kxoe, Buga, ||Ani (DC); Naro, ǂHaba (DC); G||ana, G|ui (DC)

      East: Shua, Ts'ixa, Danisi, |Xaise, Deti† (DC); Kua-Tsua (DC)

   Khoekhoe

      North: Eini†, Nama-Damara, Hai||'om, ǂAakhoe (DC)

      South: !Ora† (DC); Cape Khoekhoe† (DC)

The second grouping is called "Non-Khoe" - a non-genealogical entity comprising three units shown in Figure 2 (see Güldemann and Vossen (2000) for some discussion of the group as a whole).

Figure 2: Subgrouping of Non-Khoe († = extinct, DC = dialect cluster)

1. Ju (= Northern SAK, DC)

    Northwest: !'O!Xuun, !Xuun

    Southeast: Ju|'hoan, ǂKx'au‖'en

2. ǂHoan: single language (promising genealogical relationship to Ju)

3. Tuu (= Southern SAK)

    Taa-Lower Nossob: N|u‖'en, N|amani, Kakia, East !Xoon etc. (DC); |'Auni, |Haasi (?DC)†

    !Ui: |Xam (DC)†; N‖ng including ǂKhomani and N|huki (DC); ǂUngkue†; ‖Xegwi†

2. The reconstructed system of personal pronouns in Proto-Khoe-Kwadi

The starting point for the following discussion is the pronoun system of Proto-Khoe-Kwadi as reconstructed by Güldemann (2004b). It comprises the markers listed in Table 1, which have reflexes in the modern person-gender-number marking of both Khoe languages and Kwadi.

Table 1: The markers of person, gender, and number shared by Khoe and Kwadi

	Meaning/function of element	Form or feature
1	1st-person singular pronoun	*ti* and *ta* as allomorphs
2	2nd-person singular pronoun	*sa*
3	1st-person dual pronoun	*mu*
4	2nd-person dual/plural pronoun	*o* or *u*
5	3rd-person feminine singular marker	final front vowel or $*-sV^{[front]}$
6	3rd-person masculine singular marker	final front vowel
7	3rd-person feminine plural marker	final front vowel
8	3rd-person masculine plural marker	final vowel *u*
9	3rd-person pronoun base	*xa*
10	noun "person" as potential pronoun base	*kho*
11	nominal dual suffix	*-da*

All markers but the pronoun base *kho* 'person' and the nominal dual suffix *-da* are assumed to have entered the system of personal pronouns given in Table 2.

Table 2: The reconstructed pronoun system of Proto-Khoe-Kwadi

			-Augmented or Minimal	+Augmented
1st+2nd person	= +Speaker/+Hearer	Inclusive	*mu*	?
1st person	= +Speaker/-Hearer	Exclusive	*ti*, *ta*	?
2nd person	= -Speaker/+Hearer		*sa*	*o* or *u*
3rd person	= -Speaker/-Hearer	Masculine	stem† + (?)-*$V^{[\text{front}]\ddagger}$	stem† + (?)-*$u^{\ddagger}$
		Feminine	stem† + *$sV^{[\text{front}]\ddagger}$	stem† + (?)-*$V^{[\text{front}]\ddagger}$

Notes: ?   no plausible reflex in both Khoe and Kwadi

$\dagger$ deictic like *xa* or generic noun like *kho*

$\ddagger$ also used as gender-number index on nouns

This pronoun system is of the minimal-augmented type, which cross-linguistically is not very frequent in numerical terms, but wide-spread geographically (Cysouw 2003); it is also found elsewhere in Africa (Güldemann 2008b). Its main feature is the existence of a 4th person category in addition to the conventional three (speaker = 1st person, hearer = 2nd person, other = 3rd person), i.e. one that marks speaker+hearer. Since this category implies a non-singular referent, such pronoun forms referring to the minimal possible number are often viewed as 1st-person dual inclusives. However, the mapping of person and number within this system does not involve an opposition between singular, dual, and plural. Instead, the three pronouns for the singular persons together with the simplex form for speaker+hearer join into a set marked for "minimal number" and the other forms are characterized as marking "augmented" units (hence the name of the type "minimal-augmented"). Typically, then, such a system has eight different marker slots, i.e., four persons by two numbers. The reconstructed minimal-augmented system of Proto-Khoe-Kwadi has two more elements due to the existence of a gender distinction in the 3rd person.

The form *mu* is the crucial, since potentially ambiguous, form for speaker+hearer = "minimal inclusive". There are no plausible reconstructions for the two augmented pronouns involving the speaker (in traditional terms, they are both 1st-person plural forms). According to Cysouw's (2005) survey of attested syncretisms in this domain, there are three hypotheses regarding their actual form in Proto-Khoe-Kwadi: (a) they were different from each other and any of the reconstructed forms, (b) they were

identical with each other but different from any of the reconstructed forms, (c) the augmented exclusive was identical with the minimal inclusive *mu*, and the augmented inclusive was different.

3. Complex pronominals in Ju and Tuu

In order to come to grips with the structural and formal divergence between the pronoun system of Proto-Khoe-Kwadi and the person-gender-number marking of modern Khoe-Kwadi languages, it is useful to have a look at certain phenomena involving pronouns in Non-Khoe languages. The features at issue have been dealt with by Güldemann (2004a) and I will briefly repeat here the most important points.

Personal pronouns at least in Tuu and Ju languages are generally noun-like and thus are subject to the same morphosyntactic modification strategies as nouns. They can be specified for some additional feature, thus forming a pronominal noun phrase or a morphologically complex pronoun together with its modifying element(s). There are three major semantic-functional domains of pronoun modification; they concern (a) the entity type, (b) the deixis and information status, and (c) the quantity of the referent encoded by the pronoun. The three types are shown by the examples (1)-(3) (modifiers are in bold).

