Comparative Notes on Bantu Agent Noun Spirantization

Koen Bostoen

This paper considers in detail the cross-linguistic spirantization patterns of four early Bantu deverbative nouns: *-dɔ̀gì, 'witch, wizard' (cl. 1/2), 'witchcraft' (cl. 14); *-tʊ́dì, 'blacksmith' (cl. 1/2); *-bʊ́mbì, 'potter' (cl. 1/2), and *-jíbì, 'thief' (cl. 1/2)[1]. All of these agent nouns are derived from their verb of origin by means of the nominalizing suffix -i[2], which triggers the spirantization of the preceding consonant in several present-day Bantu languages. Nevertheless, not all of the present-day reflexes manifest agent noun spirantization (ANS), not even in languages in which spirantization is otherwise regular. This preliminary study of ANS in just four agent nouns reveals interesting trends with respect to the morphologization and lexicalization of spirantization. In anticipation of a full-fledged comparative study of complete agent noun paradigms, the patterns presented in this paper allow for predictions on the historical impact of spirantization throughout the Bantu domain. Moreover, the consideration of the cross-linguistic variations in the operation of ANS, revealed by the geographic distribution maps of spirantized and non-spirantized reflexes, leads to a reflection on the historical processes underlying these differences.

1. Introduction

One of the most common ways of creating agent nouns in Bantu is the adjunction of a final vowel (FV) -i to the verbal base. The resulting deverbative noun stems are predominantly found in classes 1 and 2, although they may have counterparts in other classes, for example, in class 14 to refer to rather abstract concepts, e.g. *-gʊ̀d-, 'barter, buy', °-gʊ̀dì, 'buyer, seller, tradesman' (cl. 1/2), 'goods, price' (cl. 14) (Bastin et al. 2002). Meeussen (1967:93) reconstructed the FV -ɨ in Proto-Bantu[3]. It is the mutation of the final consonant of the verb base, observed in many present-day Bantu languages, that calls for the reconstruction of a high

1 I want to thank Laura Downing, Larry Hyman, and Catherine Labroussi for their inspiring comments on a draft of this paper. I am especially grateful to Yvonne Bastin and Claire Grégoire for willingly sharing their knowledge with me during the 'secret' preparation of this contribution to their Festschrift.

2 Since this suffix is principally used to derive agent nouns from verbs, it is often called 'agentive'. However, following Hyman (2003), I will make use of the term 'nominalizing suffix'. This designation has the advantage of including the derived nouns, which belong to other classes than cl. 1/2 and which do not necessarily refer to the agent.

3 In this paper, I will adopt the orthography of the authors cited for the notation of vowels. Otherwise, I will distinguish the different vowels of a 7V system as follows: i ɪ e a o ʊ u.

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front vowel, e.g. Lamba (M54) –ŵumba, 'mould as a potter', umuŵumfi, 'potter' (Doke 1933:78, 90). Even though the sound shifts at issue may vary from language to language, they are most often reduced to the common denominator 'spirantization' (Downing 2001, Labroussi 1999, Mpiranya 1997, Schadeberg 1994-1995, Zoll 1995). This label may cover processes as diverse as palatalization, affricatization, rhotacization, and assibilation (Mabiala 1999:173). In the Bantuist literature, spirantization also happens to be called 'frication' (Hyman 1997, 2003), 'assibilation' (Coupez 1954, Bastin 1983), '(historical) palatalization' (Kahigi 1988), or simply 'consonant mutation' (Kisseberth & Abasheik 1975, Myers 1992-1994).

Spirantization is historically associated with the merger of the two highest front and back vowels, reducing the classic Proto-Bantu 7V system to a 5V system. Even if spirantization is attested in some 7V languages, both shifts display an obvious co-occurrence. Independently motivated, however, this interdependence does not necessarily imply a direct causal relationship (Labroussi 1999, Schadeberg 1994-1995). Nevertheless, in all 5V languages except Lengola (D12) (Stappers 1971), the former opposition between [±ATR] high vowels is transphonologized to a consonantal opposition (Hyman 2003:56). Historically, spirantization generally leads to an irreversible and thus lexicalized sound shift of all stops, at least when the following high vowel, either i or u, belongs to the same morpheme. Synchronically, spirantization is considered as a morphophonemic alternation between occlusive and spirantized consonants occurring in a limited set of morphological contexts, i.e. in front of the adjective derivation suffix *–u, the causative extension *–i–, the nominalizing suffix *–i, and the perfective and/or past tense suffix *–ide. Although spirantization is possible in all of the above-mentioned contexts, Bastin (1983:25) claimed that the process may be 'slowed down' by the morphemic boundaries at issue. With respect to *–i, the agent nouns present cross-linguistically an intermediate situation between the perfective and/or past tense forms, which show the less marked tendency to spirantization, and the causative verb forms, which have the strongest disposition to spirantization[4]. Hyman (2003:58) reinterpreted these different degrees of tendency as a hierarchy of contexts for frication. Labroussi (1999:338) applied the presence or absence of morphophonemic alternation in the respective spirantizing contexts as a criterion to situate the present-day languages of the Lake Corridor area in Southwestern Tanzania on a continuum going from no spirantization to limited and extensive spirantization to full spirantization.

Although the boundary between the verbal base and the nominalizing suffix *–i is generally considered as a context favorable to synchronic morphophonemic alternation, the desirability of including Agent Noun Spirantization (ANS) in a hierarchy of synchronic spirantization contexts is questionable. One reason for doubt is the fact that in many Bantu languages, the creation of agent nouns by means of the suffix *–i has been replaced by, or at least heavily competes with,

4 The stronger tendency to spirantization of causative verb forms may be explained by the prevocalic position of the causative. Followed by the FV, it glides to y, of which the greater constriction favors spirantization (Bastin 1983: 25, Hyman 2003: 58).

more recent and productive derivational mechanisms. In Bemba (M42), for example, the agent noun is now marked with the prefix ka– and FV –a, e.g. ka–βuumb–a, 'creator', derived from –βuumba, 'create' (Kula 2002:108). One recurrent type of alternative agent noun formation is the complemented agent noun (Schadeberg 2003:80,88), e.g. Nyakyusa (M31) ummanyakalata, 'a learned person' (< –manya, 'to know' + kalata, 'letter, card/book') (Felberg 1996:122). Another reason for doubt is the fact that agent nouns ending in –i tend to get lexicalized. Consequently, they are no longer subject to morphological alternation. Unlike the suffix *–ide, which is inflectional, and the causative suffix *–i–, which belongs to the productive verb-to-verb derivation system and which is in general not lexically rooted[5], the agent nouns ending in –i can often be considered as the fossilized result of a derivational process that was productive in an earlier stage of the language.

Such is certainly the case if one takes into account agent nouns that have been transmitted for centuries on end as an inherent part of a language's lexicon. It is precisely that kind of agent noun that will be studied in the present paper. It is my aim to take a close look at four agent nouns that are widely spread among the present-day Bantu languages. Their general distribution leads to the relatively sound assumption that they are quite old. Since not all of them descend from Proto-Bantu, I will consider them as early Bantu agent nouns. It concerns the following nouns: *–dògì, 'witch, wizard' (cl. 1/2), 'witchcraft' (cl. 14); *–tűdì, 'blacksmith' (cl. 1/2); *–bʊ̋mbì, 'potter' (cl. 1/2), and *–jíbì, 'thief' (cl. 1/2). Former lexical studies, such as Bastin et al. (2002) and Guthrie (1967-1971), proposed a double reconstruction for all these agent nouns, except *–tűdì. Those doublets have to deal with the fact that the FV does not always provoke the mutation of the preceding consonant. They were reconstructed with both closed and semi-closed FV. Given the widespread distribution of those early Bantu agent nouns, the comparative study of their reflexes allows us to get a good idea of the way they are spirantized cross-linguistically. Unlike agent nouns with a regional or local dispersion, the four agentive noun stems in question can give us a preliminary idea of the penetration of ANS throughout the Bantu area. If none of the early Bantu agent nouns is spirantized in a certain language, one can presume that, in all probability, ANS is not a regular phenomenon in that language. Inversely, if all noun stems have a spirantized reflex, this can be interpreted as a strong indication of regular ANS in the language at issue. In other terms, the method used in this paper should be seen as a short cut in anticipation of a more thorough study that will consider the whole paradigm of agent nouns within different languages. In § 2-5, I will treat each one of the agent nouns separately. As foreshadowed by the isogloss maps presented in the annex to this paper, every noun reveals a different degree of spirantization impact. Hence, in § 6, I will

5 In some languages, such as Herero (R31), the causative suffix –i– is also only found in fossilized verb forms (Grégoire 1979: 159). Lexicalized causative verb forms may develop a specialized meaning, not really being causative any longer. The actual causative meaning is expressed then by the longer causative suffix, e.g. Shi (J52) –lwaala, 'to be ill', –lwaazaa, 'to nurse', –lwaaliisaa, 'to make ill' (Bastin 1986: 116).

discuss the divergences and convergences observed and present the comparative results in the form of a provisional, summarizing distribution map of ANS in Bantu. In § 7, I will consider some possible historical processes underlying the cross-linguistic patterns and variations in ANS. In § 8, finally, I will formulate some concluding remarks.

Important to note beforehand, this study will mainly focus on the Savannah Bantu languages. The great majority of the Forest Bantu languages are 7V languages showing no signs of spirantization at all (Schadeberg 1994-1995, Nurse & Philippson 2003:174). Though not systematically searched for, Forest Bantu data will nonetheless be included in the distribution maps in as far as they are available in my agent noun database.

