UNIVERSITY OF CALIFORNIA
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Syntactic Structures of Tamazight

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Linguistics

by

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1966
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PUBLICATIONS


FIELDS OF STUDY

Major Field: Linguistics

Studies in Experimental Phonology.
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Studies in Berber Languages and Linguistics.
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ABSTRACT OF THE DISSERTATION

Syntactic Structures of Tamazight

by

Mary Jeanette Johnson

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 1966

Professor Joseph R. Applegate, Chairman

The principal syntactic structures of Tamazight: basic sentence types, the major categories of which they are composed, and the extended sentences into which they combine, are presented for the Zemmour dialect, a confederation of tribes centering around Khemisset, between Rabat and Meknes in central Morocco, with 137,000 inhabitants in 1951-52, according to Lesne (1959a, p. 3). Radio Rabat makes heavy use of Zemmour dialects in its daily broadcasts to the Imazighen. Interdialectal differences appear to be more phonological and lexical than syntactic.

Existing studies of Tamazight (listed in A. Basset, 1952, p. 62) include texts, dictionaries, and teaching grammars aimed at French speakers, with emphasis on morphology and phonology. Even E. Laoust's excellent grammar of the Zemmour and surrounding dialect groups has little organized syntactic information. This study attempts an organized
syntactic description, self-consistent rather than comparative with English or any other language.

Material for this study was drawn partly from classroom study (UCLA, 1962, 1963) with Mr. Mohammed Abbazi as informant, but mainly from ten months' field work in Morocco (1964), supplemented by further work with Mr. Abbazi and correspondence with informants in Morocco.

Because the generative model chosen requires much intuition about grammaticality, I tried to acquire as much speaking and comprehension ability as possible in the short time, especially to recognize speakers' errors, false starts, etc. In this I was much helped by the Imazighens' pride in their language and concern that one learning it should speak correctly. A technique of playing back texts of natural speech for another person to repeat, phrase by phrase, commenting freely on the speaker's meanings and mistakes, yielded useful insights into which sentence structures were grammatical and which accidental.

The main sentence types distinguished are given, with examples, following a brief phonology and the base rules which establish the major categories and their relations. The transformational rules which select, permute, delete, combine and otherwise manipulate the output of the base rules to produce sentence structures are either formulated or informally discussed. Some structures for which the rules do not account are separately described.
The common non-verbal sentence types, nominal predications and prepositional attributives, present a problem: Must a separate series of rules generate each sentence type? I find it more economical to derive as many as possible from a generalized set of rules, deriving the nominal predication by deleting the verb /g/ "to be" from a structure which also underlies verbal sentences. Similarly, the prepositional attributives are derived by deletion of the verb /ili/ "to be (located temporally or spatially)" from a structure which also underlies a verbal sentence.

Key sentences given as examples are diagramed in Appendix B. Appendix A, a sample lexicon, supplements the examples given under the morpheme classes developed from the base rules. Appendix C contains a few sample texts, with translations.
1. Introduction

This study represents a stage in the preparation of a generative grammar of Tamazight, based on the Zemmour dialect group of central Morocco.\textsuperscript{1} The principal syntactic structures and rules for their derivation are presented in terms of the generative model, particularly as discussed by Noam Chomsky in \textit{Aspects of Syntax}.\textsuperscript{2} A minimum of phonological information, necessary for interpretation of the syntactic discussion, is included (Sec. 2); a phonological component on the generative model is not attempted here.

The base rules (Sec. 3) generate most of the syntactic structures (as well as many non-occurring ones to be filtered out by the transformational component),\textsuperscript{3} and establishes the major syntactic categories and subcategories and their functional relationships.\textsuperscript{4}

Categories and features developed by the base rules and the transformational rules serve to classify the entries in the lexicon (Appendix A, which is representative rather than exhaustive).

Section 4 presents the basic sentence types, and deals with the problem of non-verbal sentences and their place in the grammatical description. Several extremely common sentence types in Tamazight contain no verb. For example, a
nominal predication, common to Berber and other languages of the Afro-Asiatic language family, appears in Tamazight, with a predication marker /d/:

\[ N \hat{d}N \ /mulud \ d-\text{amazi\text{y}.} /\ "Mouloud \ is \ a \ Berber" \]

or, with the predicate emphasized,

\[ d^\wedge N, N \ /d-\text{amazi\text{y}, mulud.} /\ "He's \ a \ Berber, \ Mouloud." \]

or, as a response to the question, "What is Mouloud?"

\[ d^\wedge N \ /d-\text{amazi\text{y}.} /\ "He's \ a \ Berber." \]

Section 4 derives such nominal predications from the same set of rules required for verbal sentences, plus one optional transformation which deletes the phrase containing the copulative verb /g/ (hereafter called the defining verb /g/).  

Several other common non-verbal sentence types (demonstrative sentences and prepositional sentences) are derived in Sec. 4 from verbal bases.

A grammar which derives diverse types of surface structures from the same basic rules, with only one additional rule needed for each of the special (here, non-verbal) structures, is doubtless simpler than one which would generate each of the sentence types by a different set of rules. Such separate sets of rules would be highly redundant, necessarily containing some of the same categories (e.g., noun, preposition, particle) and relations (e.g., object of preposition, head noun of noun phrase). Arguments that the nominal sentence is a prime structure and should therefore not
be derived from verbal sentences must take into account the
economy of statement in deriving both from the same under-
lying structure, as well as the fact that no claim is made
that the generative rules parallel mental processes of a
speaker producing a sentence. The nominal predication may
well be a prime structure in the mind of the speaker. (As
a matter of fact, however, the verbal element deleted by my
rules to produce nominal predications is often added, after
a slight pause, by a speaker, as if he had deleted it and
then put it back in.)

The constituent structures, below sentence level, are
described in Sec. 5, in somewhat less formal terms than the
sentence structures. Some indicated transformational rules
are not formalized, but only stated informally or named.

Some common "extended" sentence structures, derivable
by generalized transformations which embed one sentence in
another or conjoin them, are discussed in Sec. 6. This is
not intended as an exhaustive treatment.

A recalcitrant residue of constructions--sentences
and structures occurring in sentences, such as interjec-
tions, not derivable by the base rules as given--is dis-
cussed in Sec. 7.

A numerical index of transformations lists them with
a mnemonic label and gives the section in which each is
introduced in the text. The numerical ordering of the
T-rules is non-consecutive, since the transformational
component of the grammar is by no means complete, and
indicates only a guess at inherent order. If Rule $T_n$ requires in its structural index a structure which results from Rule $T_{n-1}$, it will necessarily follow $T_{n-1}$.

Tree diagrams of key sentences in the text are collected in Appendix B, since they may be referred to at several points in the text.

A small sample of my text collection, with accompanying translations, is attached as Appendix C. All but the first are tape-recorded.

Among the practices and prejudices which may be peculiar to my interpretation of the generative model and of the grammarian's task, I would like to mention two that are consciously applied in this paper.

**Frequency, probability, and affinity.** I have freely made, on strictly non-statistical, intuitive grounds, statements of the frequency, commonness, or probability of a grammatical unit or event, or of the affinity of one form for another. I believe that in the absence of some kind of probability coefficients in the formal rules of the grammar, such intuitive statements are more useful than no information at all, and are part of the information that the grammarian wants to convey in his grammar.

**Sentence sets and sentence derivations.** I have tried to avoid the implication that one sentence is derived from another. A sentence is a linguistic event, and its relationships to other sentences are both syntagmatic and
paradigmatic, but not derivational. Syntagmatic relationships may be simply linear or time-sequential: A follows B, B precedes A. Or they may be stated in terms of a larger unit than the sentence: A is discourse-initial, B is discourse-medial. Or they may indicate something of the internal structure of the related pair: B is a response to A. Paradigmatic relationships are commonly identified: X is the interrogative of Y, P is the imperative of Q, C is the negative of D. The status of such relationships in the grammar is a separate subject for study. None of them, however, gives grounds for saying that one sentence is derived from another.

Rather, one sentence may be the surface structure of an underlying structure which may be further transformed and yield another surface structure. The two surface structures, or sentences, can then be regarded as forming a set, together with still further sentences derived by still further transformations of the underlying structure. Or, the element distinguishing one sentence from another may be the result of an optional choice in the base phrase-marker.

Sentences related in interesting ways can be treated as sets, with an unmarked member (the one without the optional element, or resulting from an earlier stage in the derivational process).

This view of the relationships between sentences has
influenced my treatment of the basic sentence rules, especially in regard to imperative, interrogative, and negative structures, which are treated as basic sentence modes. This also puts into the sentence base the elements needed for semantic interpretation.
2.0 Phonology, morphophonemics, and representation

The purpose of this paper is to present syntactic structures of Tamazight, rather than a generative phonology. For this purpose, I assume (perhaps rather optimistically) that a generative phonology is possible, but adopt an interim form of phonological representation: phonemes.7

Surface structures (sentences, phrases, words) are herein represented by phonemic symbols written between slashes, / /. Underlying structures are represented by phrase markers (hereafter PMarker), enclosed in double crosses, # #. The PMarker consists of grammatical formatives (GF), written in capital letters, lexical formatives, written in the same segmental symbols as the phonemes, and conventions for boundary and concatenation markers. In the PMarkers herein a lexical item appears in the form it will take after all syntactic features have been fully interpreted (i.e., after application of the post-transformational spelling rules I assume can be formulated)8 but before application of any morphophonemic rules. The difference between representations of the final PMarker of a derivation and its surface structure represents the operation of the morphophonemic rules, which are briefly sketched in Sec. 2.2.

2.1 Phonemic analysis

The analysis here presented hugs the phonetic ground
rather closely, rejecting solutions which would reduce the phonemic inventory by extracting one or more of the features as "suprasegmental phonemes." Thus the inventory could be reduced (from 52 to 42) by extracting a suprasegmental phoneme of pharyngealization, which affects adjacent segments within and sometimes beyond the syllable. The difficulty of stating its domain, and the desirability for further analysis, especially for morphophonemic rules, of marking exactly which consonant is pharyngealized, leads me to abjure this economy.

2.1.1 The segmental phonemes and distinctive features.

Table 1 gives the approximate articulatory ranges of the segmental symbols, and specifies which of them are modified by the diacritics /:/ (marking tenseness) and /./ (marking flatness, i.e., pharyngealization). Table 2 gives the full inventory of segmental symbols with diacritics, in a distinctive feature matrix; the same information is diagramed in Fig. 1.

The distinctive features are substantially as defined by Jakobson, Fant, and Halle (1952), with some modifications. Sonorant distinguishes segments for which sonograms show clear formant structures and indicate periodic vibrations of the vocal cords. This excludes the glottals /h/ and /\/. Although they seem perceptually to have vocalic qualities, they are apparently produced by a different mode of vibration of the vocal cords characterized by irregular
Table 1. Segmental symbols and diacritics

<table>
<thead>
<tr>
<th></th>
<th>bilabial</th>
<th>labiodental</th>
<th>interdental</th>
<th>apico-alveolar</th>
<th>palatal</th>
<th>post-palatal</th>
<th>velar</th>
<th>uvular</th>
<th>glottal</th>
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<td>Obstruents:</td>
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<td></td>
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<tr>
<td>voiceless</td>
<td>b</td>
<td>t</td>
<td>č</td>
<td></td>
<td>k</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiced</td>
<td></td>
<td>d</td>
<td>ţ</td>
<td></td>
<td>g</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirants:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiceless</td>
<td>f</td>
<td>s</td>
<td>š</td>
<td></td>
<td>h</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiced</td>
<td></td>
<td>z</td>
<td>ž</td>
<td></td>
<td></td>
<td></td>
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<td>Approximants:</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>interrupted</td>
<td>m</td>
<td>r</td>
<td>l</td>
<td></td>
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<td>continuant</td>
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<td></td>
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<td>nasal</td>
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<td></td>
</tr>
<tr>
<td>Vowels</td>
<td></td>
<td>i</td>
<td>u</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Low</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>a</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Diacritics:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>: tenseness.</td>
<td>/C:/</td>
<td>b t d k g f s z š ž r l m n i u</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>. flatness</td>
<td>/Č/</td>
<td>t d k (g) s z r l n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Distinctive features of the phonological segments of Tamazight

|   | h | l | a | u | u: | i | ň | ň: | ň | ň: | ĉ | j | ı | k | k: | ǩ | g | g: | (g) | x | γ | h | t | t: | ť | d | d: | ｄ | (ď): |
| 1 |   |   |   |   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5 | + | + | - | - | - | - | - | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 6 | - | + | - | - | - | - | - | - | - | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 7 | - | + | + | - | + | - | - | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 8 | - | + | - | - | - | + | + | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 9 | - | + | - | - | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

s s: s mişti: z z: ｚ ｚ: ｂ b: f f: ｌ ｌ: ｌ: ｒ r: ｒ ｒ: ｎ n: ｎ: ｍ m:

|   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|   | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|   | - | + | + | + | - | - | - | - | - | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|   | - | + | + | + | + | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|   | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|   | - | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

/ɡ/ is rare, and varies freely with /g:/ in idiolects where it occurs.

/ɖ̌:/ is rare, occurring in words apparently of recent Arabic derivation.
vibrations with incomplete closure between each vibration. Tense is interpreted for consonants as fortis (vs. lenis), and for vowels as semi-consonant. Fortis stops correspond to lenis consonants which may be spirant or stop, depending on the environment.

Flat represents pharyngealization. A labialized stop, [gʷ], might be given phonemic status with the feature flat subdivided to include lip-rounding as a secondary articulation; but this would require another feature in the matrix, or total elimination of the (admittedly rare) pharyngealized /g/, and would complicate allophonic statements about the effect of flat consonants on vowels. Therefore the labialized velar segment is analyzed as /gː + uː/, as in /gːuːqːn/ "they are afraid"; cf. /gːutn/ "they are abundant."

Pharyngealization, for diffuse consonants, apparently involves lowering the center of the tongue, pushing back the root, thus constricting the pharynx, without necessarily changing the point of primary articulation. Non-diffuse /k/ and (/q/) have pharyngeal constriction and a primary articulation point back of /kː/ and /qː/. Pharyngeal constriction is a redundant feature for /x/, /ɣ/, and /ŋ/; with the secondary pharyngeals (pharyngealed) consonants, they form a natural class referred to in morphophonemic and allophonic statements as flat consonants. (Note that it is often necessary to refer to redundant features of segments, in such statements.)
2.1.2 General statements of phonetic values.

Obstruents are stops if fortis; if lenis, they are melow spirants, or under certain conditions, lenis stops. The conditions may be phonological (e.g., /t/ → [t] after a palatal consonant), or morphological (final /t/ of feminine nouns in CVt is a stop). But the functional contrast is between fortis and lenis.

Fortis consonants are somewhat longer and produced with more force than their lenis counterparts. Fortis obstruents have vocalic onsets where syllable structure permits; this is especially noticeable in voiced initial /C:/.

Tense vowels have semi-consonantal peaks and vocalic margins: high onset, lowered offglide.

Pharyngealized consonants are as described above. Since pharyngealization affects adjacent segments, other phonemes may have pharyngealized allophones: [m̩], [f̩], [p̩], [l̩], [n̩] are found in words with some other /Ç/, which also occurs as the only pharyngealized consonant of a word. The fortes /l:/ and /ŋ:/ (for which the tenseness feature is redundant) may result from morphophonemic combination (or historical assimilation) of two homorganic consonants, one of which is pharyngealized. Tenseness is also a redundant feature of /ç/, /k̩/, which often result from morphophonemic combination.

Vowel allophones can be generally classed by height (if we interpret higher as more fronted, etc., for /a/):
Lowest between flat consonants
Lower after flat consonants
Low before flat consonants
before high vowels (for low vowel)
before word boundary (for non-diffuse vowels)
Centralized before /r, y, x, h/ (for high vowels)
Higher word initial
before or after tense consonant
Highest in closed final syllable
word final (for diffuse vowel)

The interplay of these environments results in a wide range of allophones. Other changes in quality, especially in the environment of flat consonants, are not covered here.

2.1.3 Specific statements of phonetic values.

Special features of the phonemes not indicated in Tables 1 and 2 and the general statements above are here noted, with examples of the principal allophones. The notation /_X, X_/ means "in the environment before or after X." Voicing is not noted, for brevity's sake.

**CONSONANTS**

<table>
<thead>
<tr>
<th></th>
<th>Bilabial spirant</th>
<th>/baba/</th>
<th>&quot;older brother&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lenis stop /m_</td>
<td>/mbark ms\ud/</td>
<td>&quot;felicitations!&quot;</td>
</tr>
<tr>
<td></td>
<td>Labialized /_u</td>
<td>/abubu/</td>
<td>&quot;breast&quot;</td>
</tr>
<tr>
<td></td>
<td>Pharyngealized stop /<em>Ç</em></td>
<td>/ibdi/</td>
<td>&quot;it festered&quot;</td>
</tr>
<tr>
<td>b:</td>
<td>Fortis stop</td>
<td>/ib:a/</td>
<td>&quot;my father&quot;</td>
</tr>
<tr>
<td></td>
<td>Pharyng. fortis /ÇÇ_</td>
<td>/iʤːbːːr/</td>
<td>&quot;he sought&quot;</td>
</tr>
<tr>
<td></td>
<td>Labialized fortis /_u</td>
<td>/ab:und:i/</td>
<td>&quot;highwayman&quot;</td>
</tr>
<tr>
<td>f:</td>
<td>Labiodental spirant</td>
<td>/ifad:n/</td>
<td>&quot;knees&quot;</td>
</tr>
<tr>
<td></td>
<td>Pharyngealized &quot; /Ç_</td>
<td>/taʃfa:t/</td>
<td>&quot;strainer&quot;</td>
</tr>
<tr>
<td></td>
<td>Fortis labiodental sp.</td>
<td>/if:an/</td>
<td>&quot;breasts&quot;</td>
</tr>
<tr>
<td>t:</td>
<td>Lenis stop /Ç_palatal —</td>
<td>/tabbašt/</td>
<td>&quot;multi-colored&quot;</td>
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<tr>
<td></td>
<td>Interdental spirant</td>
<td>/asi-t/</td>
<td>&quot;take it!(m)&quot;</td>
</tr>
<tr>
<td>t:</td>
<td>Fortis alveolar stop</td>
<td>/asi-t:/</td>
<td>&quot;take it!(f)&quot;</td>
</tr>
<tr>
<td>Symbol</td>
<td>Description</td>
<td>Phoneme</td>
<td>Translation</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
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<td>-------------</td>
</tr>
<tr>
<td>ţ</td>
<td>(fortis) pharyngealized stop</td>
<td>/la-iurţu/</td>
<td>&quot;it falls&quot;</td>
</tr>
<tr>
<td>d</td>
<td>interdental spirant</td>
<td>/idam/</td>
<td>&quot;it lasted&quot;</td>
</tr>
<tr>
<td>d:</td>
<td>alveolar stop</td>
<td>/id:a/</td>
<td>&quot;he went&quot;</td>
</tr>
<tr>
<td>õ</td>
<td>pharyngealized spirant</td>
<td>/iğ-a/</td>
<td>&quot;tonight&quot;</td>
</tr>
<tr>
<td>(d: )</td>
<td>fortis pharyng. stop</td>
<td>/aɣːar/</td>
<td>&quot;traitor&quot;</td>
</tr>
<tr>
<td>k</td>
<td>post-palatal spirant</td>
<td>/iks-iṭn/</td>
<td>&quot;he herded them&quot;</td>
</tr>
<tr>
<td>k:</td>
<td>fortis velar stop</td>
<td>/ik:s-iṭn/</td>
<td>&quot;he removed them&quot;</td>
</tr>
<tr>
<td>k</td>
<td>pharyngealized stop</td>
<td>/iks-iṭn/</td>
<td>&quot;he poked them&quot;</td>
</tr>
<tr>
<td>g</td>
<td>post-palatal spirant</td>
<td>/iga-t/</td>
<td>&quot;he did it&quot;</td>
</tr>
<tr>
<td>g:</td>
<td>fortis velar stop</td>
<td>/ig:al/</td>
<td>&quot;he swore&quot;</td>
</tr>
<tr>
<td>(g: )</td>
<td>pharyngealized stop</td>
<td>/aɣːaq ~ aɣːag:/</td>
<td>&quot;cross-bar of loom&quot;</td>
</tr>
<tr>
<td>s</td>
<td>lenis alveolar spirant</td>
<td>/isu-t/</td>
<td>&quot;he drank it&quot;</td>
</tr>
<tr>
<td>s:</td>
<td>fortis alveolar spirant</td>
<td>/is:u-t/</td>
<td>&quot;he had it drink&quot;</td>
</tr>
<tr>
<td>ş</td>
<td>pharyngealized spirant</td>
<td>/iṣuţ/</td>
<td>&quot;he voted&quot;</td>
</tr>
<tr>
<td>ş:</td>
<td>fortis pharyng. spirant</td>
<td>/nş:-u-as/</td>
<td>&quot;mid-day&quot;</td>
</tr>
<tr>
<td>z</td>
<td>lenis alveolar spirant</td>
<td>/azarzu/</td>
<td>&quot;tent stake&quot;</td>
</tr>
<tr>
<td>z:</td>
<td>fortis alveolar spirant</td>
<td>/az:ar/</td>
<td>&quot;hair&quot;</td>
</tr>
<tr>
<td>z</td>
<td>pharyng. alveolar spirant</td>
<td>/aẓaɪi/</td>
<td>&quot;man of Zaian&quot;</td>
</tr>
<tr>
<td>ŭ:</td>
<td>fortis pharyng. spirant</td>
<td>/</td>
<td></td>
</tr>
<tr>
<td>š</td>
<td>palatal spirant</td>
<td>/ušn/</td>
<td>&quot;they give . . .&quot;</td>
</tr>
<tr>
<td>ŕ:</td>
<td>fortis palatal spirant</td>
<td>/uš:n/</td>
<td>&quot;jackal&quot;</td>
</tr>
<tr>
<td>ź</td>
<td>palatal spirant</td>
<td>/ižn/</td>
<td>&quot;he slept&quot;</td>
</tr>
<tr>
<td>ţ:</td>
<td>fortis palatal spirant</td>
<td>/iţ:i/</td>
<td>&quot;it healed&quot;</td>
</tr>
<tr>
<td>č</td>
<td>alveo-palatal affricate</td>
<td>/iça-t/</td>
<td>&quot;he ate it&quot;</td>
</tr>
<tr>
<td>ţ</td>
<td>alveo-palatal affricate</td>
<td>/iţa-t/</td>
<td>&quot;he left it&quot;</td>
</tr>
<tr>
<td>γ</td>
<td>lenis uvular spirant</td>
<td>/iɣla/</td>
<td>&quot;it's expensive&quot;</td>
</tr>
<tr>
<td>x</td>
<td>lenis uvular spirant</td>
<td>/ixla/</td>
<td>&quot;it's empty&quot;</td>
</tr>
<tr>
<td>h</td>
<td>fortis velar spirant</td>
<td>/ihlːa/</td>
<td>&quot;it's sweet&quot;</td>
</tr>
</tbody>
</table>

**GLIDES**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Phoneme</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>h</td>
<td>mellow glottal approx.</td>
<td>/ihda/</td>
<td>&quot;it grazed&quot;</td>
</tr>
<tr>
<td>l</td>
<td>strident glottal approx.</td>
<td>/i'la/</td>
<td>&quot;he saw . . .&quot;</td>
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</table>
**RESONANTS**

<table>
<thead>
<tr>
<th>M</th>
<th>lenis bilabial nasal</th>
<th>/i̞k̞ml/</th>
<th>&quot;it matured&quot;</th>
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<tbody>
<tr>
<td></td>
<td>labialized /_u</td>
<td>/tarmuənt/</td>
<td>&quot;pomegranate&quot;</td>
</tr>
<tr>
<td>M:</td>
<td>fortis bilabial nasal</td>
<td>/ik̞m:l/</td>
<td>&quot;he finished ...&quot;</td>
</tr>
<tr>
<td>N</td>
<td>lenis alveolar nasal</td>
<td>/isnu-t:/</td>
<td>&quot;he signed it&quot;</td>
</tr>
<tr>
<td>N:</td>
<td>fortis alveolar nasal</td>
<td>/isn̛:u-t:/</td>
<td>&quot;he churned it&quot;</td>
</tr>
<tr>
<td>Ň:</td>
<td>pharyng. alveolar nasal</td>
<td>/isp̛:u-t:/</td>
<td>&quot;he ferried it&quot;</td>
</tr>
<tr>
<td>L</td>
<td>lenis lateral approx.</td>
<td>/i̞la/</td>
<td>&quot;he saw ...&quot;</td>
</tr>
<tr>
<td>L:</td>
<td>fortis lateral approx.</td>
<td>/i̞l:a/</td>
<td>&quot;he is high&quot;</td>
</tr>
<tr>
<td>ꞏ:</td>
<td>pharyng. fortis approx.</td>
<td>/la-it:zaːla:/</td>
<td>&quot;he prays&quot;</td>
</tr>
<tr>
<td>R</td>
<td>lenis apical tap-trill</td>
<td>/tabrət/</td>
<td>&quot;letter&quot;</td>
</tr>
<tr>
<td>R:</td>
<td>fortis apical trill</td>
<td>/i̞zaːrət/</td>
<td>&quot;water jug&quot;</td>
</tr>
<tr>
<td>ꞏ:</td>
<td>pharyng., slightly affricated apical approximant</td>
<td>/i̞zaːra/</td>
<td>&quot;it ruminated&quot;</td>
</tr>
<tr>
<td>ꞏ:</td>
<td>fortis pharyng. trill</td>
<td>/i̞zaːrə/</td>
<td>&quot;it happened&quot;</td>
</tr>
</tbody>
</table>

**VOWELS**

| i → i high front V except: | /i̞, i̞n̛si:/ | "evening meal" |
| i   | centralized /_r,x,y,h| /i̞r̚n̛:/ | "wheat" |
|     | /x,h _               | /i̞yuda:/ | "it's pretty" |
|     | /i̞ _                | /i̞xamn̛:/ | "tents" |
|     | ti̞huna/            |           | "shops" |
| e   | lowered, pharyng.    | /l̚i̞q̚:/ | "the wall" |
|     | /x, h, ꞏ _           | /a̞hīdus:/| "a dance" |
|     | _                   | /tali̞k̚in(t)/ | "ball of couscous" |
| eY  | when word-final      | /aɾ̚i̞k̚i:/| "heat (of sun)" |
| u → u high back V, except: | /u̞d̚i:/ | "butter" |
| U   | centralized, lowered, /_r, x,| /u̞w̚-n̛:/ | "straight" |
|     | /u̞ _                | /u̞y-n̛:/ | "beyond" |
|     |                      |           | "they bought ..." |
2.1.4 The syllable; margins of segmental phonemes

Segmental phonemes occur with transitions (or margins) which are determined by the segment and its environment, both segmental and syllabic. That is, a phonetic unit syllable is postulated to permit rules for these margins.

Transitions of vowels (to other vowels) are homorganic semiconsonants for high vowels, and zero for /a/.

Transitions of non-vowels (consonants, resonants, and glides, hereafter Ç) to non-vowels are vocalic (for glides, probably breathy voice\(^1\)), the voicing and quality being determined by the segmental environment, the length by the syllabic environment. These transitions are here represented as ø (the "short" or "zero-grade" vowel\(^2\)).

The syllable consists of a peak and its (possibly null) margins: onset and offglide. The syllable peak may be any
C or V, with appropriate margins, or it may be ơ, with certain consonantal margins.

The syllable margins may be generally stated for classes of segmental phonemes, as follows: (# is word boundary)

<table>
<thead>
<tr>
<th>Peak</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (not /a/)</td>
<td>Homorganic semivowel between peak and V, #</td>
</tr>
<tr>
<td></td>
<td>Zero between V peak and C</td>
</tr>
<tr>
<td>Resonants</td>
<td>Ơ varying freely, before or after R, in</td>
</tr>
<tr>
<td></td>
<td>C_R, R _ C</td>
</tr>
<tr>
<td></td>
<td>Zero between R peak and V</td>
</tr>
<tr>
<td>Glides</td>
<td>Breathy Ơ after #, C, before C (and #, for /l/)</td>
</tr>
<tr>
<td></td>
<td>Zero between G peak and V, (and #, for /h/)</td>
</tr>
<tr>
<td>Consonants</td>
<td>Ơ onglide of like voicing before C: stop, after C: before C or #</td>
</tr>
<tr>
<td></td>
<td>Zero for lenis stops and all spirants</td>
</tr>
<tr>
<td>V /a/</td>
<td>Any C or V as onset or close or both</td>
</tr>
</tbody>
</table>

This gives the following syllable structures:

/C/ → ƠC, CƠ, C lenis or spirant
/CV(C)/ → CV, CVC, SCV, CVCơ, SCVC
/VC/ → VC, VCơ
/V/ → yi, wu /#, V_; iy, uw /_ V, # (V not /a/)
/V/ → V /a/
/VV/ → ay, aw, ya, yu, wi ~ uy, wa, uwu, iyi
/CC/ → CơC
2.1.5 Suprasegmental and boundary phonemes

The following non-segmental symbols and conventions are used to represent surface structures herein.

**Close juncture** (no space between segmental units) represents no pause within the phonological word. It marks phonological continuity, usually coinciding with a morphological or syntactic unit (noun, verb, particle, verb phrase nucleus, relative phrase, local interrogative, etc.).

**Phrase juncture** /-/ (hyphen) represents a break in syllable formation, such that, for example, /n/ becomes syllabic instead of joining to a following vowel: /argaz-n-itu/ "the ones of Ițțu." This is marked between the verb and its object affixes and between the genitive, indirecte or prepositional stem and its NP object (except when NP is pronominal so that close juncture occurs), or where assimilation has occurred across the boundary: /bab n:ad:art/ < bab G `tad:art#.

**Open juncture** (space between segmental units) represents potential pause, at boundaries of the phonological word. It marks phonological and morphological discontinuity, and may coincide with the boundaries of a syntactic unit (PP, IP, verbal nucleus, GP, etc.).

**Comma juncture** /,/ marks boundaries of the phonological phrase within a sentence; i.e., phonological discontinuity within syntactic continuity. It represents potential pause, usually preceded by rising intonation (but it may be level
or even sentence-final falling), and followed by initiating intonation (too complex to describe here). This juncture marks division of the topic from the post-topic sentence; see Sec. 4.4.

Period juncture /./ marks the terminus of a phonological sentence. It coincides with a syntactic sentence boundary but the phonological sentence may include several syntactic sentences, separated by /./. It represents pause, preceded by falling intonation (except in general interrogation).

Q juncture /?/ is a special case of /./ after sentences with Q + is (the latter may have been deleted). It represents rising intonation on preceding elements.

Dash juncture /—/ (long dash) marks interruption: a potential pause preceded by level intonation and followed by initiating intonation or silence. This marks syntactic and possibly morphological incompleteness, and phonological discontinuity. Recorded texts are full of them.

Phrase emphasis /'/ marks an emphatic personal pronoun (see Sec. 5.1.1.1) or the focus of a focused sentence (see Sec. 4.3 ff.). It is realized as increased stress and high pitch on the focal element (usually on the last syllable, but finer rules are necessary for different structures), followed by a rapid pitch drop on the relative clause following the focus, and level low pitch to sentence end.
2.1.6 Morphophonemic sketch.

The following general processes operate in the syntactic environments specified. (Symbols for the environment are taken from Sec. 3. Hyphen represents morpheme boundary within a phrase; space, phrase boundary.)