(1)   Ju|'hoan (Southeast, Ju)

*ha-**di***	*ha-**ma***	*ha-**di-ma***	
1-F	1-DIM.S	1-F-DIM.S	
the female one	the small one	the small female one	(Güldemann field notes)

(2)   Ovambo~West Kavango !Xuun (Northwest, Ju)

a.   *hǎ-'è   'ǔ   hǎ-'àŋ*   (or *hǎ`è 'ǔ hǎ`è*)
        1-PROX go 1-PROX
        that one over there

b.   ***g/è***   *yíǐ* ***tò'à***
        come   3   DIST
        those over there   (Heikkinen 1987: 13, 14)

(3)   East !Xoon (Taa, Tuu)

ūh //âe 'ū	*ūh **ǂnûm***	
2P three 2P	2P two:(2D)	
you three	you two	(Traill 1994: 196)

The normal structure of complex pronominals is [Pronoun + Modifier]; as found in (1) and the second form in (3). The examples in (2)a. and the first form in (3) show that the pronoun can also be repeated after the modifier, yielding the structure [Pronoun

+ Modifier + Pronoun]. Finally, there are instances of complex pronominals [Modifier + Pronoun], as in (2)b., here the modifier normally starts in a click. This last structure can be derived from the second one by assuming that the initial pronoun has been dropped; this phenomenon can be motivated by a strong tendency in these languages to have clicks and other strong consonants in initial position. The mere existence of these syntactically or morphologically complex pronominals is assumed to be a first important factor for the later restructuring of the pronoun system of Proto-Khoe-Kwadi.

A point of particular relevance for reconstructions in the Khoe family is that pronominals in Ju and Tuu which are specified for dual and plural number tend to be integrated into the basic paradigm of personal pronouns. The addition of a dual series leads to an increase in pronominal categories and a greater inventory of paradigmatic forms. The modern pronoun system of the Ju variety Ju|'hoan in Table 3 (after Dickens 2005) represents an intermediate stage of such a development: its final dual and plural markers, i.e. *!á* and *tsá*, are still formally transparent and optional in their use.

Table 3: The personal pronouns of Ju|'hoan

		Singular	Plural	Dual
1st person	Inclusive		*m* (*!á*)	*m* (*tsá*)
	Exclusive	*mí*	*è* (*!á*)	*è* (*tsá*)
2nd person		*à*	*ì* (*!á*)	*ì* (*tsá*)
3rd person	Gender I	*ha*	*sì* (*!á*)	*sá*
	Gender II	*ha*	*hì*	
	Gender III	*ha*	*ha*	
	Gender IV	*hì*	*hì*	
	Gender V	*ká*	*ká*	

I will argue in the following sections that the above properties of personal pronouns in Non-Khoe have contributed to linguistic changes in Khoe-Kwadi languages, which rendered their modern pronoun systems to be different from the proto-system. Since the supposed substrate interference affected the sub-units of this family

differently, they will be treated separately. First, I will deal with the development from Proto-Khoe-Kwadi to Kwadi (§4); this only very briefly, because it may in fact not be relevant for the main discussion. Second, the scenario proposed by Güldemann (2004b: 292-300) for the dramatic changes from Proto-Khoe-Kwadi to Proto-Khoe will be elaborated in terms of probable influences from some language related to Ju and ǂHoan (§5). Finally, I will discuss phenomena which are relevant after the Proto-Khoe stage, applying particularly to the Khoekhoe branch of Khoe; here the Non-Khoe influence most probably came form languages of the Tuu family (§6).

4. From Proto-Khoe-Kwadi to Kwadi

As stated already by Güldemann (2004b: 290-2), the changes from Proto-Khoe-Kwadi to modern Kwadi are relatively minor. This can be demonstrated by a comparison between the proto-system given in Table 2 above and the Kwadi system in Table 4.

Table 4: The personal pronouns of Kwadi

		Singular	**Plural**	**Dual**
1st person	**Inclusive**		(*h*)*ina*	(*h*)*a-mu*
	Exclusive	*tʃì, ta*	*ala*	
2nd person		*sa*	*u*	***u-wa***
3rd-person	**Masculine**	*ha-dɛ*	*ha-u*	***ha-wa***
	Feminine	*hɛɛ* (< *ha-e*)	*ha-'ɛ*	***ha-wa***

    Apart from several processes of weakening the phonetic substance of certain reconstructed markers and the possible innovation of some elements (see in particular the two 1st-person plural forms), the most important development is the emergence of a set of dual pronouns. This innovative dual series is mostly rendered by the combination of a pronoun or pronoun base with the number-marking suffix -*wa* (see the forms in bold); the only form outside this pattern is the inherited 1st-person dual form (*h*)*a-mu*.

    Greenberg (1988) and other authors have pointed out that the crucial element of a minimal-augmented pronoun system, i.e. the 1st-person inclusive dual form, is structurally ambiguous; it can be analyzed as +speaker/+hearer/-augmented (then, it is part of a fourth person category) or as +speaker/±hearer/+dual (then, it is part of a third number category). As soon as such a language acquires additional pronouns with dual

reference, it becomes more probable that the second interpretation will predominate. That is, a minimal-augmented system is inherently unstable and has a predisposition to change towards a system with a genuine dual category. In the specific case of Kwadi, it was the use of the nominal dual suffix *-wa* on pronominal elements which instigated the creation of dual forms and lead to the demise of the original system.

In general, then, the changes towards modern Kwadi can be explained largely in terms of natural and attested language-internal developments. Recall, however, from the previous section that languages of Ju and Tuu have a clear tendency to overtly specify dual number on pronouns. In view of this information, it is not a far-fetched idea that the building up of a dual pronoun series in Kwadi is a reaction to this areal trend in southern Africa and might have been influenced to some extent by language contact. The major reason why this is not proposed here with any confidence is the lack of concrete hints that such contact actually occurred; the linguistic history of Kwadi is largely unclear and it is separated geographically from Non-Khoe languages.