2. *-dɔ̀gì, 'witch, wizard' (cl. 1/2), 'witchcraft' (cl. 14)

The verb root *-dɔ̀g- has a very significant distribution in the Bantu domain[6]. Therefore, it probably dates back to Proto-Bantu (Bastin et al. 2002, Guthrie 1967-1971). The root is at the origin of several derived nouns, of which only the two mentioned above end in the nominalizing suffix -i. Both the verb and the derived nouns commonly refer to forms of witchcraft that are in general malevolent. The noun prefix alternation observed in front of the noun stems serves to differentiate between the agent and the corresponding abstract concept. Reconstructions of both nouns are found in several sources. Throughout the literature, they turn up in identical shapes, except for the FV that is either closed (1st degree) (Bastin et al. 2002, Guthrie 1967-1971 p.s. 184, Homburger 1925, Meeussen 1969) or semi-closed (2nd degree) (Bastin et al. 2002, Guthrie 1967-1971 p.s. 183). This variation is due to the fact that present-day reflexes of *-dɔ̀gì do not unanimously manifest ANS, as can be observed in (1).

(1) Reflexes of *-dɔ̀gì, 'witch, wizard' (cl. 1/2), 'witchcraft' (cl. 14)

a.	Nkoya (L62)	5V	mulothi	*witch*	<	kulowa	(Yukawa 1987)
	Bende (F12)	5V	bhulosi	*witchcraft*	<	kuloga	(Nurse & Philippson 1975b)
b.	Nyakyusa(M31)	7V	ubulosi	*witchcraft*	<	ukuloga	(Nurse & Philippson 1975b)
	Safwa (M25)	7V	unnozi	*sorcerer*	<	-loga	(Labroussi 1999)
c.	Kerewe (J24)	5V	obulogi	*witchcraft*	<	-loga	(Odden & Tungaraza s.d.)
	Venda (S21)	5V	muloi	*witch*	<	-lowa	(Van Warmelo 1989)
d.	Nyamwezi(F22)	7V	βʊlogi	*witchcraft*	<	-loga	(Nurse & Philippson 1975b)
	S-Sotho (S33)	7V	moloi	*witch*	<	-lɔ̀ěa	(Doke & Mofokeng 1957)

The examples given in (1a+c) are retained from 5V languages, while the examples presented in (1b+d) are taken from 7V languages. In (1a+b), the verb roots followed by the nominalizer -i clearly show final consonant mutation. Such is not the case in (1c+d). Nonetheless, in all of the last 4 languages but S-Sotho (S33),

6 Bastin et al. (2002) observed reflexes of this verb in zones A, B, C, E, F, G, H, K, L, M, P, R, and S.

spirantization is observed in other morphological contexts, e.g. Kerewe (J24) –zila, 'abstain, boycott food' (< *–gìd–; morpheme-internally); –fúúnzya, 'pack things too tight' (< –fúúnda, causative suffix –i–); namazile, 'I have finished' (< kumala, perfective suffix –ide) (Odden & Tungaraza s.d., Thornell 2002)[7]. Even certain agent nouns have a spirantized final verb root consonant, e.g. Kerewe (J24) omugúzí, 'buyer' (< –gula); omukózi, 'worker' (< –kóla); omubyáálízi, 'farmer who transplants' (< –byáálíla) (Odden & Tungaraza s.d.). As I will explain more extensively further on (§ 7), it is not fortuitous that all spirantized agent nouns are derived from verbal bases ending in the consonant l.

Map 1 presents the contemporary geographic distribution of the *–dògì reflexes, according to the presence or absence of ANS. In order to get the most complete overview possible, no distinction was made between nouns belonging to cl. 1 and nouns belonging to cl. 14, since for certain languages, the stem has been recorded only in one of both noun classes. Anyhow, in the languages where it was observed in both classes, no difference was noticed concerning the mutation of the final verb root consonant. Some languages do not have a reflex of *–dògì and refer to the concepts of 'witch' and 'witchcraft' by means of alternative nouns. As indicated on map 1, the most widespread (quasi-)synonym of *–dògì is °–cábí[8], which also appears in cl.1 and 14 (Bastin et al. 2002, Guthrie 1967-1971 C.S. 240). It occurs in the eastern Bantu languages of zones E, G, and P. Map 1 clearly reveals that the spirantized reflexes of *–dògì are more or less geographically clustered. They are most densely attested in the zones J, L and M. In the last two zones, they occur in all 'groups' (L10, L20, M10 …). Not one non-spirantized reflex has been noted in those zones. In the Great Lakes region, spirantized reflexes figure in all groups of zone J, apart from J40, which exclusively consists of 7V languages completely lacking spirantization. Similarly, most of the other J10/J20-languages, such as Nyoro (J11), Kiga (J14), Nyambo (J21), Haya (J22), and Kerewe (J24), possess a non-spirantized reflex[9]. Interestingly, Soga (J16) and Jita (J25) are the only J10/J20-languages that have a spirantized reflex. The phonological conditioning of spirantization, which I will comment further on, is common in the languages of this region and most probably explains why these reflexes are not spirantized. In other zones, spirantized reflexes of *–dògì are

7 As Catherine Labroussi (pers. comm.) brought to my attention, spirantization is frequently observed in other morphological contexts in Nyamwezi (F22), but it is not totally consistent, e.g. –luta/–duta, 'pull' (< *–dùt–) (Maganga & Schadeberg 1992:246, 260).

8 The noun °–cábí is linked to the verb root °–cáb–, 'to use witchcraft, magic powers' (Bastin et al. 2002). Since not one reflex of this local reconstruction attests ANS, a non-closed –ɩ can be proposed as FV. Moreover, contrary to the regular nominalizing suffix –i, this FV seems to bear a high tone. It is not clear whether we are dealing with a derivational suffix here. Hence, the derivational relationship between the verb and the noun is not straightforward.

9 Deviating significantly from the rest of Bantu, several J10-J20 and E40 languages use a noun derived from *–dòg– by means of the FV –o in order to designate 'witch' and 'witchcraft', e.g. Ganda (J15) mùlogo (Snoxall 1967), Zinza (J23) obulogo, and Kuria (E43) irirogo (Nurse & Philippson 1975).

rather marginally attested. In zone K, reflexes have been observed only in K10 and K30, but all of them are spirantized. In zone R, reflexes of *-dòǧì are restricted to Kwanyama (R21) and Ndonga (R21), in which they are spirantized, although the latter language also has a non-spirantized equivalent. Interestingly, in zones K and R as well as in some languages of zone L, the reflex of *-dòǧì is often the only agent noun or one of the rare agent nouns with final -i attesting ANS. The only (spirantized) reflex of *-dòǧì in zone G appears in Swahili (G42). In zone F, reflexes manifesting ANS are limited to Bende (F12) and Sumbwa (F23). In all other languages of zone F, mostly 7V languages in which spirantization is absent or only partial, non-spirantized reflexes have been noted. Such is also the case in the outer parts of eastern Bantu, both in the north and the south. In the Central Kenyan E50-group, exclusively consisting of 7V languages, and in zone S, including 7V (S30-group) as well as 5V languages (the rest), only non-spirantized reflexes have been found. At the western extremity of Savannah Bantu, in zones B and H, e.g. in Nzebi (B52), Mbete (B61), Vili (H12), Kongo (H16), Yaka (H31), Suku (H32) and Mbala (H41), no spirantized forms have been observed either, except in Punu (B43), in which the isolated spirantized reflex mulosi, 'envoûteur, sorcier' (< -loga) (Bonneau 1956:150) was noted. All of the above-mentioned western languages have a 5V system. Finally, none of the incorporated Forest Bantu languages taken into account has a spirantized reflex of *-dòǧì.

In sum, the existence of spirantized reflexes of *-dòǧì implies the reconstruction of a FV of the 1st degree. However, this original closed vowel did not lead to the spirantization of all contemporary reflexes. Apart from the northwestern Forest Bantu languages, generally lacking spirantization, non-spirantized forms figure only in the outer parts of Savannah Bantu, in the west as well as in the northeast and southeast. Strikingly, except for the languages of zones B and H in the west, all reflexes of *-dòǧì lacking ANS occur either in 7V languages (J40, E50, F20-30, S30) or in 5V languages situated in the close vicinity of 7V languages (the rest of zone S and the J10-20 languages). The spirantized reflexes of *-dòǧì, on the other hand, are dispersed in a quite contiguous way. They chiefly occur in zones J, L, and M, but are also marginally attested in zones F, K, and R. Interestingly, only one reflex attesting ANS has been noted in the extreme east, i.e. in Swahili (G42). It is separated from the other spirantized reflexes by the dense distribution area of °-cábí. Since this regional form, restricted to the languages of Kenya, Tanzania, and northern Mozambique, surely is of quite recent origin, it may have gradually replaced the reflexes of the more archaic and (quasi-)synonymous stem *-dòǧì. Hence, the Swahili (G42) noun mlozi is possibly the only relic of a formerly more important distribution of *-dòǧì in the east. A thorough anthropological-semantic study should clarify how far *-dòǧì and °-cábí refer to identical extra-linguistic realities.

3. *–túdì, 'blacksmith' (cl. 1/2)

Given its significant distribution in the Bantu domain, the verb root *–túd– can be reconstructed in Proto-Bantu (Bastin et al. 2002, Guthrie 1967-1971 C.S. 1861, Meeussen 1969). Its basic meaning is 'to beat', 'to pound', or 'to hammer'. Although featuring in many contemporary Bantu languages, especially in Savannah Bantu, the meaning 'to forge', or more properly 'to beat iron', is in all likelihood the result of a semantic specialization that postdates Proto-Bantu (de Maret & Nsuka 1977, Grégoire in press, Klein-Arendt 2000). Nevertheless, the agent noun derived from *–túd– is always linked to this specialized meaning and generally designates the blacksmith. In most languages, it takes the nominalizer –i, but some languages have a derived noun ending in another FV, e.g. Meru (E53) mfuru (Klein-Arendt 2000:190). In certain languages, two different derived nouns co-exist without apparent semantic distinction, e.g. Bemba (M42) mufushi and kafula (White Fathers 1954:213). According to the data presented by Klein-Arendt (2000:190-191), several languages of zone M, as Mambwe (M15), Taabwa (M41), Bemba (M42), Bisa (M51), Lala (M52), Lamba (M54), Seba (M55) and Tonga (M64) have two nouns for 'blacksmith' without obvious semantic distinction. Both are derived from *–túd–. One ends in –i and manifests ANS, while the other ends in –a. Such is also the case in the Nyanja-Cewa-cluster (N31). The form with FV –a clearly is the outcome of a more recent regional development that in languages, such as Rungu (M14), Mwanga (M22), and Iwa (M26) apparently relegated the older form to oblivion. In zone K, nouns with FV –a co-occur with non-spirantized forms ending in –i in Lozi (K21) and Luyana (K31). Concerning the nouns ending in –i, as is the case for *–dògì, both spirantized and non-spirantized reflexes have been found. Some examples are given in (2).