1. \( V_1 \) in N \( tVX \rightarrow \emptyset /X- \)
2. \( V-V \rightarrow V \)
3. \( V V \rightarrow VyV \) (automatic [y])
4. \( C \rightarrow C'/-C', -C' \) (where C and C' are as given below)
5. \( C[-\text{voiced}] \rightarrow C[+\text{voiced}] /-C'[+\text{voiced}] \)
6. \( C[\#\text{tense}]C[\#\text{tense}] \rightarrow C[+\text{tense}] \)

<table>
<thead>
<tr>
<th>Articulatory Assimilation</th>
<th>Voicing Assimilation</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>m ( \rightarrow ) n /_t,_d</td>
<td>s ( \rightarrow ) z /_z,(C)z</td>
<td>zz ( \rightarrow ) z:</td>
</tr>
<tr>
<td>t ( \rightarrow ) n /_n</td>
<td>t ( \rightarrow ) d /_d</td>
<td>dd ( \rightarrow ) d:</td>
</tr>
<tr>
<td>d ( \rightarrow ) n</td>
<td>d ( \rightarrow ) t /_t</td>
<td>tt ( \rightarrow ) t:</td>
</tr>
<tr>
<td>f ( \rightarrow ) m /_m</td>
<td>d ( \rightarrow ) t /_t</td>
<td>tt ( \rightarrow ) tt:</td>
</tr>
<tr>
<td>r ( \rightarrow ) l /_l</td>
<td>r ( \rightarrow ) r /_r</td>
<td>rr ( \rightarrow ) r:</td>
</tr>
<tr>
<td>d ( \rightarrow ) l /_l</td>
<td>l ( \rightarrow ) r /_r</td>
<td></td>
</tr>
<tr>
<td>l ( \rightarrow ) r /_r</td>
<td>l ( \rightarrow ) l /_l</td>
<td></td>
</tr>
<tr>
<td>s ( \rightarrow ) z /_z,(C)z</td>
<td>ss ( \rightarrow ) s:</td>
<td></td>
</tr>
<tr>
<td>t ( \rightarrow ) d /_d</td>
<td>dd ( \rightarrow ) d:</td>
<td></td>
</tr>
<tr>
<td>d ( \rightarrow ) t /_t</td>
<td>tt ( \rightarrow ) t:</td>
<td></td>
</tr>
<tr>
<td>d ( \rightarrow ) t /_t</td>
<td>tt ( \rightarrow ) t:</td>
<td></td>
</tr>
<tr>
<td>y ( \rightarrow ) x /_x</td>
<td>xx ( \rightarrow ) x:</td>
<td></td>
</tr>
<tr>
<td>i ( \rightarrow ) g /ai_-VS</td>
<td>gg ( \rightarrow ) g:</td>
<td></td>
</tr>
<tr>
<td>a_-gVS</td>
<td>kk ( \rightarrow ) k:</td>
<td></td>
</tr>
</tbody>
</table>

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Application of these rules to major categories can be briefly summarized.

Noun morphophonemics. The above rules apply to the formation of nouns from stem plus gender affix, and to the dependent form of nouns (when non-initial in a phrase).

A morpheme structure rule deletes from the stem a final V that drops in singular masculine: #amksau-# → /amksa/ "shepherd." The regular feminine suffix /-t/ assimilates a stem-final /t, t:, d, d:, j/ to become /t:/ or /t:/h. It optionally assimilates to a stem-final /n/ or /l/. Stem-final /m/ becomes /n/ before /-t/. After stem-final CV, /-t/ is usually /t:/.

The initial segment of the noun undergoes changes when it is in dependent position, i.e., non-initial in a phrase, i.e. subject directly following verb, or an object directly following a prepositional stem PS, genitive G, or I of indirect object phrase, or when N follows /d-/ conjunction particle. Nouns in /a-/ change to /u-/ or /ua-/ by morpheme structure rules. Regular feminine nouns, by the above rules, lose the first vowel (exceptions like /tad:art/ are marked in the lexicon); the initial /t-/ assimilates in voicing to a /z, ŋ, j/ in the stem. After the genitive /n-/, the /t-/ is lost: #n-tX# → #n-nX# → /n:X/. Thus /taẓrut:/ "stone" becomes /išt ndẓrut:/ "one stone" while /tašfait/ "strainer" becomes /išt n:šfait/. See Sec. 5.1.2.1 for other applications in the genitive. Nouns in initial /s:, z:, ŋ:, ỹ, d:,
tː, rː, nː/ probably derive from assimilation and reduction of the Arabic article /l-/, which is more or less a fixed part of the morpheme shape in Berber.

The predication marker /d/ does not require the dependent noun form, but combines with noun initial /t-/, becoming /tː/.

**Verb morphophonemics.** The above rules apply to modal verb stem formation, modification of subject inflections, and combination of verb with tense-aspect prefixes.

The causative modal /s-/ → /z/ before a stem containing /z/. The iterative /tː-/ → /dː/ before a stem in /z, ɬ/.

The /tː/ of the second person sg and pl, and third sg feminine, becomes /dː/ before a stem in z, ɬ, j, in rapid speech; slow speech retains the short vowel between voiceless prefix and voiced verb stem initial. /tː/ combines with preceding /dː/ or /dː/ or following /tː/ of stem.

The first person sg subject /-x/ combines with stem-final /ɣ/ to become /kːː/, among the Ait Hammou Boulman. Third person plural subject /-n/ combines with stem-final /n/.

Relative pronoun /ai-ː/ has its /i/ combine with /i/ subject inflection of verb to form /gː/. Tense prefix /ad-ː/ undergoes assimilation with following /dː/ Dr (orientational particle), /tː/ or /nː-ː/ subject inflection. Thus
An alternate form /a/ of the morpheme, not the above rules, accounts for loss of /d/ in #ad ɣif-m isrs l'z: # → /a ɣifm .../ "that upon you he set honor."

Pronominal affixes of the verb do not assimilate or reduce, but are separated by intrusive [y] if two vowels are juxtaposed: #ad ii iini# → /ad i[y]iini/ "That to me he say ..." (ii of noun subject and stem reduce to /i/).

Imperative plural subject affix /-at/ is separated by automatic [y] from stem-final V: /d:u[y]at/ "Go!" The [y] also marks vocalic juncture of noun and orientational suffix: #arba a# → /arba[y]a/ "This boy"; of particle and noun, e.g., #k:u as# → /k:u[y]as/ "every day"; of vocative and noun, #a argaz-inu# → /a[y]argaz-inu/ "Oh my man!"; and noun and adjective: #amksa amzgaru# → /amksa[y]amzgaru/ "the first shepherd."
3.0 Rules of the syntactic base

In one version of the generative grammar model (Chomsky 1965, pp. 141 ff.), the syntactic component contains a base and a transformational component. The base consists of the categorical subcomponent, which is a sequence of context-free rewriting rules,\textsuperscript{15} and the lexicon. The rules generate base PMarkers which contain grammatical formatives and complex symbols (CS) for syntactic features.\textsuperscript{16} Lexical items are inserted into the base PMarker by a general rule: CS is replaced by a lexical entry which is not distinct from it (has no opposite features).\textsuperscript{17}

Rules needed to generate the verbal sentences of Tamazight are given in Sec. 3.1. A sample lexicon (but in phonemic form; see Sec. 2.0) is given in Appendix A. Symbols and conventions used in the rules and in subsequent PMarkers throughout the text are to be understood as follows:

\begin{itemize}
  \item ( ) Parentheses enclose optional elements
  \item \{} \} Curly brackets enclose disjunctive elements, separated by commas: choose one.
  \item X $\rightarrow$ Y is to be read "rewrite X as Y"
  \item Concatenation symbol joins categories dominated by a single node in a branching-tree diagram, i.e., which were introduced on the right side of the rewrite arrow in the same rule.
  \item [ ] Square brackets enclose features
\end{itemize}
+ [f] Having the feature f
- [f] Not having the feature f
α [f] Having an unspecified value of the feature f; used in T-rules to specify identity (α [f]) or non-identity (¬α [f]) of two items as to the feature [f]

The categories introduced in each rule and the functional relationships which the rules establish are identified in Sec. 3.2.
3.1 Base rules

1. \#S\# \rightarrow S\#S\# \ldots \#S
2. \#S\# \rightarrow (SM) SN (\#S\#)
3. SM \rightarrow \{IPV
   (IS) (Q) ((MA) (Daf) P) \}
4. SN \rightarrow (NEG) VP (COMP) (ADV)
5. VP \rightarrow VN (VOC) NP
6. COMP \rightarrow \{PRED NOM
   (NP) (IP) (PP) (\#S\#) \}
7. PRED NOM \rightarrow NP
8. IP \rightarrow I \overset{\text{NP}}{\rightarrow}
9. PP \rightarrow PS \overset{\text{NP}}{\rightarrow}
10. PS \rightarrow CS
    \text{[\* instrumental]}
    \text{[\*[- instrumental, \* accompanying]}
    \text{[\* accompanying, \* directiona, \* \*V]}
11. I \rightarrow CS
12. ADV \rightarrow (P) (ADV space) (ADV time) (ADV manner) (\#S\#)
    (Choose one or more)
13. ADV space \rightarrow \{PP, NP, P\}
14. ADV time \rightarrow \{PP, NP, P\}
15. ADV manner \rightarrow \{PP, NP, AP, P, SP\}
16. AP \rightarrow AM \{NP\}
17. AM \rightarrow CS
18. VN \rightarrow (Daf) TE \overset{\text{VS}}{\rightarrow} (Dr)
19. TE \rightarrow \{IPF, PF\}
20. VS \rightarrow (IT) (VM \#S\#) V
21. \( VM \rightarrow CS \)
\[
[\pm s] \\
[-s, \pm m] \\
[-m, +t:u]
\]

22. \( IPF \rightarrow CS \)

23. \( V \rightarrow CS \)
\[
[+\{_PRED Nom\}, [+Pe\{1,2,3\}], [+No\{sg, p1\}]] \\
[+No\{sg\}] \\
[-\{_PRED Nom\}] \\
[-Dr, [+NP], [+IP], [+PP], [+\#S\}]] \\
[-\#S\}]] \\
[[T-caus], [+T-rcpr], [+T-pass]] \\
[-NP, +IP, +PP, [+\delta V]] \\
[+NP], [+\delta NP]]
\]

24. \( NP \rightarrow (QUANT) N (N) (DEF) \)

25. \( QUANT \rightarrow \{N,P\}^G \)

26. \( DEF \rightarrow \{Dr, (NP) (G \_NP), \#S\}, P\} \)

27. \( G \rightarrow CS \)

28. \( Dr \rightarrow CS \)
\[
[+proximate], [+V_] \\
[+V_], [+proximate]]
\]

29. \( N \rightarrow CS \)
\[
[+Pron], [+No] \\
[+Pron], [+Pe] \\
[+No], [+Ge] \\
[-+Pron], [+NumB] \\
[-+NumB], [+loc] \\
[-+loc], [+manner] \\
[-+manner], [+time], [+common] \\
[-+time], [+anim], [+count], [+concrete] \\
[-+count], [+abstract], [+anim] \\
[+anim], [+human], [+kin], [+N]]
\]


\[ \begin{align*}
\pm[+\text{Pe}\{1,2,3\}], &\; +[\text{No}\{sg,pl\}] \\
[+]&\; [+\text{Pe}\{2,3\}], +[\text{No}\ sg], +[+\text{Ge}\{m,f\}] \\
-[-&\text{Pe}], \pm[+\text{Ge}\{m,f\}] \\
[+&\text{anim}], -[\text{human}], \pm[+t\text{-haš}] \\
\end{align*} \]

30. \text{P} \rightarrow \text{CS}

31. \text{Daf} \rightarrow \text{CS}
\[ \begin{align*}
\pm[+\_\text{N}] \\
-[-\_\text{N}], \pm[+\text{IPF}] \\
\end{align*} \]

32. \text{NEG} \rightarrow (\text{P}) \text{UR}

33. \text{IS} \rightarrow \text{CS}

34. \text{MA} \rightarrow \{\text{M, Mword}\} (\text{N})

35. \text{M} \rightarrow \text{CS}

36. \text{Mword} \rightarrow \text{CS}
\[ \begin{align*}
\pm[+\text{time}] \\
-[-\text{time}], \pm[+\text{quant}] \\
-[-\text{quant}], \pm[+\text{dir}] \\
-[-\text{dir}], \pm[+\text{def}] \\
\end{align*} \]

37. \text{UR} \rightarrow \text{CS}
\[ \pm[\text{emph}] \]

38. \text{VOC} \rightarrow \text{CS}

39. \text{IT} \rightarrow \text{CS}

40. \text{SP} \rightarrow \text{St\text{–Af}}

41. \text{St} \rightarrow \text{CS}

42. \text{Af} \rightarrow \text{CS}

3.2 \text{Key to base rules: what the symbols stand for; where they are further developed; comments.}

Numbers on left refer to base rules. Relational items are underlined; see Sec. 3.3.
Unmarked numbers in the right-hand column refer to the rule of the base in which a symbol appears left of the arrow. Terminal symbols are marked as grammatical formatives (GF) or as CS (complex symbol) which become lexical formatives (LEX). Reference to specific transformations is by number, T-__; to transformations as yet unformulated, by section where they are discussed herein (Sec. __).

1. #S# = Sentence
   (Schema for coordinate construction, after Chomsky (1965)).

2. SM = Sentence Modal
   SN = Sentence Nucleus
   (Dummy #S# provides for extended sentences.) Sec. 6

3. IPV = Imperative
   IS = General interrogative-relative particle /is/
   Q = Interrogative mode (independent of particles)
   MA = Local interrogative-relative construction in
   /m(a)/, always requires F.
   Daf = Affirmative particle /d/, predication marker
   with nouns, aspect marker with verbs
   F = Focus: trigger for transformation that shifts
   one noun phrase of S to pre-verb phrase position,
   introduces relative pronoun /ai/ and subordinates
   the rest of the sentence to it. T-74

4. NEG = Negative mode
   VP = Verb phrase

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COMP = Complement
ADV = Adverbial (may be shifted to sentence-initial)

5. VN = Verbal Nucleus
VOC = Vocative particle /a/, before 2d person subjects

NP = Noun Phrase, here the subject of the verb phrase

6. PRED NOM = Predicate Nominative, a noun phrase which occurs with the defining verb /g/ and which may contain adjective or substantive noun

NP = (Noun Phrase), here the direct object of the VP
IP = Indirective phrase, the indirect object of the VP

PP = Prepositional phrase
(IP and PP are collectively called oblique phrases)
(Dummy #S# here provides for sentential complement of VP)

7. NP (Noun Phrase), here the predicate of /g/

8. I = Indirective particle /i/ (takes IO pronoun affixes)

NP (Noun Phrase), here the object of I

9. PS = Prepositional Stems (take PO pronoun affixes)

NP (Noun Phrase), here object of prepositional stem

10. CS for Prepositional Stem, with inherent selectional features specifying the six members of the paradigm. lex
11. CS for indirective particle /i/

12. P = Particle, a non-inflected word with constant form (the one occurring here is /xas/ "only")

   ADV space = Adverbial of space (location, direction)
   ADV time = Adverbial of time
   ADV manner = Adverbial of manner

   (Dummy #S# here for possible complement; see Sec. 4.1.8.8)

13. PP (Prepositional phrase), here restricted to prepositions of location and direction

   NP (Noun Phrase), here limited to certain locative nouns, e.g., /daha/ "here," /dihin/ "there"

   P (Particle), here limited to locative particles

14. PP (Prepositional Phrase), here restricted to a locative or directional preposition stem plus a noun of time (/sg: tifaut al tadguat:/ "from dawn until dusk")

   NP (Noun Phrase) of time: e.g., /as:a/ "today"

   P (Particle) of time: e.g., /uasa/ "now"

15. PP (Prepositional Phrase) of manner, restricted to [+instrumental] or [+accompanying]

   NP (Noun Phrase) of manner

   P (Particle) of manner: e.g., /s:tauil/ "slowly"

16. AM = comparison of equality particle /am/ "like"

17. CS for AM (see sentence type AM NP, AM NP, Sec. 5.3.3)
18. Daf (affirmative particle), cf. Rule 3; here an aspect marker for the verb phrase, /d:/ for IPF, /la-xa/, etc. for PF tense

TE = Tense (completedness of action of verb in relation to other actions in same utterance, from point of time referred to, not from present-time point of view)

VS = Verb Stem, may be basic or derived

Dr = Directional particle, /d:/ with VP for orientation of verb action: proximate (toward speaker); with nouns, /a-ad/ for proximate, /in/ for remote (orientation away from the speaker). (Some Berber languages preserve the contrast /d:/--/n/ in verb system, but it is lost in Tamazight.)

19. IPF = Imperfect Tense marker /ad/, incompletely action or state

PF = Perfect Tense (no prefix, special stem form for some verbs); completed action or state of verb

20. IT = Iterative verb stem formant, /t:-u/ etc., durative, repetitive, or habitual aspect, optional for every verb

VM = Verb modal derivation formant, optional for certain verbs so specified in the lexicon (Dummy #S# embeds basic verb in matrix with modal
prefix to derive modal stem from basic or other modal stem; see T-40, 41, 42, 44.) Sec. 5.2.5

V = Verb (the basic stem). It is always inflected for person, number, and gender, which affects the stem form of some verbs and adds "subject affixes" to all verbs: prefixes, suffixes, and discontinuous morphemes. (I treat PNG as features, leaving it to the phonological component to interpret them as additions to the verb stem and alterations in the stem form.)

21. CS for the three verb modal prefixes, /s/ causative, /m/ reciprocal, /tu/ passive. (These are labels for syntactic classes rather than semantic features, since the meaning of modal prefix plus verb is not highly predictable and must be marked in the lexicon for each derivation.)

22. CS for imperfect tense prefix /ad/, /ayra/ after rel

23. CS for verb; with contextual features (complement type), inherent features of person, number, and gender, and rule features for eligibility for modal derivation, and deletability in certain transformations.

24. QUANT = Quantifying phrase, modifying head noun

N = Noun; here it is head noun of a noun phrase (The optional N is selected when the head noun is
a compounding stem, forming a compound noun;
Sec. 5.1.3.3.)
DEF = Definer of the head noun

25. N (Noun) here is a quantifier: a cardinal numeral
or an indefinite quantifier (see Sec. 5.1.3.1),
with certain restrictions on agreement with the
head noun in number and gender.
G = Genitive particle, with a special form /d/
after certain quantifiers (see Sec. 5.1.4.3)

26. Dr (Directional particle), here a noun suffix
NP (Noun Phrase) is a pronominal suffix paradigm
KP (kinship possessive) obligatory with head nouns
[+[+kin]]. See Sec. 5.1.4.2.
G (Genitive particle) with following NP modifying
the head noun, with no requirements for agreement
with it in number and gender.
NP (Noun Phrase) here is object of G. When NP is
a personal pronoun, G NP form the possessive pro-
noun suffixes; if then the head noun is an im-
personal pronoun, the genitive phrase is a possessive
pronoun (see Sec. 5.1.4.3)

Dummy #S# provides for sentential definers; adject-
tives (Sec. 5.1.4.4), nominalized verbal sentences
in /i- -n/ (Sec. 5.1.4.5), predicate definers
(Sec. 5.1.4.6); embedded #S# (Sec. 5.1.4.7).
P (Particle)
27. CS of Genitive particle

28. CS of Directional particle, subcategorized for its occurrence with verbs (non-contrastively) and nouns, where the paradigm has two members /a(d), in/

29. CS of Noun, subcategorized for inherent features and at least one contextual feature (for compounding noun stems). Note that as with the verb, the values of the features Pe, No, and Ge (Person, Number, Gender) are not necessarily binary, Person being a 3-valued feature. See Sec. 5.1.1 for noun classes.

30. CS of Particle. This needs subcategorization.

31. CS of Affirmative particle, subcategorized for its occurrence with Noun (as predication marker /d/, where it co-occurs with or replaces the defining verb /g/), and with Verb Phrase, where it has the form /d:/ with IPF Tense, but /la/ (and alternates) with PF. (See Sec. 4.1.8.4 for hypotheses of historical relationship of /la/ to the locating verb /ili/.) This is another instance of the peculiar relationship of these two verbs, /g/ and /ili/.

32. P (Particle) here is the ubiquitous /ša/.

   UR = Negative particle /ur/

33. CS of IS-interrogative/relative particle
34. \( M = \text{local interrogative-relative particle } /\text{ma}/ \)
\(\text{Mword} = \text{interrogative-relative words in } /\text{m-}/, \text{which} \)
\(\text{trigger transformations T-79c - h} \)
35. CS of /ma/ local interrogative-relative particle lex
36. CS of Mwords, subcategorized for the class of lex
adverbial which they replace in the sentence lex
37. CS for negative particle /ur/, emphatic form lex
/urdjin/
38. CS for vocative particle /a/ lex
39. CS for iterative stem formant /t:~u/ etc. lex
41. CS for miscellaneous stems; see Sec. 7 lex
42. CS for miscellaneous affixes; see Sec. 7 lex

3.3 Functional and relational terms

Each of the categories functions in one or more relationships to other categories. The relationships between categories are defined in terms of their domination by nodes in a tree diagram, of a base or derived PMarker. Read \( X > Y \) as "\( X \) dominates \( Y \)," \( Y < X \), "\( Y \) is dominated by \( X \)." Key terms follow.

Subject of verb: \( \text{NP (or S?)} < \text{VP} \)
Predicate of verb: \( \text{NP} < \text{PRED NOM} \)
Direct object of verb phrase: \( \text{NP} < \text{COMP} \)
Indirect object of verb phrase: \( \text{I} \text{NP} < \text{COMP} \)
Prepositional complement of VP: \( \text{PS} \text{NP} < \text{COMP} \)
Sentence adverbial: \( \text{ADV} < \text{SN} \)
Object of oblique phrase: \( \text{NP} < \text{IP} \) or \( \text{PP} \)
Main verb: V in #S# not contained in any #S#
Subordinated verb: V < SN where rel phrase SN
Focus of nominal sentence: NP, IP, PP, ADV in _F rel clause (See Sec. 4.3 ff.)
Pre-announced topic of sentence: NP in NP, S where S contains pronominal reflex of NP. (See Sec. 4.4)
Predicate of nominalized S: (Daf) NP (see Sec. 4.3.3)
Predicate of nominal S: Daf NP
Subject of nominalized S: (NP)
Topic subject: NP /_predicate
Relative subject: rel clause /_predicate _
Relative clause: rel phrase VN (verb is subordinated)
Relative phrase: (I, PS) rel < rel clause
Subject of nominal S: NP
Head noun: N < NP
4.0 Verbal and verbal-based sentences

This section presents and exemplifies the bases and modes of simple verbal sentences, and the derivation from these same bases, by permutation and deletion transformations, of verbal and nominal sentences.

The different complement structures of verbal sentences, and the classes of verb they define are presented in Sec. 4.1. In Sec. 4.2 the modal variations of these bases are given: negative, imperative, interrogative, and postulative. Sec. 4.3 introduces the focus-shift transformation, which selects one of the nominals of the sentence as focus, and subordinates the rest of the sentence to it. The resulting nominalized sentences are also members of modal sets with variations of affirmation, postulation, interrogation, and negation. Finally, I describe in Sec. 4.4 the topic-shift and topic deletion transformations, which can apply to a basic or a focus-shifted phrase-marker, without changing its nominal or verbal status. Other constituent structures of sentences--verb phrase, noun phrase, adverbial, etc.--are discussed in Sec. 5.

4.1 Complement structure of basic verbal sentences

Verbs are marked in the lexicon for the complement structures with which they can occur. For many verbs there is a choice of complement structure; we have chosen to treat this as different usages of the same verb. That is, the lexicon lists as a single entry a verb with one set of forms,
but with several distinct sets of syntactic features, each with a slightly different semantic interpretation. For some verbs, several different semantic interpretations are possible with the same set of syntactic features; further specification of selectional features will be necessary to provide the basis for such differing interpretations, as well as to select the appropriate members within each category for which the verbs are now specified.

This section specifies and introduces transformational rules for the basic verbal sentence structures, and assigns labels to the resulting verb classes. (See Sec. 5.2 for structure of the verb phrase.) Several unique or near-unique classes are identified and their usages discussed.

Derivations in the form of branching-tree diagrams are given in App. B for key sentences.

4.1.1 Pronominal complements: affixation to verb

One or more of the object complements (not PRED NOM or \#S\#) may be pronominal, in which case they are affixed to the verb phrase. Rules T-100 to T-102, in the following sections, place each type of COMP postverbally in the following order, if pronominal: indirect object, direct object, (/d:/ orientational particle), preposition phrase. Rules T-103 (obligatory) and T-104 (optional) shift the pronominal COMP to preverbal position if the sentence is other than a basic unnegated verbal one in the perfect tense, non-
iterative mode. T-103 and 104 follow T-101, 102, or 100.

**T-103 (obligatory) Pronominal complement shift to pre-verbal**

S.I.  # ... ... VS ... ... ... ... NP ... #

1 2 3 4 5 6 7 8 9 10 11

Conditions: 2 may be (SM) (NEG) or null

3 is (Daf) TE; TE is PF or IPF

4 may contain IT

5 may be IP with pronominal object, or null

6 may be pronominal NP, or null

7 may be D or null

8 may be P-PHRASE with pronominal object, or null

9 is subject of 4

Operations: If 2 is not null and 3 is not (Daf) PF and

4 does not contain IT, add any non-null 5, 6, 7 left of 4, delete same right of 4.

Result: # ... ... ... ... VS ∅ ∅ ∅ ... NP ... #

1 2 3 5 6 7 4 5 6 7 8 9 10 11

Where either 2 is not null, or 3 is not (Daf) PF.

**T-104 (optional) Pronominal prepositional phrase to pre-verbal**

S.I. is the same as the result of T-103

Conditions: 8 is prepositional phrase

Operations: Add 8 right of 4; delete 8 left of 9.
4.1.2 Zero NP COMP: intransitive verbs

Intransitive verbs do not take a direct object. If no other object is required, a sentence may consist only of a verb phrase. Intransitive verbs may occur with an indirect object, either obligatory (Sec. 4.1.5.1) or optional (Sec. 4.1.5.2). (See App. B for tree of an example, sentence (1).)

(1) /d:ad-id:u urgaz-in./ "That man will go."

4.1.3 Prepositional phrase (PP) COMP

Prepositional phrases are described in Sec. 5.3.4. It is sometimes hard to distinguish a prepositional phrase derived from COMP from one derived from ADV. However, since only one PP in a sentence can be reduced to pronominal form and affixed to the verb, similarly to the direct and indirect objects, it seems useful to treat that one as derived from COMP. In (2), /γr-uxam/ is COMP, while /γr-tadguat:/ is adverbial of time.

(2)a /id:a umksa γr-uxam γr-tadg:uat:/ (See App. B.)

"The shepherd went to the tent toward evening."

A prepositional phrase whose object is NP [+pron] will [+Pe]

be affixed to the verb if no other PP is already so affixed.
T-100 (obligatory) Pronominal PP post-verbally affixed
S.I. # ... VS ... ... PS N P [+pron] ... #
[+Pe ]

1 2 3 4 5 6 7 8 9

Conditions: 2 is (X) TE (X), but not including any PP
4 may be Dr or null
5 may be (NP) (NP) (IP) or null

Operations: Add 6 7 right of 3; delete 6 7 right of 5

Result: # ... VS PREP N P[+pron] ... ... Ø Ø ... #
[+Pe ]

1 2 3 6 7 4 5 6 7 8 9

(2)b /id:a yirs umksa yr-tadvuat:/

"The shepherd went to it about evening." (See App. B)

4.1.3.1 Verbs requiring PP COMP: V[+PP]. A small
group of verbs, mostly intransitive, require as complement a
prepositional phrase, with a locative preposition. This
includes, for example:

/\r:q/(xf-) "to invite (on)"
/\z:/ (yr-) "to be dear (to)"
/arn/ (g:-) "to believe (in)"
/rqu/ (xf:-) "to bless (on)"
/xasm/(xf-) "to reprimand (on)"
/sxq/ (xf-) "to curse (on)"

Other usages of these verbs are specified in the lexi-
con.

(3)a /tfr:q/t g:-umktar qnin./

"You neglected the other horse."
With pronominal preposition object, this becomes:

\[ /tfr:qt\ d\operatorname{igs.}/ "You neglected it." \] (See tree in App. B.)

4.1.3.2 Verbs permitting prepositional-phrase complement. Probably almost any verb can occur with this complement. Those known to do so are presently specified in the lexicon as \([\pm [+\_PP]]\), pending a decision on whether to make the optional PP COMP obligatory and deletable or to provide some transformational means of inserting it optionally.

4.1.3.3 The verb of temporary state /ili/ "to be (in a state)." This verb may have no complement, but a manner adverbial, as in (4); or it may have a prepositional phrase, not instrumental, as in (5); or it may have a sentence complement (Sec. 4.1.8). It may be deleted under certain circumstances (T-85), resulting in a deverbalized prepositional sentence (Sec. 4.5).

(4) \[ /ad-ili\ urgaz\ xas\ u\operatorname{hd}:u./ \]

"The man will be all alone." (See tree in App. B.)

Except that the subject is not a kinship noun, (4) is analogous to a sentence in Text 4, line 15.

(5) \[ /t1:a\ digi\ taula./ "There is in me fever" \]

(where T-100 adjoins pronominal PP to the verbal nucleus). See tree in App. B.)
4.1.4 Direct object COMP: transitive verbs, \( V^{+[+\text{NP}]} \)

The direct object complement is an NP whose head noun has number and gender \((N^{+\text{No}, +\text{Ge}})\), as opposed to an adjectival or quantitative noun. Its basic position is following the verb phrase and preceding any indirect object. (But see Sec. 4.1.5.1.) The head noun takes its independent form unless it is quantified.

In pronominal form \((N^{+\text{Pe}, +\text{No}, +\text{Ge}})\), the direct object is one of a paradigm of direct object affixes to the verb, DO. Rule T-101 adjoins it to the verb within the verb phrase.

T-101 (obligatory) Pronominal direct object post-verbally affixed

S.I. # ... VS ... ... NP^{+\text{pron}} ... #

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\
\end{array}
\]

Conditions: 2 is (X) TE (X)
4 may be (Dr) (PP) or null
5 may be NP (subject of 3) or null

Operations: Add 6 right of 3; delete 6 right of 5.

Result: # ... VS NP^{+\text{pron}} ... ... \emptyset ... #

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 6 & 4 & 5 & 6 & 7 & 8 \\
\end{array}
\]

4.1.4.1 Regular transitive verbs. The regular transitive verbs require a direct object which is not deletable.
(6)a  /ad-iU:t urgzaz aidi/ "The man will beat the dog."
   With pronominal DO /t/ substituted for /aidi/, T-101
   and T-103 result in a string # ad t iu:t argaz #, phonemi-
   cally
   b  /at:iU:t urgzaz/ "The man will beat it." (See App. B)

4.1.4.2 Semi-transitive verbs (direct object deleta-
   ble). These verbs have an optional direct object; most of
   them are verbs for animate activities which can be regarded
   either as operations, or as operations on objects, e.g.,
   (7) /la it:t: umxzni aŋru uNguli/ "The guardsman eats (is
      eating) the head of a sheep."
   An optional transformational rule T-35 will delete the
   direct object of verbs with the feature 
      $[+V$ 
   $[+əNP]$ 
   (8) /la it:t: umxzni./ "The guardsman is eating."

4.1.4.3 Double transitive verbs. Several verbs may
   take two direct objects, only one of which, however, may be
   pronominalized and affixed to the verb. These include verbs
   of naming or calling:
   (9) /isam:a muŋa mm:is 1bdslam/ 
      verb  subject  direct object$_1$  direct object$_2$
      "Moŋa named his son Abdeslam."
   Causative verbs with transitive bases may have two
   direct objects, derived by *T-41, Sec. 5.2.3.2. Usually,
   however, a direct object of the base verb remains as DO of
the causative, while its subject corresponds to the indirect object of the causative verb.

4.1.5 Indirect object COMP: indirective verbs

The indirect object complement is a phrase consisting of the particle I plus a nominal object, whose head noun has number and gender and takes dependent form, or of a pronominal affix to the verb phrase. Rule T-102 adjoins it to the verb.

T-102 (obligatory) Pronominal IP post-verbally affixed

S.I. # ... VS ... ... I

I NP [+pron] [+Pe] ... #

1 2 3 4 5 6 7 8

Conditions: 2 is (X) TE (X)

4 may be (NP)(PP)(Dr) or null

5 may be NP (subject of 3) or null

Operations: Add 6 right of 3; delete 6 right of 5

Result: # ... VS NP [+pron] ... ... Ø ... #

I NP [+pron] [+Pe] ... #

1 2 3 4 5 6 7 8

4.1.5.1 Regular indirective verbs: datives. Certain verbs require an indirect object and not a direct object; for example,

/γραφ/ "to slaughter (an animal for food)"

/γματι/ "to cover (something or someone)"

/λιστ/ "to be useful (for something)"
(10)a /ad iγms urgaz i uarau./
"The man will cover the children." (See App. B.)
With a pronominal object of I, T-102 and T-103 result in a
string # ad-asn-iγms argaz #, phonemically:

b /ad-asn-iγms urgaz./ "The man will cover them."