5. From Proto-Khoe-Kwadi to Proto-Khoe

This section tries to show that a contact-induced explanation of certain developments from Proto-Khoe-Kwadi to Proto-Khoe does have concrete evidence in its favor.

In general, the structural and formal changes which the original pronoun system has undergone up to the Proto-Khoe stage must have been far more dramatic. This becomes clear from the comparison of the system in Table 2 with the reconstruction of person-gender-number markers (henceforth just "PGN") of Proto-Khoe in Table 5.

I will not repeat here all the changes that are assumed to have taken place in the development from the pronoun system of Proto-Khoe-Kwadi to the PGN system of Proto-Khoe, because most of them have been discussed by Güldemann (2004b); the present paper should be read as a rejoinder to this previous study. Of central concern here is the ultimate origin of the innovative Khoe PGNs which mark non-singular (i.e. dual and plural) number.

Two important facts should be observed regarding the function and form of these PGNs: (a) they also encode specific persons and genders and (b) all but the 3rd-person common and feminine plurals are morphologically complex, comprising an initial base marking predominantly gender and number (**kho*, **ta*, **sa*, **tsa*, **!a*) and a final

element marking predominantly person and number (*mu, *dao, *da, *e, *o).

Table 5: The reconstructed PGN system of Proto-Khoe

	Gender			Number
	Common	Feminine	Masculine	
1st person	*ti, *ta			Singular
2nd person		*sa	*tsa	
3rd person		*si	*bi	
1st person	*kho-m(u)	*sa -m(u)	*tsa-m(u)$^?$	Dual
2nd person	*kho-da-o	*sa -da-o	*tsa-da-o$^?$	
3rd person	*kho-da	*sa -da	*tsa-da$^?$	
1st person	*ta -e	*sa -e	*!a -e	Plural
2nd person	*ta -o	*sa -o	*!a -o	
3rd person	*nV	*di	*!a -u (> *!u)	

Notes: **bold** not in Proto-Khoe-Kwadi
?   presumably Kalahari Khoe only

A first general point regarding the innovation at issue reduces the actual number of elements to be explained here: as argued in more detail by Güldemann (2004b: 277-9, 295-6), the dual and plural forms in initial *ta-, *sa-, *tsa- are assumed to be a later development in the regularization of the PGN system. I argue that they were modeled structurally on the previously emerging forms in *kho- and *!a- in that the final elements of these PGNs were combined with pronoun bases that were recruited from gender-specific elements in the existing singular paradigm (1st-person common *ta, 2nd-person feminine *sa, and 2nd-person masculine *tsa; see, however, below regarding an additional external factor for the recruitment of *tsa). Without the dual and plural forms emerging by way of analogy, the older system would have had only one set of duals (in *kho-) and one set of plurals (in *!a-) which did not distinguish gender. It is the origin of these PGNs which I will try to elucidate now.

As indicated by Tables 1 and 5, the kho-series of PGNs can be analyzed as containing exclusively linguistic material reconstructed for Proto-Khoe-Kwadi. The novelty in Khoe is the way this material is combined for the explicit encoding of dual number on pronouns. My proposal laid out in Güldemann (2004b: 276-7, 295) is as

follows. Proto-Khoe-Kwadi can be reconstructed as having a noun *kho 'person' (with the reflexes kho in Kwadi and *khoe in Proto-Khoe). This semantically generic lexeme was used as a pronoun base; this phenomenon is still attested in some modern Kalahari Khoe languages and has areal precedents in Ju and Tuu languages.

Specifically, the combination of *kho and the number suffix *-da with the literal meaning 'two people' (arguably cognate with Kwadi kho-wa 'two people') turned into the pronominal dual marker *kho-da. Subsequently, this 3rd-person form was converted into the 2nd-person form *kho-da-o by adding the 2nd-person plural marker *o. Eventually, the 1st-person dual marker *mu reconstructed for Proto-Khoe-Kwadi also took this pronoun base yielding *kho-m(u). Note in this respect that its cognate in Kwadi can be preceded by the element ha- (homophonous with the 3rd-person pronoun base); this suggests that *mu could take a pronoun base also in earlier chronolects (indicated by (?)- in the following tables).

The basic mechanism in Pre-Khoe of establishing a dual series can be assumed to have been very similar to the systemic restructuring in Kwadi: the ambiguous *mu and just one other pronominal with dual reference (here *kho-da) would have formed a mini-paradigm of dual pronouns, which could be extended by taking the new complex item as a model for yet other forms. As a result, the original minimal-augmented system (see Table 2) shifted to one with three number categories (see Tables 6a-b).

It is possible that the dual suffix *-da had already been specifying number directly on non-1st-person pronouns. In this case, Pre-Khoe would have been very similar to modern Kwadi and would only later have gone through a stage when there existed alternative dual forms in *kho. This later situation is captured in the hypothetical pronoun system of Pre-Khoe given in Table 6a.

Table 6a: The possible pronoun system of early Pre-Khoe

		Singular	Plural	Dual	
1st person		*ti, *ta	?	*(?)-mu,	*kho-mu
2nd person		*sa	*o	*o-da,	*kho-da-o
3rd-person	Masculine	*stem-(?)-$V^{[front]}$	*stem-(?)-u	*stem-da,	*kho-da
	Feminine	*stem-s$V^{[front]}$	*stem-(?)-$V^{[front]}$	*stem-da,	*kho-da

Assuming an early existence of *kho*-less duals in *-*da* and a gradual development of the *kho*-set, the dual paradigm is in fact more likely to have had an interlocking pattern, composed of forms with several pronoun bases, one of them *kho. This idea, shown in Table 6b, can explain that *kho*-PGNs in parts of Khoe, i.e. the Khoekhoe branch, encode masculine gender; this would then represent the original situation.