(2) Reflexes of *–túdì, 'blacksmith' (cl. 1/2)

a. Rundi (J62)	5V	umucúzi	*forgeron*	<	gucúra	(Rodegem 1970)
Lenje (M61)	5V	múfushi	*blacksmith*	<	kúfula	(Kagaya 1987)
b. Sukuma (F21)	7V	–fʊ̀jì	*smith*	<	–fʊ́l–	(Richardson & Mann 1966)
Nyamwezi(F22)	7V	m̀suzí	*blacksmith*	<	–sulá	(Maganga & Schadeberg 1992)
c. Hemba (L34)	5V	múfuli	*forgeron*	<	–fula	(Vandermeiren 1913)
Ronga (S54)	5V	mufuli	*ferreiro*	<	kufula	(Nogueira 1960)
d. Gikuyu (E51)	7V	mũturi	*blacksmith*	<	–tura	(Benson 1964)
Tswana (S31)	7V	mothudi	*smith*	<	–thula	(Brown 1980)

The examples given in (2a+c) stem from 5V languages, while the examples presented in (2b+d) are retained from 7V languages. In (2a+b), all verb roots followed by the nominalizing suffix –i show final consonant mutation. Such is not the case in (2c+d). The languages in (2d) have a 7V system, in which manifestations of spirantization are rather marginal or dubious (Creissels 1999, Nurse & Philippson 2003). The languages in (2c) on the other hand, have a 5V system and manifest spirantization in other morphological contexts, e.g. Hemba (L34) kiziba (< *–dìbà, 'pool, pond', morpheme-internally), –kutalazya

(< kutálala, 'se taire', causative suffix –i–), but tutèlele, 'nous avons nommé' (< kutèla, perfective suffix –ide, no spirantization). Even certain agent nouns manifest spirantization, e.g. mukùzi, 'saveur, affranchisseur' (< kukùla) (Vandermeiren 1912, 1913).

Cross-linguistically, as shown on map 2, spirantized reflexes of *–túdì mainly occur in the western part of Eastern Bantu. As the available data show, they are more or less contiguously distributed in zones F, J, M, and N. In the interlacustrine region, they figure in the F20 and J50-60 languages. Northern zone J-languages, such as Nyoro (J11), Nkore (J13), Kiga (J14), Ganda (J15), Haya (J22), Hunde (J51), and Tembo (J531) have a reflex of the local noun stem °–péecì, e.g. Ganda (J15) mùweèsi, 'smith, blacksmith' (Snoxall 1967:335). This agent noun of more recent origin must have replaced the more archaic *–túdì reflexes. Their isoglosses plainly overlap in the Forest Kivu J50-group. In zone F, reflexes of *–túdì are limited to the two languages mentioned in (2). Contrary to the reflexes of *–dògì in these languages, both are spirantized. All other documented languages of zone F have an alternative noun for 'blacksmith'. In zone M, all agent nouns derived from *–túd–, except those ending in –a, manifest ANS. They figure exclusively in M40-50-60-languages. In the zone M languages of the Lake Corridor (M10-20-30), only alternative nouns were noted. According to Labroussi (1999:342), the stem *–pòndì, derived from *–pònd–, is recurrent in this region. Its reflexes are said to be consistently spirantized. Just eastwards of zone M, spirantized reflexes have been found only in the Nyanja-Cewa-cluster (N31), Ngoni (N12), Tonga (N15), Tumbuka (N21) , and Senga (N41). Except for the first two languages, they also have a non-spirantized reflex of *–túdì. Such is the case in Lozi (K21), the only zone K-language possessing a spirantized reflex. These double reflexes are in all likelihood the indication of lateral influences. The only extreme eastern spirantized reflex has been noted in Zigula (G31). As in the case of *–dògì, it is separated from the other reflexes attesting ANS by a belt of alternative nouns meaning 'blacksmith'. All other nouns derived from *–túd– and ending in –i do not manifest ANS. In correspondence with *–dògì, non-spirantized reflexes have been observed in the E40-50 and J40-languages groups as well as in zones H and S. Contrary to *–dògì, only non-spirantized reflexes have been found in zones L and K. In several zone L languages, the reflex of *–túdí shows a final consonant mutation vs. the corresponding verb root, e.g. Pende (L11) mufudi (< –fula) (Gusimana 1972), Ciluba (L31a) mufùdi (< –fùla) (De Clercq & Willems 1960), and Kiluba (L33) mufudi (< –fula) (Gillis 1981). The consonant d functions as an allophone of l behind a nasal (n + l > nd) and in front of i (l + i > di). In the latter context, d may be (slightly) palatalized (Beckett 1951:11, Burssens 1939). But in all three languages, the resulting consonant, even palatalized, differs from the usual outcome of spirantization, e.g. Ciluba (L31a) –ji.ka, 'enterrer, ensevelir, mettre en terre, enfouir' (< *–dìik–); –jima, 'éteindre s'éteindre' (< *–dím–); –jinga, 'rouler, enrouler' (< *–díng–); bujitu, 'lourdeur' (< *–dìtò) (De Clercq & Willems 1960). Hence, these forms cannot be considered as genuinely spirantized reflexes. In so far as we can tell from the available data, no spirantized reflexes of *–túdì occur in the Forest Bantu

languages either. One could suspect that the Dengese (C81) reflex botuji (< -tula) manifest ANS, but the sequence l + i always gives ji in this language (Goemaere s.d.). Hence, it can be considered as a case of synchronic palatalization rather than as the outcome of historical consonant mutation.

In sum, the observation of *-túdì reflexes manifesting ANS entails the reconstruction of a FV of the 1st degree. However, this closed front vowel did not provoke the spirantization of all present-day reflexes. With the exception of the Zigula (G31) reflex, spirantized reflexes are limited to the western part of Eastern Bantu, where they are contiguously dispersed in zones F, J, M, and N. Given the fact that no *-túdì reflexes occur in the languages situated between the isolated Zigula (G31) reflex and the distribution area of the rest of the spirantized reflexes, it is not excluded that the reflexes of the latter sort were once more numerously dispersed in the east. More recently developed nouns signifying 'blacksmith' may have supplanted them. A similar historical scenario was sketched with respect to *-dògì. Regarding non-spirantized reflexes of *-túdì, they are not only attested in the outer parts of Savannah Bantu, where they occur either in 7V languages or in neighbouring 5V languages, as is the case for *-dògì, but also in the central 5V languages of zones L and K. Consequently, the repartition of spirantized *-túdì reflexes is considerably more refrained. Apart from the Zigula (G31) reflex, they occur only in a north-south belt situated in the western part of eastern Bantu.

4. *-bʊ́mbì, 'potter' (cl. 1/2)

Even though the semantic load of the verb root *-bʊ́mb- largely goes beyond the meaning 'to mould pottery' (Bostoen 2004, 2005), the agent noun *-bʊ́mbì almost exclusively refers to the potter[10]. Taking into account its widespread distribution, this noun stem must be relatively old. Being totally absent from the Forest Bantu languages, however, it is very doubtful whether it dates back to the Proto-Bantu era[11]. Besides the nominalizing suffix -i, a small minority of languages have an agent noun ending in -a. Just like the agent nouns derived from *-túd-, most of them occur in the zones M and N, e.g. Ndali (M301) umubúúmba (Robert Botne pers. comm.), but a few of them have also been observed in zones D, F, G, L, and P. In Gogo (G11), Kiluba (L33), Bemba (M42), and Bisa (M51), derived nouns of both types co-exist. With regard to the nouns ending in -i, the examples shown in (3) illustrate that *-bʊ́mbì has both spirantized and non-spirantized reflexes.

10 In some languages, it developed the secondary meaning 'creator', also used to refer to a creator-divinity, e.g. Tsonga (S53) mʊ́mbí, 'potter, one who moulds, forms; Creator' (Cuenod 1976:115).

11 This observation is totally in line with the fact that the meaning 'to mould pottery' of the verb root *-bʊ́mb- is almost not attested in the Forest Bantu languages (Bostoen 2005).

(3) Reflexes of *–bʊ́mbì ‘potter’ (cl. 1/2)

a. Ha (J66)	5V	umubhúmvyi	*potier*	< ukubhûmba	(Nakagawa 1992)
Lala (M52)	5V	mwumfi	*potter*	< –ŵumba	(Madan 1908)
b. Kaguru (G12)	5V	mwumbi	*potter*	< kuumba	(Last 1886)
Senga (N41)	5V	muumbi	*potter*	< –umba	(Madan 1905)
c. Tswana (S31)	7V	mmopi	*potter*	< –bopa	(Brown 1980)
Nyamwezi (F22)	7V	m̀βʊʊ́mbí	*potter*	< –βʊʊ́mbá	(Maganga & Schadeberg 1992)

The examples presented in (3a+b) are retained from 5V languages, while the examples in (3c) stem from 7V languages. Only the verb roots in (3a) manifest final consonant mutation, if they precede the nominalizer –i. All other examples lack ANS. Contrary to the noun stems treated above, no spirantized reflexes of *–bʊ́mbì have been found in 7V languages. They are restricted to 5V languages. As the examples in (3b) demonstrate however, some 5V languages also have non-spirantized reflexes, even if they attest spirantization in certain other morphological contexts, e.g. Senga (N41) –vyalwa, ‘be born’ (< –bíad–, morpheme-internally); –chenjelezhya, ‘be delighted, be in raptures’ (< –chenjeleka, causative suffix –i–) (Madan 1905).