4.1.5.2 Optional indirective verbs. Many verbs (not
all of them marked in the lexicon), both transitive and in-
transitive, can optionally occur with an indirect object.
The sense, depending on the verb, can be characterized as
either benefactive or ablative (e.g., /k:s/DOIO "to
remove something from someone," but /sudn/DOIO "to kiss
something of someone"). This construction is nearly equiva-
 lent to a possessive form of the direct object, with a tran-
sitive verb, as in Sentences (11)a and b, or of the subject,
with an intransitive verb, as in Sentences (12)a and b. The
first form seems to be preferred.

(11)a /sudnn-as afus/ "They to him kissed the hand."
b /sudnn afus n-s./ "They kissed his hand."

(12)a /ižiI-as 1blan i-tzribit/ "The design is pretty of
the rug."
b /ižiI 1blan n-dzribit/ "The plan of the rug is
pretty."

This optional indirect object might be introduced by
transformation, since it is not an essential feature of a
class of verbs, but rather cuts across the classes defined
by other complement structure.
4.1.6 Verbs requiring direct and indirect objects:

transitive datives

Certain verbs require both a direct and an indirect object, e.g.:

/uš/ "to give"

/aj/ "to leave."

(13)a /ad-iuš urgaz aýrum i-łmsakin/

"The man will give bread to the poor." (See App. B.)

If pronominal, the complements are affixed to the verb:

b /ad-asn-t-iuš urgaz./ "The man will give them it."

4.1.6.1 Order of direct and indirect object complements. If the direct object and the indirect object are both nouns without determiner, the former precedes the latter. If the direct object noun has a determiner, it usually follows the indirect object; the second position seems to have more semantic emphasis and phonological stress. Generally speaking, the more highly specified of the two object complements follows the other. This, of course, does not apply to the pronominalized order, which is always IO DO.

(14) /ad-iuš urgaz i-łmsakin aýrum uasnať./

"The man will give to the poor the bread of yesterday." See tree in App. B.

4.1.7 Predicate nominative complement: the defining verb /g/

The transitive and the copulative usages of the verb /g/
are distinguished semantically and syntactically. As a transitive verb with optional indirect object, /g/ has the sense "to make, do, or put (something) (for someone)." In the defining sense of "to be or become intrinsically (some quality or thing)," /g/ takes the perfect tense, simple stem, with a predicate nominal complement. This complement is either an adjective, agreeing in person, number, and gender with the verb's subject, or a substantive noun phrase (which usually also agrees in person, number, and gender, but may not, and which must have the same selectional features at least of [ahuman], [aanimate]).

### T-2 (obligatory) Agreement of subject and predicate nominal

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>...</th>
<th>PF</th>
<th>V</th>
<th>N</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**Conditions:**
- 2 may be (SM) not IPV, or null
- 3 may be NEG or null
- 6 may be NP (subject of 5), or null (if V is Pe 1,2)
- 8 may be Definer of 7 or null
- 7 (8) are PRED NOM
- 7 is N[±No, ±Ge] (¬No, Ge if adjective)

**Operations:**
- If 7 is NP[¬No, -Ge], add to 7 [±No] and [±Ge] of 5, and [aanim], [ahuman] of 6 (if 6 is not null).
If 7 is not NP[-No, -Ge], then 7 is NP[αNo], [αGe] of 5, and [αanim], [αhuman] of 6 (if 6 is not null).

The two usages of /g/ are further distinguished syntactically by rule features: the direct object complement of /g/ transitive can be focus-shifted or topic-shifted; in the latter case it is replaced by a pronominal affix to the verb. The predicate nominative complement of /g/ copulative can be focus-shifted, but not topic-shifted; there is no pronoun to replace it. If its complement is focus-shifted by T-74 as in (15)b, and further if its noun phrase subject is extracted from the verbal nucleus by topic-shifting as in (15)c (T-83), the relative verbal nucleus containing the copula /g/ can be deleted by T-87, resulting in a nominal sentence (15)d. See Sec. 4.6. Thus the copulative usage of /g/ becomes the basis for a very common sentence type (15)c, although its basic verbal sentence (15) is relatively infrequent. (See diagram in App. B.)

(15)a /iga ib:am aŋr̥i/ "Your father is bald."
   b /(d) aŋr̥i ag:a ib:am./ "(It's) bald that your father is."
   c /ib:am, d aŋr̥i ag:a./ "Your father, it's bald that he is."
   d /ib:am d aŋrai./ "Your father is bald."

4.1.8 Sentence complements

Verbs marked [+ #S#] in the lexicon permit a sentence
complement, as an alternative to some other complement. They must be further marked for the transformational rule which introduces the appropriate kind of sentence as complement. The rules will specify some rather small classes of verbs, in terms of restrictions on tense, aspect, iterative stem formant, and on identity or non-identity of subjects or objects of the matrix and embedded sentences. The main verb is that of the matrix. The following sections identify the principal classes, without developing the formal rules for embedding the sentential complement.

4.1.8.1 Verbs taking sentence complement with identical subject, imperfect tense, unaffirmed:

(16) /bdˤ/ /ibdˤ ad-ič./ "He began to eat."
(17) /iri/ /ira ad-ič./ "He wanted/wants to eat."
(18) /isin/ /is:n ad-ič./ "He knows how to eat."
(19) /คำตอบ/ /โรค:ad-ič./ "He is able to eat."
(20) /رؤ/ /رؤ: ad-ič./ "He condescended to eat."
(21) /جال/ /جال ad-ič./ "He swore he would eat."

4.1.8.2 Verbs with indefinite referent subject, taking sentence complement with subject identical to indirect object of main verb; imperfect tense, unaffirmed.

(22) /إن/ /إن:ام at:-d:ut./ "It's better for you to go."
(23) /إسم/ /إسم:am at:-d:ut./ "It's necessary for you to [go," "You ought to go."
The last one, /lazm/, has no noun phrase subject, no object, and seems to occur only in the third singular masculine, the (borrowed Arabic) form /ilazm/ behaving more like a particle than a verb.

A case might be made for considering these embedded sentences the subjects, rather than the complements, of the verb phrase.

### 4.1.8.3 Verbs taking sentence complement with subject identical to direct object of main verb; imperfect tense, unaffirmed (no Daf):

(25) /t:r/ /la-nt:t:r r:b:i ad-am-iuš lxiř./

"We are praying god that he give you well-being."

(26) /təlb/

### 4.1.8.4 Verbs (of temporary state), in simple perfect (not IT), taking a sentence complement with identical subject, perfect tense (unaffirmed), which may have simple or iterative VS.

(27)a /sul/ /i-sul ur d:-i-di./

"He is still not come."

(Requires simple stem in negative)

b /i-sul it:d:u./~/i-sul la-it:d:u./

"He is still going."

(Requires iterative stem in non-negative)

(28) /ili/ /i-l:a ij urgaz inig lmašina./

"There was a man he mounted the train."
(Comp V may be IT or simple)

The sentence complement of /ili/ can probably not be a negated one; it seems to have the same semantic feature of affirmation as the Daf aspect prefix /la/, which does not occur with the negative modal prefix. The alternate forms of Daf, /xa/ or /ha/, that occur in the negative, resemble demonstrative particles:

(29)a /la-ixd:m urgaz/ "The man is working," but,
    b /ur-xa-ixd:m urgaz/ "The man is not working."

Probably at least some of the occurrences of /la/ aspect prefix derive historically from this usage of the perfect stem /l:a/ of the verb /ili/ with sentence complement.

4.1.8.5 Verb taking sentence complement in imperfect tense, without subject restriction:

(30) /g:ud/ /ig:ud ad-ibdu./ "He's afraid he will fall."

(31) /ig:ud at:bdut./ "He's afraid you will fall."

4.1.8.6 Verbs taking sentence complements introduced by the postulative IS, no other restrictions:

(32) /isin/ (±DO) /i-s:n tamazirt-a, is i-l:a digs ubrid./  
      "He knows that country, whether there is in it a road."

(33) /ini/ (±DO) /la-t:inin mid:n, isd amxzni l:malik ai-t-inyan./ "People say that it's the guardsman of the king who killed him."
(34) /uarə/a /uarəx iḍl:i, is il:a uiur ɣr-ual:n./
"I dreamed last hight that the moon was between my eyes."

4.1.8.7 Verbs taking unrestricted sentence complements (quotations):

(35) /ini/ (τIO) /tn:a-s d:u, a mm:i, xa ur-t-t:ini ag:d ij./ "She said, 'Go, oh my son, do not discuss it with anyone.'"

(36) /br:ḥ/ /br:ḥn g:-s:uŋ as:a, d:ifand:i tiɣṭn g:-lɣabl./ "They announced in the market today, 'Goats are forbidden in the forest.'"

(37) /gːːl/ /igːːl, dːad-dːux ɣr-mulai iakub./
"He swore, 'I will go to Moulay Iaqub.'"

4.1.8.8 Verbs taking predicate complement: pseudo-copulatives. A predicate, consisting of Daf predicate marker (/d/) plus a noun phrase, occurs as complement with two intransitive verbs, /aɣul/ and /ɭaid/, which then have the sense "to become (something)." These appear analogous to the copula /g/ but for the occurrence with them of the predicate marker post-verbally. But unlike that of the true copula /g/ and other complements, this complement may not be focus-shifted (T-74) or topic-shifted (T-83), which is irregular. The occurrence of a predicate embedded in other structures is, however, quite regular; see Sec. 5.1.4.6. So we account for these complements of /aɣul/ and /ɭaid/ as
embedded sentences derived from T-84, with identical subjects deleted.

(38) /i'ayul/ /i'ayul-d: mu'ha d a'bshan s-tafukt./

"Mohā became dark from the sun."

4.2 Modes of the Basic Verbal Sentence

A basic verbal sentence is related in an interesting way to a set of sentences which contain the same sentence nucleus, but which have features expressing different attitudes of the speaker toward the proposition it contains: negative, interrogative, imperative, and combinations of these attitudes. I call the expressions of these attitudes the modes of the sentence, and the unmarked member of the set declarative. Sentences (39)a–f exemplify such a modal set, with the permissible combinations. (See trees in App. B.)

(39)a / d:ad id'u mu'ha yr s:uk./ declarative
b / urd:ad id'u mu'ha yr s:uk./ negative
c / d:u, a mu'ha, yr s:uk!/ imperative
d / a urt:d:u a mu'ha yr s:uk!/ negative imperative
e /is d:ad id'u mu'ha yr s:uk?/ interrogative
f /is urd:ad id'u mu'ha yr s:uk?/ negative interrogative

The respective translations are:

a "Mohā will go to the market."
b "Mohā will not go to the market."
c "Go, oh Mohā, to the market!"
d "Do not go, oh Moḥa, to the market!"

e "Will Moḥa go to the market?"

f "Will not Moḥa go to the market?"

To be quite consistent, all sentences of the set should be in the second person, as the imperative mode is limited to that. The negative and interrogative modes are not limited, applying freely to any sentence nucleus.

Negation and interrogation here are general, applying to the sentence nucleus as a whole. Local negation and interrogation, applying to one element of the nucleus, are described under focused sentences (Secs. 4.3.4 and 4.3.5).

The types of sentences represented by examples (39)b-f are generated by selecting the appropriate elements in the base rules, as shown in the trees for the examples (App. B), which show the effect of the transformational rules introduced in the following sections, for the modal sentences.

Note that NEG (Rule 4) can occur with any of the sentence modes; IS and Q (Rule 3) can occur independently, but IPV is exclusive of IS and Q. These constraints are built into the base rules; see note 15 to Sec. 3.0.

Verbs which are exceptions to any of the modal rules are so specified in the lexicon: for example, /ḥlu/ "be good" is limited to negative perfect, and /ms/ "be (ethnically)" is limited to interrogative.

4.2.1 Negated verbal sentences

The sentence is negated as a complete proposition by a
preceding negative. For verbal sentences, this is the negative particle /ur/, often preceded by a particle /ša/.
Alternatively, in perfect tense sentences, /ur/ may be followed by an emphatic particle /djin/, which seems not to occur without /ur/.

(40)a /ša ur iu:t urgaz-a tamṭut n-s./
"That man didn't beat his wife."

b /urdjin iu:t urgaz-a tamṭut n-s./
"That man has never beaten his wife."

4.2.2 Imperative mode of the verbal sentence

The imperative mode is derived by selecting IPV and a sentence nucleus (negated or not) in the imperfect tense, with the verb (iterative or simple) in the second person. The noun phrase subject, if any, has vocative /a/ (see Sec. 5.1.3 and T-3). Rule T-4 specifies the conditions for imperatives.

T-4 (obligatory) Imperative structure

S.I. # IPV ... ... ... ... ... V ... , VOC NP, ... #

1 2 3 4 5 6 7 8 9 10 11 12 13

Conditions: 3 may be NEG or null
4 may be Daf or null
5 may be PF or null
6 may be IT or null
If 3 is not null, 4 5 6 are not null.
7 may be VM or null
9 may be Dr or null
11 is subject of 8

Operations: If not null, add 4 left of 3, delete 4 right
of 3

Delete 5 (it having determined form of 4)
Add 2 to 8 as [+IPV]; delete 2 left of 3

Result: # Ø ... ... ... ... ... V[+IPV] ..., VOC NP, ... #

1 2 3 4 5 6 7 8+2 9 10 11 12 13

where 3, 4, 5, 6 are null,
or # Ø Daf NEG Ø Ø IT ... V [+IPV] ..., VOC NP, ... #

1 2 4 3 4 5 6 7 8 + 2 9 10 11 12 13

The feature [+IPV] has an effect on the phonological shape
of both the verb stem and its subject inflections for per-
son, number, and gender: the singular inflection is zero,
the plural is a suffixed /at/, with automatic [y] after a
stem ending in /u/. The derivation of (39)c, in App. B,
shows the effect of T-4.

What appears to be the vocative particle sometimes
occurs before the imperative stem, in the absence of a noun
subject:

(41) /a ʂbᵊl/ "Oh, wait!"

A series of commands usually has only the first in the
imperative mode; succeeding verbs in the series have regular
subject markers and imperfect prefix, /ad/ (see Sec. 6.1.2).

A rare construction with the imperative plural subject
inflection /at/ added to a verb non-initial in a series of
commands, after the regular second person plural subject inflection, appears to give a hortative imperative:

(42) /k:r and:u-at/ "Get up, that we (let's) go!"
    (<# k:r ad nd:u at #)

This is not provided for in these rules.

4.2.3. General interrogative mode of the verbal S

The interrogative mode which queries the sentence as a whole, negative or not, may be marked only by interrogative intonation (Sec. 2.1.5). This structure is generated by choosing (Q) in Rule 3 of the base. It may also be marked by the modal particle IS, which I call postulative, since it postulates the sentence nucleus, either as a question, or without Q, as the condition of a conditional sentence (Sec. 6.3.2).

4.2.3.1 Simple interrogation: yes-no questions. Sentences such as (39)e require as answer either /iih/ "yes" (with the sentence nucleus repeated or not), or /ihi/~i1a/ "no" (with or without the corresponding negated sentence):

(43) /iih (, d:ad id:u muha yr s:uk)./  (Cf. 39e)
(44) /ihi (, ur d:ad id:u muha yr s:uk)./  (Cf. 39f)

The derivation of (39)f from the same rules is obvious.

4.2.3.2 Alternative with /mad/: either-or questions. Interrogative sentences as described above can have adjoined a sentence which is the semantic "opposite" of the first sentence, and which is introduced by the particle /mad/.
(45)a /is trit at:ai, mad (trit) 1kähua?/
   "Do you want tea, or (you want) coffee?"

b /is trit at:ai, mad ihi?/
   "Do you want tea, or not?"

The verbs may be antonyms:

(46) /is at:d:ut, mad at:šimt?/
   "Are you going, or are you staying?"

The answer required by an either-or question is not
"yes" or "no"; it will contain one of the alternatives pro-
posed. The alternative following /mad/ does not have ques-
tion (rising) intonation.

4.2.3.3 Non-exhaustive alternatives in interrogative:
open questions. A series of non-exhaustive alternatives,
either noun phrase(s) or verb phrase(s), may follow the ISQ
question, each alternative being introduced by an alterna-
tive conjunction /nγd/, or with the negative, /ula/ (see
Sec. 6.2.1).

(47) /is trit at:ai, nγd: 1kähua, nγd: ša uγrum?/
   "Would you like some tea, or some coffee, or some
   bread?"

Each alternative has question (rising) intonation. The
answer is not predictable; it may be yes, no, or a substan-
tive sentence.
4.3 Focused sentences: permutation of the basic verbal structure

Another set of sentences is related in an interesting way to the basic verbal sentence. Its members have the same constituents with the same functions, but in a different order: an NP, IP, PP, or Adverbial precedes the verb, followed by a relative phrase and the remaining sentence elements. The relative phrase contains a relative pronoun rel, without person, number, or gender, which has the form /ai/ in (48)b-e. (See trees in App. B.)

(48)a /tgr tmṭut: tadfaḥt i-umnai g:-lfiʒta./
  b /tamṭut: ag:grrn tadfaḥt: i-umnai g:-lfiʒta./
  c /tadfaḥt ai-tgr tmṭut: i-umnai g:-lfiʒta./
  d /i-umnai ai-tgr tmṭut: tadfaḥt g:-lfiʒta./
  e /g:-lfiʒta ai-tgr tmṭut: tadfaḥt: i-umnai./

The translations are, respectively:20

a "The woman threw an apple to the horseman at the fête."
  b "(It's) the woman who threw an apple to the horse-
      man at the fête" (focused subject).
  c "(It's) an apple that the woman threw to the horse-
      man at the fête" (focused direct object).
  d "(It's) to the horseman that the woman threw an apple at the fête" (focused indirect object).
  e "(It's) at the fête that the woman threw an apple to the horseman" (focused PP complement).
If the initial noun phrase is object of an oblique phrase (IP or PP), the relative phrase has the form

\[ \text{MA} \{ I, \text{PS} \} \text{rel} \]

where MA is the relative particle, I is /i/, or PS is a preposition stem in its pre-nominal form, and \text{rel} is the object form /mi/ of the relative pronoun.

(49) /amnäi mi-mi tgr tmṭut: tadfaḥt g:-lfiżta./
(Cf. 48d) "(It's) a horseman to whom the woman threw the apple at the fête."

(50) /lfiżta mag:mi tgr tmṭut: tadfaḥt i-umnaï./
(Cf. 48e) "(It's) a fête at which the woman threw the apple to the horseman."

The basic verbal sentence, the unmarked member of a focused set, has non-contrastive emphasis on the verb. Each other sentence of the set focuses on a different post-verbal element, placing it before the verb phrase and subordinating the rest of the sentence to it. I call the stressed initial phrase the focus. When the focus is pronominal, the independent personal pronoun occurs:

(51) /nk:iñ ai-t\'li̱it./ "It's I whom you saw."

### 4.3.1 Derivation of focused S: focus-shift rule

The types of sentence exemplified in (48)b–e are derived from the base rules by selecting the sentence modal F (focus), plus the same sentence nucleus as underlies the basic verbal sentence of the set. The tree of the basic sentence, (48)a, in App. B, shows the additional elements (in dotted lines) required for application of the focus-
shift rule, T-74.

The modal elements preceding F provide for modes of the focused sentence (Sec. 4.3.3).

**T-74 (obligatory) Focus shift of COMP phrase or Adverbial**

S.I.  # (..) F (..) VN (..) ... (..) #

1 2 3 4 5 6 7 8 9

Conditions: 2 may be SM not IPV (focused sentence may be modal)
4 may be NEG or null (negative sentence may be focused)
6 may be (NP)(NP)(IP)(PP) or null
7 is subject, direct object, indirect object, PP comp, or adverbial, or PRED NOM, not included in 6 or 8

Operations: Add 7 left of 3
Delete from 7 right of 6 all features; add [+N, +pron]
Add 7 [+N, +pron] left of 4; delete 7 right of 6
If 7 is the subject of 5, delete from 5 the values of Pe, No, Ge

Result: (optional elements parenthesized to show basic structure) # (..) ... F N[+pron] (..) VN (..) ∅ (..) #

1 2 7 3 7' 4 5 6 7 8 9

Since the structural index allows only SM elements left of F, T-74 is not recursive; only one element of a string
may be focused.

The formative F will be interpreted by phonological rules as phrase emphasis, /\/, on the preceding NP or particle. The focused element is "replaced" by rel: the relative pronoun /ai/, categorized as [+N, +pron]. If the values of the verb's features of Person, Number, and Gender have been deleted, phonological rules will give it the relative subject inflection /i-_n/, the same as in adjectivalization of a VP (Sec. 5.1.4.5). See now App. B for the derivation of a sentence with focused subject (48)b, with focused direct object (48)c, focused indirect object (48)d, and focused prepositional phrase (48)e.

The result of T-74 given above shows the transformed order of elements, but not their new structure. This will be discussed in Sec. 4.3.2, after introduction of several transformations modifying focused strings; a generalized structure is shown in Fig. 2.

4.3.1.2 Reduction of focus to noun phrase: shift of I or PS to relative phrase. Structures like those of (49) and (50), where the focus is the object of an IP or PP, are generated by applying to a PMarker resulting from T-74 and containing the sentence modal MA, a further transformation T-75 which adjoins the I or PS to rel. The rel now takes its object form, /mi/, instead of /ai/. Without Q, MA is a relative marker; it attaches to I or PS rel to form a relative phrase in /m-/:
MA [rel ] → mimi "to whom"
MA PS [rel ] → masmi "with/ by means of which"
mag dmi "with whom"
masg mi "from which/ whom"
mayrm i "to/toward which/ whom"
mag mi "where, in which" → g mi
maxfmi "on top of/ on account of which"

T-75 (optional) Focus of object of IP or PP

S.I.  # ... MA ... NP [rel ] ... VN ... ... #
1 2 3 4 5 6 7 8 9 10 11 12

Conditions: 2 may be (IS) (Q) (Daf) or null
(if IS, then Daf)
4 is I or PS
8 may be NEG or null
10 may be (NP) (NP) (IP) (PP) or null
11 may be (NP) (IP) (PP) (ADV) or null

Operations: Add 4 left of 7; delete 4 right of 3
Add 3 left of 4; delete 3 right of 2

Result: # ... Ø Ø NP [rel ] MA ... [rel ] ... VN ... ... #
1 2 3 4 5 6 3 4 7 8 9 10 11 12

See App. B for an example of the operation of T-75, in the
derivation of (49).

The relative pronoun /mi/ is sometimes absent after
MA PS. An optional deletion transformation T-76 generates
this structure; its structural index is the result of T-75.
T-76 (optional) Deletion of rel after MA PS

S.I. # ... NP F MA PS rel ... VN ... #
   1  2  3  4  5  6  7  8  9  10  11

Conditions: 2 may be (IS)(Q)(Daf) or null
              (if Q, then IS; if IS, then Daf)
8 may be NEG or null
10 may be (NP)(NP)(IP)(ADV) or null

Operations: Delete 7

Result: # ... NP F MA PS ø ... VN ... #
        1  2  3  4  5  6  7  8  9  10  11

Compare (52), which has T-76 in its derived PMarker, with (50), which does not:

(52) /ḥuṣin māyr ur ili uaz:ar./
     "It's Lhoussaine who doesn't have hair."

The relative particle MA is sometimes absent before rel. An optional deletion transformation, T-77, will generate this structure; its structural index is the same as that of T-76, with the instruction to delete 4 instead of 7. This rule applied to (50) would give (53):

(53) /fīxz̪a g:mi tgr tmṭut: tadfaḥt i-umnai./

4.3.1.3 Focus shift of predicate nominative. Rule T-74 applied to a PMarker containing the defining verb /g/ may shift the NP which is its complement (PRED NOM) to focal position. For example, see the derivation of (15) in App. B (cf. the discussion in Sec. 4.1.7).
4.3.2 Surface structure of focused sentences: nominalized predications

The T-rules as written show the transformed order of elements but not their transformed structural relationships. In the diagrams of the preceding sentences (48) through (53) I have assigned a structure to the focused sentence which introduced several new nodes in the tree. The relative phrase is attached at a node above SN (sentence nucleus of the underlying PMarker), and the new node is labeled "relative clause." The focus (phrase plus F) is attached at a node above REL CLAUSE, labeled S. The modal elements, if any, are attached at yet a higher node, MS.

Figure 2 gives a generalized schema of focused structures. (If one of the optional sentence modals is chosen, further T-rules must apply to obtain the surface structure; see Sec. 4.3.3.) The eventual surface structure of a focused sentence can be regarded as a nominalized predication consisting of Predicate~Subject, where the focus functions as predicate, and what follows it--the remainder of the sentence, including the subordinated verb--is the subject. The relative phrase functions as head noun of the subject, and the verbal sentence nucleus as its definer. This nominal predication may be affirmed (by Daf), queried (by IS general or MA local interrogative particle plus Q), or negated (by UR before the IS particle in its postulative (non-interrogative) role). Thus a focused sentence is one
Conditions:  
4 is not null (choose one)  
one of 11 - 15 is $\emptyset$ (has become 4)  
all of 11-15 may be null except the one which is $\emptyset$  

Fig. 2 Generalized structure of focused PMarker
(before application of any modal transformations)
kind of nominal predication.  

4.3.3 Modes of the focused sentence

The simple focused sentence, like the basic verbal sentence, has its corresponding set of negative and general interrogative sentences. It does not have an imperative mode, but it does have an affirmed mode. Furthermore, it corresponds to a local interrogative sentence, in which an interrogative form in MA corresponds to the focus. Rules and examples follow.

4.3.3.1 The affirmative particle Daf as predication marker: affirmed predications. A particle /d/ may precede the noun phrase focus, the noun retaining its independent form (which helps to distinguish this particle from the conjunction /d/, following which nouns take their dependent form; see Sec. 2.1.6). This predication marker is required by the structural index of T-86 and T-87 as a condition for deletion of the defining verb /g/; see Sec. 4.6. It is also required if any other modal particle but MA occurs: note /isd/, /urid:/ in the following sections. The rule allowing Daf with a focused sentence is T-80.

T-80 (optional) Affirmative mode of focused sentence

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>...</th>
<th>...</th>
<th>~F</th>
<th>...</th>
<th>~rel</th>
<th>SN</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Conditions: 2 may be (IS)(Q) or null

3 may be Daf or null
4-5 are focus (predicate of a nominal predication)
6-7 are relative phrase

Operations: If 3 is not null, attach 3 as coordinate with 4-5, at a node above Focus (in diagram of Fig. 2)

Result: # ... ... ... F ... \( ^{\text{rel}} \) SN #
1 2 3 4 5 6 7 8 9

An example is (15)b (see tree in App. B).

4.3.3.2 General interrogative mode of the focused S.

Exactly the same statements as made in Sec. 4.2.3 for basic verbal sentences apply to the affirmed focused sentence. Interrogation may be marked by intonation alone (generated by choosing Q), or by IS plus Q. Similarly, IS without Q is postulative, making a focused conditional clause; again see Sec. 6.3.2.

General interrogation with (IS) Q may be simple, requiring a yes-no answer, or it may involve an alternative with /mad/ (an either-or question), or non-exhaustive alternative(s) with /nyd:/ or /ula/. See Secs. 4.2.3.1 to 4.2.3.3 and compare to (39)e the following focused versions, (54) to (56), derived by T-74 and T-81.

(54) /isd muŋa ara-id:un γr s:uŋʔ?
    "Is it Moŋa who will go to market?"

(55) /isd muŋa ara-id:un γr s:uŋ, mad uan ġninʔ?
    "Is it Moŋa who will go to market, or the other one?"
Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
(57) /nk: in ag:u:tn tarbat:. "It's I who beat the girl."
(58) /nk: in ai-ur iu:tn tarbat:. "It's I who didn't beat the girl" (Many did.)
(59) /urid: nk: in ag:u:tn tarbat:. "It's not I who beat the girl." (Someone did.)
(60) /urid: nk: in ai-ur iu:tn tarbat:. "It's not I who did not beat the girl." (I was among those who did, but someone didn't.)

The semantic contrasts are indicated by the translations, and by the implications, in parentheses.

Sentence (58) is generated by applying T-74 to a base PMarker containing NEG. Sentence (59) requires the further application of T-82, which shifts NEG from the sentence nucleus to precede the sentence modals IS Daf. Sentence (73) could be derived by adding NEG before the modals, but not deleting it from the sentence nucleus. Semantically, this type (a double negative sentence) is closest to the unnegated member of the set, but with more information. Since the conditions under which a double negative can occur are not clear to me, no rule is attempted. Of the negative types represented by (58) and (59), the latter is more common.

T-82 Negation of focused negative sentence (optional, but usually applied)

S.I. # IS Daf NP F ... NEG VN ... #

1 2 3 4 5 6 7 8 9 10
Conditions: 6 is relative phrase (MA)(I) or (PS) rel
9 may be four or less of (NP)(NP)(IP)(PP) ADV, or null

Operations: Add 7 left of 2.

If no further operations are specified, a double negative results (relatively rarely found):

Result 1: # NEG IS Daf NP ~ F ... NEG VN ... #
1 7 2 3 4 5 6 7 8 9 10

Operations: Delete 7 left of 8

Result 2: # NEG IS Daf NP ~ F ... Ø VN ... #
1 7 2 3 4 5 6 7 8 9 10

For transformed structure, see trees of (57)-(60) in App. B.

A focused sentence is inherently contrastive; it singles out for emphasis one nominal as against all other possible (unspecified) nominals, or as against a specific alternative, named in a tag sentence of opposite negation (see Sec. 6.2.2.2).

4.3.4 Local interrogation: MA-forms as focus

As distinguished from general interrogation (Sec. 4.2.3), which queries the sentence as a whole, local interrogation queries only one element of the sentence. This may be the subject, as in example (61), the direct object (62), the indirect object (63), the object of a preposition (64), the quantifier of a noun phrase (65), an adverbial of time (66), manner (67), or place (68), or the predicate nominative (75).
The structure of some local interrogations is clearly analogous to that of a focused sentence, with an MA-form replacing the focused nominal, as in examples (61) through (69). In nominal interrogations such as (71)-(78) the surface structure has no verb. However, at least some of them can be derived from a verbal base by substituting the appropriate MA-form as focus in a phrase-marker resulting from T rules that delete the locating verb /ili/ (T-85) or the defining verb /g/ (T-86 and T-87). The following sections present the general transformational rules for MA interrogation; derivational trees of most of the example sentences (61)-(80) are given in App. B.

(61) /mä:q:can aɣrum?/ "Who ate the bread?"
(62) /mái-tɕit?/ "What did you eat?"
(63) /mi-mí aːi-tuːʃit aɣrum?/ "To whom did you give bread?"
(64) /mäg:d-mí aːi-tɕimt?/ "With whom did you sit?"
    (cf. Sec. 4.3.1.5 for other prepositions)
(65) /mšːal d-uːraːu agːlːaŋ ɣirun?/ "How many children do you have (are there to you)?"
(66) /mílmi aːi-tluːt?/ "When were you born?"
(67) /makːi-tːgːt aɣrum?/ "How do you make bread?"
(68) /mání aːka tːdːuːt?/ "Where (and why) are you going?"
(69) /mání ɣr-idːa usmʊn?/ "Where has my companion gone?"
(70) /mánígː ilːa uṃːhrːazʔ/ "Where is the grinding-bowl?"
(71) /mání amhrːazʔ/ "Where (is) the grinding-bowl?"
(72) /mání argaz n-m? (labas ɣirʔs)/ "How is your husband? (No bad to him?)"
(73) /mani argaz-a?/ "Which man?"
(74) /mani ua?/ "Which/what (is) this (thing or person just mentioned)?"
(75) /mani ayrum tcit?/ "Which bread did you eat?"
(76) /mat:a uyrum tcit?/ "What bread did you eat?"
(77) /mat:a lhašt-a?/ "What's this thing?"
(78) /mat:a ui-a?/ "What's this (object or event)?"
(79) /mism-n-k?/ "What's your name?"
(80) /mai-tmsit?/ "Who are you?"

4.3.4.1 Interrogation of subject or direct object of verb. The particle /ma/ replaces the focused nominal in a phrase-marker resulting from T-74 which does not contain NEG.

T-79a Interrogation of direct object or subject

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>Q</th>
<th>M</th>
<th>NP</th>
<th>F</th>
<th>rel</th>
<th>SN</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Conditions: 7 does not contain NEG
Operations: Delete 4
Result: | # | Q | M | Ø | F | rel | SN | # |
<table>
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<td>7</td>
</tr>
</tbody>
</table>

This transformation is obligatory because if any result of T-74 has both Q and MA, it cannot have NP. That is, the original choice of Q and MA and F in the base predetermines that the string will be a local interrogation; T-74 determines which element will be queried.