Table 6b: The possible pronoun system of early Pre-Khoe

		Singular	Plural	Dual
1st person		**ti, *ta*	?	**(?)-mu*
2nd person		**sa*	**o*	**o-da*
3rd-person	Masculine	**stem-(?)-V*[front]	**stem-(?)-u*	**kho-da*
	Feminine	**stem-sV*[front]	**stem-(?)-V*[front]	**stem-da*

In the following, I undertake to show that all PGNs with *kho attested in modern Khoe languages can indeed be conceived of as originating in the complex pronominals *kho-da (3rd person), *kho-da-o (2nd person), *kho-mu (1st person). I posit that alternations in this PGN type across modern Khoe have been determined in general by a complex interplay of partly conflicting factors, presumably in different ways for individual languages. The most important factors contributing to these forms are: (a) the original vowel of *kho itself, (b) assimilatory pressure exerted by the person and number suffixes following *kho, and (c) analogical processes modeled on the initials replacing *kho in other PGNs, namely *sa in the feminine dual, *tsa in the masculine dual, and *ta in the common plural. All the forms attested in Voßen's (1997: 234-50) Khoe data are considered in this discussion (these forms will lack an asterisk). I disregard the regular alternations *kh~kx* in the stem's initial consonant and *d~r* in the dual suffix, giving in the following only the respective variants *kh* and *d*.

Starting with the 3rd-person forms, the most widespread development in Khoe can be sketched in the chain of forms *khoda > khoada > khada*. A fairly minor change in Tsua and G‖ana would be *khoda > khode*. The development that must be diagnosed for the Kxoe group and parts of Khoekhoe is more drastic: *khoda > khoa~khua > kha*. However, lenition in the dual suffix *-*da* can also be assumed for Kwadi (*-*da > -wa*), so that the complete loss of *d* in parts of Khoe and subsequent simplification of the entire form towards *kha* are not surprising. In fact, this detail lends credibility to the

reconstruction by virtue of the fact that lenition turns out to be partly a geographical isogloss shared by Kwadi and the closest, northwestern area of Kalahari Khoe which is constituted by the Kxoe group.

The situation regarding the attested 2nd-person forms can be explained by two different scenarios. The first possibility is that a change in the stem vowel from *o* to *a* took place first, as with the 3rd-person forms, and only then would the suffix *-o* have exerted influence on the preceding *khada*. This would imply for the main attested forms the path *khoda* > *khada* > *khada-o* > *khado* > *khao* or *khodo*. Alternatively, the attested forms can be integrated in the following series of changes: *khoda-o* > *khodo* > *khado* > *khao*, in which only the posited original form is not attested. Here, one cannot argue for stem vowel assimilation caused by the number suffix *-da*. But as proposed initially, it can be considered that *kho*'s paradigmatic counterparts that do have a vowel *a* (*ta*, *sa*, and *tsa*) have triggered a process of analogical leveling.

In the 1st-person set, it is again only the assumed reconstruction *kho-mu* which is not attested synchronically and thus must be posited on historical-comparative grounds. A universal Khoe development would then have been *khomu* > *khom~khum* > *kham*; again, the stem vowel change would have to be evaluated from the wider perspective of analogy within the whole PGN paradigm. Changes went still further in a local innovation of the Tshwa group and partially its G‖ana group neighbors, namely *kham* > *khabe* > *khebe*; while the particular reason/mechanism for this development remains unclear, these languages share a parallel fortition in the common plural form *nV* > *de*.

Having laid out a scenario for the emergence of the dual PGN series in *kho*, I turn to the plural PGNs. As opposed to the *kho*-paradigm, it is significant that these involve several items which do not have a reflex in Proto-Khoe-Kwadi (indicated in Table 5 by bold letters). In the domain of morphologically complex plural forms, they are the pronoun base *!a* in the masculine series and the 1st-person suffix *-e*. Moreover, there exist two elements with an unclear historical source in the simplex forms for 3rd-person common *nV* and feminine *di*.

As mentioned already by Güldemann (2004b: 300), two of these items have comparable counterparts in Southeast Ju and ǂHoan. Table 7 presents this comparison, including a further candidate *-di* pointed out to my by B. Sands (p.c.).

Table 7: Comparable pronominal items between Proto-Khoe, Ju, and ǂHoan

	Proto-Khoe	Southeast Ju	ǂHoan
1	*$!a$ in all M.Ps	$!a$ = plural marker on pronouns	$!\tilde{a}$ in 1P
2	*$-e$ in all 1Ps	e = 1 P.E	$-'\tilde{e}$ in 1P
3	*$!ae$ = 1M.P	$e!a$ = 1P.E+P	$!\tilde{a}'\tilde{e}$ = 1P
4	*di = 3F.P	$-d\acute{i}$ = female derivation suffix	-

In view of these apparent affinities between pronominal markers of different families, I propose that the emergence of the sub-paradigm of *!a*-PGNs in Pre-Khoe is due to structural interference and borrowing from a Non-Khoe language genealogically related to Ju and/or ǂHoan. Specifically, Pre-Khoe would have been in contact with a language that possessed (a) pronouns specified for plural by *!a*, (b) a 1st-person plural form *e*, and probably (c) a feminine marker *di*. The association of Proto-Khoe *!a* with the plural marker *!a* in Ju and/or ǂHoan rules out my hypothesis (Güldemann 2004b: 276) that *!a* in Khoe was structurally similar to the pronoun base *kho* 'person'.

With respect to modern languages, Juǀ'hoan of the Ju language complex has all three items and marks plural pronouns redundantly by *!a* (see Table 3). Also, the linguistic affinities between Ju and ǂHoan, among them the similarities of Table 7, suggest that the two units are genealogically related. Within this approach, it is argued by Güldemann (2004a) that an earlier chronolect of Ju-ǂHoan possessed number-specified pronouns of the form [Pronoun + Modifier + Pronoun] (cf. (2)a. and (3) above); among them a 1st-person plural form *e !a e*. My hypothesis is that Pre-Khoe, in contact with such a language, came to mark the plural pronouns with *!a* and to incorporate two other borrowings in this sub-paradigm, namely *e* for 1st person and *di* for feminine.