Map 3 indicates that, cross-linguistically, the non-spirantized reflexes of *–bʊ́mbì outnumber by far the spirantized reflexes. The latter are concentrated in some well-defined areas. In the Great Lakes area, they occur in Rwanda (J61), Rundi (J62), Ha (J66), and Sumbwa (F23). In Zambia, Malawi, and southwestern Tanzania, they have been noted in Bemba (M42), Bisa (M51), Lala (M52), Lamba (M54), Lenje (M61), and Tumbuka (N21). Finally, four oriental coast languages, i.e. Nyika (E72), Shambala (G23), Bondei (G24), and Zigula (G31), possess a spirantized reflex. Interestingly, the presence of reflexes manifesting ANS in the eastern coast region is not limited to one isolated language. While in the case of *–dʊ̀gì and *–tʊ́dì the North East Coast languages adopted a more recent alternative noun, several of them maintained the more archaic *–bʊ́mbì reflex. Such is also the case in the central Tanzanian languages. In this respect, a reflex worthy of mention is the one found in Hehe (G62). It concerns an isolated spirantized reflex, which is situated in the midst of the three above-mentioned clusters of spirantized reflexes. In other words, while the isogloss maps of the first two agent nouns did not enable us to estimate the degree of ANS penetration in the northeastern Bantu languages, the dispersal of the *–bʊ́mbì reflexes does show us that spirantized agent nouns may occur in languages situated in between the westernmost languages of East Bantu and the extreme northeastern coast languages. However, contrary to Hehe (G62), neighbouring languages Gogo (G11) and Kaguru (G12) do not have a spirantized reflex. In the rest of the Savannah Bantu languages as well, in as far as they have a reflex of *–bʊ́mbì, only non-spirantized reflexes have been found. In zone J, apart from the above-mentioned J60-languages, reflexes lacking ANS are attested in all groups. Such is also the case in their western neighbouring 7V languages of the D20-group. Other 7V languages having a non-spirantized *–bʊ́mbì reflex are the E50, F20, and S30 languages and Nyakyusa (M31). On the other hand, non-spirantized reflexes are

very common in the 5V languages of zones H, K, L, N, P, and S. In other terms, contrary to *–dògì, they are neither restricted to the outer parts of Savannah Bantu nor to 7V languages or 5V languages in the vicinity of 7V languages.

5. *–jíbì, 'thief' (cl. 1/2)

The verb root *–jíb–, 'to steal', as well as the derived noun *–jíbì, 'thief', have reflexes in all Bantu zones (Bastin et al. 2002). Hence, it is quite likely that both descend from the Proto-Bantu. With respect to the agent noun, the reconstruction of a closed front FV is required, since it still occurs in modern-day 7V Bantu languages and since the mutation of the final verb root consonant is observed in numerous 7V and 5V languages, as several examples in (4) illustrate. Contrary to the three verb roots dealt with above, agent nouns derived from *–jíb– having a FV other than –i are very few.

(4) Reflexes of *–jíbì, 'thief' (cl. 1/2)

a. Songye (L23)	5V	ngiví	*thief*	<	–yíb–	(Stappers 1964)
Shubi (J64)	5V	umwivyi	*thief*	<	kwiiba	(Nurse & Philippson 1975)
b. Bende (F12)	7V	mwifi	*thief*	<	kwibha	(Nurse & Philippson 1975)
Sumbwa (F23)	7V	mwivi	*thief*	<	–iba	(Nurse & Philippson 1975)
c. Ndengeleko	5V	mwii	*thief*	<	(ku)jiba	(Nurse & Philippson 1975)
Tsonga (S53)	5V	muyivi	*thief*	<	–yiva	(Cuenod 1976)
d. Nata (E45)	7V	omwibhi	*thief*	<	kwibha	(Nurse & Philippson 1975)
Nyamwezi(F22)	7V	ŋwiiβí	*thief*	<	–iβá	(Maganga & Schadeberg 1992)

Similar to the first two agent nouns mentioned above, spirantized reflexes of *–jíbì occur in both 7V and 5V languages. The same goes for their non-spirantized equivalents. The examples in (4a+c) stem from 5V languages, the examples in (4b+d) from 7V languages. In (4a+b), all nouns manifest ANS. The opposite is true of the nouns in (4c+d), even though these languages, at least some of them, regularly spirantize in certain other morphological contexts, e.g. Tsonga (S53) –pfímba, 'to swell, as inflamed part' (< *–bímb–, morpheme-internally); –lòngòlòxà, 'place, or cause to proceed in single file' (< –lòngòlòkà, causative suffix –i–) (Cuenod 1976).

On the comparative level, contrary to the three above-treated agent nouns, the spirantized reflexes of *–jíbì slightly outnumber their non-spirantized equivalents. This is in part due to the fact that reflexes of *–jíbì are absent from several regions where the other agent noun stems have non-spirantized reflexes. This is above all the case in the southeastern Bantu languages of zones N, P, and S. Contrarily, certain languages, in which the reflexes of the other early Bantu agent nouns have not been retained (or found), do possess a reflex of *–jíbì that happens to have undergone ANS. This goes for the languages of Tanzania in particular. In all groups of zone G as well as in certain N10 and P10 languages, spirantized reflexes of *–jíbì have been inventoried. As advanced earlier on, spirantized reflexes of the above-treated agent nouns have only been found in

northeastern coast languages and, in the case of *-bʊ́mbì, also in Hehe (G62). However, the isogloss map of *-jíbì reveals a dense concentration of spirantized reflexes between the Lake Corridor and the East Coast. In zone K as well, some languages lacking reflexes of the other agent nouns possess a spirantized reflex of *-jíbì, e.g. Ngangela (K12) cíiði, 'voleur' (< -iva) (Maniacky 2003). On the other hand, there are some languages that have a spirantized reflex of *-jíbì, even if they attest a non-spirantized reflex in the case of the three other agent noun stems. The Gikuyu (E51) noun for 'thief' for example, is muici (Benson 1964). It manifests an obvious final consonant mutation vis-à-vis the corresponding verb base -iya, 'to steal'. The same is true of the multiple languages of the Kongo (H16) area and Yaka (H31), which are otherwise free of ANS. Other than that, the dispersion of the spirantized reflexes of *-jíbì largely coincides with the other agent nouns treated earlier on. In the Great Lakes region, they figure in J30-40-50-60 languages, while they are missing in the J10-J20 languages, which have either a non-spirantized reflex or an alternative noun. Jita (J25) is the only J20 language having a spirantized reflex of *-jíbì. Farther south, *-jíbì reflexes manifesting ANS have been found in certain F10-20 languages as well as in several zone M and N languages, even if alternative designations are more frequent in the latter zones. West and southwest of Lake Tanganyika, spirantized reflexes of *-jíbì are densely dispersed in zones L and K, where they occur in all groups, except L10 and K30. Neither the other groups generally lacking spirantized agent nouns have spirantized reflexes of *-jíbì, i.e. the 7V languages of E40-50, F20-30, and P10 and the more southern 5V languages of P20 and S40-50. Such is also the case in Pende (L11), Kimbundu (H21), and Tonga (M64).

In sum, the existence of spirantized *-jíbì reflexes imposes the reconstruction of a closed FV. Even though the reflexes of this kind are larger in number compared to the above-treated agent nouns, once more this 1st degree front vowel did not provoke ANS consistently. Again, reflexes found in the Forest Bantu languages as well as in several Savannah Bantu languages are free of ANS.

6. Cross-linguistic distribution of ANS

Based on the study of only four early Bantu agent nouns, the comparative notes that I will formulate on Bantu ANS cannot be but preliminary and very general in nature. Nevertheless, even at this initial stage of ANS research, some interesting trends can be sketched. Map 5 is a kind of summary of the four preceding distribution maps. It subdivides the languages according to the form in which the present-day reflexes of the noun stems treated above appear. I have reduced the cross-linguistic variation to the following three main categories: (a) languages in which they consistently do not spirantize; (b) languages in which the agent noun stems at issue spirantize without fail; (c) languages in which some of the studied agent nouns spirantize and others do not. It needs to be said that several languages could not be incorporated in this categorization, because the available data are not appropriate with regard to the present comparison. As explained before, reflexes of *-dògì, *-túdì, *-bʊ́mbì and *-jíbì are missing in certain languages,

because they adopted a more recent alternative agent noun or, as in case of *-bɔ́mbì, because some of them (the Forest Bantu languages) never had a reflex. That is why I only included the languages that have a reflex of at least two of the four noun stems in question. Consequently, map 5 provides only a very sketchy and provisional view on the cross-linguistic distribution of ANS. In certain regions, as zones G, N, P, and R in particular, the data used in the present paper cannot support any final or even provisional judgment on ANS.

As shown on map 5, ANS seems to be totally absent from several regions of the Bantu area. The languages of the first category are not only widely dispersed but also more or less geographically clustered. Forest Bantu can be considered as a first area where non-spirantized reflexes of the agent nouns concerned are generally distributed. The sporadic spirantized reflexes have been found without exception in languages of the forest fringe. They can definitely be attributed to contact with neighbouring Savannah languages. The absence of ANS in Forest Bantu is not surprising, given that the great majority of Forest Bantu languages do not show signs of spirantization at all. The same is true of the E40-50 languages in the extreme northeast of the Bantu area. Apart from the spirantized Gikuyu (E51) reflex of *-jíbì, whose origin is not clear, no indications of ANS have been noticed in these western and central Kenyan 7V languages. Neither do any of the four agent nouns have a spirantized reflex in most of the 5V J10-20 languages at the other side of Lake Victoria. However, as I will explain in § 7, I would be wrong to derive from this fact that ANS does not exist in these languages. Such an inference is probably more justified in the case of zone S. In this region, at the other extremity of Eastern Bantu, none of the studied agent nouns manifests final consonant mutation. The 7V languages of the S30 group are nonetheless the only languages in which the occurrence of spirantization is doubtful (Creissels 1999). All other zone S languages have 5V and attest spirantization regularly, as do most languages of the adjacent zone P. Spirantized reflexes of the studied noun stems have only very exceptionally been noted there. As stated above, strong claims with respect to ANS in zone P are premature, since these languages most often have either a derived noun ending in another vowel than -i or an alternative noun. It is striking, however, that *-jíbì, which is more generally spirantized than the other agent noun stems, only has non-spirantized reflexes in the languages of zone P[12].