Transformations which embed an MA-construction in a
matrix have as their structure index the result of T-79a, and delete Q and F; i.e., the relative clause with MA does not have interrogative or focus intonation. (See Sec. 5.1.5.2.)

(Note: In the preceding examples, the focal stress falls on the phonological diphthong /ai/ which results from combination of ma-ai.)

The derivation of (61) by T-79a is given in App. B; the derivation of (62) by the same rule is obvious.

4.3.4.2 Interrogation of IP or PP. A local interrogative sentence which queries the object of an oblique phrase (IP or PP) has in its place in the focus the relative pronoun object /mi/, as in (63) and (64). This structure is derived by T-79b, the structural index of which is the result of T-74 containing the modals Q and M. The new occurrence of rel results, as did that in T-74, from deletion of all features but [+N, +pron] from the queried noun phrase: rel "stands for" an absent noun phrase.

T-79b (obligatory) Interrogation of IP or PP

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>Q</th>
<th>M</th>
<th>...</th>
<th>NP</th>
<th>F</th>
<th>rel</th>
<th>SN</th>
<th>#</th>
</tr>
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<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

Conditions: 4 is I or PS

(7 is N[+pron, -PNG])

Operations: Delete from 5 all features except [+N]

Add to 5 the feature [+pron]
The resulting structure is exemplified in the diagram of (63) in App. B. The derivation of (64) by the same rule is obvious.

4.3.4.3 Interrogation of quantifier: /mšḥal/. The quantifier of a focused noun phrase may be queried by the Mword /mšḥal/ (in some dialects, /šḥal/), in the place of the quantifying noun. T-79c gives this structure; its structural index is the result of T-74, with the modals Q and MA, in a specific form.

T-79c (obligatory) Interrogation of quantifier of NP

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>Q</th>
<th>Mword [+quant]</th>
<th>N</th>
<th>G</th>
<th>N</th>
<th>...</th>
<th>F</th>
<th>rel</th>
<th>SN</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Conditions: 4 is dominated by QUANT in underlying PMarker 7 may be DEF of 6, or null

Operations: Delete 4

Add 8 right of 3; delete 8 right of 7

Result: | # | Q | Mword [+quant] | F | Ø | G | N | ... | Ø | rel | SN | # |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

See the derivation of (65) in App. B. for structure.

A rule (T-6 object of /mšḥal/, not formulated here), which refers to the discourse context of the sentence, permits deletion of the genitive marker and its object, 5→6→7, when its reference is previously established in the discourse.

(65)b /mšḥal ag:1:an γirun/? "How many do you have?" (referring to children).
4.3.4.4 Interrogation of Time Adverbial: /milmi/.
The Mword /milmi/ (which apparently incorporates the object relative pronoun /mi/ but which cannot be further analyzed and so is treated as a fixed word) replaces an adverbial of time in the focus of a PMarker resulting from T-74.

T-79d Interrogation of time adverbial

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>Q</th>
<th>Mword [+time]</th>
<th>ADV</th>
<th>time F</th>
<th>rel</th>
<th>SN</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Conditions: See below
Operations: Delete 4
Result: # Q Mword [+time] Ø F rel SN #

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Some restrictions will be necessary to prevent /milmi/ from querying durative time adverbials, such as in (81).

(81) /sg:-tifa'ut ai-gunix./

"It's since dawn that I've waited."

See the derivation of (66), with a non-durative adverbial, in App. B.

4.3.4.5 Interrogation of Manner Adverbial: /maka/.

A manner adverbial is queried by the form /maka/ occurring in its place in the focus. This is derived by T-79e, which applies to a PMarker resulting from T-74, in which MA is developed as MN: ma~aka → /maka/.
Interrogation of manner adverbal

S.I. # Q M N ADV manner F rel SN #
1 2 3 4 5 6 7 8 9

Conditions:

Operations: Delete 5

Result: # Q M N Ø F rel SN #
1 2 3 4 5 6 7 8 9

The derivation of (67) by T-79e is shown in App. B.

The Mword /mani/ (see next section) with the noun /aka/
seem to query at the same time the location and manner
adverbials; see (68).

4.3.4.6 Interrogation of space adverbal: /mani/.

Some adverbs of space are queried by the interrogative word
/mani/, which has a locative sense in this construction:
"where, whence, whither," depending on the preposition. The
noun-like prepositions /nag, gar, d:au, f:ir, zdat/, disting-
guished from prepositional stems by having only one form
before noun or pronoun affix and by their inability to be
attached to the verb by T-100, do not qualify for this rule
(T-79f), either. Neither do the locative nouns like /tama/.
Both these classes are queried by substitution of the rela-
tive pronoun object form /mi/ for the object of G in a geni-
tive phrase with the preposition as head:

(82) /tama n-mi ai-tkimt?/ "Beside whom did you sit?"
(83) /κimx tama n-im:a./ "I sat beside my mother."

The rule for this is not formalized here.
The adverbs of space that are queried by /mani/ include PP, as in (69) and (70).

T-79f (obligatory) Interrogation of ADV space

S.I. # Q Mword [+loc] PSf [+dir] NP F rel SN #
1 2 3 4 5 6 7 8 9

Conditions: 7 does not include NEG (probably)

Operations: Delete 5
Add 6 right of 3; delete 6 left of 7
Delete 7

Result: # Q Mword [+loc] F PSf [+dir] Ø Ø Ø SN #
1 2 3 6 4 5 6 7 8 9

4.3.4.7 Nominal interrogations with /mani/. The Mword /mani/ occurs with a different sense in several types of nominal questions.

Before a noun without Dr as its definer, /mani/ has its locative sense of "where" (71). The answer to this type of question will locate the subject noun phrase, either by the locating verb /ili/ as in (84) or by a demonstrative phrase in /ha-/ (85) (see Sec. 7.1.3).

(84) /il:a g:-lkuzina./ "It's in the kitchen."

(85) /haktaia./ "There it is!"

This type of nominal question is derived from the result of T-79f by deletion of the locative preposition /g:/ and the verbal nucleus with the locating verb /ili/. See tree of (72) and (71), App. B.
T-79g (optional) Deletion of PS VN with /ili/

S.I. # Q Mword [+loc] F PS [-dir] VN NP ... #

1 2 3 4 5 6 7 8 9

Conditions: 7 is subject of 6
Operations: Delete 5 and 6
Result: # Q Mword [+loc] F Ø Ø NP ... #

1 2 3 4 5 6 7 8 9

Before a noun with Dr as definer, /mani/ has the sense of "which?" and the answer will distinguish the subject noun from other nouns of the same category, by its definer. Thus the answer to (73) might be (86), (87), or (88):

(86) /mn:is n-zuhra (ag:a)/ "(He's) the son of Zohra."

(87) /ij ufasi isknn daha (ag:a)/
"(He's) a Fez man who lives here."

(88) /unit:d:un k:u as γr-tiftlt g:-lkamiu (ag:a)/
"(He's) the one who goes to Tiflet every day in the truck."

Although this type of nominal question could be derived by T-79g as it now stands, this does not seem semantically appropriate and I reserve this problem for later consideration.

Finally, before a [+human] noun which is either [+proper] or allocated (i.e., kinship noun or possessed general noun), /mani/ has the special sense of "how is (somebody)?" (See (72), /mani argaz n-m? .../ "Where (how) is your husband?") The question is usually followed by another
greeting-formula question (see Sec. 7.5), and the answer is likewise a greeting formula (89):

(89) /la:bas γirs, lḥam d:ul:ah./ "No bad to him, thank God." (i.e., "He's all right, thanks.")

Again, although questions of this type could be derived by deletion of the locative preposition and verb, it seems semantically questionable.

A possible clue to the historical reason for these last two special senses of /mani/ lies in the restriction of the following interrogative word, /mat:a/, to non-human subjects.

4.3.4.8 Interrogation of predicate nominative: /mat:a/.

The Mword /mat:a/ (not further analyzable) occurs only in nominal questions, where it precedes a [-human] noun phrase subject. When the subject has a sentence definer (see Sec. 5.1.4.7) as in (76) /mat:a uγrum tcit?/ "What bread did you eat?" the sense is almost indistinguishable from that of /mani/ in the same construction: (75) /mani aγrum tcit?/. Both query the head noun of the subject, and require an answer distinguishing it from others of its category by a definer, underlined in the following possible answers to (75) and (76).

(90) /aγrum uasn:at  
\{ (ai cix)./
(91) /aγrum n-safia  
\{ (ag:a)./
(92) /und:iulx sg:-tḥanut:  
\{
"It's yesterday's bread.
"It's Safia's bread.
"It's the one I brought from the shop.

Whatever the definer, the answer is a predicate-noun-focused sentence or a nominal predication derivable from deletion of /g/ by T-87.

If the subject of /mat:a/ is an empty noun as in (77), or a demonstrative pronoun as in (78), its sense is "What (is)?" (as distinct from /mani/ "which" or "where") and the answer will have as its subject a noun, with or without definer, the noun itself defining the empty subject of the question.

(93) /d ʾamhr:az./ "It's a grinding-bowl."
(94) /amhr:ɑz ag:a./ "It's a grinding-bowl that it is."

Nominal sentences with /mat:a/ are derivable by substituting the Mword for the predicate nominative in a derived PMarker from which the verb, necessarily /g/, has been deleted. This T-rule, T-79h, requires as its structural index the result of T-86 or T-87 (see Secs. 4.6.1 and 4.6.2), where modal is Q Mword.

**T-79h Interrogation of predicate nominative**

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>Q Mword [+def]</th>
<th>NP</th>
<th>Daf</th>
<th>NP</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Conditions: 4 is subject of deleted VN

6 is predicate nominal (hence deleted verb must be /g/)
Operations: Delete 5 and 6

Result: # [Mword[+def] NP ∅ ∅ #] 1 2 3 4 5 6 7

In effect, /mat:a/ becomes the predicate. (The subject noun, 4, retains its dependent form as if it still followed the verb.) The transformed structure still fits the generalized one of nominal predication, being its interrogative mode. See App. B for structure of (77).

4.3.4.9 Nominal interrogation of name, and the naming verb /ms/. The occurrence of the MA particle /ma/ with a noun subject /ism/ "name," plus genitive phrase, is anomalous. The reply to a sentence such as (79) is similarly a nominal predication without recoverable verbal basis:

(95) /ism-inu faḍma./ "My name is Faḍma."

In other contexts a form /smit/ (diminutive? cf. the Arabic smit) is used. A clue to a historical verbal basis of this structure is found in the resemblance of /ism/ to the verb /ms/ "to be (ethnically)." This verb /ms/ is restricted to occurring with N[+human] subject in an MA-interrogative construction (79). It takes the place of the defining verb /g/ which is restricted against occurring in just this environment. The restriction is one of taste, rather than grammaticality; (96) would be preferred to (97), which is grammatical but in bad taste.

(96) /mag:ms lḥuṣin/? "Who is Lhoussaine?"
(97) */mag:an lḥusin?/ "What (is) that which is Lhoussaine?" (This probably would be understood as the transitive /g/: "Who made Lhoussaine?")

The reply to (96) will, however, use the defining verb /g/:

(98) /ašhrāui aq:a./ "A Saharan that he is."

or a nominal predication derived from a deletion of the VN with /g/ (T-87):

(99) /d ašhrāui./ "He's a Saharan."

The probable historical connection of /ms/ and /ism/ does not give any basis for deriving sentences like (79) in this grammar, however, and they remain to be treated (in Sec. 7) as nominal structures without verbal bases.

4.4 Pre-announced topic sentences: permutation of basic or focused phrase-markers

A basic verbal sentence or a focused sentence is related (as the unmarked member) to a set of sentences with pre-announced topics, in each of which some NP which is not PRED NOM and is not focused occurs in sentence-initial position. The pre-announced topic has an intonation and stress pattern which contrasts with the focused phrase, and unlike it may be separated by a pause from what follows (the post-topic). These phonological phenomena are marked in the transcription by a comma following the topic; see Sec. 2.1.5 for the intonation pattern so signified.

The pre-announced topic sentence is marked syntactically by the occurrence in the post-topic of its reflex
(pro-topic), with corresponding features of person, number, and gender. In the case of a pre-announced subject, the verb subject affix is the reflex; otherwise it is a pronominal affix. The structure of the post-topic is exactly that of a sentence in which an element (corresponding to the topic) is represented by a pronoun whose referent is a noun phrase occurring in a previous sentence of the discourse.

The set of pre-announced topic sentences corresponding to (48) is as follows (pro-topic is underlined):

(100) /tamţut:, tgr tadfaţt: i-umnai g:-1fiţţa./
(101) /tadfaţt, tgr-it: tmţut: i-umnai g:-1fiţţa./
(102) /umnai , tgr-as tmţut: tadfaţt: g:-1fiţţa./
(103) /1fiţţa , tgr digs tmţut: tadfaţt: i-umnai./

in which the subject, direct object, indirect object, and preposition object respectively are pre-announced and represented in the post-topic by a reflex of the same number and gender.

The focused sentences such as (48)b-e, (49)-(51), can also be the unmarked members of sets of pre-announced topic sentences; some of the possible members of each set are given below (104)-(109).

(104) /tadfaţt, tamţut: ai-t:-igrn i-umnai g:-1fiţţa./

(cf. 48b) The apple--it's the woman who threw it to the horseman at the fête.
(105) /tamțuṭ: , tadfaḥt ai-t:gra i-umnai g:-lfiżta./
    (cf. 48c) The woman--it's an apple that she threw
to the horseman at the fête.

(106) /tamțuṭ: , i-umnai ai-tgr tadfaḥt g:-lfiżta./
    (cf. 48d)

(107) /tamțuṭ: , g:-lfiżta ai-tgr tadfaḥt i-umnai./
    (cf. 48e)

etc. Furthermore, the topic shift rule applies as well to
modal sentences, if they are not imperative:

(108) /argaz-a , ŧa ur iu:t tamțuṭ: n-s./ (cf. 40)
    "That man, he doesn't beat his wife."

(109) /muha , is d:ad-id:u yr-s:uğ?/ (cf. 39e)
    "Moḥa, is he going to market?"

The general rule for topic shift (T-83) must have for
its structural index a rather generalized phrase marker. It
applies to the results of T-1, T-3, T-74 to T-78 (the
focus-shifting rules), T-79a-h (local interrogation), T-80,
T-81, T-82, but not to the outputs of T-2 (PRED NOM
cannot be a topic) or T-4 (imperative). The trigger for this rule
has not been determined; I hesitate to add a Top element in
the basic rules because it seems somehow that topic shifting
(and deletion) should result from some environment outside
the sentence. If Top were inserted as an optional dummy
element of the basic phrase-marker, it would (similarly to
F) range over all non-verb phrases in the sentence and
select one.
T-83 Pre-announced topic

S.I. # ... ... VN[-IPV] ... ... NP[\texttt{\textipa{P}}Pe\texttt{\textipa{a}}} ... #

\begin{tabular}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9
\end{tabular}

Conditions: 2 may be (IS)(Q)(AFF)(NP F rel phrase)
or (Q) (MA F rel phrase) or null
3 may be NEG or null
5 may be (NP)(NP)(IP)(PP) or null
6 may be I or PS or null
7 is subject, DO, IO, PO, or ADV (but not PRED NOM)
8 may be (NP)(IP)(PP)(ADV) or null

Operations: Add 7 left of 2
(attach at node above S: pre-S)
Add T left of 2
Delete from 7 right of 6 all features but Pe, No, Ge
(if Pe unmarked, add Pe 3)

Result: # NP[\texttt{\textipa{P}}Pe\texttt{\textipa{a}}} T ... ... VN[-IPV] ... ... NP[+Pe\texttt{\textipa{a}}} ... #

\begin{tabular}{cccccccc}
1 & 7 & 2 & 3 & 4 & 5 & 6 & 7' & 8 & 9
\end{tabular}

T is interpreted by phonological rules as topic stress and intonation; potential pause after T.

Note that T-83 must follow the focus-shift rules, T-74-78, inclusive, the local interrogation rules, T-79a-h, and the general interrogation rule, T-81, but must precede the
pronominal comp-shifting rules, T-100-104.

4.4.1 Surface structure of pre-announced topic sentences

Inasmuch as the post-topic is a complete sentence independent of the topic, which can be deleted, the two parts can be regarded as constituting a larger unit, Topic S:

```
   TS
  /
Topic S
 (NP)
```

where NP is pronominally represented in S (and hence is not PRED NOM, which cannot be replaced by a pronominal element) and S is a focused sentence, a basic verbal sentence, or a modal sentence not in the imperative.

4.4.2 Deletion of pre-announced topic

A rule deleting the topic when its reference has been previously established in the discourse would yield a most common discourse-medial sentence type. Such a rule is not formalized here, since no formal description of discourse units larger than sentence is attempted.

4.5 Deletion of locating verb /ili/: prepositional sentences

A verbal nucleus with the locating verb /ili/ in the perfect tense may be deleted when its complement is a prepositional phrase with either /γir-/ or /dig-/ (specified in
the lexicon as \[+PS\]
\[+\delta /ili/\], and the preposition's object is
pronominal. The resulting surface structure is a non-
verbal sentence, with the verb unambiguously recoverable
from rule T-85. The following sentences sets have the same
derivations up to the point that optional T-85 is applied to
yield the last one:

\[(110)a\]
\[/il:a\ digi r:uaḥ./\]
\[b / digi r:uaḥ./\]
\["There is in me a cold."\]
\[(111)a\]
\[/il:a uaz:ar γr-ḥam:d./\]
\[b /ḥam:d, il:a γirs az:ar./\]
\[c /ḥam:d γirs az:ar./\]
\["There is hair to Ham-
mid." (Hammid has hair.)\]
\[(112)a\]
\[/is il:a γirm ūa uarn?/\]
\[b /is γirm ūa uarn?/\]
\["Is there to you (F) some flour?" (Do you
have some flour?)\]
\[(113)a\]
\[/mḥal d-uaraq ag:lan γirk?/\]
\[b /mḥal d-uaraq ai-γirk?/\]
"How many children
that there are to
you?" (How many
children do you have?)

Since the preposition object must be pronominal, T-85
must follow the topic-shift rule (T-83), which shifts a nom-
inal object to topic position and leaves a personal pronoun
in its place. It must also follow T-100, which shifts the
pronominal PP to follow the verb directly.

**T-85 Deletion of locating verb /ili/ (optional)**

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>...</th>
<th>...</th>
<th>PFV [+PP]</th>
<th>PS [+\delta V]</th>
<th>NP [+pron]</th>
<th>NP</th>
<th>...</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
Conditions: 2 may be NP T (= object of 6), or null
3 may be (Q) IS, or NEG, or null
4 may be AFF (verbal) or null; if 3 is NEG,
4 is null
8 is subject of VP dominating 5
9 may be Adverbial or null

Operations: Delete 5

Result: # ... ... ... Ø PS[δV] NP[+pron] NP ... #
1 2 3 4 5 6 7 8 9 10

See for examples of the resulting structure the tree of (5)b
which has the same structure as (110).

4.6 Deletion of the defining verb /g/

The feature [+δV] of this verb permits the operation
of either of two transformations which delete it and result
in non-verbal sentences. The structural indices on which
the two rules operate are the result of rather general trans-
formational rules for deriving verbal sentences. It
requires only the addition of these optional transformations
to generate the completely nominal sentence type which con-
tains no verb, not even a subordinated one (as in the
focused sentences). The economy of this line of derivation
seems to argue against making the distinction between verbal
and nominal sentences a basic cleavage in grammatical
description. That is to say, if these two extremely common
nominal sentence types can be generated by the regular rules
for verbal sentences plus one, the grammar will not be
simplified by starting from the premise that \#S\# \(\rightarrow\) \{Nominal Sentence, Verbal Sentence\}.

4.6.1 Substitution of demonstrative suffix for /g/:

demonstrative sentences

A verbal nucleus with the defining verb /g/ in the perfect tense may be deleted and replaced by Dr (/a/-/a/ proximate, /-in/-/a/ remote), provided its predicate has been focus-shifted (by T-74) and its subject NP is [-human] and has been topic-shifted (by T-83). The resulting surface structure is a non-verbal sentence, as in the second of the following pairs of sentences.

(114)a /ţl̂t̂a inu, l̂zd̃d̃ ai-tga./
    b /ţl̂t̂a inu, l̂zd̃d̃ ai-a./ "My skirt, new that it is." (My skirt is new)

(115)a /ta, taţut ai-tga./
    b /ta, taţut ai-a./ "This, wool that it is." (This, it's wool)

(116)a /uan ḷnīn, uīn-sn ag:an./
    b /uan ḷnīn, uīn-sn ai-in./ "The other one, the one of them that it is." (It's theirs)

T-86 Substitution of Dr for /g/

<table>
<thead>
<tr>
<th>S.I.</th>
<th>#</th>
<th>NP [-human]</th>
<th>T</th>
<th>Daf</th>
<th>NP</th>
<th>F</th>
<th>rel</th>
<th>PF</th>
<th>V[^a-NP]</th>
<th>[T-\delta]</th>
<th>...</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conditions: 2 is subject of 9
5 is predicate of 9
11 may be Adverbial or null

Operations: Delete 8, 9
Add Dr right of 7
Result: # NP[-human] T AFF NP F rel Ø Ø D ... #

1 2 3 4 5 6 7 8 9 9' 10 11

(Since Dr is a paradigm of two lexical items, its substitu-
tion for the SN by T-rule after the lexical insertion rule
has applied may be tactically inadmissible. This must be
further considered along with the whole question of pro-
forms, "empty" nouns and verbs, etc.)

4.6.2 Deletion of relative clause containing /g/:

nominal sentences

Given the structural index of T-86 but without the
restriction of [-human] subject, or, given the result of
T-86, the relative clause consisting of /ai/ and following
VN or Dr can be deleted. The resulting surface structure is
a nominal sentence of a very common type:

S
 NP   Daf   NP
    Subject Predicate

The following sentence pairs have the same derivations up to
the application of optional T-87, which yields the nominal
sentence (second of each pair):

(117)a /limun, (d)auray ag:a./ "Lemon (in general) is
    b /limun d auray./ yellow."
(118)a /nk:in, (d)amu:yra:bì aigix./ "Me, I'm a Moroccan."
    b /nk:in d amu:yra:bi./
(119)a /ta, ta:zlabit aia./ "This, it's a djellaba."
    b /ta t:azlabit./
T-87 (optional) Deletion of defining verb

S.I. # ... NP T Daf NP F rel PF V[+NP] ... #

1 2 3 4 5 6 7 8 9 10 11 12

Conditions: 2 may be Q Mword[+def] or null (if non-null, obligatory T-79h applies, deleting 5, 6)

3 is subject of 10
6 is predicate of 10
11 may be Adverbial or null

Operations: delete 8, 9, 10 (including subject affix)
delete T

Result: # ... NP Ø Daf NP Ø Ø Ø Ø ... #

1 2 3 4 5 6 7 8 9 10 11 12

See trees of Sentence (15) in App. B.

The order of subject and predicate can be reversed:

(120) /d aural, limon/ "It's yellow, lemon."

(121) /d amuhrabi, nk:in/ "Moroccan, me."

with topic stress and intonation on the predicate. In effect, the predicate can be topic-shifted (Rule T-83 applies to the new structure produced by T-87).

Sentences resulting from T-87 may be embedded in a matrix sentence as definer of a noun phrase, identical to the subject of the nominal sentence, which is deleted (Sec. 5.1.4.6).
5. Structures of sentence constituents

This section presents the structures comprising the verbal nucleus, from major structures to grammatical formatives and lexical classes. Indicated rules for their occurrence, co-occurrence, replacement or deletion are formulated, or informally stated, and alternative solutions of some problems of analysis are discussed.

5.1 Noun phrase

Noun phrases occur as subject or direct object of verb, as object of indirective particle I (in IP), or of prepositional stem (in PP); as predicate nominatives in PRED NOM; as objects of the genitive particle G, in definer (DEF) of a noun phrase. Certain limited classes of nouns occur as quantifiers (in QUANT), and adverbials (in ADV).

Constituency of the noun phrase differs according to whether its head is a substantive or a pronoun; in the latter case the other NP elements are null. Rule T-6 prevents the quantifying, compounding and defining elements of the noun phrase from occurring with pronouns. Later rules pronominalizing a noun phrase similarly delete these elements.

T-6 (obligatory) Noun phrase constituency

S.I. # ... ... N ... ... ... #
1 2 3 4 5 6 7 8

Conditions: 3 may be QUANT or null

5 may be N or null
6 may be DEF or null
3, 4, 5, 6 are dominated by NP

If 4 has the features [+pron, +Pe, +No, +Ge],
then 3, 5, and 6 are null.

Operations: None. This is a condition-of-occurrence rule.

The conditions under which QUANT, N, and DEF (3, 5, and 6 of T-6) occur in an NP are informally described in the sections following the introduction of noun classes.

5.1.1 Noun classes

The lexical class of nouns is subcategorized by features (Rule 29) which establish the following classes.

5.1.1.1 Pronouns. There are three main classes: personal pronouns, impersonal pronouns, and relative pronouns. Each class has some degree of case distinction; i.e., the eventual form depends on contextual features. The feature [+pron] may be inherent (for Pe 1, 2) or contextual, resulting from the pronominalization rule *T-50 which substitutes for a substantive noun a pronoun of like number and gender. See Sec. 5.1.5.1.

Personal pronouns: NP [+pron, +Pe, +No, +Ge] has six cases (paradigms determined by contextual features). The first is an independent noun, the rest are affixes. See Table 3.

1. Independent personal pronouns are emphatic forms incorporating some demonstrative elements, occurring in the
Table 3. Forms resulting from phonological interpretation of features of person, number, and gender in verb and noun

<table>
<thead>
<tr>
<th>Person, number, gender</th>
<th>Verb subject inflection</th>
<th>Pronominal paradigms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Independent (emphatic) personal pronoun</td>
<td>Verb affixes</td>
</tr>
<tr>
<td></td>
<td>+IPV</td>
<td>-IPV</td>
</tr>
<tr>
<td>No sg Pe 1</td>
<td>-x</td>
<td>nk: ~ nk:in</td>
</tr>
<tr>
<td>Pe 2 Ge m</td>
<td>ø</td>
<td>t-</td>
</tr>
<tr>
<td>Ge f</td>
<td>km ~ kmin</td>
<td>(V)km</td>
</tr>
<tr>
<td>Pe 3 Ge m</td>
<td>i-</td>
<td>nt:a</td>
</tr>
<tr>
<td>Ge f</td>
<td>t-</td>
<td>nt:at</td>
</tr>
<tr>
<td>No pl Pe 1</td>
<td>n-</td>
<td>nk:ni</td>
</tr>
<tr>
<td>Pe 2</td>
<td>-at</td>
<td>t-</td>
</tr>
<tr>
<td>Pe 3</td>
<td>-n</td>
<td>nitni ~ nihni</td>
</tr>
</tbody>
</table>

(V) is /i/ or /a/

*May be prefix or suffix
preverbal environments \_F by focal shift rule T-74 or T-75, or \_T by topic shift T-83, or postverbally when a pronoun emphasis rule T-10 adds E to a noun phrase. Unless E (emphasis) is added to a pronominal noun phrase subject, it is phonologically zero, as in (122)a; T-10 yields (122)b.

(122)a /d:ix ɣr-tmd:int./ "I went to town."

b /d:ix nk:in ɣr-tmd:int./ "I myself went to town."

Or, "As for me, I went to town."

T-10 (optional) Pronoun emphasis

S.I. # ... N [± Pe\(\alpha\)] ... #

1 2 3 4 5

Condition: 3 is head noun of some NP

Operations: Spread PNG features of 3 to 3', right of 3

Add feature [+Pron] to 3'

If 3 is [-Pe\(\alpha\)], add +Pe\(\alpha\) to 3'

If 3 is subject of VP and is identical to 3', delete 3' (subject NP is pronominal)

Add E right of 3'

Result: # ... N [± Pe\(\alpha\)] N [± pron + Pe\(\alpha\) or 3] ... #

1 2 3 3' 4 5
2. Direct object pronoun affixes (DO) result from an NP which is the direct object of its verb phrase

```
  VP
  \-- VN \- NP
```

3. Indirect object pronoun affixes (IO) result from an NP which is the object of an indirect object phrase

```
  IP
  \-- I \- NP
```

The indirective particle I becomes almost indistinguishably combined with its pronominal object.

4. Prepositional object pronoun affixes (PO) result from an NP which is the object of a prepositional phrase

```
  PP
  \-- PS \- NP
```

The three foregoing paradigms are affixes of the verb stem. Rules for their order and position are given in Secs. 4.1.1 and 4.1.6.1 (T-100 to 104). The following two paradigms are post-nominal.

5. Kinship possessive affixes (KP) are obligatory after N^[+kin]^[+kin]. They may be followed by a regular genitive, optionally in first and second person, obligatory in third person where the referent of KP is not clear.

6. Genitive object pronoun affixes (GO) result from an NP which is the object of the genitive particle G, which takes its /n-/ form.
Impersonal pronouns: \( NP^{[+\text{pron}, +\text{No}, +\text{Ge}]} \) have two forms, the bare stem /u/ (Ge m), /t/ (Ge f) and the stem plus /i/. But since the plural form of the bare stem also has /i/, much overlapping of forms results: see Table 4. Since the bare stem occurs as an indefinite pronoun with a genitive phrase containing a nominalized sentence, it is labeled "indefinite." The complex stem form with /i/ is then the "definite" case.

The stem plus an orientational suffix is also definite. Compare (123) and (124); the latter has a definite referent, "that man."

(123) /u-n-γr-mi 1:an uγi, la isn uasa./

"One to whom there is milk, he is churning now."

(124) /uan γr-mi 1:an uγi, la isn uasa./

"The one to whom there is milk, he is churning now."

The indefinite pronoun, then, occurs in the environment \( ^{\text{G}} \#S\# \) by the pronominalization of the head noun and the embedding of a nominalized sentence as its definer (this rule is described in Sec. 5.1.4.5). It also occurs before the Dr orientational suffixes /-a(d)/, /-in/, where it alternates with the definite stem form.

The definite pronoun stem likewise occurs before the Dr suffix. It also occurs with a genitive phrase where the object is a noun phrase or pronoun; the latter form the set of possessive pronouns, given in Table 4.
<table>
<thead>
<tr>
<th>Number, gender</th>
<th>Stems</th>
<th>Demonstrative pronouns</th>
<th>Derived forms</th>
<th>Possessive pronouns</th>
<th>Ordinals / fractions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indefinite</td>
<td>Definite</td>
<td>proximate</td>
<td>remote</td>
<td>ui-nu mine</td>
</tr>
<tr>
<td>No sg Ge m</td>
<td>u-</td>
<td>ui-</td>
<td>ua</td>
<td>uia</td>
<td>uad</td>
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<td></td>
</tr>
<tr>
<td>Ge f</td>
<td>t-</td>
<td>ti-</td>
<td>ta</td>
<td>ti</td>
<td>tan</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No pl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ge m</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Ge f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(125) a /iuy u'ali amktar n-muḥa./
    "Wali bought the horse of Moḥa."

b /iuy ui-n-muḥa./ "He bought the one of Moḥa."

c /iuy ui-nṣ./ "He bought his."

The definite stem also occurs with /s/ (preposition?) plus a cardinal numeral, to form ordinal numerals and fractions:

(126) /ua, uis-xmsa ag:a./ "That one, he's the fifth."

(127) /lḥaḳ n:mṭut:, tis-tmania ag:a, d:i:ma./
    "The portion of a woman (in inheritance), one-eighth that it is, always."

Relative pronoun (rel), NP[+pron], has two cases: objective and independent. See Table 5. The objective form /mi/ occurs in place of the object of an oblique phrase (IP or PP); the independent form /ai/ occurs elsewhere. Rel is always introduced by a transformational rule (e.g., T-74) which substitutes it for a shifted noun phrase. Since its referent is clear, it is unambiguous although not marked for person, number, or gender.

The independent form /ai/ has an alternate form /a/ in these environments:

/__IO (except first sg, where /a/ → ∅): since IO after rel would be preverbal by T-102, the position of IO marks the presence of rel: i-,ak-,am-,as-,ax-,aun-,asn.

