

1 **TWO TYPES OF TEMPORAL *WHEN* CLAUSES IN**  
2 **HAUSA**<sup>1</sup>

3  
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6 **ABSTRACT:**

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8 Hausa has simple temporal clauses, introduced by the conjunction *dà*  
9 ‘when’, that many researchers derive from temporal relative clauses  
10 introduced by *lookàcin dà* ‘time that’, through the deletion of the pseudo head  
11 word *lookàcii* ‘time’. This paper shows that this analysis, however natural it  
12 may appear, is inadequate. Indeed, the two temporal clauses have different  
13 uses, which would not be surprising if simple temporal clauses are  
14 derivationally independent from temporal relative clauses, as proposed in this  
15 paper.

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19 **1. INTRODUCTION**

20  
21 There are in Hausa two types of temporal *when* clauses. The first type has  
22 the structure of relative clauses while the second type shows no immediate  
23 connection to relative clauses. The two types of temporal clauses are  
24 illustrated in the following:

- 25 (1) a. Sun kaawoo ma-nà ziyaaRàa lookàci-n dà  
26 3P.CPL bring to-1P visit time-DF that  
27 mu-kèe kàalàacii.  
28 1P-RI meal  
29 ‘They visited us when we were having a meal.’

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<sup>1</sup> Hausa (Chadic) is spoken mainly in Niger and Nigeria. Primary data in this paper are mostly from the Katsinanci dialect and Standard Hausa. The transcription follows the Hausa standard orthography with some changes. Long vowels are represented as double letters, low tone as grave accent, and falling tone as circumflex accent. High tone is unmarked. Small capitals <B, D, K> represent glottalized/laryngealized consonants, and <R> represents an alveolar trill distinct from a flap [r]. Written <f> is pronounced [h] (or [h<sup>w</sup>] before [a]) in Katsinanci and other western dialects. The abbreviations are: 1, 2, 3 ‘1st, 2nd, 3rd person’; cop. ‘copula’; CPL ‘completive’; DF ‘definite’; F ‘feminine’; FUT ‘future’; imp ‘impersonal’; IPV ‘imperfective’; M ‘masculine’; P ‘plural’; RI ‘relative imperfective’; RP ‘relative perfective’; S ‘singular’; SUB ‘subjunctive’.

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- 1           b. Sun       kaawoo ma-nà zìyaaRàa dà  
 2               3P.CPL bring to-1P visit       when  
 3               mu-nàa kàalàacii.  
 4               1P-IPV meal  
 5               ‘They visited us when we were having a meal.’

6   The temporal clause in (1a) is structurally a relative construction where the  
 7   relative clause introduced by *dà* seems to modify the apparent head word  
 8   *lookàcii* ‘time, moment, period’. Sometimes, instead of *lookàcii*, an  
 9   alternative word may appear such as *sa’aa*, *sàa’idii*, *yàayii*, etc., all meaning  
 10  ‘time, moment, etc.’ In (1b) by contrast, the temporal clause is introduced by  
 11  the particle *dà* alone which is here translated as ‘when’. Furthermore, the two  
 12  temporal clauses differ in the fact that the temporal relative clause can  
 13  optionally take the “relative marking”, i.e., alternate forms of the perfective  
 14  and imperfective that appear in relative clauses and out-of-focus clauses of  
 15  focus and *wh* question constructions (see among others Bearth 1993; Hyman  
 16  and Watters 1984; Schachter 1973). For this reason, the temporal relative  
 17  clause in (1a) has the relative imperfective *mu-kèe* ‘1P-RI’ contrasting with  
 18  the regular imperfective *mu-nàa* ‘1P-IPV’ found in the simple temporal clause  
 19  in (1b).

20       Nearly all descriptions of Hausa temporal clauses claim or assume that  
 21  temporal relative clauses, especially the ones headed by the word *lookàcii*  
 22  ‘time’, are the source of simple temporal clauses introduced by *dà*. The  
 23  derivation would involve the deletion of the word *lookàcii* ‘time’ or its  
 24  equivalents (cf. Bagari 1976/87: 117; Jaggar 2001: 624; Newman 2000: 556;  
 25  Tuller 1986: 113). In fact, for most authors (cf. Jaggar 2001: 624, 629), the  
 26  *lookàcii* temporal relative clause derives a whole series of temporal clauses  
 27  introduced by phrasal subordinators involving the particle *dà*, such as:  
 28  (*lookàcin*) *dà* ‘(time) when’, *sai* (*lookàcin*) *dà* ‘till (time) when’, *tun*  
 29  (*lookàcin*) *dà* ‘since (time) when’, etc. The claim that temporal relative  
 30  clauses are the source of simple temporal clauses is usually based on  
 31  examples where the word *lookàcii* ‘time’ seems optional, as illustrated next  
 32  (cf. also Bagari 1976/87: 117; Watters 2000: 223):

- 33       (2) a. Naa       san Abdù (lookàci-n) dà ya-nàa   yaaròo.  
 34               1s.CPL know Abdu time-DF   DA 3MS-be child  
 35               ‘I know Abdu (at the time) when he was a child.’  
 36       b. Yàaraa   sun       ga sarkii (lookàci-n) dà   su-kà  
 37               children 3p.CPL see emir time-DF   DA   3P-RP  
 38               shìga gàrii.  
 39               enter town

- 1           ‘The children saw the emir when they visited the town.’  
 2           ‘The children saw the emir when they were entering the town.’