The languages belonging to the second category are much fewer in number than the languages completely lacking spirantized reflexes. It is quite rare to find in one and the same language a spirantized reflex of the four early Bantu agent nouns. Such is the case in Rwanda-Rundi (J61-62) and Ha (J66), but not in Ganda (J15), which refers to the blacksmith with a noun other than *-túdì. I will nevertheless conclude, at least provisionally, that ANS seems to be a regular phenomenon in the J60 group. Leaving aside possible alternative nouns, only the following languages have spirantized reflexes of the agent nouns concerned: Bende (F12), Sumbwa (F23), Rwanda (J61), Rundi (J62), Ha (J66), Fipa (M13), Rungu (M14), Mambwe (M15), Taabwa (M41), Bemba (M42), Bisa (M51), Lala

12 The Yao (P21) noun -tésí, 'trappeur' (< -teg-), given by Bastin (1938:34) reveals, however, that ANS is not completely absent from zone P.

(M52), Lamba (M54), and Lenje (M61). As map 5 clearly shows, these languages form a geographic cluster stretching from the Great Lakes region in the north to central Zambia in the south. Apart from this more or less continuous belt, Bungu (F25), Nyiha (M23), and Ndali (M301), from the Lake Corridor region, seem to belong to this category as well. Furthermore, Ngoni (N12) and some languages of zone G, i.e. Shambala (G23), Zigula (G31), Swahili (G42), and Hehe (G62) are the only other languages that do not have non-spirantized reflexes. Taking into account the deficient data currently available for zone G, it is not excluded that a west-east belt between the Lake Corridor and the North East Coast extends the north-south belt outlined above.

The last category of languages, mixing spirantized and non-spirantized reflexes, is situated above all to the west of the area where the second category languages are spoken. It mainly concerns languages of the central zones K and L. Strikingly, in as far as they do not have an alternative noun, all of these languages possess spirantized reflexes of *-dògì and *-jíbì, while they consistently have non-spirantized reflexes of the two other agent nouns. Regarding the languages of zone H, it is only *-jíbì that has spirantized reflexes. Variation in ANS is also observed in Ila (M63), Tonga (M64), and Nsenga (N41), but unlike the central languages of zones H, K, and L, they do not reveal a systematic split between *-dògì and *-jíbì on the one hand and *-túdì and *-bőmbì on the other. This may indicate that the underlying process leading to the variation is different. Finally, variation is observed in some northeastern languages, i.e. Sukuma (F21), Nyamwezi (F22), Gikuyu (E51), and Gogo (G11). All of them have only one spirantized reflex. In the first two languages, the *-túdì reflex is spirantized. As I will explain in § 7,0 this variation is the result of a phonological conditioning of ANS. In two other languages, it is the *-jíbì reflex that is spirantized, but the process underlying this variation is not clear.

In sum, map 5 shows that the occurrence of spirantized reflexes of the agent nouns surveyed here occur chiefly in a vast central belt of the Bantu area. They are (quasi) absent from the Forest Bantu languages in the northwest and from the languages of zones P and S in the southeast and from some language groups in the northeast. Within this central belt, the languages only having spirantized reflexes are above all situated on a north-south axis in the western part of East Bantu, crossing zones J, F, and M, but also in some Tanzanian languages of zones G and N, which are scattered more easterly. Elsewhere, ANS is not systematic. From this preliminary cross-linguistic overview, one can thus presume that the occurrence of full ANS is quite restricted. A systematic study per language of the whole paradigm of agent nouns ending in -i is required in order to deepen this introductory comparative study based only on four early Bantu agent nouns. I am currently conducting research on this enormous amount of data.

7. Historical processes underlying variations in ANS

In this paragraph, I will discuss some historical processes that may underlie the variation observed in ANS. One result of this introductory comparative study of

ANS is the observation that some languages only have spirantized reflexes of the agent nouns studied, while others exclusively have non-spirantized reflexes. This fact confirms once more that there exist more and less conducive environments for spirantization and that, as claimed by Bastin (1983), the implementation of this sound shift may be obstructed by certain morphemic boundaries. This is particularly true of the languages that manifest spirantization in certain morphological contexts but not in front of the nominalizer –i. In these languages, spirantization is clearly morphologized in the sense that, except morpheme-internally, it occurs only in certain morphological borders and not in others. Such is the case in most languages of zone S, for example. ANS seems to be completely absent, although spirantization is regularly attested morpheme-internally and before the causative extension –i–. Consider the Shona (S10) examples in (5).

(5) (Lack of) spirantization in Shona (S10) (Hannan 1974; Fortune 1955)

a.	Morpheme-internally				
	–zvimba	*to swell*	<	*–bímb–	
	dziba	*pool*	<	*–dìbà	
	–svina	*to squeeze*	<	*–pìn–	
	tsinga	*artery, vein*	<	*–tíngà	
	tsiye	*eyebrow*	<	*–kígè	
b.	Causative				
	–redza	*to lengthen*	<	–reɓa	*to be long*
	–ridza mbira	*to play the xylophone*	<	–rira	*to sound*
	–tesva ɓaŋgo[13]	*to thin a pole*	<	–tepa	*to be thin*
	–setsa vanhu	*to amuse people*	<	–seka	*to laugh*
	–rotsa vanhu	*to make people dream*	<	–rota	*to dream*
c.	Nominalizing				
	muɓi	*thief*	<	–ɓa	*to steal*
	muzari	*parent*	<	–zara	*to give birth*
	muroyi	*witch*	<	–roya	*to bewitch*
	mupi	*giver*	<	–pa	*to give*
	mubiki	*cook*	<	–bika	*to cook*
	muroti	*dreamer*	<	–rota	*to dream*

As the examples in (5a) unmistakably indicate, Shona (S10) shows signs of historical spirantization. The former opposition between closed and semi-closed vowels has been systematically neutralized in favor of a new consonantal opposition. Spirantization is also consistently observed in the environment of the causative extension –i–, as shown in (5b). ANS, on the contrary, does not occur. None of the examples given in (5c) attests consonant mutation vis-à-vis the corresponding verb. The perfective suffix –ide in Shona (S10) is only found in

13 This example is taken from the Shona (S10) grammar of Fortune (1955: 213). The author wrote it down as follows: –teşa ɓaŋgo. I adopted here the orthography of Hannan (1974) in order to show the correspondence with the verb –svina, 'to squeeze'. In both cases, it concerns the 'whistling fricative' (Downing pers. comm.).

residual forms. However, –ide is not associated with spirantization in any of the zone S languages in which its use has been retained. As Bastin (1983:28-37) demonstrated, spirantization in front of –ide is restricted to a very limited number of languages: Sumbwa (F23), Shambala (G23), certain Swahili dialects (G42), Hehe (G62), Nyoro (J11), Nkore (J13), Ganda (J15), Haya (J22), Zinza (J23), Kerewe (J24), Shi (J53), Rwanda (J61), Rundi (J62), Ha (J66), Mambwe (M15), Nyiha (M23), Yao (P21), and Makonde (P23). Interestingly, apart from the J20-30-50 languages and two zone P languages, all of these languages belong to the category that only have spirantized reflexes of the agent nouns studied above[14]. However, as can be derived from map 5, the languages which can be provisionally presumed to consistently spirantize agent nouns ending in –i are larger in number than the languages spirantizing in front of –ide[15]. In a sense, this corroborates the generally held view that the nominalizer –i is a more favorable environment for spirantization than the perfective suffix –ide. Along the same line of reasoning, the complete absence of ANS in languages regularly spirantizing in other contexts can thus be imputed to the morphological conditioning or morphologization of spirantization (Bastin 1983, Hyman 2002, Labroussi 1999). Historically speaking, in the diachronic evolution of these languages, the operation of spirantization must have been blocked before it ever affected agent nouns. On the continuum of evolution for spirantization, developed by Labroussi (1999:338), such languages would be classed in the category of 'limited spirantization'.

More problematic are the languages in which ANS seems to be irregular, because they have both spirantized and non-spirantized reflexes of the early Bantu agent nouns treated in this paper. In their case, the conditioning cannot be morphological, since spirantization apparently reached the environment of the nominalizing suffix –i.

One restriction on the application of spirantization that has recurrently been observed in Bantu is phonological in nature. It is a well-known fact that spirantization in some languages only affects certain consonants, while it leaves others untouched. What is more, whereas all consonants may be spirantized in one morphological context, fewer may be spirantized in another morphological environment (Hyman 2002, Labroussi 1999). Hyman (1997) highlighted such phonological conditioning in Ganda (J15) and Kiga (J14). In the first language, coronal and velar consonants undergo spirantization in all morphological contexts, while labials are spirantized only morpheme-internally. In the second language, as extensively explained by Hyman (1997), the situation is more complex. Regarding the nominalizer –i, only coronals are affected in Kiga (J14). In Haya (J22), a similar conditioning of ANS is observed.

14 As I will explain further on, ANS also occurs in the J10-20 and J50 languages, even if none of them has a spirantized reflex of the agent nouns treated above.