The morphotactics of the Proto-Khoe PGNs [Plural marker *!a* + Person-number/gender-number marker] (see Table 5), is not identical with the most likely input from the assumed source language [Pronoun + *!a* + Pronoun]. In order to reconcile the two, the most plausible hypothesis for the Pre-Khoe stage is to assume structures which consisted normally of three morphemes: an initial pronoun base (either the personal pronouns *e* and *o* or a 3rd-person stem), the medial plural marker *!a*, and a final

element (either the repeated personal pronoun or the gender-number suffix).

As soon as language contact is entertained, it makes sense, too, that the changes in the dual domain were not independent from those in plurals. Taking this into account, the pronoun system of Pre-Khoe might have been like that in Table 8 (borrowed items in bold; the new dual set is represented here by the interlocking paradigm of Table 6b). An important similarity between this system and that represented by Ju|'hoan in Table 3 is that dual and plural forms are mostly marked for number by a separate morpheme; in the case of plurals, this although the pronouns per se already encode this number.

Table 8: The possible pronoun system of later Pre-Khoe

		Singular	**Plural**		**Dual**	
1st person		*ti, *ta	*e	-!a-e	*(?)	-mu
2nd person		*sa	*o	-!a-o	*o	-da-o
3rd-person	**Masculine**	*stem-(?)-$V^{[front]}$	*stem	-!a-u	*kho	-da
	Feminine	*stem-$sV^{[front]}$	*stem	-di	*stem	-da

The assumed tripartite morpheme pattern of plurals helps to explain how dual forms were regularized towards a homogeneous series in *kho-. The 2nd-person PGN *kho-da-o in particular may have been modeled simultaneously on the 3rd-person dual counterpart *kho-da and on the 2nd-person plural counterpart *(o)-da-o with final o.

If indeed, as indicated in Table 8, the feminine form *stem-di partook of the plural paradigm right from the beginning, it would have been an exception to the dominant pattern. I do not have an explanation for this phenomenon. It is noteworthy, however, that the feminine plural marker of Proto-Khoe-Kwadi can be reconstructed with a final front vowel (see Table 2). This feature matches with the form of the assumed borrowing *di and thus may have played a role in the transfer.

For a better understanding of the changes after the contact-induced introduction of number-specified pronouns, Table 9 restates the hypothetical pronoun system of Pre-Khoe in Table 8 in the categorial mould of the PGN system of Proto-Khoe (the 3rd-person dual form *stem-da appears in parentheses under both feminine and common = gender-neutral, because it remains unclear how it should be reconstructed).

Table 9: The possible pronoun system of later Pre-Khoe

	Gender			Number
	Common	**Feminine**	**Masculine**	
1st person	*ti, *ta	-	-	**Singular**
2nd person	*sa	-	-	
3rd person	-	*stem-s$V^{\text{[front]}}$	*stem-(?)-$V^{\text{[front]}}$	
1st person	*(?) -mu	-	-	**Dual**
2nd person	*o -da-o	-	-	
3rd person	(*stem-da)	(*stem-da)	*kho-da	
1st person	*e -!a-e	-	-	**Plural**
2nd person	*o -!a-o	-	-	
3rd person	-	*stem-**di**	*stem-**!a**-u	

The most important subsequent changes which must be assumed for explaining the later processes of analogical leveling in non-singular PGNs is the innovation of the 2nd-person singular masculine *tsa, as a counterpart to feminine *sa, and the creation of masculine paradigms, based on *kho in the dual and on *!a in the plural. The result of these changes is given in Table 10 (the elements to be recruited later for new analogical forms are marked by capital letters).

Table 10: The possible pronoun system of later Pre-Khoe

	Gender			Number
	Common	**Feminine**	**Masculine**	
1st person	*ti, *TA	-	-	**Singular**
2nd person	-	*SA	*TSA	
3rd person	-	*(stem)-si	*(stem)-bi	
1st person	*-MU	-	*kho-MU	**Dual**
2nd person	*-DA-O	-	*kho-DA-O	
3rd person	*-DA	-	*kho-DA	
1st person	-	-	*!a-E	**Plural**
2nd person	-	-	*!a-O	
3rd person	-	*(stem)-di	*(stem)-!a-u	

Some questions as to why and how exactly the changes from the system in Table

9 towards that in Table10 happened do not find a satisfying answer here. One such open problem is the omission of elements originally preceding the final forms *-mu*, *-da-o*, *-da*, *!a-e*, and *!a-o*. The areal tendency to have strong consonants in initial position only motivates this change for the items in *!a*, the other finals start in canonical medial consonants.

Another question concerns the fixation of the *kho-* and *!a*-series to masculine gender; for the latter, this would have been the major precondition that its meaning shifted from plain plural reconstructed for Proto-Ju to MASCULINE plural in Khoe. The fact that the explicit marking of number occurs first for masculine gender, which includes masculine sex for animates, is at least consistent with the typologically informed generalization that grammaticalized number distinctions are preferred for animate/human referents. There is another point worth mentioning. Bleek (1928: 61) and Köhler (1981: 585) indicate that some Southeast Ju varieties use the pronouns in *!a* for masculine plural referents, while the *!a*-less forms denote feminine or common. Provided some kind of association between plural *!a* and masculine semantics indeed exists in Southeast Ju, the meaning of *!a* in Pre-Khoe would fall out naturally.