3     In the sentences in (2), the presence or absence of the word *lookàcii* ‘time’ has  
 4     no consequence on the meaning of the sentences. In (2b) for example, with or  
 5     without *lookàcii*, there is an ambiguity between the interpretations ‘the  
 6     children saw the emir at the exact moment when they entered the town’ and  
 7     ‘the children saw the emir when they were visiting the town’. It thus seems  
 8     completely natural to derive the simple temporal clause from the more  
 9     complex temporal relative clauses through the deletion of the word *lookàcii*.  
 10    In fact, this process is thought to be general and, according to Wald (1987:  
 11    509n5), many West African languages commonly use a relative conjunction  
 12    (such as *dà* in Hausa) as a conjunction introducing temporal *when* clauses.<sup>2</sup>

13    The aim of this paper is to show that the assumption of a systematic  
 14    derivation of simple temporal clauses from temporal relative clauses cannot  
 15    be maintained when one closely examines the uses of the two types of clauses.  
 16    The paper thus presents a series of indications suggesting that the simple  
 17    temporal clauses are not derived from temporal relative clauses.

18    As will be seen in due course, in trying to establish the independence of  
 19    simple temporal clauses, this paper retraces the development of both types of  
 20    clauses using the grammaticalization framework. Normally, a  
 21    grammaticalization process, in a specific context, turns a lexical or  
 22    derivational item into a grammatical marker, or a grammatical marker  
 23    becomes more grammatical (cf. for example Hopper and Traugott 1994: 2). In  
 24    this process, the original lexical item becomes progressively eroded, both at  
 25    the phonological and semantic levels. However, there is another process that  
 26    also falls under the domain of grammaticalization, where an entire  
 27    construction undergoes expansion in new contexts and/or acquires new  
 28    functions while becoming syntactically more integrated and less flexible. This  
 29    type of grammaticalization has been discussed in, among others, Givón  
 30    (1990: 651); Güldemann (2003: 183); Heine and Reh (1983: 34);  
 31    Himmelman (1997); and Hopper and Traugott (1994: 167ff). In this paper,  
 32    we will see both types of changes. Indeed, simple temporal clauses stem from  
 33    the grammaticalization of the *dà*, which evolved from an existential predicate,  
 34    through a comitative and instrumental marker, to a temporal conjunction.

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<sup>2</sup> This pseudo head deletion process is actually thought by some writers to apply to all adverbial relative clauses. For example, Reineke (1998: 103) reports that in Ditammari (and other Gur languages), locative and manner adverbial clauses are headless relative clauses that however incorporate noun class markers compatible with, respectively, the lexemes meaning ‘place’ and ‘manner’. However, in the two Gur languages described by Reineke (Ditammari and Biali), the head words meaning ‘time’ are not deleted in temporal relative clauses.

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1 Temporal relative clauses on the other hand are derived from typical head  
2 modifying relative clauses and have a frozen structure characteristic of  
3 grammaticalized constructions.

4 The paper is structured as follows. Section 2 presents the relationship  
5 between temporal relative clauses and regular relative clauses. Section 3  
6 sketches a possible development scenario for simple temporal clauses that  
7 makes no appeal to relative constructions. Finally, Section 4 discusses other  
8 differences between the two types of temporal clauses, in particular their  
9 semantics and their interaction with times/aspects/modes (TAM), differences  
10 that show the derivational independence of simple temporal clauses vis-à-vis  
11 temporal relative clauses.

### 12 13 2. DEVELOPMENT OF TEMPORAL RELATIVE CLAUSES

14  
15 It has naturally long been evident that adverbial clauses in general may in  
16 some languages be closely connected to relative constructions (cf. Lehmann  
17 1984: 320; Thompson and Longacre 1985: 178). This section shows that  
18 temporal relative clauses in Hausa can be derived from relative clauses where  
19 the head word *lookàcii* ‘time’ has a true referential reading.

20 Like any noun phrase functioning in a sentence (as subject, direct object,  
21 etc.), the word *lookàcii* can be modified by at least four kinds of relative  
22 clauses. One of the two fundamental contrasts in Hausa relative clauses  
23 distinguishes relative clauses with a complex structure involving a copular  
24 predicate *kè(e)* ‘be’ and simpler, reduced relative clauses that have no copula.  
25 These two types of relative clauses are illustrated in the following (cf. also  
26 Newman 2000: 540):

- 27 (3) a. *Kà àuni lookàci-n dà ya-kè yaa daacèe.*  
28 2MS.SUB aim time-DF that 3MS-be 3MS.CPL fit  
29 ‘You must/may aim at the really appropriate moment.’
- 30 b. *Kà àuni lookàci-n dà ya daacèe.*  
31 2MS.SUB aim time-DF that 3MS.RP fit  
32 ‘You must/may aim at the appropriate moment.’

33 In the sentences in (3), the main clause is *kà àuni [lookàcii...]* ‘you should  
34 target [a time...]’ where the word *lookàcii* functions as direct object in the  
35 main clause. In (3a), the relative clause is introduced by the conjunction *dà*  
36 ‘that’ and is made up of an impersonal copular predicate *ya-kè* ‘it be’ and the  
37 relative clause proper. We will assume that the relative clause proper here  
38 functions as a complement to the copula *-kè*. By contrast, in (3b), the relative  
39 clause is reduced in structure and is introduced only by the conjunction *dà*  
40 ‘that’. As may be seen, the reduced relative clause in (3a) has the relative  
41 perfective marker *ya* ‘3MS.RP’ replacing the regular completive marker *yaa*

1 ‘3MS.CPL’ found in the copular relative clause in (3a). It may be noted that  
 2 reduced relative clauses as illustrated in (3b) are more frequent, while the  
 3 copular relative clauses illustrated in (3a) have an associated emphatic  
 4 reading, as indicated in the translation.