15 Several Zambian M40-50-60 languages, for instance, attest ANS, but do not spirantize in front of –ide.

(6) Phonological conditioning of ANS in Haya (J22)

a.	omujubi	*fisherman*	<	okujuba	*to fish*	(Kaji 2000)
	omuchumbi	*cook*	<	okuchumba	*to cook*	
	omuî:gi	*hunter*	<	okuî:ga	*to hunt*	
	omutûngi	*rich*	<	okutûnga	*to accumulate*	
b.	omukôzi	*servant; employee*	<	okukôla	*to work*	(Kaji 2000)
	omulinzi	*guard*	<	okulinda	*to watch; to guard*	
c.	okwaabya	*to split (transitive)*	<	ookwaaba	*to split (intransitive)*	(Trithart 1977)
	okwóogya	*to wash*	<	okwóoga	*to be clean, wash self*	
	okuguza	*to sell*	<	okugula	*to buy*	

The agent nouns in (6a) have a final consonant that is labial or velar and that does not manifest a mutation compared with the verb of origin. The final consonant of the agent nouns in (6b), in contrast, is coronal and undergoes spirantization in front of the nominalizer –i. As the examples in (6c) show, the same goes for the causative verb forms. Morpheme-internally however, labials and velars do spirantize, e.g. okuzîmba, 'to swell' (< *–bímb–); omuzilo, 'taboo' (< *–gìdò) (Kaji 2000). In other words, in some languages, a phonological and morphological conditioning of spirantization may go hand in hand. Taking into account the limited number of agent nouns considered in this study, this double restriction explains why no spirantized reflexes of the four early Bantu agent nouns were found in most J10-20 languages. Since the noun °–péecì constitutes a widespread alternative for *–túdì, 'blacksmith', in this region, no other verb root ending in a coronal consonant was observed. Such a phonologization of spirantization has been reported in other languages, which are situated in the Great Lakes region or in its close vicinity, such as Nyamwezi (F22) (Maganga & Schadeberg 1992), Jita (J25) (Downing 2001), and Shi (J53) (Polak-Bynon 1975). This explains why *–túdì is the only early Bantu agent noun spirantized in Nyamwezi (F22). The recurrence of this kind of conditioning induced Hyman (1997) to postulate the following phonological hierarchy of spirantization (or in his words 'frication') for the interlacustrine languages: Spirantization of *p/*b ⊃ spirantization of *k/*g ⊃ spirantization of *t/*d. Coronals are more readily spirantized than velars, which are more easily spirantized than labials[16]. Although not all of the zone J languages are involved—in the J60 group, for example, ANS seems to affect all obstruents—the phonologically governed chronological staging of spirantization is indeed the most plausible historical explanation for the variation observed in the execution of ANS, at least in this region of the Bantu domain.

It is more questionable, however, whether a similar conditioning may explain the variation in ANS discerned in other regions of the Bantu area. If the

16 Referring to Foley (1977: 93ff.), Kahigi (1988: 233) proposes another phonological hierarchy in his diachronic study of Sumbwa (F23) phonology: 'In terms of point of articulation, velars are more readily palatalized than apicals, which are more readily palatalized than labials. That is, palatalization usually begins with velars, then spreads to dentals/alveolars, but need not; later the process may affect labials, but need not'. Kahigi (1988) uses the term '(historical) palatalization' to speak about spirantization.

phonological hierarchy advanced by Hyman (1997) would be generalized, how can it be explained then that from a cross-linguistic point of view, *-jíbì is more frequently spirantized than *-dòǧì, which has in its turn much more spirantized reflexes than *-túdí. While the Hyman (1997) hierarchy could be invoked for the spirantization reluctance of *-bʊ́mbì, it seems less appropriate for the other agent nouns. The final consonant of *-bʊ́mbì is not only a labial, but it is pre-nasalized as well, which may constitute a supplementary blockage of spirantization. Regarding the other agent nouns, the spirantization frequency expected according to the Hyman (1997) hierarchy, i.e. *-túdì > *-dòǧí > *-jíbì, is completely contradicted. While it holds for the region around the Great Lakes, it certainly does not for the central and western Savannah Bantu languages west of Lake Tanganyika. The larger number of spirantized *-dòǧí and *-jíbì reflexes is to a great extent explained by the fact that they are spirantized in the latter languages, while *-túdì and *-bʊ́mbì are not. Intriguingly, when one takes a look at the paradigm of agent nouns in Ciluba (L31a) for instance, one notices that ANS is a quite uncommon phenomenon.

(7) ANS in Ciluba (L31a)

a.	mukèbi	*chercheur*	<	-kèba	(*-kéb-)	(De Clercq &
	muambi	*orateur*	<	-amba	(*-gàmb-)	Willems 1960)
	mupi	*donateur*	<	-pa	(*-pá-)	
	mudidi	*celui qui crie*	<	-dila	(*-díd-)	
	muitshi	*rameur, pagayeur*	<	-ita[17]		
	mubèyi	*coiffeur, barbier*	<	-bèya	(*-bég-)	
	mudìngi	*menteur, trompeur*	<	-dìnga	(*-dìng-)	
	mubùki	*devin, nécromancien*	<	-bùka	(*-bʊ́k-)	
b.	muîvi	*voleur*	<	-iba	(*-jíb-)	
	muloji	*maléficier*		-lowa	(*-dòg-)	

Strikingly, amongst the Ciluba (L31a), nouns listed in (7), muloji and muîvi are the only ones that manifest ANS. The latter noun even has a non-spirantized equivalent, i.e. muîbi. According to the short list of agent nouns enumerated in Van den Eynde (1960:60-61), the same seems to hold for Cokwe (K11). The only agent nouns attesting spirantization are mwiízi, 'thief' (< -iy-), and ndezi,

17 The consonant mutation observed with muitshi is not a case of spirantization. In Ciluba (L31a), t + i always gives tsh (voiceless palato-alveolar affricate) synchronically (Burssens 1939). The historical outcome of the spirantization of t before i, however, is the voiceless palato-alveolar fricative, e.g. -shìya 'laisser, abandoner, quitter' (< *-tíg-), mashìka 'le froid' (< °-tíkà) (De Clercq & Willems 1960).

'wet nurse' (< -lel-)[18]. None of the other nouns listed shows signs of ANS[19]. In these languages, the conditioning of ANS is obviously not phonologically governed. ANS does not even seem to have been an active process at all. Indications of ANS are restricted to a very limited number of lexemes, which happen to be early Bantu nouns having a widespread distribution in Bantu. This is certainly true of *-dòɡì and *-jíbì, and possibly of *-dèdì as well. In other words, the conditioning seems to be chronological in nature. My current hypothesis is that only early Bantu agent nouns, which the central Bantu languages inherited in spirantized form, currently show signs of ANS. On the contrary, agent nouns of more recent creation did not undergo spirantization. This assumption requires that at one stage of the diachronic evolution of the central Bantu languages, ANS must have been an active sound shift and died out in the course of their further development and dispersion, or at least that it was morphologically conditioned. Hence, only the agent nouns created before the extinction of ANS bear witness of its former activeness. Naturally, this hypothesis needs to be tested on more data in more western and central Savannah Bantu languages. However, if the other languages of this part of the Bantu area show similar ANS patterns, it could indicate that ANS was deactivated before the dispersal of these languages. The morphologization of spirantization is only complete when it has reached the less conducive morphemic environment, i.e. when it extends to the past/perfect paradigm with -ide. It is only then, as claimed by Labroussi (1999:365), that 'spirantization becomes a central element of the inflectional morphology, thereby consolidating its regularity in the derivational part of the morphology as well'. The same author continues: 'Up to that moment — ….— there was always a possibility of minimizing this morphologization, by using the conservative "auto-defensive" mechanisms of fixing and lexicalization of derivatives … What we have in these cases is *regression* of spirantization, …'[20]. As demonstrated by Bastin (1983), spirantization never reached the context of -ide in the central Bantu languages. Not having been fully morphologized, it may have also regressed in the environment of the nominalizing suffix -i. Given the very limited number of spirantized agent nouns, this regression must have followed quite shortly after the activation of the process. A very likely period for the deactivation of ANS in the history of the western and central Bantu languages would be subsequent to the reduction of the vowel system from 7V to 5V.

18 This agent noun is derived from the verb *-dèd-, which has a very general distribution in Bantu. Bastin et al. (2002) inventoried reflexes of the verb in all zones but A and D. The same authors observed the corresponding noun *-dèdì in zones C, J, K, L and M. I noticed reflexes of the noun in zones G, N, R and S too. Given this widespread distribution, it probably is quite old, just like the agent nouns treated in this paper. The number of reflexes I collected is too small however to get an idea of its degree of cross-linguistic spirantization.

19 Possible exceptions, but not genuine agent nouns, are fwíiʒi 'spitting snake' (< -fwiil-) and -njilízi 'betrayal' (< -njilil-) (Van Den Eynde 1960: 61-62).

20 The existence of double reflexes of *-jíbì in Ciluba (L31a) shows that even these archaic spirantized agent nouns may undergo analogical pressure to remove redundant alternations through paradigm-leveling.

Contrary to certain eastern Bantu languages, all western and central Savannah Bantu languages have a 5V system (Schadeberg 1994-1995). Consequently, it is not excluded that the 7V>5V reduction, just like the morphologically conditioned regression of spirantization, was accomplished before their dispersal. Once the vowel reduction was achieved, the original phonological conditioning became opaque and traces of spirantization entirely lexicalized. New agent nouns were still created by means of the suffixation of a final –i, but this suffix no longer provoked spirantization.

Interestingly, a comparable development of spirantization retraction may have taken place in the Great Lakes region. In Jita (J25), as extensively documented by Downing (2001), spirantization in front of the causative and the nominalizing suffixes is only productive with verbs ending in a liquid. As discussed earlier on, a similar phonological conditioning is observed in some other J10-20 languages. In Jita (J25), however, ANS very sporadically occurs with verbs ending in other consonants. Remarkably, the reflexes of the early Bantu agent nouns *–dɔ̀gì and *–jíbì are among these cases of exceptional ANS: omulosi, 'witch' (< okuloga); omwí:fi, 'thief' (< okwí:a) (Downing 2001:4)[21]. This observation seems to indicate that ANS was once more productive in the environment of the nominalizing suffix and then withdrew to more restricted phonological contexts. Hence, the phonological restriction of spirantization probably is a subsequent evolution that may have led to the despirantization of the *–dɔ̀gì and *–jíbì reflexes under analogical pressure in most of the J10-20 languages but left them untouched in Jita (J25). In other words, contrary to the central Bantu languages, ANS was not completely deactivated, only limited to certain phonological environments.