/__DO[+Pe{1,2}], again except first sg.: i-,ak-,akm-,it-,it:-,ax-,ait-,,itn-

/__IPF: /aγra~ara/
Table 5. Relative forms in noun phrase and verb phrase

<table>
<thead>
<tr>
<th>Relative verb inflection</th>
<th>Relative pronoun (rel)</th>
<th>Pronominal forms combined with rel</th>
<th>rel + prepositional stem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>rel + DO</td>
<td>rel + IO</td>
</tr>
<tr>
<td>In relative clause:</td>
<td>as head:</td>
<td>Φ i- 1</td>
<td>Φ i-</td>
</tr>
<tr>
<td></td>
<td>/ai/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Pe, No, Ge</td>
<td>~</td>
<td>ak- 2m</td>
<td>ak-</td>
</tr>
<tr>
<td></td>
<td>/a/</td>
<td>akm- 2f</td>
<td>am-</td>
</tr>
<tr>
<td>/i- -n/</td>
<td></td>
<td>Φ it- 3m</td>
<td>as-</td>
</tr>
<tr>
<td>In attributive (DEF of NP):</td>
<td>as object:</td>
<td>ax- 1</td>
<td>ax-</td>
</tr>
<tr>
<td></td>
<td>/-mi/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Pe, No, Ge</td>
<td></td>
<td>auit- 2</td>
<td>aun-</td>
</tr>
<tr>
<td>/i- -n/</td>
<td></td>
<td>Φ itn- 3</td>
<td>asn-</td>
</tr>
<tr>
<td>Optional for No pl:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/-nin/</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
/_PS:/ axf-, asg: -, ag: -, aγr-, as-, ag:d-/. 

Before the verb, the /i/ of /ai/ combines with any /i/ subject inflection of the verb to form /g:/, as in /ag:a/.

5.1.1.2 Quantifying nouns. The definite quantifiers (numerals) are nouns with inherent number. (The indefinite quantifiers are particles; see Sec. 5.5.)

Berber numbers [+Numb, +No, +Ge] are, for Tamazight,

<table>
<thead>
<tr>
<th>Ge m</th>
<th>Ge f</th>
</tr>
</thead>
<tbody>
<tr>
<td>No sg</td>
<td>ij</td>
</tr>
<tr>
<td>No pl</td>
<td>sin</td>
</tr>
<tr>
<td></td>
<td>šard</td>
</tr>
</tbody>
</table>

Arabic numbers [+Numb, +No] are used for numbers from 4 up, and for combined forms:

1  uahd: (u-)  11  ḫd:a'ış  21  uahd: u 'ɣrin
2  tnaq (u-)  12  tna'ış  22  tnaq u 'ɣrin
3  tleta (u-) 13  tla'ış  23  tleta u 'ɣrin
4  rbla  14  rbla'ış
5  xmsa  15  xmsa'ış  30  tlatin
6  st:a  16  st:a'ış  40  rbl'in
7  sb'l'a  17  sb'l'a'ış  50  xmsin
8  tmania 18  tmania'lish
9  ts'lud: 19  ts'lud: 100  mia
10  îsc'ra 20  îsc'ra 1,000  alf

Berber numerals are used in combined forms by some monolingual speakers: e.g., /îsc'ra d-ij/ "twenty and one."
5.1.1.3 Adjectival nouns [+N]. These have no inherent features; they acquire No and Ge features contextually from the nouns they modify, either attributively, as DEF, or as predicate nominatives. Agreement is provided for by T-2 (Sec. 4.1.7). The number and gender inflections are the same as for regular nouns:

<table>
<thead>
<tr>
<th>prefix</th>
<th>(medial ablaut)</th>
<th>suffix ~ V ablaut</th>
</tr>
</thead>
<tbody>
<tr>
<td>M sg</td>
<td>a-</td>
<td>u→Ø</td>
</tr>
<tr>
<td>M pl</td>
<td>i-</td>
<td>-(i)n ~ u→a</td>
</tr>
<tr>
<td>F sg</td>
<td>ta-</td>
<td>-t</td>
</tr>
<tr>
<td>F pl</td>
<td>ti-</td>
<td>-in ~ = M pl</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
<tbody>
<tr>
<td>ausar</td>
<td>iusarn</td>
<td>tausart</td>
<td>tiusarin</td>
</tr>
<tr>
<td>angaru</td>
<td>ingura</td>
<td>tangarut</td>
<td>tingura</td>
</tr>
<tr>
<td>aḥizun</td>
<td>iḥizan</td>
<td>taḥizunt</td>
<td>tiḥizan</td>
</tr>
<tr>
<td>aksuat</td>
<td>iksuatn</td>
<td>taksuat:</td>
<td>tiksuatin</td>
</tr>
<tr>
<td>absar</td>
<td>ibsarn</td>
<td>tabsart</td>
<td>tibsarin</td>
</tr>
</tbody>
</table>

Adjectives are listed in the present lexicon by the stem of the Pl f form, with rule: features specifying which of the above processes apply except the general rule of prefix, not necessary to be further stated.

Derivation of adjectives: alternative treatments. Adjectives are the only nouns that do not take a dependent form when non-initial in a phrase. This suggests that the attributive construction Noun plus Adjective is not a phrase;
that the adjective is adjoined and not subordinated to the noun. Hence they are derived (in Sec. 5.1.4.4) by a rule embedding a sentence in the noun phrase as definer.

Because many adjectives clearly resemble verb stems, the possibility of deriving them directly from verbal sentences must be considered. A rule T-ADJ could nominalize the stative verb stem, embedding it as DEF of a noun in a matrix sentence. Such a rule would be roughly as follows:

**T-ADJ Derivation of adjecival noun from stative verb**

S.I. # ... # PF V [+stv] NP # ... #

\[
\begin{array}{ccccccccc}
S_1 & S_2 & S_2 & S_1 \\
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10
\end{array}
\]

Conditions: 2 is not null; 9 may be null.

Either 3 is NP subject of \( S_1 \), and \( S_2 \) is dominated by PRED NOM,

or 3 is N head of NP dominating DEF which dominates \( S_2 \).

\[ 3 = 7 \]

Operations: Delete 5 and 7

Delete from 6 [+V]; add to 6 [+N]

Result: 1 2 3 4 6 [+N] 8 9 10

The features of the nominalized verb (6 above) would be interpreted by spelling rules as noun inflections, instead of verb inflections. This rule would generate sentences like (128) and (129) (see diagram in App. B):
(128) /i'la lfkih ij urba am'zian./
"The teacher saw a certain small boy."

(129) /iga iusaf absar./ "Joseph is/became blind."

Derivation of adjectives from verb stems would define (by the rule feature permitting a verb stem to undergo the T-ADJ transformation) the class of stative verbs, which is not otherwise formally identified. But several problems arise. Since many adjectives do not correspond to any verb stem now extant, it would be necessary to reconstruct stems, restricted to occur only in the adjective-deriving transformation. Further, some adjectives appear to be derived from nouns, and the derivation of others is not clear; for example, the series in /a- i/ which also function as head nouns (human nouns of provenience):

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
<tbody>
<tr>
<td>arumi</td>
<td>irumin</td>
<td>tarumit</td>
<td>tirumin</td>
</tr>
<tr>
<td>amu'rab</td>
<td>imu'rabiin</td>
<td>tamu'rabit</td>
<td>timu'rabiin</td>
</tr>
<tr>
<td>afransau</td>
<td>ifransauin</td>
<td>tafransaut</td>
<td>tifransauin</td>
</tr>
<tr>
<td>abld:i</td>
<td>tabld:it</td>
<td>tamd:ini</td>
<td>tamd:init</td>
</tr>
</tbody>
</table>

"European"
"Moroccan"
"French"
"country"
"town"

For the present, all adjectives are classified as a subcategory of nouns, and derived in their attributive use from an embedded predicate nominative (see Sec. 5.1.4.4).

Further classification of adjectives. Adjectives need to be further classified for finer selectional restrictions.
For example, the adjectives of physical defect occur only with animate nouns.

5.1.1.4 Adverbial nouns. Forms which have no number or gender and cannot be quantified, but which occur with the noun definers, are classified as adverbial nouns. Three general classes are distinguished by their occurrence in the sentence adverbial: locative, manner, and time nouns.

Locative nouns [+N, +loc] occur as adverbial of space.
daha "here" afla "above" tama "beside"
dihin "there" uad:a "below" agar "between"
urin "beyond"

Manner noun [+N, +manner] is a stem, /aka/, taking the orientational particles (Dr) and combining freely:
aka "thusly (proximate)"
akin "thusly (remote)"
am-uaka, am-uakin "like (resembling) this, like that"
s-uaka, s-uakin "in this, that manner"
ua-n-akin "that (very remote) one"
mani aka (+VP) "whither . . ."

Time nouns [+N, +time, ✱common] occur as adverbials of time and as general nouns. Some are actually fixed phrases, from which the boundaries have more or less disappeared. These can occur as genitive object but not as object of the preposition stem, PO:
as:a "today" (< /as/ "day" + /-a/ proximate)
iq-a "tonight"
iql:i "last night" (* /l:i/ is no longer an active suffix in this dialect)
ask:a "tomorrow"
as:naṭ "yesterday"
asgn ask:a "day after tomorrow"

Others occur as object of preposition, or as genitive object:

iq "night": /g:iq/ "at night"; /iq-a/ "tonight"
as "day": /s-uas/ "by day"
aiur "month, moon": /g:-uiur γifnx/ "this month"

(as in the month upon us)
asg:uas "year"
tifaut "morning (pre-dawn)"

Proper time nouns are mostly of Arabic derivation:

lḥd: "Sunday" (the first)
ltnain "Monday" (the second), etc.
r:mḏan "Ramadan" (name of month)

5.1.1.5 General nouns \[ +N, +No~, +Ge~, \pm[QUANT_],
\+count, \+common, \+concrete, \+animate, \+human, \+kin, \pm [+ N] \].

General nouns occur as heads of noun phrases. They are specified by features of number and gender, which may be inherent ( [+No, +Ge]) or contextual ( [+No~, +Ge~] ). They are further specified by whether or not they occur with indefinite quantifier ( [+QUANT_]), or can form compounds ( [+ _N] ). Finally, they are specified by selectional features, which
combine in certain configurations, principally those shown below.

Note that the semantic value of Ge f depends on the noun class: with animate nouns Ge f is female; with common count nouns it is diminutive, if a corresponding masculine form occurs. With generic nouns, the addition of Ge f individuates countable units. With abstract nouns, Ge f has no translatable meaning but often formally indicates the derivation from a verb stem.

A few examples follow each class specification; for more, see App. A, where nouns are arranged in alphabetical order (their feature specifications may not be complete, in the interests of a fuller lexicon).

**Abstract common nouns** [+No, +Ge, +common]

Sg m    akšam    "act of entering" (</kšm/, "enter")
        aksab    "activity of raising livestock" (</ksb/,
                     "raise livestock")

Pl m

Sg f    takrza "plowing time" (</krz/, "plow")
        tamksa "act of herding" (</ks/, "herd")

Pl f

**Concrete common nouns** [+No, +Ge, +concrete, +common]

Sg m    ažna    "sky"  ašu    "wind"
        ašsal  "ground" ašm:id "cold"

Pl m
**Concrete proper nouns** [+No, +Ge, +concrete]

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
</table>
| afus: | ifas:n | -- | -- | "hand(s)"
| abr:ad | tabr:at: | tibr:adin | "pot(s)"
| aţru | iţra | taţrut: | tįra | "stone(s)"
| anual | tanualt | tinualin | "thatched hut(s)"

**Concrete common mass nouns** [+No, +Ge, +[+QUANT_], +common]

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
</table>
| ar:n | "flour"
| aţi | "milk" ~ aγunsfin ~ aγind:un
| Pl m | aman | "water"
| idam:n | "blood"
| lflus | "money"
| Sg f | z:it | "oil"
| t:id: | "soap powder" (<Tide)
Concrete common generic-individual sets [+No ~, +Ge, +QUANT_, +count, +common, +concrete]

<table>
<thead>
<tr>
<th>Generic +QUANT</th>
<th>Individual +count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sg m -</td>
<td>Sg f</td>
</tr>
<tr>
<td>limun</td>
<td>talimunit</td>
</tr>
<tr>
<td>lxux</td>
<td>talxuxt</td>
</tr>
<tr>
<td>t:faḥ</td>
<td>tadfaḥ:t:</td>
</tr>
<tr>
<td>mšmaš</td>
<td>tamšmašt</td>
</tr>
<tr>
<td>~lmšmaš</td>
<td></td>
</tr>
<tr>
<td>abrkuḵ</td>
<td>tabrkuḵt</td>
</tr>
<tr>
<td>š:aben</td>
<td>tašabunit</td>
</tr>
</tbody>
</table>

Animate concrete proper nouns [+No sg, +Ge, +concrete]
includes names of pets, animals in fables, etc.\(^{25}\)

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
<tbody>
<tr>
<td>uš:n</td>
<td>zuina, luiza, ġn:am (names for dogs)</td>
<td></td>
</tr>
<tr>
<td>l:m: izm &quot;Uncle Lion&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>insi &quot;Hedgehog&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Human concrete proper nouns [+No sg, +Ge~ , +concrete]

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
<tbody>
<tr>
<td>mulud, muḥam:d, muḥa, ḥd:u, uʿli (proper names)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bnadm &quot;man (in the generic sense)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lmluda, mnana, iamna, iṭ:u, ʾiša, ḥn:u, faḏma (proper names)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Animate concrete common nouns [+No, +Ge, ūhuman, +concrete, +common]: lxšk "creature," "created beings"
Animate concrete common count nouns [+No~, +Ge~, +concrete, +common, +count]. These form semantically related sets with considerable suppletion between forms of the two numbers and genders, the two or more age-group distinctions, and the generic and specific terms.

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>amlinkar</td>
<td>imktarn</td>
<td>tagmart</td>
<td>tiyalin</td>
<td>&quot;horse (work)&quot;</td>
</tr>
<tr>
<td>akidar</td>
<td></td>
<td></td>
<td></td>
<td>&quot;horse (show)&quot;</td>
</tr>
<tr>
<td>aii</td>
<td>is:an</td>
<td></td>
<td></td>
<td>&quot;colt&quot;</td>
</tr>
<tr>
<td>agudi</td>
<td></td>
<td></td>
<td></td>
<td>&quot;cattle (gen.)&quot;</td>
</tr>
<tr>
<td>~ig:udi</td>
<td>ugudiauin</td>
<td>~tagudit</td>
<td></td>
<td>&quot;bull—cow&quot;</td>
</tr>
<tr>
<td>azgr</td>
<td>izgarn</td>
<td></td>
<td></td>
<td>&quot;calf&quot;</td>
</tr>
<tr>
<td>aiugu</td>
<td></td>
<td></td>
<td></td>
<td>&quot;heifer&quot;</td>
</tr>
<tr>
<td>agnuz</td>
<td>ignuzn</td>
<td></td>
<td></td>
<td>&quot;ram—ewe&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&quot;lamb&quot;</td>
</tr>
<tr>
<td>aħuli</td>
<td>iħulin</td>
<td>tiksi</td>
<td>ul:i</td>
<td>&quot;dog&quot;</td>
</tr>
<tr>
<td>a'luluş</td>
<td>i'lusuń</td>
<td></td>
<td></td>
<td>&quot;puppy&quot;</td>
</tr>
</tbody>
</table>

The last set has the feature [+T ḥaš-]s (see Sec. 7.2.2), marking it as a restricted word not to be mentioned without an interjection of apology (in conservative speech). 26

Human concrete common count nouns [+No~, +Ge~, +concrete, +common, +count]
<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
<tbody>
<tr>
<td>ug:uid</td>
<td>ug:uid</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>~iug:uid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>arba</td>
<td>irban</td>
<td>tarbat:</td>
<td>tiarbatin</td>
</tr>
<tr>
<td>~ arau</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>amṭruf</td>
<td>imṭraf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a'rrim</td>
<td>i'rīmn</td>
<td>ta'rīnt</td>
<td>ti'rīmin</td>
</tr>
<tr>
<td>argaz</td>
<td>irdzn</td>
<td>tamṭut</td>
<td>ti'ialin</td>
</tr>
<tr>
<td>afkṭir</td>
<td>ifktirn</td>
<td>tafkṭirt</td>
<td>tifktirn</td>
</tr>
<tr>
<td>aslauui</td>
<td>islauin</td>
<td>taslauit</td>
<td>tislauin</td>
</tr>
<tr>
<td>aḥrami</td>
<td>iḥramin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>amḍak:ul</td>
<td>imd:uk:aln</td>
<td>tamḍ:ak:ult</td>
<td>timḍ:uk:aln</td>
</tr>
<tr>
<td>amksa</td>
<td>imksaun</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>--</td>
<td></td>
<td>tamksaut</td>
<td>timksaun</td>
</tr>
<tr>
<td>amzdav</td>
<td>imzdav</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Human concrete common quantifiable noun** [+No, +Ge, +human, +concrete, +common, +[QUANT]]: /mid:n/ "people"

**Kinship nouns** [+No~, +Ge~, +animate, +human, +concrete, +common, +count, +[+_N]]. These are stems requiring a possessive suffix KP (Table 3).

<table>
<thead>
<tr>
<th>Sg m</th>
<th>Pl m</th>
<th>Sg f</th>
<th>Pl f</th>
</tr>
</thead>
<tbody>
<tr>
<td>ib:a-</td>
<td>ib:at:-</td>
<td>im:a-</td>
<td>im:at:-</td>
</tr>
<tr>
<td>~ mai-</td>
<td>~ mait:-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mm:i-</td>
<td>(arau)</td>
<td>il:i-</td>
<td>is:i-</td>
</tr>
</tbody>
</table>
um:a- aitma- ul:ma- istma- "sibling"
'tm:- 'mam- 't:- 't:- "father's sib"
xal- ait xal- xal: ist xal:- "mother's sib"
~id xal-
d:ad:a ḫn:a- "parent's parent"
baba -- -- -- "elder sib"

5.1.1.6 Stems of compound nouns [+No, +Ge, +anim, +human, +kin, +concrete, +common, +count, +[+ N]]. These are of three kinds, taking different classes of noun, but with similar plural forms.

Epithetic stem: (most used in Sg m) "owner of _" or "one characterized by _"; takes a large variety of nouns; its negative, /uar-/, is less common.
Sg m bu bu-tfust "one-armed man"
bu-xmsa "the one of 5" (5-star brand of tea)
uar-saḥt "one with no health"
Sg f m- m-ṭhanut: "shopkeeper" (only example found)
Pl ait ait:ḥuna "shopkeepers"

Proprietary stem [+human, +common] takes a genitive phrase G^NP: "owner(s) of _".
Sg m bab bab-uxam "owner of the tent"
bab-n:ad:art "owner of the house"
Sg f lal lal-n:ad:art "mistress of the house"
Pl id bab id bab-n-s "its owners"
Patronymic stem [+human, +kin] takes a proper noun (personal name) or a very limited class of common nouns: "offspring of _"  
Sg m u- muḥam:ḍ u-mulud "Moḥammed son of Mouloud"  
(but, faḍma mulud "Faḍma (daughter of) Mouloud,"  
with no compounding stem or the Arabic /bnt/)  
u-taḍa "son of the covenant"  
u-ḥmu bulman "man of (the tribe of) Hamou Boulman"  
Sg f ul- ul-ḥmu bulman "woman of (the tribe of) Hamou Boulman"  
Pl ait- ait ḫmu bulman "tribe of Hamou Boulman"

5.1.2 Quantifier.

The quantifier of a noun phrase is either a numeral noun (for definite quantifiers) or a quantifying particle (for indefinite quantifiers), plus a genitive particle.  

The count noun can be preceded by a definite quantifier agreeing in number up to and including 10 (and in gender, for those numerals which have gender). The noun is in its dependent form following the genitive particle:  
/ij urgaz/ "a (certain) man" < #ij G argaz#  
/išt n:mṭut:/ "a (certain) woman" < #išt G tamṭut:#  
/xmsa d-uarau/ "five children" #xmsa G arau#  

The mass noun (+[+QUANT_]), whether it is inherently singular or plural, and the plural of the count noun, can be modified by a preceding indefinite quantifier, which has
no number or gender:

/ša uaman/  "some water"  < #ša G~aman# (Pl m)
/ša n-z:it/  "some oil"  < #ša G~z:it# (Sg f)
/bz:af uar:n/  "much of flour"  < #bz:af G~ar:n# (Sg m)
/bz:af uarau/  "many of children"  < #bz:af G~arau# (Pl m)

With a singular count noun, the indefinite particle /ša/ is like an indefinite article, as opposed to /ij/:

/ša ubrid/  "some (unidentified) road"  < #ša G~abrid#
/ij ubrid/  "a (certain) road"

5.1.2.1 The genitive particle, G. This is often not evident phonemically except in the dependent form of the noun (as seen in the preceding examples of quantified nouns). Deriving this surface structure from reduction of two like vowels, the first being an alternate form of the genitive particle, accounts for two other possible surface structures:

1) The actual occurrence, in careful speech, of two like vowels, separated by the corresponding semivowel:

/ij u-urgaz/  "a certain man"  < #i̯G~argaz#
/ij u-uru/  "a double handful"  < #i̯G~uru#
/ij i-izi/  "a fly"  < #i̯G~izi#
/sin i-irgazn/  "two men"  < #sin G~irgazn#

2) The actual occurrence, in some speakers' careful speech, of the /n/ form of the genitive particle:

/ij n-uglid/  "a certain king"  < #i̯G~aglid#
/ša n-umrabû/  "some marabout"  < #ša G~amrabû
But the /n/ form of genitive is associated by many speakers with the feminine gender, and they will not accept its use before a masculine noun. This may be due to the fact that /n/ before feminine nouns in /tV/ (the largest form class) is never lost; rather, the /t/ of the following noun assimilates to /n/, except when the noun stem contains a /z/, in which case /t/- → /d/:  

/ĭšt n:ad:art/ "a certain house"  #ištːG增进art#  
/ĭšt n:mtut:/ "a certain woman"  #ištːG增进mtut#:  
/ĭšt n:dqrbit/ "a certain rug"  #ištːG增进dqrbit#  

Note that the first vowel drops in some nouns; exceptions (like /tad:art/) must be marked in the lexicon.

With a sentence object, G always has the form /n/:  
/u-n-it:d:un ṣirm ../ "one who comes to you, .. . . ."  

Special genitive /d/ in quantifier. The numerals 4 through 10 require a genitive particle /d/, the noun object being plural. For numbers above 10, the genitive is regular and its object is singular.  

/xmsa d-irgazn  #xmsaːG增进irgazn#  
/lšrin urgez/ "twenty men"  #lšrinːG增进urgez#  

5.1.2.2 Deletion of head noun after quantifier. When the head noun of a noun phrase is quantified, the structure is actually noun (or quantifying particle) plus genitive

```
NP   
   /   
N   G  
   /   
   GP  
   /   
quantifier
```

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phrase. The genitive phrase may be deleted, when its referent is established by context, leaving the quantifying noun or particle to function as head of the NP.

(130) /tna-i išt, is akm-inya ša./

"One (female) told me, that you are ill."

(literally, "that some (thing) killed you.")

where /išt/ stands for /išt n:mːtuː:/ "a woman," and /ša/

"some" stands for /ša lʰaːzt/ "something."

5.1.3 Vocative

A vocative particle /a/ occurs in speech directed to a second person: in sentences with second person subjects, in calls and optionally in greetings (see Sec. 7.1), and in some responses. It is separated from the following word by a phrase boundary (with intrusive [y] occurring before /a/); a following noun has its independent form.

A noun phrase subject may occur with a second-person verb either as a definer (of an ambiguous plural subject) or as a call. It is the latter function which is marked by the vocative particle; its choice in the base PMarker makes the rule T-3 obligatory.

T-3 (obligatory) Vocative NP subject of verb in Pe 2

<table>
<thead>
<tr>
<th>S.</th>
<th>I.</th>
<th>#</th>
<th>...</th>
<th>V [+Pe 2]</th>
<th>...</th>
<th>VOC</th>
<th>NP</th>
<th>...</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conditions: 4 may be Dr or null

6 is subject of 3
Operations: Attach 5 at node below VP, as left-branching constituent with 6 of a call.

Result: # ... V[+Pe 2] ... VOC~NP ... #
1 2 3 4 5 6 7 8

The rule (T-4) for imperative sentences operates on a structural index resulting from T-3; see Sec. 4.2.2 and compare (131), which is not in the imperative mode, with (39)c, which is (see diagrams in App. B).

The VOC is not generated as part of NP by the base rules, because it may occur with the imperative verb (with no noun), and further because something in the derivation must account for the independent form of the noun following VOC and the comma junctures which will have to be inserted around VOC~NP.

Impersonal pronoun with VOC. When the NP subject is pronominal, it is the impersonal rather than the independent personal pronoun which occurs:

(132) /a ta, mani km?/ "Oh you, where are you?"

5.1.4 Definer of the noun phrase.

The head noun of a noun phrase may be defined by an orientational suffix (Dr), a possessive suffix for kinship nouns, a genitive phrase, a particle, or an attributive construction, symbolized in the rules by #S#, which may be an adjective or a nominalized verbal sentence, a nominal predication, or an unsubordinated sentence.
5.1.4.1 Orientational suffix: Dr as noun definer.

These suffixes (/-a(d)/ "proximate," /-in/ "remote"), the relation of which to Dr occurring with verb was discussed in Sec. 3.2, Rule 18, occur with common nouns. It is not clear whether they occur with compound nouns; if so, they must be restricted to compounds with undefined object.

\[
\text{/bab-n:ad:art-a/ or /bab-n:ad:art-a/}
\]

"The master of this house"  "This master of the house"

but not */bab-n:ad:art-a-a/.

The orientational particles are not, properly speaking, demonstrative; rather they indicate the orientation of the speaker toward the noun's referent, /-a(d)/ "proximate" being closer in relationship or location or more recent in time, /-in/ more remote. (A further degree of remoteness is indicated by /akin/: /ua-n-akin/ "that (earlier mentioned) one." )

They also occur with pronouns (see Table 3, where the alternate form of some emphatic personals appears to contain the /-in/ "remote"; see also Table 4 for demonstrative pronouns, and Sec. 4.6.1 for their substitution after the relative pronoun /ai/). They also occur with some noun stems that require Dr: e.g., /daha/, /dihin/ "here, there"

/aka/, /akin/ "like this, like that"
5.1.4.2 Kinship possessive affix. An NP following a head noun which is [+kin], as its definer, will have the features [+pron, +Pe, +No, +Ge] and will become contextually the paradigm KP (see Table 3). If the possessive affix is [Pe 3], the rule for kinship possession (T-KP) will further specify that the following element is a genitive phrase, GNP. If the possessive is not Pe 3, a following genitive phrase is optional, and interpreted semantically as ingratiating or endearment. In either case, the genitive phrase must agree in person, number, and gender with the KP suffix.

(133) /a ib:a-nu, la g:udx!/  
"Oh, my father of me, I'm afraid!"

(134) /a\l\u0123u\u0131\u0131, nt:ag:an mm:is n.ixsi./
"Lamb, that's the male offspring of a ewe."

A non-3d person kinship noun can also have as definer, following the KP suffix, an adjective which agrees in person, number, and gender with the kinship noun, not with its possessor: /ul:ma taksuat/ "my big sister," /um:a aksuat/ "my big brother"; /ib:a a\u00e6ki\u015f/ "my true father."

5.1.4.3 Genitive phrase, GNP. The form of the genitive particle G was given in Sec. 5.1.2.1. The NP object of a genitive phrase which defines the head noun does not agree necessarily with it in person, number, and gender, a fact which is obvious from the example /argaz n-\i\u101\u0107:u/ "the husband of I\u101\u0107to." The object may be pronominal, forming the GO
paradigm (see Table 3). If the head noun is pronominalized, the result is a possessive pronoun; see Table 4. The object may be a sentence with its verb in the relative /i- -n/; see Sec. 5.1.4.5.

5.1.4.4 Adjective as definer. After considering an interesting alternative (Sec. 5.1.1.3), I derive attributive adjectives by a rule embedding the predicate nominative of a verbal predication, with subject identical to head noun of the NP in which it is embedded. See the alternative derivation of (128) in App. B. The adjective so embedded is in independent form, and agrees in person, number, and gender with its head noun: /argaz aksuat/ "big man," /ual angaru/ "the last word."

If the adjective itself has a definer, it may not be another adjective; it may be a genitive phrase or an adverbial from the embedded sentence:

(135) /kaidi d-argaz aksuat g:tʰbirt u-ulmas./

"Kaidi is a big man in the tribe of Oulmes."

Deletion of head noun and replacement by adjective. When its referent is established by context, the head noun may be replaced by its adj ectival definer, which then takes on the features of the noun it replaces. That is, /ausar/ "old" will be [+human] if it replaces an N [+human], etc.

(136) /argaz ašibani, iusur, itšib./

"A gray-haired man, he ages, he grays."
(137) /i-na-m i;j ušiban, at:au:di; aman aðisu;/

"A graybeard says to you, 'That you bring water, that he drink.'"

where /ašiban/ is a (clearly verb-based) adjective in (136), but a quantified noun in (137).

5.1.4.5 Nominalized sentences with relative verb.

A sentence with its verb in the relative (/i- -n/ subject inflection, referring to Pe, No, Ge of the preceding noun) can occur attributively as definer of a noun phrase. This is derived by embedding a sentence with subject identical to head noun of the matrix phrase, deleting the identical subject and the verb features of Pe, No, and Ge. Optionally, the No feature may remain and the embedded verb will have the plural relative subject inflection /-nin/ (as it could not in non-attributive uses).

(138) /mi:d:n it:ažum, lat:u:n q:iq;/

~/mi:d:n t:ažumin, lat:u:n q:iq;/

"People who are fasting, they eat at night."

But after /ai/ relative pronoun, only the /i- -n/ occurs:

(139) /d-inslmán ag:t:ažumn;/ "It's Muslims who fast,"

(where ai + i- → ag:).

5.1.4.6 Predicate definer. The predicate of a nominal predication can occur as definer of a noun phrase:

(140) /umḏn-it d-amḥbus;/ "They took him prisoner."

This structure is derived by embedding the predicate of a
nominal predication as definer, deleting the subject which agrees with the head noun of the matrix NP. The surface structure of the nominal predication underlying the definer of (140) above would be (derived by the rule in Sec. 4.4.2)

(141) /d-amḥbus ag:a, 'bd:1krım./
"Abd-el-Krim is a prisoner."

5.1.4.7 Unsubordinated sentence definer. The direct object of a certain class of verb may take as definer a sentence with subject identical to the direct object of the matrix sentence, describing the activity or state of the object:

(142) /t'ait: trumít, tafd: aidi uril:i./
"The European woman returned, she found the dog was not (there)." (Text 1, line 5, App. C.)

(143) /iufa um:as lait:t: g:-ubrid./
"He found his brother (he was) eating in the road."

The class of verbs permitting an unsubordinated sentence as definer of its direct object includes /af/ "find," /aj/ "leave," /lə/ "see," /sl/ "hear." The verb of the embedded sentence is usually in the iterative mode, as in (143).

5.1.4.8 Particle as definer. Only one has been noted: /dınin/ "other," as in (3): /amktar dınin/ "the other horse."

5.1.5 Substitutes for noun phrase.
A noun phrase may be reduced, by pronominalization, or
replaced by a relative phrase in MA.

5.1.5.1 Pronouns, nouns, and person. A noun phrase not marked for person is interpreted as third person unless there is some clue to the contrary: for example, if NP is subject and the verb is inflected for first or second person:

(144) /hantšḥad inslman šḥat:/

"We Muslims recite the creed,"

where the verb has first singular subject inflection /n/, and the noun phrase subject /inslman/ is not pronominal. Or an NP not a subject may have a reflex in the sentence:

(145) /likrā ax-id:amn i-mid:n kulši: /

"It's death which to us remains to all people," where /mid:n/, the object of an indirect object phrase, has a pronominal reflex /ax-/ , first person plural IO, in the verb phrase.

Although such constructions are relatively infrequent, their occurrence precludes the restriction of noun phrases to third person when not pronominal.27 This will be noted in the rule for agreement of subject and verb, T-1 (Sec. 5.2), which does require, however, that a verb in the third person have a non-pronominal noun phrase subject.

Similarly, rules developing NP objects (of VP, of IP, of PP, of GP) will provide that if pronominal, the choice of person is restricted to first or second. Third-person pronominals, then, are to be inserted in the NP by a substitution rule, *T-50 which deletes the noun's features except No and Ge, and adds
the feature [+pron], [+Pe 3]. The resulting bundle of features is then interpreted (by post-transformational spelling rules) as the appropriate case form according to its contextual derivation. For example, \( NP[\text{+pron}, +\text{Pe 3}, +\text{No sg}, +\text{Ge m}] \) is interpreted as \((i)t/ "him" if it was directly dominated by COMP in the base PMarker, i.e., is a direct object of the verb phrase. But the same bundle of features is interpreted as /as/ "to him" if it is dominated by IP, indirect object phrase. (The full paradigms were given in Tables 3-5.)