5 The second fundamental contrast in Hausa relative clauses is the presence  
 6 or absence of a relative pronoun introducing the relative clause. Indeed, the  
 7 relative clauses illustrated in (3) all have variants with a relative pronoun, as  
 8 illustrated in the following:

- 9 (4) a. Kà àuni lookàcii wa-n-dà ya-kè  
 10 2MS.SUB aim time one-DF-that 3MS-be  
 11 yaa daacèe.  
 12 3MS.CPL fit  
 13 ‘You must aim at the really appropriate moment.’
- 14 b. Kà àuni lookàcii wa-n-dà ya daacèe.  
 15 2MS.SUB aim time one-DF-that 3MS.RP fit  
 16 ‘You must aim at the appropriate moment.’
- 17 c. wa-n-dà ya-kè yaa daacèe  
 18 one-DF-that 3MS-be 3MS.CPL fit  
 19 ‘the one that is really appropriate.’

20 Relative clauses without a relative pronoun, as illustrated in (3), are usually  
 21 taken to be more basic (cf. Newman 2000: 540). Indeed, relative clauses  
 22 introduced by a relative pronoun, as illustrated in (4a-b) are historically  
 23 secondary and stem probably from the grammaticalization of free relative  
 24 clauses headed by the indefinite pronoun *wàa* ‘one’, as illustrated in (4c). The  
 25 free relative clauses are now alternating with the original *dà* relative clauses in  
 26 modifying a head noun. In (4a-b), the sequence made up of the indefinite  
 27 pronoun and the conjunction (i.e., *wa-n-dà* ‘the one-masc. that’) is  
 28 reinterpreted as a relative pronoun *wandà* ‘who-masc.’. The relative pronoun  
 29 is written as one word in Hausa orthography and the other forms are:  
 30 *waddà/waccè* ‘who-fem.’, *waDàndà* ‘who-plur.’ (theses pronouns in fact have  
 31 a variable tone pattern, see Jaggar 2001: 528; on the development of relative  
 32 pronouns in general, see among others Givon 1990: 657; Lehmann 1984: 389;  
 33 van der Auwera and Kučanda 1985: 927, 953).

34 Data (3-4) illustrate the noun *lookàcii* ‘time’ functioning as direct object  
 35 of the main clause and this noun can naturally also assume other syntactic  
 36 functions in the main clause. In particular, *lookàcii* can also function as a  
 37 temporal adverb in the main clause. However, in such case, *lookàcii* and its  
 38 accompanying relative clause have a double interpretation, as seen in the next  
 39 examples:

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- 1 (5) a. Bàakii sun zoo lookàci-n dà  
 2 visitors 3P.CPL come time-DF that  
 3 mu-kèè cîn àbinci.  
 4 1P-RI eat food  
 5 ‘The visitors came at our meal time.’  
 6 ‘The visitors came while we were eating.’
- 7 b. Bàakii sun zoo jiyà/ Karfèè biyu.  
 8 visitors 3P.CPL come yesterday/ o’clock two  
 9 ‘The visitors came yesterday/ at 2 o’clock.’
- 10 c. Lookàci-n nan nèe bàakî-n su-kà zoo.  
 11 tile-DF that cop. Visitors-DF 3P.RP come  
 12 ‘It was at that moment that the visitors came.’

13 In the first meaning of (5a), *lookàcii* is referential and designates a precise  
 14 moment. In this interpretation, the people visited do not need to actually be  
 15 eating. In (5a) then *lookàcii* fulfills a function in the main clause and is  
 16 comparable to simple temporal adverbs such as *jiyà* ‘yesterday’, etc., as  
 17 illustrated in (5b). The difference between the two types of adverbs is that the  
 18 word *lookàcii* must necessarily be specified by a relative clause to have a  
 19 reference, unless this reference is clear from context. For example, in (5c) the  
 20 reference of *lookàcii* is would be specified in the preceding discourse. In the  
 21 second meaning of (5a), the word *lookàcii* ‘time’ is not referential and its  
 22 interpretation seems to be closely tied to the action described in the apparent  
 23 relative clause (the action of eating). In particular, the action of eating refers  
 24 to a specific event (unlike in the first interpretation), which so determines the  
 25 temporal reference. In this case, it is the entire apparent relative construction  
 26 that acts as a temporal adverbial clause in the main clause. That is, since  
 27 *lookàcii* is not referential (or is lexically empty, cf. Lehmann 1984: 320), one  
 28 no longer has the construction “Head *lookàcii* + relative clause”. Indeed,  
 29 many relative constructions with the word *lookàcii* can only be interpreted as  
 30 adverbial clauses, in particular when they refer to single occurrence events, as  
 31 illustrated in the following:

- 32 (6) a. Lookàci-n dà su-nàa faDàa nee ùbâ-n  
 33 time-DF that 3P-IPV fight cop. father-DF  
 34 naa-sù ya fitoo.  
 35 of-3P 3MS.RP come.out  
 36 ‘It is when they were fighting that their father came out.’
- 37 b. Lookàci-n dà Saanii ya buuDoo Koofàa  
 38 time-DF that Sani 3MS.RP open door

1           sai    su-kà   ruugàa.  
 2           then 3P-RP run  
 3           ‘It is when Sani opened the door that they fled.’