Returning to the central Savannah Bantu languages, the scenario of total ANS retraction would imply that, notwithstanding their widespread distribution, the creation of the agent nouns *–túdì, 'blacksmith', and *–bʊ́mbì, 'potter', is posterior to the deactivation of ANS and to the dispersal of the central Savannah Bantu languages. This is an appealing track from a cultural-historical point of view, since previous studies, such as de Maret & Nsuka (1977) or Grégoire (in press), have claimed that the association of the verb *–túd– to the activity of forging was established subsequent to the Proto-Bantu era and as the result of a semantic specialization of the basic meaning 'to beat', 'to pound', or 'to hammer'. Given the semantic naturalness of the association, it is conceivable that the new meaning is the outcome of a convergent semantic shift that occurred independently at different points of time and in different regions of the Bantu area. Likewise, the agent noun referring to the artisan may have been derived from the verb on several occasions. If this has really happened, it could explain why *–túdì does not have spirantized reflexes in the central Savannah Bantu languages. I proposed a similar semantic evolution for the verb *–bʊ́mb–. It most probably developed the meaning 'to mould pottery' out of the basic meaning 'to

21 Two other exceptionally spirantized agent nouns cited by Downing (2001:4) are omule:fi, 'shepherd' (< okule:a), and omuβáji, 'slaughterer' (< okuβága). My thanks to Laura Downing for drawing my attention to those fascinating exceptions.

work in clay, to mould in clay' after the Proto-Bantu era (Bostoen 2004, 2005). Consequently, the derivation of the agent noun designating the artisan may have been done at different points in time as well, for example, after the deactivation of ANS in the evolution of the central Bantu languages. Nevertheless, as stated before, the pre-nasalized final consonant of *-bʊ́mb- may also have contributed to the blocking of spirantization.

On the other hand, the hypothesis that ANS was an active process at a certain stage in the development of the central Bantu languages involves historical ties—either 'genetically' or by contact—with other Bantu languages attesting ANS. Spirantization is too complex a sound shift to have developed independently on several occasions, certainly if one takes into account its current state of morphologization. Regarding the present-day distribution of ANS, it cannot but indicate a historical relationship with the eastern Bantu languages, since the Forest Bantu languages in the north completely lack ANS. In my opinion, the most likely candidates attesting full ANS are the languages of zones F, J, and M, which are situated along a north-south corridor between the major East African lakes, in the eastern area of the central Bantu languages.

At the current stage of research, however, I prefer to restrain myself from drawing far-fetched historical conclusions. The data considered in this paper are too limited for doing so. However, the trends that emerge from this preliminary research may serve as guidelines for a more detailed study of ANS that compares whole paradigms of agent nouns ending in -i rather than a limited set of early Bantu noun stems. Even if the phenomenon of spirantization does not work as a historical classifier (Nurse & Philippson 2003:174), a comparative study of the progression of its morphologization throughout Bantu could be more telling historically.

8. Conclusions

All four early Bantu agent nouns studied in this paper have both spirantized and non-spirantized reflexes. In all cases, the latter kind of reflexes occurs in languages that completely lack spirantization and in languages that manifest consonant mutation in other morphemic contexts (sometimes even with certain agent nouns). Earlier lexical studies, such as Bastin et al. (2002) and Guthrie (1967-1971), proposed a double reconstruction in order to cope with the existence of non-spirantized reflexes in otherwise regularly spirantizing languages. Nevertheless, the reconstruction of an original closed front FV alone is sufficient. Moreover, I consider it as the only solution that makes sense from a historical point of view. An original form ending in a semi-closed front vowel cannot result in reflexes manifesting ANS and does not correspond with the FV of present-day reflexes in 7V languages. By contrast, an original 1st degree FV accounts for both facts. The absence of ANS in languages where it could be expected is the outcome of diverse historical processes. It is only in a limited group of eastern Bantu languages from zones F, G, J, and M that ANS is generalized. In these languages, uniquely, spirantization seems to have reached the whole paradigm of agent nouns

ending in –i. In all other Bantu languages, ANS appears to be just partial or entirely absent. Apart from the Forest Bantu languages, which are generally lacking spirantization, several eastern Bantu languages completely lack ANS. It concerns 7V languages (e.g. E40-50, J40, S30) in which manifestations of spirantization are rather marginal and 5V languages regularly attesting spirantization in other morphemic contexts. The latter languages occur mainly in the southeastern part of the Bantu domain and belong to the zones N, P, and S; yotally lacking ANS, the morphologization of spirantization is very limited. It reached the environment of the causative suffix –i–, conducive to spirantization, but was blocked in front of the nominalizer –i. In certain languages of the Great Lakes region, ANS is only partial, because it is phonologically conditioned. Spirantization has reached the environment of the nominalizing suffix, but its implementation has been restricted according to the preceding consonant. In the western and central Bantu Savannah languages (zones H, K and L), however, spirantization seems to have reached the environment of the nominalizing suffix at a certain stage of their development. Nevertheless, it must have been deactivated soon afterwards, since only the earliest agent nouns appear to manifest signs of spirantization. Although this preliminary study of ANS, based on the comparison of only four early Bantu agent nouns, does not allow far-reaching historical conclusions, the trends emerging from this research suggest that a detailed comparative study of entire agent noun paradigms throughout the Bantu domain may be far more telling from a diachronic viewpoint.

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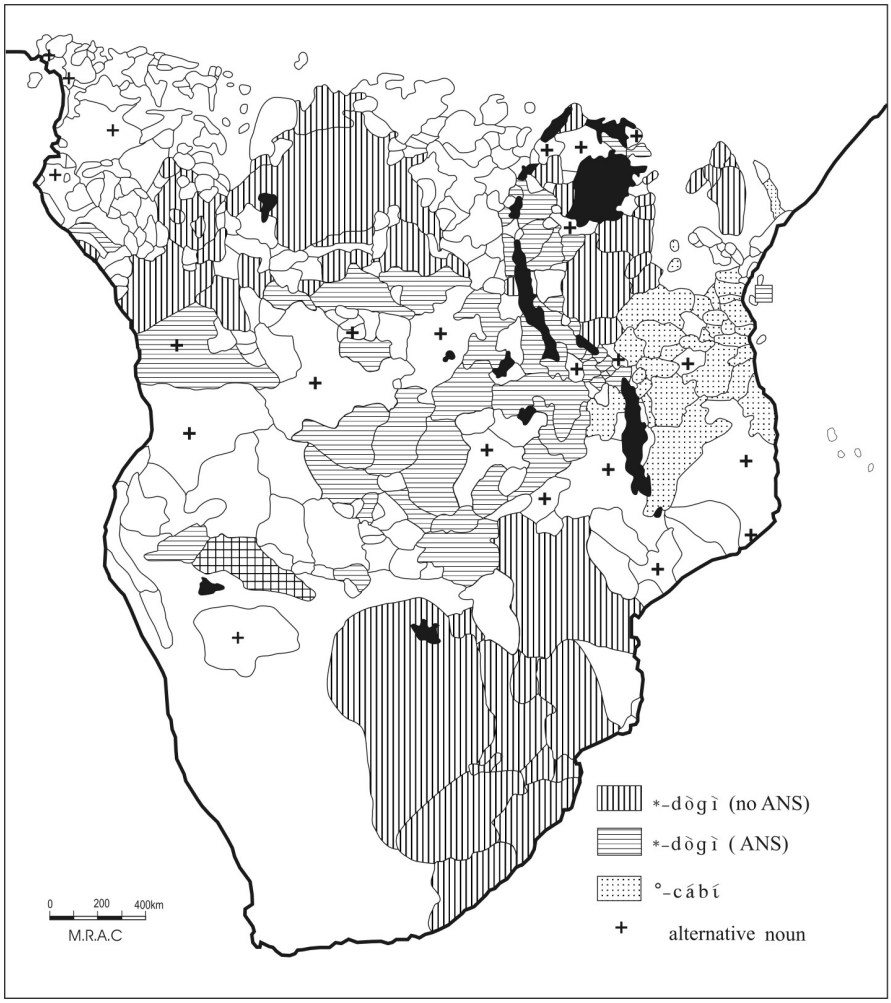
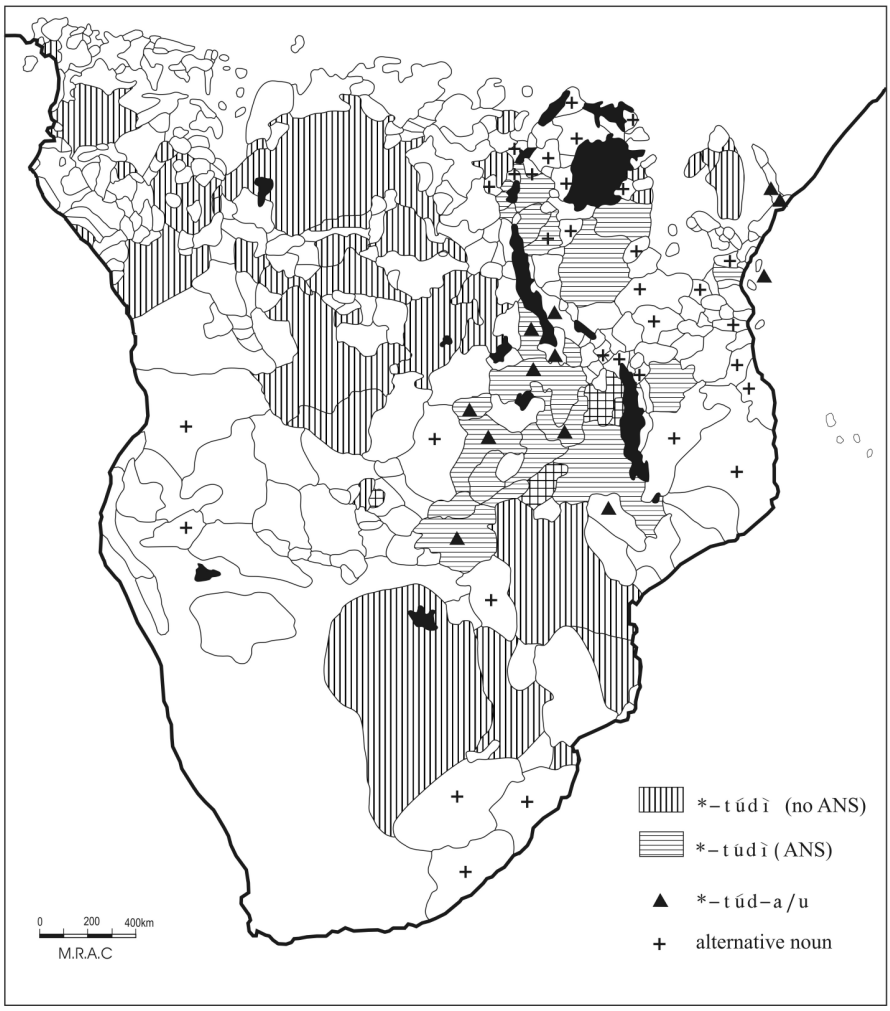
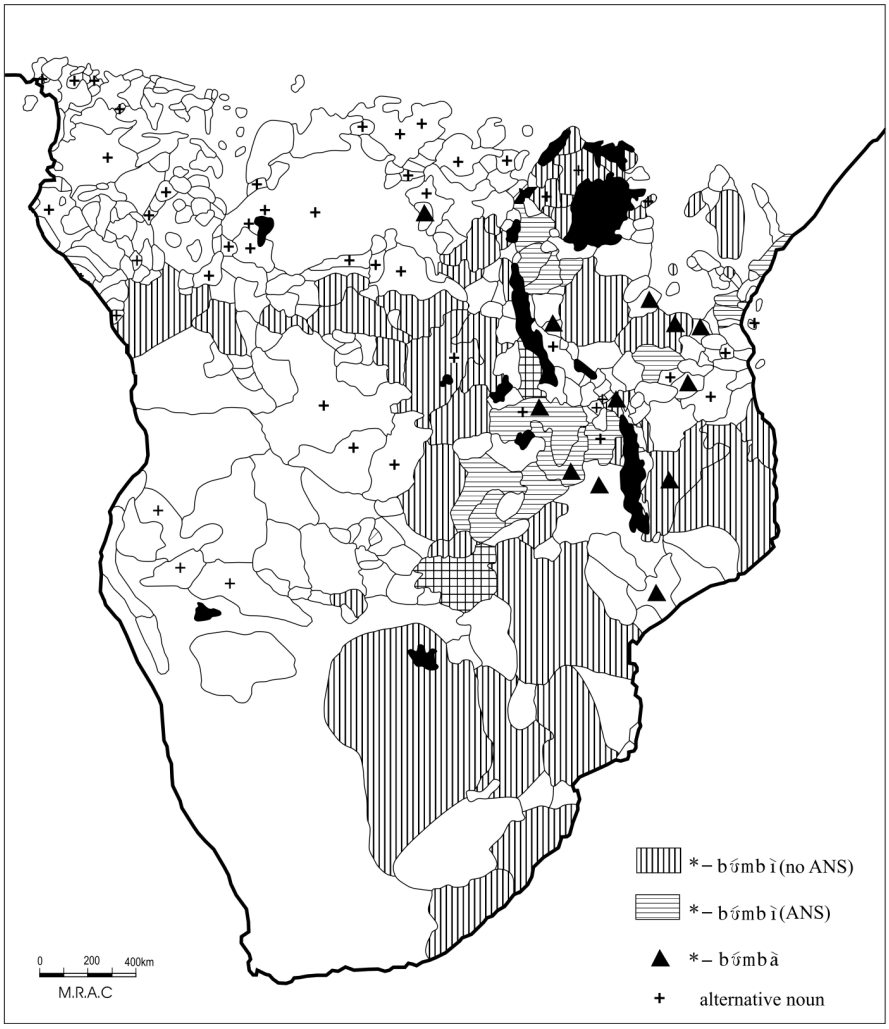