The picture in Table 10 can account for the emergence of systems that are more and more like those in modern Khoe languages, which are characterized by the presence of a distinct form for 3rd-person common plural and, more importantly, of full gender-specific series for duals and non-3rd-person plurals. The innovative forms arose by way of analogical leveling; the regular, morphologically transparent pattern [Pronoun base + Person-number suffix], found in the series with *kho* and *!a* served as the model. The set of person-number suffixes on these two initials only needed other, gender-specific pronoun bases in order to create a fuller system. As mentioned already, these were recruited from the singular forms for speech act participants. The assumed diachronic order of their introduction was first *sa* for feminine gender, then *ta* for common gender, and finally and only in Kalahari Khoe, *tsa* for masculine gender. These intermediate steps are shown in the Tables 11a-c (respective innovations in bold).

I have indicated above that the recruitment of *tsa* for masculine might also have involved an external factor. This dual-marking element stands in paradigmatic opposition to the plural marker *!a* (see Table 11c). The element *!a* has been proposed to be a borrowing from Ju and/or ǂHoan. A look at the pronoun system of the Southeast

Ju variety Juǀ'hoan (Table 3) reveals that the assumed source element *!a* displays a parallel situation to that in Kalahari Khoe in that it also contrasts with a dual marker *tsa*. While the semantic opposition *tsa* vs. *!a* is only partly similar in the two language groups, and the historical scenario for the elements' recruitment is different, it is nevertheless intriguing to imagine that the contrast in a possible contact variety of Ju has exerted some influence in Kalahari Khoe on the recruitment of *tsa* for the masculine dual series. The only plausible location of this assumed contact would also explain why, according to the reconstruction, **tsa* has only emerged in Kalahari Khoe.

Table 11a: The possible PGN system of later Pre-Khoe

	Gender			Number
	Common	**Feminine**	**Masculine**	
1st person	*ti, *ta	-	-	**Singular**
2nd person	-	***SA***	*tsa	
3rd person	-	*(stem)-si	*(stem)-bi	
1st person	*-m(u)	***sa-m(u)***	*kho-m(u)	**Dual**
2nd person	*-da-o	***sa-da-o***	*kho-da-o	
3rd person	*-da	***sa-da***	*kho-da	
1st person	-	***sa-e***	*!a-e	**Plural**
2nd person	-	***sa-o***	*!a-o	
3rd person	*(stem)-nV	*(stem)-di	*(stem)-!a-u	

Table 11b: The PGN system of Proto-Khoe

	Gender			Number
	Common	**Feminine**	**Masculine**	
1st person	*ti, ***TA***	-	-	**Singular**
2nd person	-	*sa	*tsa	
3rd person	-	*(stem)-si	*(stem)-bi	
1st person	*-m(u)	*sa-m(u)	*kho-m(u)	**Dual**
2nd person	*-da-o	*sa-da-o	*kho-da-o	
3rd person	*-da	*sa-da	*kho-da	
1st person	***ta-e***	*sa-e	*!a-e	**Plural**
2nd person	***ta-o***	*sa-o	*!a-o	
3rd person	*(stem)-nV	*(stem)-di	*(stem)-!a-u	

Table 11c: The PGN system of Proto-Kalahari-Khoe

	Gender			Number
	Common	Feminine	Masculine	
1st person	*ti, *ta			Singular
2nd person		*sa	*TSA	
3rd person		*(stem)-si	*(stem)-bi	
1st person	*kho-m(u)	*sa-m(u)	*tsa-m(u)	Dual
2nd person	*kho-da-o	*sa-da-o	*tsa-da-o	
3rd person	*kho-da	*sa-da	*tsa-da	
1st person	*ta-e	*sa-e	*!a-e	Plural
2nd person	*ta-o	*sa-o	*!a-o	
3rd person	*(stem)-nV	*(stem)-di	*(stem)-!a-u	

To sum up, the Khoe-internal developments laid out by Güldemann (2004b) in conjunction with the contact-induced changes proposed here are capable of giving a fairly complete and concrete scenario as to how the pronoun system of Proto-Khoe-Kwadi was transformed to the PGN system of Proto-Khoe regarding its systemic organization as well as the form of its markers.

This historical scenario is relevant for an observation regarding the typological profile of Africa. It has been noted by Creissels (2000: 247) that the continent is not rich in languages with dual as a fully grown number category. A number of African languages mark dual only in the 1st-person pronoun and can thus be associated with the minimal-augmented type (see Section 2). The only language groups for which Creissels mentions a number split of singular vs. dual vs. plural for both nouns and pronouns are Ju and Khoe. Since the information for Ju is inadequate, the only African group with this property seems to be Khoe with its relative Kwadi (though here, in a less developed stage). The present discussion reinforces Creissels' general conclusion: even in the single remaining case of Khoe-Kwadi this feature is fairly young and secondary, arising out of the complex interaction of three factors: (a) the inherent properties of the earlier minimal-augmented pronoun system, (b) the existence of a nominal dual marker, and finally (c) the contact interference exerted by complex number-specified pronouns of an unrelated Ju-‡Hoan language located in the area where Pre-Khoe was spoken.

6. From Proto-Khoe to Khoekhoe

A final area where Non-Khoe languages seem to have influenced the structural makeup of pronominal elements in Khoe languages concerns first of all the Khoekhoe branch. These languages in particular show another elaboration of the pronoun system. They possess the full set of PGNs inherited from Proto-Khoe; here, they have become enclitics attached to different kinds of hosts. However, in addition they display a set of free, independent pronouns and these consist of an initial pronoun base and a final PGN. (Note that the pronoun bases *ta, *sa, *tsa, *kho, and *!a of the Pre-Khoe stage are now integral parts of the PGN enclitics.) Table 12 gives the full paradigm of such forms from the Khoekhoe language !Ora (after Meinhof 1930: 43).