4   In sentences (6), the action described in the temporal relative clause is a single  
 5   occurrence event, whether the tense/aspect is imperfective, as in (6a), or  
 6   perfective, as in (6b). In such cases, the event in the temporal relative clause  
 7   can be interpreted as causal, leading to the event described in the main.  
 8   Indeed, in (6a-b), the relation between subordinate and main clause event can  
 9   be temporal (fortuitous) or causal (i.e., respectively, the father came out in  
 10  order to see what was going on and the children ran away from Sani; cf. also  
 11  the discussion of data (16) below).

12   The functional/semantic changes observed in data (5-6) can be naturally  
 13  apprehended in the grammaticalization framework whereby the regular  
 14  relative clauses would be the source of the specialized temporal relative  
 15  clauses. Indeed, there are indications that the semantic changes are  
 16  accompanied by formal changes as well. As expected in a grammaticalization  
 17  process, the derived temporal relative clauses are indeed more reduced and  
 18  less flexible syntactically. We have at the beginning of this section seen that  
 19  one contrast opposes copular and reduced relative clauses (cf. discussion of  
 20  data (3)) while another contrast opposes relative clauses that have a relative  
 21  pronoun and those that have no relative pronoun (cf. discussion of data (4)). It  
 22  happens that temporal relative clauses have no variants with the copula *-kè*  
 23  and cannot take a relative pronoun, as illustrated in the following data:

- 24 (7) a. \*Lookàci-n dà   ya-kè    su-nàa   faDàa...  
 25       time-DF   that 3MS-be 3P-IPV fight  
 26       ‘When they were fighting...’  
 27       b. \*Lookàcii wa-n-dà       su-kèe faDàa...  
 28       time       one-DF-that 3P-RI fight  
 29       ‘When they were fighting...’  
 30       c. \*Lookàcii wa-n-dà       ya-kè    su-nàa   faDàa...  
 31       time       one-DF-that 3MS-be 3P-IPV fight  
 32       ‘When they were fighting...’

33   Examples (7a-c) show that temporal relative clauses cannot, respectively,  
 34   have the copula *-kè*, the relative pronoun, or both features at the same time. It  
 35   may be noted that copular relative clauses have an emphatic connotation, which  
 36   would apparently apply to *lookàcii* ‘time’ only if it is referential. At the  
 37   beginning of the section it was suggested that relative clauses with a relative  
 38   pronoun are a secondary development and incorporate a free relative clause. It  
 39   appears then that only reduced relative clauses without a relative pronoun  
 40   specialized to become temporal relative clauses, the more complex relative

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1 clauses (relative clauses with copula *-kè* and/or a relative pronoun) are  
2 incompatible with the adverbial function.

### 3. DEVELOPMENT OF SIMPLE TEMPORAL CLAUSES

6 In relative clauses and temporal relative clauses, the particle *dà* is  
7 generally taken to be a purely grammatical marker, i.e., a subordination  
8 conjunction without semantic load. By contrast, the same particle in simple  
9 temporal clauses is translated by all writers as the conjunction ‘when’ (cf. for  
10 example Jaggat 2001: 606, 624; Newman 2000: 556; cf. also data (1b) above).  
11 Nonetheless, such translation is only an approximation and is context bound  
12 since *dà* appears in other temporal expressions where it is not exactly  
13 translatable as ‘when’. This is illustrated in the following (cf. also Jaggat  
14 2001: 650; Wolff 1993: 440):

15 (8) Abdù yaa zoo dà saafe/  
16 Abdu 3MS.CPL come during early.morning/  
17 (dà) Karfèè takwàs.  
18 at o'clock eight  
19 ‘Abdu arrived early in the morning/ at 8 o'clock.’

20 As seen in (8), the particle *dà* can, obligatorily or optionally, accompany  
21 certain temporal adverbs such as the times of day, prayer moments, hours,  
22 seasons, etc. (however, some temporal adverbs such as *maakòo/saatii* ‘week’,  
23 the months and the years –such as *Maarìs* ‘march’, ‘1999’, *bana* ‘this year’,  
24 *bàara* ‘last year’, and *bàDi* ‘next year’, etc.- do not take *dà*). As indicated, in  
25 contexts such as (8), *dà* can be translated as ‘at, in/during’, which shows that  
26 the temporal particle is in fact semantically complex and the meaning of  
27 ‘when’ may be a derived meaning.

28 In this regard, there are indications showing that particle *dà* ‘when’ may  
29 have derived from the comitative/instrumental preposition *dà* ‘with’. In fact in  
30 certain temporal uses, the comitative semantics of *dà* is quite explicit, as  
31 illustrated next:

32 (9) a. Abdù yaa zoo dà wuri.  
33 Abdu 3MS.CPL come with margin  
34 ‘Abdu came very early (i.e., with “space, margin”).’  
35 b. Ciiwò-n nân yaa zoo dà dàamanaa.  
36 sickness-DF this 3MS.CPL come DA rainy.season  
37 ‘This disease came with the rainy season.’  
38 ‘This disease came during the rainy season.’