Informally stated, the condition for pronominalization is establishment of the identity of the referent elsewhere. This type of condition is not easy to formalize, since it is not clear exactly how many ways of establishing such identity are linguistically stateable. Since it is obvious in any running text, however, that non-initial sentences are likely to contain pronouns referring to noun phrases in previous sentences, we can at least offer this as a condition for pronominal reduction of NP.

5.1.5.2 Relative phrase in MA in place of NP. A local interrogative structure, as derived in Sec. 4.3, can be substituted for a noun phrase by embedding rules which delete the interrogative Q and the focal (stress-marker) F (as noted in Sec. 4.3.4.1).

(146) /ur sinx mat:a ubrid ara amzx./

"I don't know what road that I will take."
(147) /xa t:d:un ẑma't ɣr-ib:as n:rbat:,
siuln ag:its, xf-atig n-sdaṭ
d lmšix d milmi ad slulun d milmi ara gn islan./

"The council goes to the father of the girl,
they talk with him, on the amount of the (bride)price
and the gifts and when they will (make the outcry marking
the affiancement) and when they will make the wedding."

Compare the use of the clause in /mat:a/ "what" to (76)-(78),
and those with /milmi/ "when" to (66).

The conditions for such substitution are not entirely
clear and the rule is not formulated here.

5.2 The verb phrase

The syntactic structure of Tamazight which is here
called verb phrase includes a verbal nucleus (aspect, tense,
mode, and the verb with its inflections for person, number,
and gender of the subject), and a noun phrase subject, which
agrees with the verb in person (if marked), in number, and
in gender. The rule for agreement is formulated in T-1.

T-1 (obligatory) Agreement of verb and subject

S.I.  # ... VN NP ... #
1 2 3 4 5 6

Conditions:  3 and 4 are dominated by VP (i.e., 4 is sub-

ject of 3)

If 3 has the feature [{+Pe{1, 2}}],
either 4 is [+pron, +Pe α, +No β, +Ge γ] (usually)
or 4 is (QUANT) N[-pron] (N) (DEF) (rarely)
If 3 has the feature [+Pe 3], 4 is the second case above.

Operations: (This is the kind of rule where nothing happens; it simply specifies the permissible structures of all those generated by the base.)

Result: # ... VN  \begin{array}{c}
\text{+Pe α} \\
\text{+No β} \\
\text{+Ge γ}
\end{array} \quad \begin{array}{c}
\text{NP} \\
\text{+pron} \\
\text{+Pe α} \\
\text{+No β} \\
\text{+Ge γ}
\end{array} \quad \ldots \quad #

1 2 3 4 5 6

5.2.1 Subject of the verb phrase.

The noun phrase subject may be an NP with a substantive head noun, or an emphatic pronoun, or, for verbs in non-third person, it may be null in surface structures. In order to provide the necessary features of Pe, No, and Ge for the emphatic pronoun, an NP subject is introduced into all basic PMarkers; if NP is pronominal ([+pron]), its Pe, No, Ge features are interpreted by the spelling rules as Φ unless the feature of emphasis has been added, either by a rule making the subject NP the focus or the topic of the sentence, or by an optional rule for post-verbal emphasis of any NP (T-10; see Sec. 5.1.1.1).
5.2.2 Verbal nucleus

The verbal nucleus of the verb phrase contains an optional aspect marker, an obligatory tense marker, and the verb stem which may include stem formants marking the mode of the verb, and does include inflections for person, number, and gender.

5.2.2.1 Aspect of the verbal nucleus: Daf. The set of optional prefixes occurring before Te VS seems to have the semantic feature of affirmation (which they share with the noun-affirming "predication marker" /d/, also labeled Daf in these rules). The form of Daf depends on the TE (but Daf has no effect on the form of TE or of the verb stem):

- d: before IPF, forming a future tense-aspect
- la: before PF, forming a progressive non-future tense-aspect. This prefix has an affinity for the iterative stem. /la/ \rightarrow /xa-/ ~ /ha/ ~ /a-/ except in unnegated VP initial in series or not conjoined.

See Sec. 4.1.8.4 for a note on the form of Daf. Examples of the aspect markers will be given following introduction of TE, tense.

5.2.2.2 Tense. The occurrence or not of a verb prefix /ad-/ , the stem form of certain morphological classes of verbs, and the location of the movable affixes (pronominal complements and /d:/, the orientational particle) all serve to indicate whether the action of the verb was complete as
of a point in time to which the speaker refers, not necessarily the time of speaking. I have grouped these phenomena under the category of tense (TE), and distinguish perfect (PF) from imperfect (IPF) as follows:

**Imperfect tense (IPF).** This is marked in three ways:

1. By a prefix, /ad-/ (→ /aγra~ara/ with rel /ai/).
2. By the unmarked form of the verb stem, either in the simple or the iterative mode. The imperfect tense and the imperative mode both require the basic stem form.
3. By the pre-verbal position of any movable affixes, between /ad-/ and the inflected verb stem.

See Tables 6 and 7 for the combinations of tense and aspect. The position of the movable affixes is marked in the examples of Table 7 by /d:/ orientational particle; rules for their placement and order, T-100 to 104, are given in Sec. 4.1.1 and following sections.

The sense of the affirmed imperfect is future. That of the unaffirmed imperfect is uncompleted action or state, and many translations are possible, depending on context. These examples indicate the range of uses of imperfect.

(148) /ira ad id:u γr-igr./

"He wants that he go to the field."

(149) /uasa ad:id:u ib:a-m./

(d+d: → d:)

"Now your father will come."
<table>
<thead>
<tr>
<th>Sentence mode</th>
<th>Aspect</th>
<th>Tense</th>
<th>Stem mode</th>
<th>Simple stem</th>
<th>Iterative stem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Declarative (unmarked)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>imperfect</td>
<td>ad-i-d:u</td>
<td>ad-i-t:d:u</td>
</tr>
<tr>
<td></td>
<td>Affirmed</td>
<td></td>
<td>imperfect</td>
<td>d:ad-i-d:u</td>
<td>d:ad-i-t:d:u</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>aorist</td>
<td>i-d:u</td>
<td>i-t:d:u</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>perfect</td>
<td>i-d:a</td>
<td>i-t:d:u</td>
</tr>
<tr>
<td></td>
<td>Affirmed</td>
<td></td>
<td>perfect</td>
<td>la-i-d:a</td>
<td>la-i-t:d:u</td>
</tr>
<tr>
<td></td>
<td>Imperative</td>
<td></td>
<td></td>
<td>d:u</td>
<td>(ad-ur) t:d:u</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sentence mode</th>
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<tr>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td>imperfect</td>
<td>ad-d:-i-d:u</td>
<td>ad-d:-i-t:d:u</td>
</tr>
<tr>
<td></td>
<td>Affirmed</td>
<td></td>
<td>imperfect</td>
<td>d:ad-d:-i-d:u</td>
<td>d:ad-d:-i-t:d:u</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>aorist</td>
<td>i-d:u-d:</td>
<td>i-t:d:u-d:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>perfect</td>
<td>i-d:a-d:</td>
<td>i-t:d:u-d:</td>
</tr>
<tr>
<td></td>
<td>Affirmed</td>
<td></td>
<td>perfect</td>
<td>la-i-d:a-d:</td>
<td>la-d:-i-t:d:u</td>
</tr>
<tr>
<td></td>
<td>Imperative pl**</td>
<td></td>
<td></td>
<td>d:u-at:</td>
<td>(ad-ur) t:d:u-at:</td>
</tr>
</tbody>
</table>

*Dr marks location of all movable prefixes.

**Singular is replaced by /aura/. /at + d: → at:/
Table 8. Conjugation of /d:u/ in perfect tense

<table>
<thead>
<tr>
<th></th>
<th>Unnegated</th>
<th>Negated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pe 1, No sg</td>
<td>d:i-x</td>
<td>ur d:i-x</td>
</tr>
<tr>
<td>Pe 2, No sg</td>
<td>t-d:i-t</td>
<td>ur t-d:i-t</td>
</tr>
<tr>
<td>Pe 3, No sg, Ge m</td>
<td>i-d:a</td>
<td>ur i-d:a</td>
</tr>
<tr>
<td>Pe 3, No sg, Ge f</td>
<td>t-d:a</td>
<td>ur t-d:a</td>
</tr>
<tr>
<td>Pe 1, No pl</td>
<td>n-d:a</td>
<td>ur n-d:i</td>
</tr>
<tr>
<td>Pe 2, No pl</td>
<td>t-d:i-m</td>
<td>ur t-d:i-m</td>
</tr>
<tr>
<td>Pe 3, No pl</td>
<td>d:a-n</td>
<td>ur d:a-n</td>
</tr>
</tbody>
</table>

(150) /uasa d:ad:id:u ib:a-m./

"Now your father is (definitely) going to come."

(151) /ad id:u ib:a-m./

"That your father would come!"--an optative sense

common in polite phrases:

(152) /r:b:i ad am-ixlf!/ "May God replenish you!"

(after eating or drinking as a guest.)

(153) /r:b:i a-km iaj!/ (ad- → a before DO/km/)

"May God leave you!" (Response to a woman who
offers invitation.)

**Perfect tense (PF)** is marked in two ways:

1. By a special stem form for certain verb classes
   (marked in the lexicon).

2. By post-verbal position of the movable affixes.
   There is no perfect prefix corresponding to the
   IPF /ad-/.
The sample conjugation of /d:u/ in Table 8 shows the stem changes for perfect tense of one verb class. The negative mode must also be considered in describing stem forms; conjugation of the negative perfect of /d:u/ has a single stem form, /d:i/.

The lexicon must either list for each verb the five principal stem forms (and up to three (modal) derived stems if they occur), or it may list the base form and specify the morphological features resulting from occurrence in the perfect tense, negative sentence mode, iterative and (possible) derived verb modes. Morphological regularities (classes of stem formation) are to be stated in a set of (redundancy) rules accompanying the verb lexicon; the individual lexical entry will be marked with one feature for a complex of regular stem forms, and with any special idiosyncratic features. For example, /d:u/ is marked i/a to show that it follows the rule set:

Verb stem in XCu, u → i in negative perfect, and
   in Pe 2, and Pe 1, No sg, +PF
   → a in Pe 3, and Pe 1, No pl, +PF

**Narrative aorist:** a derived tense. In narratives, verb phrases non-initial in a series following an initial verb phrase in the perfect tense are often in the narrative aorist:

1. The verb stem has the unmarked form, as in the imperfect, but the IPF prefix does not occur.
2. The movable affixes are post-verbal, as in the perfect tense.

See, for example, Text 1, line 4 and passim.

The rule indicated in Sec. 6.1.2 for verb phrase conjunction provides for a late deletion of the feature [+PF] from the verb, after the pronominal complement shift rules (T-100 to 102) which would have shifted the movable affixes to pre-verbal position in the absence of PF.

The sense of the narrative aorist can be compared to the narrative present in English: "There was this man, and he comes to town, and he sees a horse, . . . ."

5.2.3 Verb and verb stem: inflection and derivation.

The verb consists of a verb stem and its inflections for person, number, and gender. The verb stem may be basic, or derived by prefixation of a modal stem formant to a basic or derived stem. Any stem, basic or derived, may be in the simple or the iterative mode.

5.2.3.1 Inflection of the verb. The person, number, and gender of the subject are introduced into PMarkers as features of the verb, to be interpreted by post-transformational rules as one of two paradigms. See Table 3 for the paradigms (imperative and declarative) and Table 8 for a sample conjugation. These features have consequences for the stem form of certain verb classes; for example, the /dːu/ class has a changed vowel in the perfect, /a/ or /i/
depending on Pe, No, Ge of the verb.

Treatment of person, number, and gender as features rather than as morphemes, following N. Chomsky's suggestion (Aspects, p. 170) avoids the mechanical problem of locating in the PMarker a "subject affix" which is now prefix, now suffix, now both, and in which the elements of person, number, and gender are hardly separable. It also permits derivation of the relative verb inflection /i- -n/, by deletion of the Pe No Ge features.

5.2.3.2 Derived modes of the verb stem. Three modal stem formants represent semi-productive processes of verb derivation:

- s- causative
- m- reciprocal
- t:u- passive

The meanings of the derived stems are not always predictable from the modal prefix and the basic stem meaning. "Causative," "reciprocal," and "passive" are labels for syntactic constructions, rather than semantic features. They are further idiosyncratic in that not all modals can occur with all verbs. Both the occurrence and the sense must be marked in the lexicon.

Nevertheless, this is more than a matter of derivational morphology to be relegated to the lexicon. Certain generalizations can be made about the type of sentence structure with which each modal stem type may occur, and the
relationship between its elements and those of the unmarked sentence of the set. For example, causative stems always require a direct object, and a different subject from that of the unmarked sentence. No modal prefix can recur directly, and none can occur with a passive stem in /t:u-/; but causative and reciprocal can each occur before a stem in the other mode.

The following transformational rules characterize the syntactic consequences of the derived verb modes. 28

Causative constructions and verb derivation. A verb stem marked [+s_] (a rule feature) can undergo the causative transformation, which results in a transitive ([+_NP]) verb stem whether or not the underlying stem is transitive.

T-40 Causative construction (verb mode)

<table>
<thead>
<tr>
<th>S.I.</th>
<th># ...</th>
<th>VM[+s]</th>
<th># ...</th>
<th>V NP NP ... ... #</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4 5 6 7 8 9 10 11</td>
</tr>
<tr>
<td>S₂</td>
<td></td>
<td></td>
<td>V[+s_] NP ... ... #</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15 16</td>
</tr>
</tbody>
</table>

Conditions: 7 and 13 are not identical (causative S gets a new subject)
9, 10 are I over NP (indirect object) or null
14 is NP (direct object of 12), or null
15 is IP (indirect object of 12), or null
If 14 is not null, \(8 = 14\) (direct object of causative S is same as that of basic structure), and \(10 = 13\) (subject of basic structure \(\rightarrow\) indirect object of causative S)

If 14 is null, \(8 = 13\) (subject of basic structure \(\rightarrow\) direct object of causative S)

Operations: Attach 12 right of 3
Delete 4, 5, 6, 11, 13, 14, 15
Erase word boundary between 3 and 12, and VM dominating 3 (3\(\sim\)12 are new stem)
Delete +[+] from 3\(\sim\)12

Result: 
\[
\begin{array}{c}
1 & 2 & 3 & 12 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 13 & 14 & 15 & 16 \\
\end{array}
\]

A causative verb may have one direct object or two, and one indirect object or none. Semi-transitive verbs with the direct object deleted (as discussed in Sec. 4.1.4.2) have the subject become direct object in the causative mode (154).

(154)a /d:ad-čn luašun t:ili:alin./
"The children and women will eat."

b /d:ad-sčx luašun t:ili:alin./
"I will feed the children and women."

The subject of a transitive verb usually corresponds to the indirect object of the causative mode, while the direct object remains the same for both constructions. Infrequently, the subject of the basic transitive verb becomes a direct object immediately following the causative verb,
followed by its regular direct object. The semantic distinction between causative sentences with direct object plus indirect object (156) and corresponding sentences with two direct objects (157) is not clear; it may be contrastive emphasis on the second direct object. A rule *T-41 to provide for double transitive causative constructions should take into account any distinction found to exist. See tree of (155)-(156) in App. B.

(155) /ķran uarau n-ḥamd lḳuran./
"The children of Hamid studied the Koran."

(156) /iskra ḥamd lḳuran i-uarau-n-s./
"Hamid caused-to-study the Koran to his children."
I.e., "Hamid had his children taught the Koran."

(157) /iskra ḥamd arau-n-s lḳuran./
"Hamid taught his children the Koran."

**Reciprocal constructions and verb derivation.** A verb stem with the feature [+m_] (which may be basic or causative, but not passive) may undergo the reciprocal transformation. The resulting verb stem in /m-/ has as its subject either an NP which includes (referentially) the subject and direct object of the basic verb, or it has as subject the subject or object of the basic verb, the other being object of a prepositional-phrase complement in /ag:d-/ "with."
(See Sec. 6.1.1 for agreement of verb with the first NP of a compound subject.) T-42 gives the reciprocal mode for transitive verbs. (Further analysis is required for additional
rules covering reciprocal modes of verbs with other complement structures.)

**T-42 Reciprocal mode of transitive verb**

\[
\begin{array}{cccccccccccc}
\text{S.I.} & \# & \ldots & \text{VM}_{[+m]} & \# & \ldots & V_{[+PP]} & \text{NP} & \text{PS} & \text{NP} & \# & V_{[+m]} & \text{NP} & \text{NP} & \# \\
S_1 & & & & & & & & & & & & & S_2 & \text{S}_2 & S_1 \\
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 13 & 14
\end{array}
\]

Conditions: 2 is (SM)(NEG)(Daf) TE (IT)

5 is TE (IT)

7 is subject of 6 and identical to 12

9 is object of PP COMP of 6, and identical to 13

Operations: Add 8 → 9 right of 12; delete them right of 7

Delete 4, 5, 6, 7, 10, 13

Attach 3 left of 11 at node V, erasing boundary and node VS

Delete from 11 the feature [+m_]

Result: \# ... 0 0 0 0 0 0 0 0 V NP PS NP 0 \#

The following examples (158)-(159) and their tree in App. B show the derivation of a reciprocal structure. A further derivation (160) substitutes as subject a noun phrase which includes as referents both the subject of the verb and the object of the preposition, and deletes the prepositional phrase; no rule is formulated here.

(158) /iu:t bu\'z:a ḫamd./ "Buāzza hit Hamid."

(159) /imuat bu\'z:a ag:d-ḥamd./ "Buāzza fought with Hamid" (literally, "mutually hit").
(160) /muatn sin-n-sn./ "The two of them fought."

**Passive construction and verb derivation.** The verb stem marked [+tu_], necessarily transitive, can undergo the passive transformation. The resulting verb stem in /tu-/ is intransitive and has as its subject the direct object of the basic verb. A prepositional phrase in /s-/ instrumental may occur in the passive, but there is no way to express an agent except by the active construction where agent is subject.

T-44 Passive construction (verb mode)

```
S.I.  # ... VM[+tu]  # ... V NP # V NP NP # 
     S1       S2       S2       S1 
     1 2 3 4 5 6 7 8 9 10 11 12

Conditions: 2 is (SM)(NEG)(Daf) TE (IT)
              7 is subject of 6
              10 is subject of 9
              7 and 11 are identical

Operations: Delete Pe No Ge values of 9
             Add 7 right of 9; delete 7 left of 8
             Delete 4, 5, 6, 8, 10, 11
             Attach 3 left of 9 at node V; erase word boundary and node VS
             Delete [+tu_] from new verb stem 3~9

Result:    # ... Ø Ø Ø Ø Ø Ø Ø V NP Ø Ø #
          1 2 3 4 5 6 7 8 3,9 7 10 11 12
```
The resulting structure can be seen in the tree of (161) and (162), in App. B.

(161) /čan mid:n aqšil./ "The people ate grapes."
(162) /it:uač uaqšil./ "Grapes are eaten."

Recurrence of modal derivation. The foregoing rules do not restrict the number of derivations a stem may undergo, since /s-/ and /m-/ may each occur before the other. The restriction is negatively applied in the lexicon: those derivations known to occur are marked (thus, /gnu/ "sew" has the rule feature [+s_]). Derivations not marked might occur, either as regular lexical forms not yet encountered, or as nonce-forms, but their likelihood of occurrence decreases with the number of reapplications of VM to a stem. That at least three derivations are possible can be seen in the verbs of (163)-(165).

(163) /izri r:mḏan, ifat./ (Cf. N /azrai/ "the leaving.")
"Ramadan has gone by, it passed."

(164) /ai-n-ina urgaz-in, ad-ag:its mzaraiax .../
"Whatever that man said, that with him I (mutually) part. . . ." (Cf. N /amzarai/ "the parting.")

(165) /ufix arau lat:muatn, smzaraix-tn./
"I found the children (they were) fighting, I separated them (caused them to mutually draw apart)."

The passive stem of this double-derived verb, /smzarai/
"to mutually draw apart," was supplied by an informant:
/it:usmzarai/ "he was made to cause (them) to mutually draw
apart." but not found in texts.

5.2.3.3 The iterative mode. Every verb, basic or derived, has an iterative form, which has the sense of repeated, habitual, or ongoing action or state. The form of the iterative stem differs from the simple by the prefixation of /t:-/, or of /u-/ before verbs with imperfect stems in /-u/, or by addition of a vowel /a/ between the two final consonants of imperfect stem, or by some combination of these processes; or, for a class of triconsonantal verbs, the gemination of the middle consonant. Many verbs have several alternate forms of the iterative stem. It is not affected by verb tense, occurring without change in perfect or imperfect verb phrases, but is most common in the affirmed perfect: Daf PF IT V, as in /la-itːdːu/ "he goes," "he is going," "he was going (repeatedly)."

5.2.4 Orientational particle: Dr with verbs

This particle has the form /dː/ /id/ with verbs, with the sense of orientation of the verb action toward the person of the verb. With verbs of coming and going, like /dːu/ "go," /ayːl/ "return," /auː/ "carry," Dr has a directional sense of toward: come, return here, carry. (The contrast with "remote," /n/, found in many Berber languages, is lost in Tamazight.) Verbs which regularly may take this particle are marked in the lexicon [+Dr], but it may occur with many non-directional verbs, not all of which are so marked; for
example,

/af/ "find": /kulši ai-n-d:-ufan/ "all whoever they find"

/aj/ "leave": /iuja-ax-d:/ "he left to(ward) us" (+ object)

The position of Dr, pre- or post-verbal, is governed by the same rules as those for pronominal complements (T-100 to T-104): it follows an unnegated verb in the perfect, but is otherwise preverbal, following in either case any pronominal complement affixes. Occasionally the reduction of /ai/ relative particle and verb subject prefix (i + i → g:) occurs despite a Dr particle which should intervene:

/mag:d:uja ib:ak/ "that which your father left . . ."

#ma ai iuja d:# ~/mai-d:-iuja/

5.2.5 Pronominal complements affixed to verb

If a noun phrase functioning as direct object of the verb, or object of an oblique phrase (IP or PP) which is complement of the verb, is a personal pronoun, the complement is affixed to the verb. Rules T-100 to T-104, presented in Secs. 4.1.1, 4.1.3, and 4.1.4, give the location, pre- or post-verbal, of pronominal complements. Their respective order, generated by these rules, is: indirect object--direct object--prepositional phrase or Dr particle (the latter two do not usually co-occur). See Sec. 4.1.6.1.

5.3 The complement of the verb phrase

The structures occurring as complement of the verb phrase were presented in Sec. 4 in the course of classifying
different types of verbal sentences, and need only be briefly discussed and cross-referenced here. They include NP as direct object (Sec. 4.1.4), NP as PRED NOM (Sec. 4.1.7), IP as indirect object (Sec. 4.1.5), and PP as prepositional complement (Sec. 4.1.3.1). The verbs are subcategorized by the complement structures with which they may occur. Selectional restrictions, within the allowed categories, remain to be specified. Direct and oblique object complements may be pronominal verb affixes of the appropriate case paradigm (see Secs. 5.1.1.1 and 5.2.5). Sentence complements may also be replaced by a pronominal phrase, but PRED NOM cannot become pronominal.

5.3.1 Direct object

This is a noun phrase with a general noun (Sec. 5.1.1.5) as head. Restrictions on co-occurrence with verbs are selectional, not including number and gender. The pronominal paradigm is given in Table 3.

5.3.2 Predicate nominative

This is a noun phrase with an adjectival noun or a general noun as its head. The adjectival noun must agree with the verb subject in number and gender (T-2). The general noun usually does so, but may not, where the subject is an empty noun; for example,

(166) /lḥaẓt-a, aḥmār ag-a./

"That thing, it's a tent-ridgepole,"
where the feminine noun /lhażt/ is subject, the masculine noun /ahm:ar/ is predicate nominative. There is no pronominalization of a predicate nominative.

5.3.3 Indirect object

This is a particle /i/ with a noun phrase object, in its dependent form. In pronominal form, the /i/ is often lost: see Table 3.

5.3.4 Prepositional phrase

This is a prepositional stem, PS, plus a noun phrase object. The stem is one of a small set which is characterized by having a long form before a pronominal object, a short form before a noun. As a complement, the PP is attached to the verb when the object is pronominal (Rules T-100 and T-104). The stems are:

s- ~ si- [+instrumental] "with, by means of"
ag:d- ~ ag:id- [+accompanying] "with; against"
sg:~ zig- [+directional] "from, originating in"
ɣr- ~ ɣir- [+directional] [+ðV] "to, toward; chez"
xf ~ ɣif- "on, upon" (cf. /ixf/ "head")
g: ~ dig- [+ðV] "in, within"

Some other stems which have the alternating forms, but which do not reduce to verb affixes, are listed in Sec. 5.4.2.1.

5.3.5 Sentential complement of verb phrase

These were described in Sec. 4.1.8 for a number of verb
5.4 Adverbials

Several kinds of structures function as the adverbial element of the sentence: noun phrase, prepositional phrase, and particle. They are subcategorized by function rather than by form, since this permits specification of the local interrogative constructions (Rules T-79a-h) in terms of the sentence adverbial. I.e., /mani/ "where" corresponds to Adv. space, /milmi/ "when" to Adv. time, and /maka/ to Adv. manner. The base rules place the adverbial at the end of the sentence; however, permutation rules must provide for their frequent occurrence in sentence-initial.

5.4.1 Adverbial qualifier

The particle /xas-γas/ "just," "only" (and perhaps some others) precedes and modifies the adverbial, or acts independently as an adverbial.

(167) /insi iča xas šuia./ "Hedgehog ate just a little."
(168) /xas d:u./ "Just go!"

5.4.2 Adverbials of space

These are queried by the interrogative word /mani/ "where" (see Sec. 4.3.4.6). They include noun phrases, prepositional phrases, particles, and some mixed phrases.

5.4.2.1 Prepositional and mixed phrases as ADV space.
These are the four locational-directional preposition stems
with appropriate NP objects; the long form precedes pronomi-
nal object.

\[
\begin{array}{c|c|c|c}
g:~ \sim dig- & "in" & 1 & -i \\
xf:~ \sim yif- & "on" & 2m & -k \\
sg:~ \sim zig- & "from" & 2f & -m \\
\gamma r:~ \sim yir- & "to, toward" & 3 & -s \\
\end{array}
\]

Semi-prepositions occur as ADV space, with a genitive
phrase or an IO-type pronoun as object. These phrases do
not occur as COMP of the verb; i.e., they are not affixed to
the verb when the object is pronominal as are the PP with
regular prepositional stems. Only one has an alternate
short form before nouns.

\[
\begin{array}{c|c|c|c}
gar \{ & "between" (takes & 1 & -i \\
 ingr & plural or compound & 2m & -ak \\
 agar & object) & & -auit \\
d:au & "under" & 2f & -am \\
f:ir \} & "behind" & 3 & -as \\
dfir \} & & & -asn \\
z:at \} & "before" & & \\
zdat \} & & & \\
\end{array}
\]

The noun-like character of the semi-prepositions is
evidenced by their occurring as object of PS:

/d:u \gamma r-dfir./ "Go to the rear!"

/zaid \gamma r-z:at./ "Come forward!"
A prepositional particle /s/ "to" occurs with a noun in its independent form, in some fixed phrases, and in dialects near the Ižaim (southeast of Zemmour), where it replaces /γr-/ as ADV space:

(169) /ayuln-d: mid:n s-axam-n-sn, a-digs ŋimn./

"People returned to their tent, that in it they stay" = /ayuln-d: mid:n γr-uxam-n-sn, ...

It is common in the phrases s-afla "upwards" and s-uad:a "downwards."

5.4.2.2 Noun phrase as ADV space. Certain nouns take a genitive phrase or, if they may have a pronominal complement, a possessive pronoun suffix:

tama "side" /kim tama-nu/ "Sit next to me."
/tama n-uasif/ "next to the river"
afla "above" /afla n-n:uar/ "on the flowers"
/anšuš ufla/ "upper lip"
uad:a "below" /anšuš uad:a/ "lower lip"

Certain stems are classified as nouns because they take the Dr suffix or occur as objects of PS, or both:

daha "here" (proximate) /kim daha./ "Sit here!"
dihin "there" (remote) /d:u dihin./ "Go away!"
urin "beyond" (very remote) /d:u urin./ "Go beyond!"
siaha "here" (proximate) /sg:-siaha/ "from here ..."
(or as ADV time, "from now on")
sihiin "there" (remote) /sg:-sihiin/ "from there ..."
The latter two may be derived from the /s/ directional particle and the demonstrative /ha/.

5.4.3 Adverbial of time

These are queried by the interrogative word /milmi/ (see Sec. 4.3.4.4). They include noun phrases and prepositional phrases and particles.

5.4.3.1 Prepositional phrase as ADV time. The locative and directional prepositions (listed in Sec. 5.4.2.1 above) occur with time nouns as objects; two directional PP’s delimit a span of time.

\[
\begin{align*}
g: \quad & \text{"in, at"} \quad /g:-\tau n\,s/ \quad \text{"at twelve"} \\
\gamma r: \quad & \text{"to"} \quad /\gamma r\,-tad\,d\,g:\,u\,\i/ \quad \text{"toward evening"} \\
sg: \quad & \text{"from"} \quad /sg:\,-l\,m\,r\,t \,\gamma r\,-l\,m\,r\,t/ \quad \text{"from time to time"}
\end{align*}
\]

5.4.3.2 Noun phrase as ADV time. The head noun is a unit or point of time, which may be defined by Dr, GP, #S#, or particle. Common count nouns of time (units) may be quantified; proper nouns of time, such as names of months and seasons, cannot. Some examples follow:

**Quantifiable**

- **as "day"**
  - /i\j u\a\s/ "one day"
  - /k\ul u\a\s/ "all day"
  - /a\s-a/ "today" (but not *as-in)
  - /a\s-k\a\s/a/ "tomorrow"
  - /a\s-n\,-i\g\a\n a\s-k\a\s/a/ "day after tomorrow"
  - /a\s-l\h\d:/ "Sunday" (day of one)
  - /a\s-l\tn\a\n/ "Monday" (day of two)
Quantifiable

aiur "month" /aiur ifatn/ "the past month"
asg:uas "year" /asg:uas d:idan/ "the coming year"
iq "night" /iq-a/ "this night"
lisimana "week" /lisimana izrin/ "the past week"

lmrt "time, occasion" /išt lmrt ďnin/ "another time"

Not quantifiable

r:mdan "Ramadan" /iżum r:mdan/ "He fasted Ramadan."
tifsa "spring" /tifsa-a γifnx/ "this spring upon us"
lu:kt "time" /lu:kt unzar/ "the season of rain"

5.4.3.3 Particle and particle phrase as ADV time.

Regular ADV time particles may be sentence-final or initial, and may occur in redundant clusters:

  t:a-nţal "formerly" (usually S-initial)
  zik: "early, long ago"
  turli "early, long ago"
  uahua "long ago"
  idmad: "just now"
  uasa "now"
  d:ima ~ d:aiman "always"

Note the proliferation of ADV time in this opening sentence of a narrative:

(170) /t:a-nţal, zik:, uahua, mší uasa, il:a iţ uglid.../
  "Once upon a time, early, long ago, not now, there was a king..."

Some particles occur with NP or #S# as ADV time:
k:u "each, every" /k:u as/ "every day"
kehr "before" /kehr ad-id:u/ "before he goes.."
al "until" /al ask:a/ "until tomorrow"

Two of the adverbials introducing clauses, /alig:/ "when" (in the perfect) and /ad:ai/ "when" (in the imperfect), have an obvious time sense. See Sec. 5.4.6.

5.4.4 Adverbials of manner.

These are queried by the interrogative phrase /maka/ (see Sec. 4.3.4.5). They include PP, NP, particles, and comparative phrases in /am/.