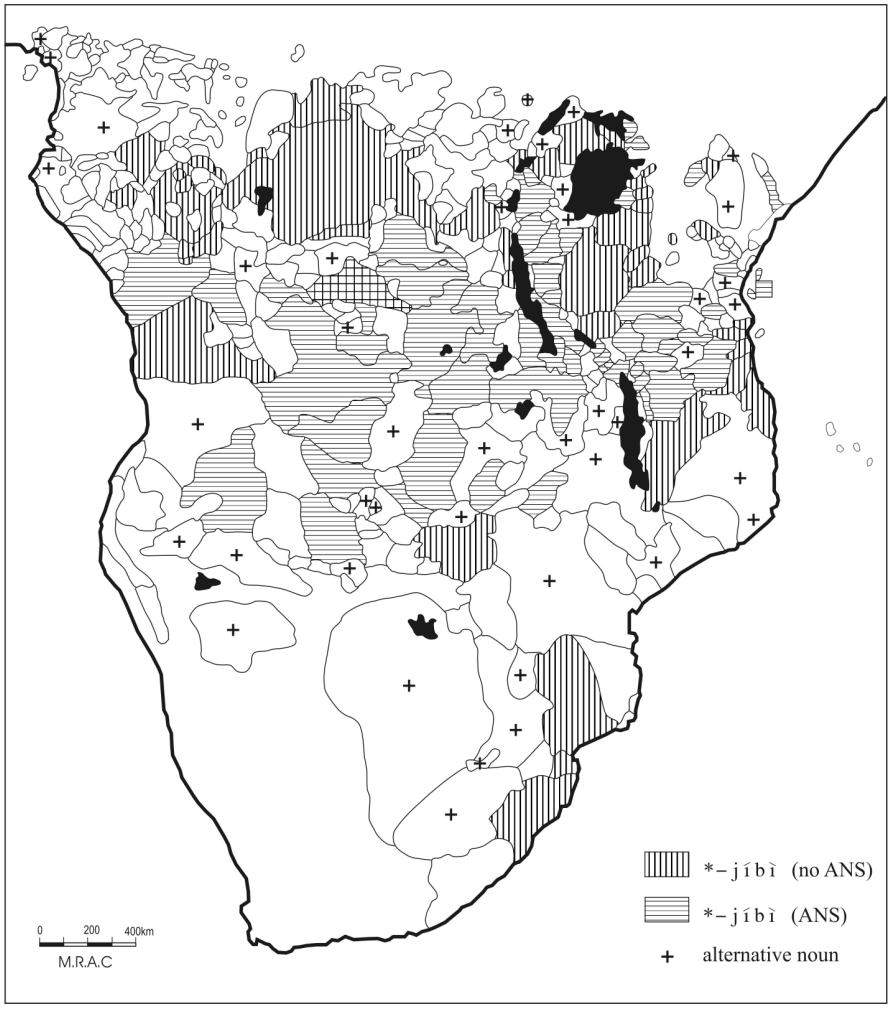
Map 1: Distribution of the reflexes of *-dòǧì 'witch/witchcraft' and alternative nouns



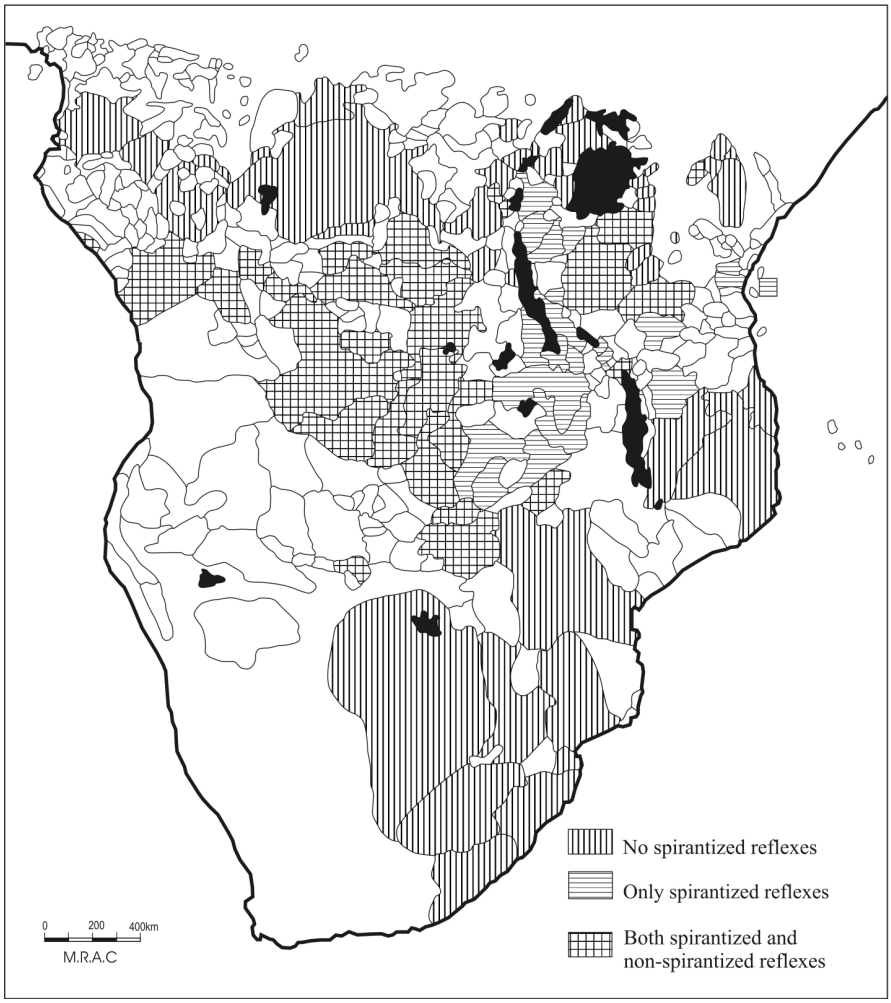
Map 2: Distribution of the reflexes of *-tűdì 'blacksmith' and alternative nouns



Map 3: Distribution of the reflexes of *–bʊ́mbì ‘potter’ and alternative nouns



Map 4: Distribution of the reflexes of *-jíbì 'thief' and alternative nouns



Map 5: ANS patterns emerging from a comparison of the agent nouns studied in this paper

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