39 In (9a), the adverb *wuri* comes very likely from *wurii* ‘place, space’ and the  
40 expression *dà wuri* literally means ‘with (time) room/margin’. Data (9b)

1 however may more clearly show the semantic/functional shift from comitative  
 2 *dà* to temporal *dà*. Indeed, *dà* in (9b) can mean ‘with’, as in the first  
 3 interpretation, or ‘during’, as in the second interpretation. One may assume  
 4 that once particle *dà* took up the function of introducing temporal adverbs, the  
 5 new function spread to events expressed in finite or non finite clauses. This is  
 6 illustrated in the following (example (10a) adapted from Hiskett 1971: 78 and  
 7 (10b) from Moussa-Aghali 2000: 8; cf. also Jaggar 2001: 635 for similar  
 8 examples):

- 9 (10) a. *Dà gaanàawaa dà kau ràsuwaa taa-sà.*  
 10 on meeting on indeed dying of-3MS  
 11 ‘He died as soon as they greeted.’
- 12 b. *Dà jî-n hakà sai uwaa-taa*  
 13 on hearing-of this then mother-of.1S  
 14 *ta buushèè dà dàariyaa.*  
 15 3FS.RP blow with laughter  
 16 ‘On hearing this, my mother laughed.’
- 17 c. *Dà ta jî hakà sai uwaa-taa*  
 18 when 3FS.RP hear this then mother-of.1S  
 19 *ta buushèè dà dàariyaa.*  
 20 3FS.RP blow with laughter  
 21 ‘When she heard this, my mother laughed.’

22 In (10a), particle *dà* introduces two verbal nouns and is probably the same  
 23 preposition found introducing nominals in data (8-9). The construction “*dà* +  
 24 verbal noun + (complement)” is quite frequent in Hausa and can appear even  
 25 in frozen expressions (such as *dà faaràawaa dà iyàawaa* ‘early talent’, lit. ‘on  
 26 starting (is) on knowing how’; cf. further examples in Newman 2000: 44). For  
 27 this reason, the construction is frequently an alternative to finite temporal  
 28 clauses, as seen in (10b-c) where the two sentences are essentially equivalent  
 29 (although (10b) is also used to convey the ‘as soon as she heard this...’  
 30 reading). The shift from a preposition to a subordinating conjunction seen in  
 31 (10b-c) characterizes the development of many particles in Hausa (cf. *sai*  
 32 *Abdù* ‘only Abdu (can do something)’ and *sai kaa jee can* ‘only [if] you go  
 33 there (can you achieve something)’). Other particles introducing a noun  
 34 phrase or a finite clause are: *baayan* ‘after’ (from *baayaa* ‘back’), *koo* ‘even’,  
 35 *kàafin* ‘before’, *tun* ‘since’, etc. (cf. Schachter 1985: 51; Wolff 1993: 449). It  
 36 is clear that examples (8-10) evidence some temporal uses of *dà* that are  
 37 unrelated to *lookàcin dà* relative clauses. The proposal that temporal  
 38 conjunction *dà* stemmed from comitative/instrumental *dà* is hence a viable  
 39 alternative to the *lookàcii* deletion analysis.

#### 4. DIFFERENCES BETWEEN THE TWO TYPES OF TEMPORAL CLAUSES

In the previous two sections, we saw that simple temporal clauses and temporal relative clauses may have different origins. This section shows that the two types of clauses also differ with regard to their use in ways that cannot be accommodated in the framework of the *lookàcii* deletion analysis. Indeed, the two types of temporal clauses do not express the same range of temporal *when* relations and behave differently with regard to the tense/aspect paradigms.

##### 4.1 Semantic differences between the two types of clauses

In the general linguistic literature (cf. Michaelis 2006, Vlach 1981) there are essentially two types of temporal relations between the event in a temporal *when* clause and the event in its main clause. Regarding English for example, Vlach (1981) considers that the relation is overlapping when one of the event refers to a state (i.e., when the event is durative). By contrast, the relation is consecutive when both events in the subordinate and main clause are non durative. The overlapping relation is well illustrated for both types of Hausa temporal clauses, as seen in data (1-2) where one of the events is durative. The consecutive relation with two punctual events is also well illustrated in (6c) for the temporal relative clauses and in (10c) for the simple temporal clauses. However, in Hausa the interpretation of the temporal relation may not in fact depend on the durativity of the events per se. Indeed, the two types of temporal clauses may in some cases have an overlapping or consecutive reading when both subordinate and main clauses describe punctual events. This is illustrated in the following:

- (11) a. (Lookàci-n) dà ya taashi, sai  
 time-DF DA 3MS.RP stand then  
 ya habrè kwaanò-n ruwâ-n.  
 3MS.RP kick bowl-of water-DF  
 ‘When he was standing up, he kicked over the water bowl.’  
 ‘When [after] he stood up, he kicked over the water bowl.’
- b. (Lookàci-n) dà ya diRoo, sai  
 time-DF DA 3MS.RP jump then  
 ya karè Kafâa/ sândâ-R.  
 3MS.RP break leg/ stick-DF  
 ‘When he jumped, he broke his leg/the stick.’