5.4.4.1 Prepositional phrase as ADV manner. The two prepositional stems that do not occur in time and space adverbials do occur in manner adverbials (long form before pronominal affix):

<table>
<thead>
<tr>
<th>Stem</th>
<th>Prepositional</th>
<th>Manner</th>
</tr>
</thead>
<tbody>
<tr>
<td>s- ~ si- &quot;with&quot; (instrumental)</td>
<td>/s-ifas:n/</td>
<td>&quot;by hand&quot;</td>
</tr>
<tr>
<td>ag:d- ~ &quot;with&quot; (accompanying)</td>
<td>/ag:d-nk:in/</td>
<td>&quot;me too&quot;</td>
</tr>
<tr>
<td>ag:id- (after NEG)</td>
<td>/ag:d-țj/</td>
<td>&quot;a single one&quot;</td>
</tr>
<tr>
<td></td>
<td>/ag:d-ša/</td>
<td>&quot;anything&quot;</td>
</tr>
<tr>
<td></td>
<td>/ag:d-țhd:/</td>
<td>&quot;anyone&quot;</td>
</tr>
</tbody>
</table>

5.4.4.2 Particle as ADV manner. Particles occur alone:

al:u "also, again" /iča al:u/ "He ate also/again."
ualu negative intensifier /ur-iči ualu./ "He didn't eat at all."
ša negative intensifier /ur-iči ša./ "He didn't eat at all."
bsif "unwillingly" /ič bsif./ "Eat (whether you want to or not)."
These particles take complements as ADV manner:

bla "without" /bla tamźint/ "without sleep"
k:u "each, every" /k:u ĭj/ "each one"
šuia s-šuia "little by little"
s:t:auil "slowly"

5.4.4.3 NP as ADV manner. The stem /aka/ plus Dr is the main nominal ADV manner, alone or with /s-/ instrumental or /am-/ comparative:

aka, s-uaka, am-uaka "like this"
akin, s-uakin, am-uakin "like that"

5.4.4.4 Comparative phrase (AP) as ADV manner. The comparative particle /am/ with NP complement occurs as ADV manner (with #S# complement it is an "as if" clause in an extended sentence). The noun following /am/ is in dependent form; if pronominal, it is the independent personal pronoun, not an affix.

/am uyiul/ "like a donkey"
/am nt:at/ "like that one (feminine)"
/am ma n-mut/ "as for example if we died ...
/am mi ur-igi zig-nx/ "as if he were not of us"

See Sec. 6.10 for a sentence type composed of two /am/-phrases.

5.4.4.5 The stem /uḥd:-/ "by one's self (<Arabic)."

In place of /xas/ plus independent personal pronoun, some speakers who also know Arabic substitute /uḥd:-/ plus the pronominal suffix of the Arabic form, or one of the
Tamazight IO paradigm.

<table>
<thead>
<tr>
<th></th>
<th>Arabic</th>
<th>Berber</th>
<th>Arabic</th>
<th>Berber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pe 1</td>
<td>-i</td>
<td>-i</td>
<td>-na</td>
<td>-ax</td>
</tr>
<tr>
<td>2</td>
<td>-k:</td>
<td>---</td>
<td>-k:um</td>
<td>----</td>
</tr>
<tr>
<td>3 m</td>
<td>-u</td>
<td>-as</td>
<td>-hum</td>
<td>-asn</td>
</tr>
<tr>
<td>f</td>
<td>-ha</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The alternate Berber suffixes are used sporadically and incompletely.

5.4.5 Sentence-opening adverbials

The following must be introduced by a rule that places them in initial position of a sentence which is medial in a discourse:

mailahua ~ mainahua "For . . ."
ma'na "That is to say . . ."
mhasub "That is to say . . ."
za'ma "That is to say . . ."
ualaini "But, however . . ."
dai "And (then) . . ."

A particle /bar/ "perhaps" seems to occur only before a proposition in /is d/; it replaces the Q (interrogative) required for /is/ to occur as a sentence.

(171) /bar is d a-tk:mut./ "Perhaps you will smoke."

5.4.6 Clause-opening adverbials

General transformational rules for certain extended sentences must provide for the appropriate particle to occur initially in the dependent clause (embedded sentence).
align: ~ g:al ~ g: "when" (before verb in perfect)
ad:ai "when" (before verb in imperfect)
xm "if"
uaxa "even if,"
mîxar "even though"
k:u "while" (both verbs in iterative)
'lâhaḳ "because" (subordinate clause follows main)
s्'a "but"

5.5 Particles

Particles are formally distinguished by their constant form and by their not taking affixes. They are subcategorized in the foregoing into adverbial, quantifying, and defining particles. Further subcategorization, selectional classification, and establishment of a feature hierarchy remain to be done for this category.
6. Extended structures

The preceding sections covering basic verbal and verb-derived sentences and their constituents have made frequent mention of extended structures to be covered in this section. The coverage is synoptic, being intended to supplement the basic sentence grammar by outlining the major structures which the conjunction schema and generalized transformational rules must generate.

The basic structures are extended by complementation or conjunction. Complementation is provided for in the base rules by introducing \#S\# into certain structures, for each of which a T rule will substitute the appropriate sentence structure and delete superfluous structure. Noun phrase determiners and verb phrase complements derived from \#S\# were described in Sec. 4. This section outlines the principal types of conjunction which produce extended sentences and constituents (without actually formulating T rules at this time).

The types of conjunction are characterized in terms of surface structure by the configuration of:

1. Type of conjunction marker and its semantic features.
2. Shape of the resulting structure: extended sentence or phrase.
3. Recursiveness of the marker: open-ended or closed conjunction.
Table 9. Structures extended by conjunction

<table>
<thead>
<tr>
<th>Conjunction type</th>
<th>Conjunction marker</th>
<th>Semantic schema*</th>
<th>Extended structure**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive</td>
<td>d-</td>
<td>X &amp; Y (&amp; Z)</td>
<td>NP _-NP (...)</td>
</tr>
<tr>
<td></td>
<td>(d-) al</td>
<td>X &amp;/until Y</td>
<td>S _SN (...)</td>
</tr>
<tr>
<td></td>
<td>xa- ~ ha</td>
<td>X &amp; (then) Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dai</td>
<td>X &amp; then Y</td>
<td></td>
</tr>
<tr>
<td>Alternative</td>
<td>nyd ~ nyd</td>
<td>X or Y (or Z)</td>
<td>NP _-NP (...)</td>
</tr>
<tr>
<td>Unlimited</td>
<td>ula</td>
<td>X nor Y (nor Z)</td>
<td>NEG..NP _-NP (...)</td>
</tr>
<tr>
<td>Limited:</td>
<td>mad</td>
<td>X or not-X</td>
<td>(Q)IS~SN, _S</td>
</tr>
<tr>
<td>exclusive</td>
<td>, NEG/NEG,</td>
<td>X, not Y</td>
<td>S _S</td>
</tr>
<tr>
<td>opposite</td>
<td>is</td>
<td>not X, Y</td>
<td>_S, S</td>
</tr>
<tr>
<td>Conditional</td>
<td>xm ~ km ~ mk</td>
<td>if X, Y</td>
<td>S _S</td>
</tr>
<tr>
<td></td>
<td>is</td>
<td>as for X, Y</td>
<td>_S, S</td>
</tr>
<tr>
<td>Temporal</td>
<td>alig:~g:al-g:</td>
<td>when X, Y</td>
<td>_S[+pf], S</td>
</tr>
<tr>
<td></td>
<td>ad:ai</td>
<td>when X, Y</td>
<td>_S[+ipf], S</td>
</tr>
<tr>
<td>Concessive</td>
<td>uaxa</td>
<td>even though X, Y</td>
<td>_S, S</td>
</tr>
<tr>
<td></td>
<td>myar</td>
<td>X, although Y</td>
<td>S _S</td>
</tr>
<tr>
<td>Contrary</td>
<td>s'la</td>
<td>X, but Y</td>
<td>S, _S</td>
</tr>
<tr>
<td></td>
<td>ualaini</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resultative</td>
<td>'laha:q</td>
<td>X, because Y</td>
<td>S, _S</td>
</tr>
<tr>
<td>Purposive</td>
<td>aka</td>
<td>X, so that Y</td>
<td>S _S[+IPV]</td>
</tr>
<tr>
<td>Distributive</td>
<td>k:u</td>
<td>while X, Y</td>
<td>_S[+IT], S[+IT]</td>
</tr>
<tr>
<td>Comparative</td>
<td>am</td>
<td>like X, like Y</td>
<td>_N, _N</td>
</tr>
<tr>
<td>Equality</td>
<td>am:a ~ am:i</td>
<td>X as if Y</td>
<td>S _S (...)</td>
</tr>
</tbody>
</table>

*X and Y are separate propositions, the amount of interdependence of which must be specified in T-rules for each case.

**(...) indicates recursiveness. S is verbal sentence, FS is focused sentence, features on S are those of verb phrase or verb it dominates.
The following sections note restrictions on each conjunction type, and give examples. The restrictions are essentially of two kinds: structural restrictions and content restrictions. Structural restrictions include the mode of the sentences involved: basic verbal (unmarked), focused, interrogative, negative, imperative, and pertinent features of the sentence structures (tense, aspect, verb mode, person, number, gender, etc.). Content restrictions include constraints on identity of sentence constituents: identity, non-identity, oppositeness.

6.1 Additive conjunction: X and Y (and Z)

The schema in Rule 1 of the base provides for open-ended conjoining of sentences. This gives a basis for series of conjoined noun phrases and for series of conjoined verbal sentences. The length of such extended structures is not limited by the grammatical rules (although it is limited by some factor, perhaps the attention span of the speaker or hearer).

6.1.1 Noun phrase conjunction

Conjoined noun phrases are derived from conjoined sentences with all elements identical but for the two noun phrases having the same function (subject, object, etc.). Identical elements of the second S are deleted and its NP is conjoined to the NP of the first sentence, by the particle /d/. The noun following /d/ takes dependent form.
Thus from three independent structures

#\u0440\u0433\u0434\u0447h\u0434\u0443#  #\u0440\u0433\u0434\u0447a\u0434\u0431\u0443#  #\u0440\u0433\u0434\u0447t\u0431\u0437\u0443#

"I bought a ram"  "I bought bread"  "I bought groceries"
the noun phrase conjunction rule derives

(172) /\u0432\u0430\u0437\u0447h\u0434\u0431\u0443 \u043d\u0434 \u0438\u0434\u0431\u0443\u0432\u0440\u043e /

"I bought a ram and bread and groceries."

If one of the noun phrases is pronominal, it may be an
independent personal pronoun or an impersonal one:

(173) /\u0421\u043e\u0441\u0444\u0438\u043d, \u043c\u0430\u0437\u0444\u0438\u043f\u043e\u0441./ "We will go, me and you."

(174) /\u0421\u044e\u043c\u0431\u043e\u0432\u0447\u043e\u043f\u0438\u043d\u043c\u0437\u0443 \u043d\u0434 \u043a\u043e\u043c\u043f\u0435\u0441\u043a\u0438\u043c\u043d\u0435\u043e\u0441\u0441\u0438\u043c\u043e\u043c\u043d\u0435\u043e\u043c\u0435\u043e\u0432\u043e\u0435\u043c\u0435\u043d\u0438/ "Whatever there is not to him and which is neces-
sary to him . . ." (/\u0421/ is relative pronoun, /\u0457/ is plu-
ral impersonal pronoun; both are defined by genitive (G)
plus #S# object.)

The preposition stem /s-/ also acts as conjunction:

(175) /\u043c\u043e\u0434\u0430\u0431\u0443\u0432\u0440\u043e s-\u043e /

"I ate bread with butter."

Agreement of the verb with a compound subject. The
verb may be inflected for plural number, as in (173), or it
may agree with the first NP of the series:

(176) /\u0442\u043e\u043c\u0430\u0437\u0444\u0438\u043f\u043e\u0441 \u043d\u0434 \u043f\u0435\u0441\u043a\u0438\u043d\u043e\u043c\u0431\u0437\u043d\u0438./

"The man and his son went." (i- is Pe 3, No sg, Ge m)

\u0448/ in responses. This particle has been noted only
in the following type of sentence, which is a response to a
question in the second person:

(177) /\u043c\u0430\u0437\u0432\u043e\u043d, \u0437\u0438\u043e\u0431\u0432\u043e\u043d. \u0430\u0443\u043d\u0437\u043e\u0441?/

"Me, I'm okay. And you?"
6.1.2 Conjunction of verb phrases and verbal sentences

Conjoined verb phrases have a single COMP, as in (178). Conjoined verbal sentences have separate COMPs; that of the second VP may include a pronominalized reflex of a COMP element of the first VP, as in (179).

(178) /abd slam, la-it:ay al-iznza 1faxr d-lg:az d-ikshi:n./ "Abdeslam, he buys and he sells charcoal and gas and logs."

(179) /abd slam, la-it:ay 1faxr d-lg:az d-ikshi:n al-tn-iznza./ "Abdeslam, he buys charcoal and gas and logs, and he sells them."

Conjunction at either level is marked by the /d/ particle, or by a particle replacing Daf and imperfect tense prefix, or by deletion of perfect marker from the verb stem, or by some combination of these. Sequences of /d/ and tense-aspect prefixes are:

\[
\begin{array}{ccc}
\text{VP}_1 & \text{VP}(<n) & \text{VP}_n \\
\{\emptyset\} & \{xa \sim ha\} & \{al\} \\
\{la-\} & \{al\} & \{dai\} \\
\text{IPF} & \{d:ad\} & \{d:ad\} \\
\end{array}
\]

Tense sequences are restricted by \(\text{VP}_1\); only if it is PF can a following VP be in the perfect. But in narratives, the non-initial VP's in a series are usually not marked for PF tense. The rules for verb phrase conjunction must
include a special one for narrative aorist (described in
Sec. 5.2.2.2), which will necessitate defining the notion
"narrative."

Mode of the verb stems in the sequence is not re-
stricted; it may be iterative (IT) in any or all. The pre-
fixes /la/ in VP₁ and /xa ~ ha/ in following VP usually
occur with an iterative verb stem.

Examples of various combinations of verbal S conjunc-
tion follow:

(180) /iznz muха amktar ha iаγ tafunast./
/izna muха amktar dai iаγ tafunast./
"Moха sold the horse and he buys a cow."

(181) /aslḥam išr:g, al-t-ugnuх. ib:i, iga akḍim dai
išr:g, d-al-t-ugnuх./ "The cloak tore, and I am sewing it.
It cut, it became old and it tore, and I am sewing it."

/al/ may have the sense of "until":

(182) /... xa-n-suṭuḍ ignuzn al-jauun tagzlt./
"... We have the calves suck until they fill the
belly."

Imperative verb phrases may occur in series, but usu-
ally only the initial sentence is in the imperative, and
those conjoined are in the second person imperfect:

(183) /d:u at:ayult./ <#d:u [+IPF] ad t ayul t#
"Go and return!"

6.2 Alternative conjunction

One type of alternative, the unlimited, is open-ended,
deriving from the conjunction schema of Rule 1. The other, limited alternative conjunction has two mutually exclusive terms, the second deriving from the #S# introduced in Rule 2 of the base.

6.2.1 Unlimited alternatives: X or Y (or Z)

These are conjoined by /nýd:/ ~ /ñnd:/ "or," or /ula/ "nor" after a negative sentence. The conjoined structures may be sentences (usually with identical subjects, deleted in the non-initial sentence), as in (185), or noun phrase series, with all elements of the underlying structures but the non-identical noun phrases deleted (184).

(184) /aui-d: ag:im udi ñnd: tamnt./
"Bring with you butter or honey (or the like)."

(185) /ur-xa-t-t:a:jan ad-i-'zb ula ad-iks ula ad-ikrz tamazirt-n-sn./ "They don't let him (that he) graze nor (that he) pasture nor (that he) plow their land."

6.2.2 Limited alternatives

This type of conjunction has two subtypes: mutually exclusive alternatives conjoined by /mad/, and alternatives of opposite negation, conjoined by comma juncture.

6.2.2.1 Mutually exclusive alternatives: X or not-X.
An interrogative sentence or clause in IS may have joined to it by /mad/ a noun phrase or sentence which is not identical to the corresponding structure of the main sentence. The conjoined structure can be replaced by a negative particle,
/la/ or /ihi/. The NP alternative is derived by deletion from the embedded #S# of elements identical to corresponding elements in the main sentence. See Sec. 4.2.3.2 and sentences there given as examples.

6.2.2.2 Alternatives of opposite negation: X, not Y. This conjunction type introduces a structure which is semantically in contrast, and grammatically of opposite negation, to the main sentence or one of its constituents. The main sentence may be a basic verbal sentence or a focused sentence. The latter is inherently contrastive: it singles out for emphasis one nominal as against all other possible (unspecified) nominals, or as against a specified alternative, named in a tag of opposite negation.

(186) /nk:in ai-t-ičan, urid: nt:a./
     "It's I who ate it, not he."

(187) /urid: nt:á ai-t-ičan, d-nk:in./
     "It's not he who ate it, it's me."

If the main sentence does not already have the contrastive stress furnished by the focus transformation, it is added by the transformation which embeds the alternative tag, being placed on the constituent which is contrasted.

(188) /iča aksúm, mši aýrum./
     "He ate meat, not bread."

The contrastive tag, introduced by the negator /ur id:/ or /mši/, is always derived from a focused #S#; the unfocused verbal sentence derived from the same underlying structure
as the contrastive tag would not be joined to the main sentence, by comma juncture or any other conjunction. Thus (188) contains two separate sentences:

(189) /iča aksum. ur-iči ayrum. /

"He ate meat. He didn't eat bread."

The verb of the embedded #S# may be deleted or replaced by an "empty" verb:

(190) /ija-t hd:u, mši nk:in ai-t-igan. /

"Heddou left it, not I (who did it)."

6.3 Conditional conjunction

Two different conjunctions, with slight semantic differences, introduce conditional clauses, which are subordinate to the main clause.

6.3.1 Verbal conditional in /xm/: if X, Y

The verbal conditional, /xm ~ km ~ mk/, introduces a basic verbal #S# which may be negated, as a conditional clause subordinated to a main clause which is separated from it by comma juncture.

(191) /xm ifγ ša urgaz sg:-džama\'t, xa-t-t:a\'zaln mid:n./

"If some man goes out of the council, people ostracize him."

6.3.2 Nominal condition in IS: as for X, Y

The sentence modal IS has the sense of "as for" when it introduces as conditional clause an affirmed sentence in /d/, or an NP derived from such an underlying #S#.
(192) /is d: ait tamdint nihni, kulši la-yirsn./
"As for the people of the town themselves, everything is there to them" (they have everything).

6.4 Temporal conjunction: when X, Y

The particles /alig:/ "when (in the past)" or /ad:ai/ "when (not in the past)" introduce a verbal clause subordinate to a main clause separated from it by comma juncture. These can be considered time adverbs which take verbal sentence complements; they replace any tense-aspect prefixes of the verb they precede.

(193) /alig: nd:a γr-Żbl, nufa ti‘ialin la-t:xdmн./
"When we went to the hills, we found the women (they were) working."

(194) /ad:ai tyli tfukt, xa-t:sn mid:n./
"When the sun sets, people eat."

/ad:ai/ is restricted to occurring before imperfect tense, /alig:/ before perfect.

6.5 Concessive conjunction: even though X, Y

The particle /uaxa/ introduces a verbal clause separated from the main sentence by comma juncture:

(195) /uaxa is:n ul:i-n-s, ur isin tinu./
"Even though he knows his sheep, he doesn't know mine."

The particle /mγar/ occurs after the main sentence, introducing a verbal clause:
(196) /ai-n-ax-d:iuin, a tag:mat, a-ua d-a ua,gin-d: šaigan, myar idrus, a ua d-a ua./ "Whatever you brought us, oh Sister (oh you, and you)/Are plentiful, although it is scarce (oh you, and oh you!)
(from a song; note the line-filling refrain).

6.6 Contrary conjunction: X, but Y

The conjunctive particle /s'la/ joins to the main sentence a verbal clause derived from #S# of Rule 2.

(197) /tr:z tsyart, s'la išb:r g:-išt n-syart qnin./ "The tree broke, but he grabbed onto another tree."

Another particle, /ualaini/, can conjoin two clauses or occur as a sentence-opener in a sentence not initial in the discourse.

6.7 Resultative conjunction: X, because Y

The particle /'alaḥaş/ joins to the main sentence a verbal clause derived from the #S# of Rule 2.

(198) /sirdx iqärn-inu, 'alaḥaş l:an digs iršain./ "I washed my feet, because there were in it dirt."

6.8 Purposive conjunction: X, so that Y

The (noun or) particle /aka/ joins to a verbal clause a dependent clause in the imperfect tense. The main clause may be in the imperative but not interrogative or negative.

(199) /ič akat:šud./ "Eat, in order that you grow!"
< #č[+IPV] aka ad tšut#
(200) /d:u-x yr-uxam d-m:i aka-t-lux./ "I went to the tent of my father's brother, in order that I see him."
The dependent clause may be in the negative:
(201) /tgt ūia uaman, aka ur it:nç buyrum./ "You put a little water, so that the pan won't stick."

6.9 Distributive conjunction: while X, Y

The distributive particle /k:u/ introduces the first of two verbal clauses in the iterative mode, with no tense-aspect markers. It has a sense of simultaneity of action of the two verbs (which must be non-identical, while the subjects must be identical).

(202) /asin kulši, kut:d:un t:ruZhmn i-tagut./ "They took everything, as they went along they scattered (it) to the fog."

6.10 Comparative conjunction

6.10.1 Comparison of equality

The "comparative of equality" particle /am/ occurs in an extended nominal sentence before each of two nouns (or independent personal pronouns) compared:

(203) /am nk:, am km, k:if-k:if./
"Like me, like you, same difference."

6.10.2 Comparison contrary to fact

Another particle, /am:a ~ am:i/, obviously derived from /am/ (with perhaps the relative /ma/ or /mi/), introduces a
verbal clause after a main clause, with non-identical verbs but with subject or some object identical.

(204) ... xa-t-t:q:n mi:d:n am:i ur ili, ur igi zigs:n./ "... people act toward him as if he didn't exist, he wasn't of them."

6.11 Conclusion

This completes the summary of structures extended by conjunction (employing an enlarged notion of conjunction). That other types of structures are possible is obvious, but these are the main types represented in my texts.
7.0 Structures not derivable from the base rules for verbal sentences

Certain sentences and sentence constituents without apparent verbal bases are not generated by the base rules of Sec. 3, although they contain many of the same categories. These structures include calls, demonstratives, interjections, exclamations, etc. Several involve stems which cannot be classified as noun, verb, or preposition stems, but which take affixes like IO, DO, or PO. They are assigned to a separate category, stem, which has already been introduced in the base rules as a manner adverbial to provide for /uahd:-/ "alone."

7.1 Calls, demonstratives and the vocative

Three kinds of utterances directed toward the hearer are marked with some kind of sentence-opening morpheme containing the vowel /a/: calls, with vocative particle /a/, deictic demonstratives with a particle /ha/, and dative demonstratives with a particle /ax-./

7.1.1 The vocative

The vocative particle /a/ was introduced in Sec. 5.1.3 in connection with its occurrence with the subject of the verb phrase. It is obligatory in direct calls, before a personal name or appellation or a pronoun (it is the impersonal demonstrative, not the emphatic personal pronoun, which occurs with the vocative). The vocative particle also
occurs optionally before the (Arabic) interrogative /škun/
"Who is it?" and the response to a call, also Arabic, /n'âm/
"What?" Occasionally a vocative particle occurs before an
imperative verb. Examples follow.

(205) /a s’tad:i:a. mani km?/
"Oh, Sadia! Where (are) you?"

(206)a /a tâ/ "Oh, you (feminine person)!

b /a ua/ "Oh, you (masculine person)!

c /a uin im-a, aura, aura./ "Oh, the ones of my
mother, come, come!" (refrain of a popular song)

(207) /a ḥiḍ-as./ "Oh, leave it alone!"

(208) /a šbî/. "Oh, wait!

(209) /a šbaḥ lxr, a unyirnx sâydnîn./ "Oh good morning,

oh one among us who are listening!" (opening line of text

MB 6.26)

7.1.2 The dative demonstrative stem /ax-/

This stem, with an obligatory suffix (from the IO para-
digm) agreeing in number and gender with the person ad-
dressed, calls his attention to the handing of some object
to him by the speaker:

ax-am "Here (I hand you (Sg f)!"
ax-ak Sg m
ax-auit Pl

This may be followed by an NP naming the object in question.
If this NP can be replaced by a DO affix, which appears pos-
sible, the structure can be labeled:
Dative dem. ~ indirect object (direct object) 
    pronominal ~ nominal

(210) /ax-am mm:im./ "Here (I hand) you your son!"

7.1.3 The deictic demonstrative /ha/

This is not a stem, in that it does not require an affix, although they may occur. It heads a demonstrative phrase with the structure:

Deictic dem. (particle) (IO) direct object (relDr)

ha  hia  \{ak\} \{am\} \{pronoun Pe 1,2\} \{ai\} \{-a\} \{DO [+Pe 3]\} \{Noun\} \{-in\}

The particle /hia/ may follow /ha/ if an IO affix follows.

The indirect object /ak/, /am/ distinguishes gender of the person addressed only in some dialects, farther from Arabic influence. Urban speakers use only the /hak-/ form for addressing either male or female, singular or plural, hearer; or substitute the Arabic forms altogether (as described in Harrell 1962, p. 215). If the direct object is DO affix, the IO is obligatory.

The direct object may be a noun, an emphatic personal pronoun in first or second person, or a DO affix in the third person: /t/ Sg m, /t:/ Sg f, /tn/ Pl.

The relative clause may be added when the direct object is not a noun with the feature [+human]. (Compare the similar structure resulting from T-86, Sec. 4.6.1.)
Examples of phrases with the deictic demonstrative follow. Note that it may not necessarily denote an object that is physically present, and that it may include a verbal sentence in the affirmed iterative:

(211) /ha nk:in lam-taznx lkrait-nm./ "Here I am I have just sent you your studies" (from a letter of one of my informants).

(212) /mani zhra? hak-t:-a-in./
"Where is Zohra? There she is."

(213) /mani muḥamːd? hak-t-ai-a./
"Where is Mohammed? Here he is."

(214) /tin-in latfr:ažn, haktnaia./
"Those ones there are watching, see them there."

(215) /tad, la-t:l:m. hahiam tiyːn-n-sn, la lan gːšːr./
"That one, she is spinning. There you see their goats, they are in the tree."

7.2 Interjections of direct address

Several stems that take IO affixes reflecting the number and gender of the person(s) addressed form interjective words occurring with verbal sentences. This class includes /yir-/ and /haš-/; there may be others.

7.2.1 The warning interjection /yir-/

In form identical to the Prepositional stem in its pre-pronominal form, this /yir-/ occurs with IO affixes:
γιρ-αμ  "Look out!" (to woman)
γιρ-ακ  "Look out!" (to man)
γιρ-αιτ  "Look out!" (to several persons)

It may take a sentence complement in the imperfect tense:

(216) /γιρ-ακ  ατι:ινιτ  αυαλ-α  ζατ  ην-μιδ:ην./
     "Beware that you say that word before people!"

7.2.2 The excusing interjection, /νας-/  

Occurrence of this interjection (stem plus second person IO suffix) is triggered by words of a certain class which one might designate words of ritual embarrassment. The class includes body parts and functions, and products, and certain animal names (as mentioned in Sec. 5.1.1.5). The restriction is not universally observed, especially as to the animal names, in younger age groups and urban environments.

(217) /ιυα, ι-δ:α  υργαζ-ιν  ξφ --ναςαιτ--  υγιυλ-ησ./
     "Well, this man went on his--you--all excuse it--donkey."

7.3 Nominal sentence with /ισμ/ "name"

The common sentence type stating (some)one's name is nominal, consisting of subject and predicate nouns:

/ισμ/  G NP  N (personal name)

subject  predicate

(218) /ισμ-ινυ  ψαχμα./ "My name (is) Faχmα." (Given as an example in Sec. 4.3.4.9, where the interrogative use was discussed.)
7.4 Particle sentences

The response particles /i ih/ "yes" and /i hi/ ~ /la/ "no" may occur with or without a following sentence which is related to the preceding sentence. Other particles may occur as complete sentences:

(219) /ua xa/. "Okay."

(220) /i ua?/ "Well?" (with rising intonation)

Such particle sentences must be derived in terms of their sentence environments, which I will not attempt here.

7.5 Greeting formulas

Some of the tremendous variety of greetings with which two speakers mark an encounter with each other have structures outside the sentences of Sec. 4, and similar to the miscellaneous stem-2d person IO affix structures discussed above. Women greet each other in the afternoon with

(221) /ms lxir./ "Good afternoon,"

which may be marked for singular feminine, or for plural:

(222) /ms-akm lxir./ "Good afternoon" (to a woman)
    ms-auit lxir. "Good afternoon" (to a group)

The morning greeting, /ṣbaḥ lxir/, and the greeting to males seem not to be able to take the second person affix.

7.6 Conclusion

This concludes the special mention of structures not generated by the present base rules. Doubtless others exist, but I wished to call attention here to the particular
pattern of stem plus affix marked for the gender and number of the person(s) addressed, and the anomalous naming sentence.
NOTES
Notes

1. The administrative center of the Cercle de Zemmour is Khemisset. The principal dialects on which this study is based are: Ait Khazazna and Ait Abbou (plains northwest of Khemisset, near Arabic-speaking tribes); Ait Hammou Boulman of the Ait Djbel Doum (mountains southeast of Khemisset, near Izaian dialect group); Ait Ouribel and Ait Bouzian, in and near Khemisset; and Ait Bel Qasem and Ait Ouahi, on the plain southwest of Khemisset. My informants were men and women of all ages, including children, and were in rural, village, and urban environments, with varying degrees of linguistic sophistication. Some educated male informants were literate in French and Arabic. All males spoke colloquial Moroccan Arabic; most children also were bilingual, except female children in the hills (the boys attend school, but few girls do). Children of Berber parents in towns and cities know very little Tamazight; the language of the schools and streets, and increasingly the homes, is Arabic. A few of the older women in villages, and many women in the hills, are monolingual, but with many Arabic loan-words which they identify as such. As I claimed to know no Arabic (a statement quite close to fact), my informants spoke only Tamazight to me; this was useful in distinguishing how much of the Arabic in their speech they were aware of as Arabic. Forms in this study may be labeled as Arabic-derived, on the basis of informant identification, not on etymological grounds.

2. The reader's familiarity with the generative model of grammar and with generative-transformational theory is assumed. The eventual grammar of Tamazight will need more explication of its terms and conventions for the general reader.

3. That is, they will fail to qualify as the structural index of any transformational rule.

4. A considerably greater degree of classification by selectional features will be necessary to assure that a lexical item selected from a category is appropriate to the construction in which it occurs.

5. For example, Arabic, Hebrew, Amharic, Hausa, and Coptic.
(See, for Moroccan Arabic, Harrell (1962), p. 159.

For information on comparable sentence types in Hebrew and Hausa, I am indebted to Ruth Aronson and Robert Terry. for Coptic, to Dr. Joseph R. Applegate.

6. I have avoided calling /g/ a copulative verb, because it has the sense both of being (intrinsically) and of becoming. For another sense, distinguished by a different complement type, see Sec. 4.1.7.

7. It is assumed that further analysis will permit representation of lexical items by a simpler and more general set of morphophonemic symbols. These symbols would be representable as phonological distinctive feature matrices, to be interpreted by the post-transformational rules (redundancy, rules, readjustment rules, etc.) necessary to relate the lexical items to the physical utterance. Thus the interim lexicon and lexical items herein have more phonological detail than they would in a grammar which includes the full phonological component.

8. In the generative model, lexical items are inserted in the PMarker (by the lexical insertion rule—see Sec. 3) before application of transformational rules. But the phonological form of some items is determined by features acquired in transformations: for example, the pronouns (see Sec. 5.1.1.1). Such a lexical item can be given its phonological form only after application of the T-rules, by a component of the grammar herein called "spelling rules." A similar assumption is made by Peter Rosenbaum (1965, fn. 4), in connection with the introduction of it in English.


10. I am indebted to Peter Ladefoged and John Ohala for consultations on the relationship of sonographic evidence to modes of vibration of the vocal cords.

11. This marks Tamazight as one of the "spirantizing" Berber languages, which include, according to Basset (1952, p. 5), "ceux du centre et du nord du Maroc et ceux dell'Algérie non saharienne: îlots oranais, région du Chélf, Kabylie, pays Chaouia."

12. A tape-recording of these examples, as read by Mohammed Abbazi, will be available upon request and presentation of a letter-size blank tape.