Table 12: The system of independent pronouns in !Ora

		Gender			Number
		Common	Feminine	Masculine	
1st person			tii -ta	tii -re	Singular
2nd person			saa -s	saa -ts	
3rd person		//'ãi -'i	//'ãi -s	//'ãi -b	
1st person	Exclusive	sii -m	sii -sam	sii -kham	Dual
1st person	Inclusive	saa -m	saa -sam	saa -kham	
2nd person		saa -khao	saa -saro	saa -kharo	
3rd person		//'ãi -kha	//'ãi -sara	//'ãi -khara	
1st person	Exclusive	sii -da	sii -sē	sii -tjē	Plural
1st person	Inclusive	saa -da	saa -sē	saa -tjē	
2nd person		saa -du	saa -sao	saa -kao	
3rd person		//'ãi -n	//'ãi -dē	//'ãi -ku	

While Voßen (1997) reconstructs this type of morphologically complex pronoun back to Proto-Khoe (called there "Vollformen"), Güldemann (2002) argues that it is a later innovation - this for two major reasons. On the one hand, it does not exist in all Khoe subgroups across the whole paradigm; instead, such forms build up a geographical north-south cline of increasing frequency and expanding distribution. The Kxoe, Shua, and Tshwa groups predominantly have complex 3rd-person forms (a situation inherited

from Proto-Khoe, cf. Table 11b); in the Naro and G‖ana groups, 1st- and 2nd-person forms are affected to a greater extent; however, only in Khoekhoe does a complete paradigm of free pronouns of the form [Base + PGN] exist.

On the other hand, while the PGNs clearly go back to Proto-Khoe, the pronoun bases across the family cannot all be reconstructed to such an early stage. The pronoun bases in Kalahari Khoe, namely *xa, *a, *e, *i, are likely to originate in demonstrative stems of early Khoe chronolects, conforming to their predominant use in 3rd-person forms. The pronoun bases of Proto-Khoekhoe, however, are different in form and distribution, and heterogeneous in their historical origin: two forms, *tii* encoding speaker and *saa* encoding addressee, are identical to Proto-Khoe PGNs, i.e. 1st-person singular *ti and 2nd-person singular *sa; the two other forms, *sii for 1st-person exclusive and *//ʼãi for 3rd person, are borrowings which reflect the strong Tuu substratum in the Khoekhoe branch (see Güldemann (2006) for the Khoekhoe-Tuu contact hypothesis in general and Güldemann (2002) for the pronominal interference in particular).

An additional feature of these **BASIC** COMPLEX PRONOUNS is that they can incorporate a lexical stem that specifies the type of referent denoted by the pronoun. Dempwolff (1934/5: 40) reports in this respect for Namibian Khoekhoe:

> In die [komplexen] Pronomina personalia können die Wortstämme von Substantiven derart eingeschoben werden, daß der eine Teil [des Pronomens] davor [i.e., das Substantiv], der andere dahinter gefügt wird. Diese Bildung dient dazu, das Substantiv mit Nachdruck als eine bestimmte Vorstellung zu bezeichnen. [Complex personal pronouns can incorporate noun stems, so that one part of the pronoun attaches to the noun stem before and the other after it. This formation is used in order to emphatically denote the concept of the noun.]

Compare the representative example in (4), where *sakhoida* in the second clause explicitly refers to the notion 'human' (see Hagman (1977: 43) for more relevant data).

(4) Namibian Khoekhoe (North, Khoekhoe, Khoe)

sa-da   *gye*   *nĩra*   *//ō*   OR   *sa-**khoi**-da*   *gye*   *nĩra*   *//ō*
AD-1C.P DECL OBL   die   AD-person-1C.P   DECL   OBL   die
Wir (pl. k. inkl.) müssen sterben.   Wir Menschen müssen sterben.
[**We (incl.)** have to die.   **We humans** have to die.]   (Dempwolff 1934/5: 40)

These **MODIFIED** COMPLEX PRONOUNS of Khoekhoe also involve nominal derivation devices like the diminutive suffix -*ro*, as shown in (5).

(5)   Namibian Khoekhoe (North, Khoekhoe, Khoe)

*tíí-**ró**-ta*
SP-DIM-1S
little me (Hagman 1977: 45)

As a summary, one can identify two features in independent pronouns of
Khoekhoe which as such do not seem to have been in place in earlier Khoe chronolects:
(a) the fully-fledged combination of two co-referential pronouns in a complex
pronominal expression (in both the basic and modified complex pronouns; except for
inclusives which combine an initial 2nd-person with a final 1st-person form) and (b) the
modification of pronouns by means of lexical or derivational elements (only in the
modified complex pronouns).

Both features, i.e. pronoun modification and pronoun doubling, are typical for
complex pronominals in Non-Khoe languages and are combined in the structural pattern
[Pronoun + Modifier + Pronoun] (cf. Section 3). I therefore propose that the culmination
in Khoekhoe of the tendency to build up complex pronouns consisting of a base and a
suffix as well as their additional modification has been influenced by contact with Non-
Khoe languages, in this case, most likely belonging to the Tuu family.

A direct affinity between pronouns of Khoekhoe and !Ui has already been dealt
with by Güldemann (2002: 53-8). The 3rd-person pronoun base *//'ãi* of Khoekhoe is
assumed to be a !Ui loan and the type of complex 3rd-person pronoun involving this
borrowed initial base and an inherited final PGN has a direct match at least in the !Ui
language |Xam. In both Namibian Khoekhoe (6) and |Xam (7), an emphatic anaphor is
formed by the initial intensifying element *//'ãi* 'self' and a following personal pronoun
(the different orthographic forms of *//'ãi* are due to older transcriptions).