In (11), the presence of the word *lookàcii* has no effect on the interpretation of the sentences so that all interpretations apply both to simple temporal clauses and temporal relative clauses. In (11a), the sentence is ambiguous between an

1 overlapping and a consecutive interpretation. This seems to hinge on the  
 2 durative vs. punctual perspective taken for the event in the temporal clause.  
 3 Sentence (11b), too, is ambiguous between an overlapping and a consecutive  
 4 reading but in way different from (11a). While in the first interpretation of  
 5 (11a) the kicking of the bowl may happen anytime during the process of  
 6 standing up, in (11b) the breaking of the leg can only happen, normally, at the  
 7 end of the jumping process. It is clear that there is here a minimal overlapping  
 8 of the events. Depending on the nature of the object, sentence (11b) can also  
 9 have a consecutive reading (jumping and then breaking a stick). The various  
 10 types of temporal *when* relations seen so far between subordinate and main  
 11 clause event can be diagrammed as in the following:

12 (12) Full/partial overlapping -- minimal overlapping -- consecution

13 As illustrated in the examples, both types of temporal clauses can express all  
 14 three relations in (12). However, there is one further type of consecutive *when*  
 15 relation that can be expressed only by simple temporal clauses. In this  
 16 temporal relation, the close sequencing of the events is stressed or particularly  
 17 explicit. The stressing of the close sequence relation is illustrated next:

18 (13) a. (Lookàci-n) dà su-kà zoo, sai mu-kà  
 19 time-DF DA 3P-RP come then 1P-RP  
 20 ci àbinci.  
 21 eat meal  
 22 ‘When [once] they arrived, we then ate.’

23 b. Koo (\*lookàci-n) dà su-kà zoo, sai mu-kà  
 24 even time-DF DA 3P-RP come then 1P-RP  
 25 ci àbinci.  
 26 eat meal  
 27 ‘As soon as they arrived, we ate.’

28 In (13a), the closeness of the consecutive relation is not stressed and both  
 29 types of temporal clauses are possible, as shown by the optionality of *lookàcii*  
 30 ‘time’. In (13b), the sentence is introduced by *koo* ‘even’, which is an  
 31 emphatic particle (cf. König 1991), stressing the close sequencing of the  
 32 events. One notes that in this case, the word *lookàcii* is not possible. Another  
 33 case of explicit close sequencing is illustrated next:

34 (14) Ta tàmbàyi Saanii. (\*Lookàci-n) dà ya  
 35 3FS.RP ask Sani time-DF DA 3MS.RP  
 36 baa tà, sai ta tàfi.  
 37 give 3FS then 3FS.RP go  
 38 ‘She asked Sani [for sth.]. When he gave [it to] her, she went.’

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1 In (14), which could be a piece of narrative, the close consecutive relation is  
 2 explicit, i.e., in the context of asking, the woman left as soon as she was given  
 3 something. Here too, the word *lookàcii* is not possible. The narrative context  
 4 in fact provides a further illustration of a close consecutive relation that  
 5 excludes the temporal relative clauses. This is seen in the following:

- 6 (15) Su-kà fita. (\*Lookàci-n) dà su-kà fita,  
 7 3P-RP go.out time-DF DA 3P-RP go.out  
 8 sai ta rufè Koofàa.  
 9 then 3FS.RP close door  
 10 ‘They then left. Once they exited, she then closed the door.’

11 Narratives, by definition, relate events that are sequenced and single  
 12 occurrence (Adam 1994: 92-105), typically in a close succession. In Hausa, a  
 13 frequent narrative technique is to repeat a previous event in a temporal clause,  
 14 before chaining up with the next event. In (15), the event of getting out is  
 15 presented. Then the same event is repeated in the subordinate clause and  
 16 linked with the next new event. This repetition in fact stresses the close  
 17 connectedness of the events, as shown in the translation. One notes that here,  
 18 too, the word *lookàcii* is not possible. In fact, the repeated event can explicitly  
 19 be introduced by *baayan* ‘after’ or a hybrid conjunction *baayan dà* ‘after  
 20 that/when’, instead of *dà* alone. This is illustrated in the following:

- 21 (16) a. Su-kà fita. Baayan (\*Lookàci-n) dà su-kà fita,  
 22 3P-RP go.out after time-DF DA 3P-RP go.out  
 23 sai ta rufè Koofàa.  
 24 then 3FS.RP close door  
 25 ‘They then left. After they exited, she then closed the door.’  
 26 b. Su-kà fita. Baaya-n sun fita, sai  
 27 3P-RP go.out after 3P.CPL go.out then  
 28 ta rufè Koofàa.  
 29 3FS.RP close door  
 30 ‘They then left. After they exited, she then closed the door.’

31 In (16a), the first event of the passage is repeated and introduced by *baayan*  
 32 *dà* ‘after that/when’ and *lookàcii* cannot be used. *Baayan* is a preposition and  
 33 conjunction meaning ‘behind, after’ (cf. *baayan iccèe* ‘behind the tree’,  
 34 *baayan sallàh* ‘after the festival’). As seen in (16b), *baayan* can appear alone  
 35 and mark the close sequence relation.<sup>3</sup>

<sup>3</sup> There is nonetheless a difference between a hybrid temporal *baayan dà* ‘after that/when’ illustrated in (16a) and a temporal *baayan* ‘after’ clause illustrated in (16b). The simple *baayan* clause allows a more or less extended time between the two events. By contrast, the hybrid *baayan dà* clause typically implies a relatively short

1 Because of this ability of simple temporal clauses to mark close  
 2 consecutive events, they usually have, given the appropriate context, more  
 3 causative implication than temporal relative clauses. This is illustrated in the  
 4 following:

5 (17) a. Lookàci-n dà su-nàa faDàa nee ùbâ-n  
 6 time-DF that 3p-IPV fight cop. father-DF  
 7 naa-sù ya fitoo.  
 8 of.3P 3MS.RP come.out  
 9 ‘It is when they were fighting that their father came out.’

10 b. Dà su-nàa faDàa nee ùbâ-n naa-sù  
 11 when 3p-IPV fight cop. father-DF of.3P  
 12 ya fitoo.  
 13 3MS.RP come.out  
 14 ‘It is when they were fighting that their father came out.’

15 In the discussion of data (6a) above, we said that temporal relative clauses can  
 16 have causative implications. Nonetheless, when asked to contrast the  
 17 sentences in (17), most Hausa speakers interpret (17a) [= (6a)] as implying  
 18 that the father came out inadvertently to find the fighting going on while (17b)  
 19 is taken to imply that the father came out on purpose (say upon hearing that a  
 20 fight is going on). It should be noted that both clauses primarily have a  
 21 temporal function and, with some main verbs, may or may not have a  
 22 causative implication. For example if the verb *fitoo* ‘come out’ is replaced by  
 23 *zoo* ‘come’, then both (17a-b) would have a simple contingency reading (that  
 24 is, if the father came from work or from somewhere not knowing about the  
 25 fight). Conversely, if, instead of a father coming out, the main clause  
 26 describes the police making arrest, then both temporal clauses would in this  
 27 context naturally get the causative implication (that is, the fighters were  
 28 arrested because of their fighting).

29 To summarize, simple temporal clauses and temporal relative clauses do  
 30 not have the same uses. In the *lookàcii* deletion analysis, which derives simple  
 31 temporal clauses from temporal relative clauses, this difference in use will  
 32 have to be explained in one way or another. By contrast, if the two clauses  
 33 developed independently (cf. Sections 2 and 3), then one can expect them to  
 34 have different properties. Next we see some further differences between the  
 35 two clauses.

#### 36 4.2 TAM paradigms and their interpretation in the two clauses

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time between the two events. Besides *koo* ‘even’ and *baayan*, the conjunction *dà*  
 combines with other particles, such as *tun* ‘since’, *sai* ‘only, then’, to express a close  
 consecution between events (usually with an implied causal relation).

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This subsection explores the tense/aspect paradigms that can appear in simple temporal clauses and in temporal relative clauses, as well as the temporal interpretations of the paradigms (i.e., whether they can refer to past or future events). Table 1 presents the tense/aspect possibilities with temporal *lookàcin dà* relative clauses.

Table 1: TAM paradigms and their interpretations in temporal relative clauses (with 3<sup>rd</sup> person plural *su-* and verb *fita* ‘go out’)

	Past (Single event)	Future (Single event)
Imperfective: <i>lookàcin dà sunàa fitaa</i>	Yes	Yes
Relative Imperfective: <i>lookàcin dà sukèe fitaa</i>	Yes	Yes
Relative Perfective: <i>lookàcin dà sukà fita</i>	Yes	Yes
Future I: <i>lookàcin dà zaa sù fita</i>	Yes	Yes
Eventual: <i>lookàcin dà sukàa fita</i>	Yes	Yes

Hausa has about ten TAM paradigms (cf. Abdoulaye 2008) but Table 1 shows that only five of them can appear in temporal relative clauses: the regular imperfective, the relative imperfective, the relative perfective, the future I, and the eventual. Temporal relative clauses cannot take the habitual, the future II, the subjunctive, etc. It should be noted that a relative clause containing the habitual aspect can modify the word *lookàcii*, ‘time’, but in this case the word *lookàcii* receives a referential interpretation only (i.e., the clause would not have an adverbial use; cf. *lookàcin dà sukàn fita* ‘the time/moment when they usually go out’). Also, only clauses describing one-time events are considered in Table 1 since they allow the adverbial use, while clauses with recurrent events would tend to have a referential *lookàcii* head. It may also be noted that a temporal relative clause takes the regular or the relative imperfective with the same meaning, as indicated in the introductory section.

The second significant aspect of Table 1 is that all admissible tense/aspect paradigms can refer to the past or the future, given an appropriate context (as determined by the main clause). This is illustrated in the following for the relative perfective:

- (18) a. Lookàci-n dà bàaKii su-kà zoo, an  
time-DF that visitors 3P-RP come imp.CPL

- 1            baa sù tàabarmaa.  
 2            give 3P mat  
 3            ‘When the visitors came, they were given a mat.’  
 4            b. Lookàci-n dà bàakii su-kà zoo, à  
 5            time-DF that visitors 3P-RP come imp.SUB  
 6            baa sù tàabarmaa.  
 7            give 3P mat  
 8            ‘When the visitors come, they should be given a mat.’

9 Hausa is a predominantly aspectual language so that most TAM paradigms  
 10 can be used to refer to past and future events. In (18a), the relative perfective  
 11 *su-kà* ‘3p-RP’ has a past interpretation in a narrative-like context, while in  
 12 (18b), the same TAM marker has a future interpretation in a context where the  
 13 hearer is given some instruction concerning a future situation.

14 When one turns to the simple temporal clauses, one observes a more  
 15 restricted number of possible TAM paradigms. The possible paradigms and  
 16 their interpretations in simple temporal clauses are presented in Table 2.

17 Table 2: TAM paradigms and their interpretations in simple temporal clauses  
 18 (with 3<sup>rd</sup> person plural *su-* and verb *fita* ‘go out’)

19

	Past		Future	
	Single	Recurrent	Single	Recurrent
Completive: <i>dà sun fita</i>		Yes	Yes	Yes
Rel. Perfective: <i>dà sukà fita</i>	Yes			
Imperfective: <i>dà sunàa fitaa</i>	Yes	Yes		
Future I: <i>dà zaa sù fita</i>	Yes			

20

21 Table 2 shows that simple temporal clauses accept only four TAM paradigms:  
 22 the completive, the relative perfective, the regular imperfective, and the  
 23 future I. In particular, the simple temporal clauses do not normally take the  
 24 relative imperfective, despite their admitting the regular imperfective. One  
 25 may also note that Table 2 takes into account both single and multiple  
 26 occurrence events, since this has no incidence on the ability of the clause to  
 27 function adverbially.