(6)   Namibian Khoekhoe (North, Khoekhoe, Khoe)

*ti-ta   gye   //**ẽ̄i**-ta*
SP-1S   DECL   INTENS-1S
Ich bin es. [It is ME/MYSELF.] (Dempwolff 1934/5: 46)

(7) |Xam (!Ui, Tuu)

*i   se   //**ẽ̄:i**   i   //a   //k''oen*
1P.I   IRR   INTENS   1P.I   go   look
... that we might ourselves go to look. (Bleek 1956: 520)

My hypothesis is that the |Xam strategy of specifying a particular information
status of a personal pronoun has been directly transferred to Khoekhoe in the form of a

complex pronoun with initial *//'ãi*. The Khoekhoe forms, when having a final non-3rd-person PGN as in (6), are still today used as EMPHATIC co-reference pronouns (see Haacke (1977) for more data, but a different syntactic analysis). The complexes of the form [*//'ãi* + 3RD-PERSON PGN], however, were subject to a further development: here, the earlier function of the initial intensifier, though still attested in certain contexts, was backgrounded and it grammaticalized to a marker of mere ANAPHORIC co-reference. This is why these forms have been integrated in the paradigm of independent anaphoric personal pronouns, as shown in Table 12.

The second similarity of free Khoekhoe pronouns to those in Non-Khoe languages is their highly productive capacity of modification, particularly for entity type. This affinity is less straightforward for two reasons. First, it does not involve borrowed linguistic substance. Second, although the Khoekhoe structure [Pronoun + Modifier + Pronoun] has as such clear counterparts in Non-Khoe (cf. the forms of Ju|'hoan in (2)a. and of East !Xoon in (3), specified for deixis and number, respectively) it is so far not attested there for entity-type specification, which is the principal domain in Khoekhoe. Nevertheless, since the entity type-specified pronouns in Khoekhoe do not have clear precedents in Kalahari Khoe languages, it is plausible to assume that related Non-Khoe structures played a role in their development.

The following examples from Ju|'hoan and |Xam show the sequence [Pronoun + Noun]. In both cases, the lexeme in second position is syntactically the modifier of the initial 3rd-person pronoun; in (8) the noun is linked to the pronoun head *hì* by means of the relative suffix *-a*, while in (9) the deictic pronoun *ha* is followed by an appositional noun. In both languages, this construction seems to have specialized for conveying previous reference; this is semantically different from a modified complex pronoun in Khoekhoe that has a NON-3rd-person pronoun head, as in (4) above.

(8)   Ju|'hoan (Southeast, Ju)

　　 hì-à　 ***dà'á***
　　 3-REL　 fire.3
　　 that (previously mentioned) fire [lit.: it which (is) fire] (Dickens 2005: ???)

(9) |Xam (!Ui, Tuu)

　　 ha　　***koko***　*ha-ng*　　*xexelai*
　　 1DEI　 cock.1　 1-DECL　 crow

that cock [lit.: that one, the cock], it crows (Bleek 1956: 55)

Finally, pronoun derivation in Khoekhoe, as in (5), also has parallels in Non-Khoe. Example (1) from Ju|'hoan shows diminutive and feminine suffixes on pronouns; example (10) from N|huki suggests that Tuu languages, too, possess this feature.

(10)   N|huki (N||ng, !Ui, Tuu)

n   ***xae***   *ke*   *dyạ'n*
1S   F   DECL   walk
I (feminine) go. (Westphal field notes)

7. Conclusions

In this paper I have presented linguistic evidence to the effect that complex pronominal structures in Non-Khoe languages of the Ju-ǂHoan and Tuu families played an important role in the development of the person-gender-number marking in Khoe-Kwadi. While there are no concrete indications that the changes from Proto-Khoe-Kwadi to Kwadi were mediated by contact (Section 4), the cases for contact between Pre-Khoe and Ju-ǂHoan (§5) and between Pre-Khoekhoe and Tuu (§6) are stronger; the data not only suggest structural interference but also the borrowing of linguistic substance.

Güldemann (2004b: 300) poses the historical question why Khoe has undergone an enormous restructuring of its pronoun system whereby the number of markers vis-à-vis Proto-Khoe-Kwadi was more than doubled (from 10 to 23 in Proto-Kalahari-Khoe). It can now be argued that the emergence of this elaborate PGN system, especially the establishment of morphologically distinct dual and plural series, was triggered by a phenomenon found across Non-Khoe languages. That is, complex pronominals of the quantity-specifying type were integrated into the basic pronoun paradigm, so that the dual category was added in the domain of non-singular number and the inventory of paradigmatic forms increased considerably. The process in Pre-Khoe went hand in hand with the borrowing of several markers from a Ju-ǂHoan variety, which today are integral parts of certain plural PGNs in modern Khoe languages.

In a second step, pronouns in the Khoekhoe branch of Khoe were influenced by yet other types of pronoun modification in Non-Khoe, namely specification for information status and entity type. This lead in Khoekhoe to bipartite and even tripartite forms whose final element is a PGN. These are the basic and modified complex

independent pronouns. For the first type, Güldemann (2002, 2006) gives concrete evidence that the relevant contact languages were now from the Tuu family.

When proposing contact-induced changes in the person-gender-number marking of Khoe, an essential question is of course whether there is evidence for such a shared history of the respective language groups. Güldemann (2002, 2006) addresses this question regarding the Khoekhoe-Tuu contact to which the reader is referred here.

A novel point of this paper is the idea of a yet earlier contact between Khoe and a Ju-ǂHoan language. This hypothesis cannot be developed here fully. Note, however, that the suspicion is old that the Khoe family, now also involving Kwadi, does not share the same time depth with the other "Khoisan" families in southern Africa. It was repeatedly entertained by Westphal (e.g., 1980) that this lineage is a newcomer to southern Africa and has replaced earlier San languages in its present distribution zone. This conforms to several facts such as the likely location of Proto-Khoe vis-à-vis that of the assumed contact languages as well as typological, and perhaps even genealogical, affinities between Khoe-Kwadi and languages in eastern Africa (Güldemann and Elderkin forthcoming).

As argued in Güldemann (2008a), a non-genealogical, areally mediated approach to what is commonly called "South African Khoisan" is generally a promising path of research in order to come to grips with the notorious problem that the languages share a number of linguistic properties, but have so far defied a reconstruction towards a single common ancestor. Earlier language contact of Khoe-Kwadi languages will have to play a central role in this line of thinking.

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