28 Regarding the temporal interpretation of the TAM, one notices in Table 2  
 29 a general shift to a past interpretation for most tense/aspect paradigms. For

## TWO TYPES OF TEMPORAL WHEN CLAUSES IN HAUSA

1 example, of all admissible TAMs, the completive alone can be used to refer to  
 2 past or future events, under the conditions given in the table. The two  
 3 interpretations of the completive are illustrated in the following:

- 4 (19) Dà sun fita, sai tà rufè Koofàa/  
 5 when 3P.CPL go.out then 3FS.SUB close door/  
 6 kà shâidaa ma-nì.  
 7 2MS.SUB advise to-1S  
 8 ‘As soon as they go out, she (usually) closes the door/  
 9 you should advise me.’

10 In this example, a completive simple temporal clause can modify a main  
 11 clause referring to recurrent past or future situations. The other three TAMs in  
 12 Table 2 can only be used to refer to past events. This is illustrated in the  
 13 following:

- 14 (20) a. Dà su-kà fita, sai ta rufè Koofàa/  
 15 when 3P-RP go.out then 3FS.RP close door/  
 16 \*kà shâidaa ma-nì.  
 17 2MS.SUB advise to-1S  
 18 ‘Once they exited, she closed the door/ [once they exit]  
 19 please advise me.’

- 20 b. Dà su-nàa fitaa, sai ta rufè Koofàa/  
 21 when 3P-IPV go.out then 3FS.RP close door/  
 22 \*kà shâidaa ma-nì.  
 23 2MS.SUB advise to-1S  
 24 ‘When they were going out, she closed the door/ [when they  
 25 will be going out] please advise me.’

- 26 c. Dà zaa sù fita, sai ta rufè Koofàa/  
 27 when FUT 3P go.out then 3FS.RP close door/  
 28 \*kà shâidaa ma-nì.  
 29 2MS.SUB advise to-1S  
 30 ‘When they were about to go out, she locked the door/  
 31 [when they will be about to go out] please advise me.’

32 As the examples show, a simple temporal clause with the relative perfective,  
 33 regular imperfective and future I is compatible only with a main clause  
 34 describing past events. The future I in (20c), for example, describes a “future-  
 35 in-the-past”, i.e., the event in the main clause precedes, and sometimes  
 36 cancels, the event in the temporal clause. A probable reason for the shift to  
 37 past interpretation observed in Table 2 may be the influence of the ultimate  
 38 origin of temporal conjunction *dà*. In Section 3, it was suggested that simple  
 39 temporal clauses developed on the model of temporal “*dà* + Noun/Adverb”

1 phrases, which themselves are based on comitative constructions. It happens  
 2 that the comitative use of *dà* very likely developed from the ultimate function  
 3 of *dà*, i.e., the existential function (cf. Abdoulaye 2006). In this context, the  
 4 anchoring of simple temporal clauses in the past may be a survival of the  
 5 existential function, which tend to describe realized situations (on the long  
 6 survival or influence of the original semantics of grammaticalized items, see  
 7 Bybee and Pagliuca 1987: 117 and Hopper and Traugott 1993: 87-93).  
 8 Whatever the validity of this explanation, it is clear that the shift will be  
 9 difficult to explain in the framework of the *lookàcii* deletion analysis.<sup>4</sup>

10  
 11 **5. CONCLUSION**  
 12

13 This paper showed that in Hausa, one cannot straightforwardly derive  
 14 simple temporal *dà* ‘when’ clauses from temporal *lookàcin dà* ‘time that’  
 15 relative clauses through deletion of the head word *lookàcii*. Instead, the paper  
 16 proposes two different development paths for the temporal clauses. Temporal  
 17 relative clauses are grammaticalized forms of ordinary relative clauses, while  
 18 simple temporal clauses developed very likely when the preposition *dà*  
 19 (introducing temporal adverbs, nouns, or verbal nouns) turned into a  
 20 conjunction introducing finite temporal clauses. The paper shows that the two  
 21 types of temporal clauses differ in their semantics, the list of the TAMs they  
 22 allow, and the temporal interpretation of the TAMs. These differences show  
 23 that simple temporal clauses are derivationally independent from temporal  
 24 relative clauses.  
 25

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<sup>4</sup> Beside the facts reported in this paper for Hausa, the deletion analysis is also problematic on principled grounds. Indeed, in this analysis, the word *lookàcii* ‘time’, which surely keeps some semantic load, is deleted while the semantically empty relative conjunction *dà* acquires, after deletion of *lookàcii*, the more substantive meanings of ‘as soon as, once, when, as, because, etc.’ This normally violates known grammaticalization tendencies. In fact, if something should be deleted in a temporal relative clause introduced by *lookàcin dà* ‘time that’, it would probably be the weaker grammatical element *dà*. For example, Schuh (1998: 272) reports that some temporal clauses in Miya (Chadic) can be introduced by *mùkwá* ‘day [that]’ or *mùku ma* ‘day that’, i.e., the weak head *mùkwá* ‘midday’ (a temporal word derived from *mùku* ‘sun, day’) requires no relative pronoun/conjunction.

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