14. Described for Berber languages by A. Basset (1952, p. 7), as "voyelle du degré zéro."

15. I have included certain context restrictions, on co-occurrences, in these rules, on the ad hoc assumption that something which might well be universally restricted--e.g., mutually exclusive categories--should be so marked in the base, leaving to the T-rules the restrictions peculiar to this language. Thus the imperative and interrogative are a disjunctive choice in the base, but T-rules provide for non-iteration of the causative.

16. For convenience, both strict subcategorical features and selectional features are positively specified at present.

17. Thus I have chosen the lexical insertion method tentatively adopted by Chomsky on p. 164 of Aspects over that which he proposes on p. 120.

18. In the lexicon, only plus features are specified for an entry; those unspecified are minus, by convention. But in the T-rules, for the sake of brevity, I have specified only features pertinent to the rule, plus or minus.

19. IS and MA are derived by T-79 and T-81, with an obligatory Q. The Q is deleted by later rules which derive relative phrases in MA (Sec. 5.1.5.2) and relative clauses in IS (Sec. 6.3.2). An optional transformation deletes IS from questions, leaving only the interrogative intonation to mark it as a question: /and:u/? "Shall we go?"

The analogy of English wh- and Berber ma- is interesting, in comparing local vs. general interrogation, as linguistic universals. Local interrogation--i.e., questioning of one element of a proposition--requiring a substantive answer, is accomplished in Berber with the ma-, in English with wh-. General interrogation--i.e., questioning of a proposition as a whole--requiring a yes-no answer, is accomplished in Berber with the postulative particle /is/ or merely with interrogative intonation. English interrogative sentences beginning with "Is . . .?", Do . . .?", Are . . .?" seem quite similar. Katz and Postal (1964, p. 97) regard English yes-no questions as also being wh- questions with the wh- element deleted when Q is sentence initial, a recent development of the language. (When they say that "in most question cases, Q is also not manifested
phonetically," they apparently disregard the kind of intonation that distinguishes "You called?" from "You called.") If, as Katz and Postal state, yes-no questions beginning with whether did occur in earlier English, they would be analogous to the /is/ questions in Berber. The /is/ particle in non-question environments, having the sense of "if," is already analogous to the non-question use of English "whether," as is the Berber /ma-/ in its relative use analogous to the English wh.

20. Note the choice of articles in translation: "the horseman," "the fête," for nouns the referent of which has been established previously in the discourse; but "an apple" for the object not previously identified.

There is no "article" morpheme in the Tamazight text, except perhaps the initial /l/ of (Arabic-derived) nouns like /lfiṭṭa/. But nouns borrowed from Arabic tend to be treated as units rather than as article plus noun. The initial /l/ (or fortis /t: d: s: z: r: n:/ where assimilation of the /l/ has occurred) remains in all constructions, even those where Arabic would drop the article. For example, in the genitive phrase:

#i̯G̲lk:asG̲at:ai# → /i̯lk:as uat:ai/ "one cup of tea," the genitive /n/ usually disappears, the /l/ remains.

The truth of this statement is gradual, depending on how much the speaker is influenced by Arabic.

21. This is pointed out by Lionel Galand in an article (1957) in which he distinguishes "l'anticipation renforcée" from "l'anticipation élémentaire." This distinction corresponds to the one I make between focused sentences and pre-announced topic sentences. A reading of Mr. Galand's article after I had made substantially the same analysis, especially as to the relationship of "l'anticipation renforcée" and the interrogative-relative forms in /ma/, confirmed the generality of this distinction in Berber.

22. Metathesis of two consonants is a common process in Berber, accounting for dialectal differences such as found in verb stems /ru:l/ (Zemmour) ~ /lu:r/ (Izaian) "flee." Some speakers unconsciously metathesize certain words or stems, saying now /ib'd/ "he began" and later /ibd/, without recognizing the difference in form.
23. A few examples are given for each lexical class. These and others are listed alphabetically, within the major category, in the sample lexicon, App. A.

24. Stative verbs are marked as a class by a different conjugation—i.e., subject person, number and gender inflections—in some Berber languages, especially Zouaoua (Laoust 1939, p. 175). For example, in Kabyle (Hanoteau 1906, p. 201):

\[
\begin{align*}
\text{No sg, Pe} & \quad 1 \quad -\gamma \\
2 & \quad -d \\
3 \quad \text{Ge m} & \quad -\emptyset \\
\text{f} & \quad -t
\end{align*}
\]

In Tamazight the conjugation of stative verbs is regular, and they are distinguished only by their correspondence to adjectives. But not all adjectives have corresponding verbal stems.

25. Additional rules must provide for occurrence of titles before proper nouns:

- **Honorific titles:** /sidi/ "my lord" \( \pm [+_{-N}] \)
- /sidna/ "our lord _" \(+ [+_{-N}] \)
- /si/ "Mr. _" \(+ [+_{-N}] \)

- **Kinship titles:** /\m:i/ "My uncle" \( \pm [+_{+N}] \)

The kinship titles, especially those for "uncle" and "aunt," are used as titles of respect in addressing one's elders.

26. Certain nouns and verbs have social restrictions on their usage. This class happens to have formal linguistic marking of its restricted status: mention of such a word requires an interjection of apology. Other classes of restricted words, mainly body parts and functions, are designated by speakers as /\l\i:b/: they are not to be mentioned in public or to members of the opposite sex. Although violation of the restriction has no linguistic consequences, the social consequences could be disastrous. Rather than omit such words (as many dictionaries do), the lexicon marks their psychosocial status by the feature [+R] for restricted.

27. The natural explanation for the occasional occurrence of an NP implementing a first or second person pronominal is that it eliminates ambiguity. A third-person pronoun is always ambiguous and thus always requires a noun phrase implement. In a language which does not
distinguish inclusive from exclusive in forms whose referent is speaker and/or hearer (first or second-person forms), a statement may be ambiguous unless the scope of the reference is established by some other syntactic means. In Tamazight, the syntactic means for establishing the scope of the reference is simply the inclusion of a noun delimiting the ambiguous pronoun. Thus, to establish that a second-person plural subject (as marked by the /n/ inflection of the verb) refers to the speaker and others, not including the hearer, a nominal subject is stated which eliminates the ambiguity: /inslman/ "Muslims."

28. After writing rules T-40, T-42, and T-44, it occurred to me that they might be simplified by treating the VM stem formants as pro-verbs, which do not occur as main verbs but only occur in embedded #S# dominated by VS. The base rule would read:

\[ VS \rightarrow (IT) (#S#) V \]

and the lexicon would include three verbs with the rule feature [+T modal], and the inherent feature [+caus], [+recpr], or [+pass]. They would be further specified for the type of complement structure required by the derived verb. This alternate solution would eliminate the ambiguous verb used in the embedded sentences below.

29. Lacoste (1939, p. 194) distinguishes /ha/ "voici" from /hak/ "voilà," as proximate vs. remote. It is possible that he did not hear the /ham/ form, which is addressed to females.
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*T-/mad/ limited alternative S 4.2.3.2  60
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Lexical	Features

a	(+VGC)
a-  (vDAF) ~xa, ha / _PF
a-	(+TE) ~ad
-a	(+Dr) (+proximate) / _N
a⁻tuš	(+N) (+No sg) (+Ge m) (+concrete) (+common) (+count)
a⁻rim	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+common) (+count)
abda	(+P)
abadn: (+P)
abl:di	(+N)
abr:ad	(+N) (+No sg) (+Ge m) (+concrete) (+common) (+count)
abr:rid	(+N) (+No sg) (+Ge m) (+concrete) (+common) (+count)
absar	(+N)
ad-	(+TE) (+PF)
ad:a	(+P) (+time) ~ ad:st / _NEG
ad:st	(+P) (+time)
af	(+V) (+NP) (+IP) (+P) (+a-) (+m- (+t:u:)) cf W tufa
     PF uaf, ufi IT tafa ~ taf
afasi	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+common) (+count)
afkir	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+common) (+count)
af:nəngəui	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+common) (+count)
afus	(+N) (+No sg) (+Ge m) (+concrete) (+common) (+count)
ag:di	(+P) (+accompanying) ~ ag:td / _N (+pron)
ag:td	(+P) (+accompanying) ag:td / _N
ag:i:di	(+N) (+No sg) (+Ge m) (+human) (+count) (+common) (+count) ; M tag:i:it:
agnoz	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+count) (+animate)
ag:i:du	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+count) (+animate)
aj	(+V) (+NP) (+IP) (+a-) (+PP) (+a-) (+Dr) (+m- (+t:u:)) (+m-)
     PF uja, IT taj
aière < rel pronom + IPF ~ ayyra (dialects near Izain)
ai:li	(+N) (+No sg) (+Ge m) (+Quant_1) (+common)
aiyra < rel pronom + IPF ~ ara (q.v.)
aiyrum	(+N) (+No sg) (+Ge m) (+Quant_1) (+common)
aiul	(+V) (+NP) (+S) (+a-) (+Dr)
aj:zi:n	(+N)
aj:zi:ni	(+N) (+No sg) (+Ge m) (+human) (+concrete) (+common) (+count)
aj:zi:li	(+N) (+No sg) (+Ge m) (+animal) (+concrete) (+common) (+count)
ai	(+N) (+pron) / _PF (relative pronom)
ain < rel pronom + genitive, / _SF/ in - -n
aidi	(+N) (+No sg) (+Ge m) (+animate) (+count) (+concrete) (+common) (+I hə)
afis	(+N) (+No sg) (+Ge m) (+animate) (+count) (+concrete) (+common)
sit	(+N) (+No sg) (+Ge m) (+human) (+kin) (+concrete) (+common) (+count)
sitma	(+N) (+No sg) (+Ge m) (+human) (+kin) (+concrete) (+common) (+count)
si:gu	(+N) (+No sg) (+Ge m) (+animate) (+concrete) (+common) (+count)
si:ru
     (+N) (+No sg) (+Ge m) (+concrete) (+time)
     = = = = (concrete) (count)
aj	(+V) (+NP) (+a-) (+Dr) (+m-) (+SF)
     PF uj, ufi ~ ja, ji. IT taj ~ taj
aka	(+N) (+manner)

Translation	_tag_

oh

this, here
lamb
boy in late teens
never; ever
never
country, rural
telekettle
read
blind

when, if
when
find

man of Faz
old man (respectful)
Frenchman
hand & arm
with, against

king
calf
colt
buy

p. 103

milk, cream

bread
return; become
lame

bastard
ram

that, which
whatever
dog
horse (for riding)
people (of ___)
brothers
bull
month
moon

leave, let go of, 1st
depart

in this way, thus

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work horse
like that, in that way
head
bald
old; great; big
act of entering
puppy
until, as far as
when (+PF)
again
like
water
townman
but; as if
as if
companion
prisoner
grinding-bowl
as if
likewise (response)
shepherd, herdsmen
trust in
horseman
earabot, local
saint
young man
Moroccan
it's not as if
government guard
catch, seize
inhabitant
last
a lot, extremely
sons; boys; children
boy
man
flour
European, Christian
day
today
year
Saharan
tomorrow, next day
Sahélien citizen
preceding day
companion
day after tomorrow
day before yesterday
land, ground
ašibani (N)(human)(common)(count)(+No sg)(+Ge m) cf V šib
attat (N)(+common)(+concrete)(+No sg)(+Ge m) a > wa
auu (v)(+NP)(赁 IP)(赁 PP)(+Dr) PF lut
auela (P) ~ ula ~ uala
ausar (N)(+St)
ax- (N)(+concrete)(common)(count)(+No sg)(+Ge m)
axar (N)(+concrete)(+common)(+No sg)(+Ge m) a > wa
ažma (v)(+ADV time)
ažka (N)(+ania)(+common)(+count)(+No sg)(+Ge m)
ažru (N)(+concrete)(+common)(+count)
ažna (N)(+concrete)(+common)(+No sg)(+Ge m)
‘ald (v)(赁 PP)(+ _Œ Š Š)(赁 Dr)
šalpaš (P)

---
grey beard
tea (leaves or brew)
carry, take, bring
or (else)
old (person)
here (I hand you)
tent
hair (mass)
fast
beef animal
big stone
sky
return; become
because
APPENDIX B. TREES (SENTENCE DIAGRAMS)
(1) 4.1.2

L 1 2 3 4 5 6 7 8 9

P /d:adid:u urgaz-im./ "The man will go."

(2) 4.1.3

L 1 2 3 4 5 6 7 8 9

P /id:a uawksa Tr-uxam Tr-tadg:uat:./ "The shepherd went to his tent at evening."

T-pronom = T-100 => # 2 3 6 7 4 5 8 9

P /id:a Tirs uawksa Tr-tadg:uat:./ "The shepherd went toward it at evening."
(3)

P /frːdʒ ɡː-umktar ʤːmin./ "You neglected the other horse." (3)a

Prenominalization of the NP object of PP (*T-50) results in a PMarker that takes T-100:

T-100 shifts the pronominal PP to post-verbal position:

Phonological rules give this PMarker the form (PNG interpreted as zero without emphasis):

P /frːdʒ dig-s./ "You neglected it." (3)b
(4)  4.1.3.3

\[ \text{VP} \rightarrow \text{NP} \rightarrow \text{PP} \]

```
L \# ad \ iilī  argaz  xas  uhd:  u  f
P /ad-iilī  argaz  xas  uhd: -u/  "The man will be all alone."
```

(5)  4.1.3.3

\[ \text{VP} \rightarrow \text{NP} \rightarrow \text{PP} \]

```
L \# PF \ iilī  taula  dig  i  f
T-100 obligatorily parses the PP with pronominal object to post-verbal position:
#PF \ iilī  taula  dig  i  #
Phonological rules interpret the resulting PMarker as:
P /tl:ə dig-i taula./  "There is in me fever."
```

(5a)  T-85 optionally deletes the verb nucleus VN:  # \# dig-i taula #
P /dig-i taula./  "In me fever" (I have a fever)
Pronominalization of the NP direct object (*T-50) gives a PMarker which takes T-100:

T-101 obligatorily attaches the pronominalized direct object to the verb, post-verbally:

T-103 obligatorily shifts the post-verbal DO affix to pre-verbal because of IPF:

Phonological rules give this PMarker the form: (DO → /t/)
(10)

\[
\text{L} \quad \text{\# ad} \quad \text{\# as} \quad \text{argaz} \quad \text{\# ara} \quad \text{\#}
\]

P/\text{ad-i} \text{ ms} \text{ urgaz i-uara}/. "The man will cover the children." (10)a

Pronominalization of the NP object of IP results in a PMarker requiring T-102:

\[
\text{\# ad} \quad \text{\# as} \quad \text{argaz} \quad \text{\# pron} \quad \text{\#}
\]

T-102 obligatorily affixes the pronominal IP (10) postverbally:

\[
\text{\# ad} \quad \text{\# as} \quad \text{\# i} \quad \text{\# pron} \quad \text{argaz} \quad \text{\#}
\]

T-103 obligatorily shifts the \text{i} to preverbal position in the presence of IPF:

\[
\text{\# ad} \quad \text{\# pron} \quad \text{\# as} \quad \text{argaz} \quad \text{\#}
\]

The resulting PMarker is phonologically interpreted as:

P/\text{ad-san-i} \text{ ms} \text{ urgaz}/. "The man will cover them." (10)b
P /ad-šu ʊARGAZ 1-lasakin./ "The man will give bread to the poor." (13)a

Pronominalization of the NP direct object and IP indirect object results in a PMarker:

# ad ʊARGAZ No sg 1 No pl

T-101 and T-102 obligatorily attach the pronominalized COMP elements postverbally:

# ad ʊ 1 [pron] [pron] ARGAZ 0 0

T-103 obligatorily shifts the pronominalized COMP elements to preverbal, after IPF:

# ad 1 [pron] [pron] ʊ ARGAZ

Phonological rules interpret this PMarker as

P /ad-asn-t-ʊARGAZ./ "The man will give it to them." (13)b
T-2 assigns the No and GE of the subject to the adjective of PRED NOM:

\[ \{d F\} \text{ PF} \ g \ \text{ib:a} \ \text{akr}^c_i \]

If SM is null, the phonological rules interpret the PMarker as

\[ P/\text{iga} \text{ ib:am} \text{ akr}^c_i / \quad \text{"Your father is bald."} \quad (15a) \]

If SM is F, T-74 is obligatory, resulting in the following PMarker if PRED NOM is focus:

\[ \{d \} \text{ akr}^c_i \text{ F ai g \ ib:a} \ \text{akr}^c_i \]

If Daf is null, this PMarker is phonologically interpreted as:

\[ P/\text{akr}^c_i \text{ ag:a \ ib:am} / \quad \text{"It's bald that your father is."} \quad (15b) \]

If Daf is not null, T-80 affixes it to the focus; the resulting PMarker is phonologically:

\[ P/\text{d akr}^c_i \text{ ag:a \ ib:am} / \quad \text{"It's bald that your father is."} \quad (15b') \]
(15) continued. The derived PMarker underlying (15)b', resulting from T-80 is:

\[ \begin{array}{c}
\text{SN} \\
\text{NS} \\
\text{Daf} \\
\text{FOCUS} \\
\text{REL CLAUSE} \\
\text{SN} \\
\text{COMP} \\
\text{VP} \\
\text{SN} \\
\text{NP} \\
\text{DEF} \\
\text{PRED NOM} \\
\text{NP} \\
\end{array} \]

P' /lβ:am, dαkrĉi aː/ "Your father, it's bald that he is." (15)c

T-87 optionally deletes from the PMarker of (15)c the T and the relative clause:

\[ \begin{array}{c}
\text{SN} \\
\text{Daf} \\
\text{FOCUS} \\
\text{REL CLAUSE} \\
\text{SN} \\
\text{COMP} \\
\text{VP} \\
\text{NP} \\
\text{DEF} \\
\text{PRED NOM} \\
\text{NP} \\
\end{array} \]

P' /lβ:am dαkrĉi/. "Your father is bald." (15)d

SUBJECT PREDICATE
If SM and NEG are null, the PMarker is phonologically interpreted as

\[ P \text{/d:\text{ad-id}:u \text{wu\text{h}a} \text{\textasciitilde r-s:u\text{\textkm}{}}}./ "\text{Mo\text{h}a will go to market}." \] (39a)

If SM is null but NEG is not null, the base PMarker is phonologically interpreted as

\[ P \text{/ur d:\text{ad-id}:u \text{wu\text{h}a} \text{\textasciitilde r-s:u\text{\textkm}{}}}./ "\text{Mo\text{h}a is not going to market}." \] (39b)

If SM is not null and NEG is null, the PMarker is phonologically interpreted as

\[ P \text{/is d:\text{ad-id}:u \text{wu\text{h}a} \text{\textasciitilde r-s:u\text{\textkm}{}}}./ "\text{Is Mo\text{h}a going to go to market?}" \] (39c)

If neither SM nor NEG is null, the resulting phonological representation is

\[ P \text{/is ur d:\text{ad-id}:u \text{wu\text{h}a} \text{\textasciitilde r-s:u\text{\textkm}{}}}./ "\text{Isn't Mo\text{h}a going to go to market?}" \] (39d)
(39) continued

L \# IPV (ur. xa PF) t: d:u a muha g'ir s:uk

(39)c

If NEG is null, Daf is null and IT is usually null. The resulting PMarker is

f \# ur \# t: d:u IPV a muha g'ir s:uk

P / d:u, a muha, g'ir s:uk/ "Go, oh Moha, to the market!"

If NEG is not null, Daf and IT are not null, and TE is PF. T-4 deletes TE, adds IPV as a feature of the verb, and shifts Daf to precede NEG:

f \# xar ur \# t: d:u +IPV a muha g'ir s:uk

P / xar ur-t: d:u, a muha, g'ir s:uk/ "Don't go, oh Moha, to the market!"  (39)d
(48)a

L

#PF  er  tamţut:  tadfaţ:  i  amnai  g:  lfiţa #

P

/tgr tamţut: tadfaţ: i-umnaî g:-lfiţa./

"The woman threw an apple to the horseman at the festival."

(basic verbal sentence)
(48)b

4.3.1

P /tamtut: ag:grn tadjat: i-umai g::liżta./

"It's the woman who threw an apple to the horseman at the festival."

(T-Y1), applied to marker of Sentence (48a), selecting subject as focus)
(48)c

4.3.1

REL CLAUSE

SN

SN

COMP

IP

NP

PP

VN

V

NP

NL

TP

P

NP

#tadfaḥt: F ai PF gr [Pel]

tamṭut: ð i amnai g: 1fiṯa #

P /tadfaḥt: ai-tgr tamṭut: i-umnai g: 1fiṯa./

"It's an apple that the woman threw to the horseman at the festival."

(T-74 applied to PMarker of Sentence (48)a, selecting direct object as focus)
(48)d

4.3.1

#S#

REL CLAUSE

SN

FOCUS

VP

COMP

IP

REL

VN

NP

NP

NP

IP

PP

# i amnai F

ai PF

gr [+Pe3

+Nosg

+Gef]

tamṭut: tadfaḥt:

∅

g: lfiżṭa #

P /i-umnai ai-tgr tamṭut: tadfaḥt: g:-lfiżṭa./

"It's to the horseman that the woman threw the apple at the festival."

(T-74 applied to PMarker of Sentence (48)a, selecting indirect object as focus)
(48)e

"It's at the festival that the woman threw an apple to the horseman."

(The applied to the PMarker of Sentence (48)a, selecting prepositional phrase as focus.)
(49)

4.3.1.2

(\text{FOCUS})

\text{REL CLAUSE}

\text{SN}

\text{VP}

\text{COMP}

\text{IP} \quad \text{P} \quad \text{MA} \quad \text{RP} \quad \text{VN} \quad \text{NP} \quad \text{NP} \quad \text{IP} \quad \text{PP}

\text{I} \quad \text{NP} \quad \text{I} \quad \text{rel} \quad \text{TE} \quad \text{VS} \quad \text{N} \quad \text{N} \quad \text{PS} \quad \text{NP}

\# \phi \quad \text{amnai} \quad \text{f} \quad \text{ma} \quad \text{i} \quad \text{mi} \quad \text{PF} \quad \text{gr} \quad \text{tam}^{\text{tut}}: \quad \text{tadfa}^h\text{t}: \quad \emptyset \quad \text{g}: \quad \text{lfi}^\text{\text{-\text{f}}}\text{\text{\text{-\text{f}}}a} \#

\text{f} / \text{amnai mi-mi tgr tm}^{\text{tut}}: \quad \text{tadfa}^h\text{t}: \quad \text{g}: \quad \text{lfi}^\text{\text{-\text{f}}}\text{\text{\text{-\text{f}}}a} /

"It's the horseman to whom the woman threw an apple at the festival."

\text{(T-75 applied to PMarker resulting from T-74, underlying Sentence (48)d)}
(54)  T-74 applied to PMarker of Sentence 39

4.3.3.2

P/ muha ara 1d:un pr-a:uk/ "It's Noha who will go to the market."

if SN is IS Q, then T-81 applies:

P/ iad muha ara-1d:un pr-a:uk/ "Is it Noha who will go to market?"
(57) -- (60)

4.3.3.3

S

SN

IS Daf F NEG VP NP COMP

#(CS) (CS) (F) (CS) PF CS #

$vN$ VS N N

+pron +Pe 1 +No sg $+$

# human

+common +Pe 3 +No ag +Ge $f$

L #(ta) (d) (F) (ur) PF u:t PNG t:bar: $f$

1 2 3 4 5 6 7 8 9

If 2, 3, 4 are null, \( P / u : t x \) t:bar:/: "I beat the girl." (basic verbal sentence)

If 4 is not null, \( P / u r - u : t x t: r a t b a t : / \) "I didn't beat the girl." (negated verbal S)

If 3 is not null, T-74 is obligatory. If 7 is selected as focus, the PMarker is:

SN

IS Daf FOCUS REL CLAUSE

NP F REL SN COMP

$vN$ VS N N

+Pe 1 +No sg $+$

human

+common +Pe 3 +No ag +Ge $f$

If 2 is null, \( P / m k i n \) ag$u:t n: t:tarbat :/ \) "It's who beat the girl." (focused S) (57)
(57)–(60) continued

If 3 and 4 are not null, T-74 gives as subject-focused PMarker:

\[
\text{\# is (d) PNG F ai ur PF u:t } \left[ \text{Pe } \emptyset \right] \emptyset \text{ tarbat: 
\]

\[
\begin{array}{c}
2
\end{array}
\]

If 2 is null, \( P /nk: in ai-ur-\text{u:tn tarbat:/ "It's I who didn't beat the girl." } (58) \)

If 2 is not null, T-82 applies to the result of T-74 to give this PMarker:

\[
\text{\# ur is ai: d PNG F ai (ur) PF u:t } \left[ \text{Pe } \emptyset \right] \emptyset \text{ tarbat: 
\]

If T-82 deletes (NEG) from REL CLAUSE, the phonological rules give the sentence

\( P /urid: nk:in ag:u:tn tarbat:/ "It's not I who beat the girl." (59) \)

If T-82 does not delete (NEG) from the REL CLAUSE, the phonological rules give the sentence

\( P /urid: nk:in ai ur-\text{u:tn tarbat:/ "It's not I who didn't beat the girl." } (60) \)
If T-74 (obligatory with F) selects the subject as focus, the resulting PMarker is

T-79a substitutes MA for the focused NP, resulting in a phrase marker
(63)

T-74 is obligatory with F. If it selects as focus IP, the resulting PMarker is:

T-79b obligatorily deletes the NP of the focus, replacing it by relative object pronoun:

P /ns-ns a-tuṣṣit agrum/ *To whom did you give bread?*
(65)

T-74 is obligatory. If the NP subject is selected as focus, the resulting PMarker is:

T-79c obligatorily deletes the quantifying N, substituting the Nword in the focus:

"How many of children that there are to you-all?" (65)
(66)

4.3.4.4

\[
\begin{array}{c}
\text{SN} \\
\text{Q MA} \\
\text{Nword} \\
\text{TE} \\
\text{VS} \\
\text{NP} \\
\text{PP} \\
\text{PS} \\
\text{Q} \\
\text{G} \\
\text{N} \\
\text{CS} \quad \text{time} \\
\text{PP} \\
\text{prom} \\
\text{Pe}2 \\
\text{Pmsg} \\
\text{CS} \\
\text{CS} \\
\text{CS} \\
\text{CS} \\
\text{Q} \\
\text{nilmi} \\
\text{F} \\
\text{PF} \\
\text{lul} \\
\text{PNG} \\
\text{dig} \\
\text{ya} \\
\text{sa} \\
\text{ausu:as} \\
\end{array}
\]

T-74 is obligatory. If ADV is selected as focus, the resulting PMarker is

\[
\begin{array}{c}
\text{SN} \\
\text{Q MA} \\
\text{Nword} \\
\text{FOCUS} \\
\text{REL} \\
\text{CLAUSE} \\
\text{SN} \\
\text{Q} \\
\text{nilmi} \\
\text{dig} \\
\text{sa} \\
\text{ausu:as} \\
\text{F} \\
\text{at} \\
\text{PF} \\
\text{lul} \\
\text{PNG} \\
\end{array}
\]

T-79d obligatorily deletes the focused ADV[time] in the presence of Nword[+time]. Result:

\[
\begin{array}{c}
\text{Q nilmi} \\
\text{F} \\
\text{at} \\
\text{PF} \\
\text{lul} \\
\text{PNG} \\
\end{array}
\]

P /nilmi at-lul?/  "When were you born?"  (66)
(67)

L # Q ma aka F PF t: g PNG aɣrum s aka #

T-74 is obligatory with F. If it selects as focus the ADV, the resulting PMarker is:

# Q ma aka s aka F a1 PF t: g PNG aɣrum #

T-79e obligatorily deletes the focused ADV_manner and replaces it with /maaka/:

P /maaka t: g aɣrum/ “How do you make bread?”

(67)
(70), (71)

T-74 is obligatory with F. If PP is selected as focus, the resulting PMarker is:

T-79f optionally deletes the NP of the focus, replacing it with /mani/:

P /mani: il: a umhraz?/ "Where is the grinding-bowl?" (70)

T-79g optionally deletes PS and VN, resulting in the nominal question:

P /mani ahraz?/ "Where (is) the grinding-bowl?" (71)
T-74 obligatorily focuses the PRED NOM, resulting in a PMarker which takes T-80:

T-80 attaches Def to the focus; the resulting PMarker takes T-83:

T-83 shifts NP subject to pre-announced topic position:

T-87 deletes REL /at/, VN, and T:

T-79h deletes the focused NP and its affirming particle (Def), substituting /mat:a/ as focus:

The resulting PMarker is phonologically interpreted:

P /mat:a lhašt-a?/  "What is that thing?"
P /i+la lfkth ij urba amzian./ "The teacher saw a little boy."
I pronominalization of possessor reduces the second /hand/ to /-s/, resulting in

\[ P \text{ /iskra hand 1kuran i-uarau-n-a.} \quad \text{"Hamid had his children taught the Koran."} \] (156)
(159) /tuvu bu'z:a ag:d-sm'1m./ "Buzza fought with Sm1m." (159)
(162)

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THE MAN WHO RODE THE TRAIN

Recorded October 12, 1964, at Khemisset, Morocco, from Si Budriss, uncle of Lhoussaine ben Hammadi, Ait Bouzian. (3.2)

1. il:a ij urgaz la inig lmašina. la it:k:i a f 1k:i f.
2. isk:r ištmtút tarumit, tafransauia. ik:r, id:a ij
3. s:bsi. tasiast trumit, tgrit sg: šržm. tk:r trumit
4. at:niud:u, taj aidi. igrast urgaz sg: šržm. id:ud:.
5. t’ait: trumit, taf difficulté. ur il:i. tnas manig: il:a
7. lqist n budris, xals n si lhus:in bn ḫm:adi, ait
8. buzian.

1There was a man who got on the train. He was smoking kif. 2He aroused a Christian, a Frenchwoman. He began, he went one 3pipe. The Christian took it from him, she threw it from the window. The Christian got up 4to take a stroll, she left the dog. The man threw it from the window. He returned. 5The Christian returned, she found the dog not there. She said "Where is 6Bow-Wow?" He said to her, "He went to bring Puff-Puff."

7The story of Budriss, (mother's brother) of Mr. Lhoussaine ben Hammadi, (of the tribe) Ait 8Bouzian.
2. STEPS IN THE WEAVING PROCESS

Recorded March 16, 1965, Tape M-8, Track 1,7.6, Aisha Sibui.
Transcribed (with Ben Daoud u Mouloud), Book 15.49-51.

1. lantasi tāḍuṭ, nauti: sīyərə, nsirdit, nfrnit, ngit:
2. ad:zuı, nkrəli: sukrəsəl, nasi yirs izdi, nlm:mit, ngr
3. aẓ:ta, nyrd i t’ialin, amzn ag:id nx nqdiit, nsnlit,
4. n- nsbd: it, n’kdit xf ufg:ag:, nbd’ anəd.
5. anəd ij n sin içuqan, nyl: şard içuqan, d aẓ:ta nx.
6. sgl: siin nbd’ an:gl akliq, aḥnbl nyd: tazəbit, anbd’ an:gl
7. aḥnbl nyd: tazəbit, at:nəd, al itnkm:1. anamə-as ša
9. nasi al:u tāḍuṭ, nauti: yr iyər, nsirdit, nlm:mit,
10. ngri al:u ša uḥnbl. an:gl -- ankrəl, nlm:s, sukrəsəl, d
11. izdi, laisntlm: ngr al:u ša n:hd:unt, nyl: aslḥam,
13. anznitz, nra anaməżit i lmaḥalat nx, as:is nəms.

1We take wool, we bring it to the river, we wash it, we pick it over, we do it 2that it dry, we comb it with the card, we bring to it the spindle, we spin it, we throw 3the weaving, (wind warp on loom), we call in women, they take hold with us, we fold it, we raise (alternate threads of warp) it, 4we, we make it stand, we tie it on the loom, we begin to weave.

5We will weave a two-fingers (width), or three
fingers, it's our weaving. From there on we begin to make stripes, blanket or rug, we begin to make a blanket or a rug, we weave it until we finish it. We take to it some working woman, with us she works, a helper. With us she helps, until we finish.

We take also wool, we take it to the river, we wash it, we spin it, we throw also some blanket. We do -- we card, we spin, with the card and the spindle, with which we spin. We throw also some saddle blanket, or cloak, blanket, hey?-- However the weaving is. We weave it also, we finish it, we want to sell it (or) we want to take it to our homes, that with it we cover.
3. WEAVING A PARTICULAR BLANKET

Recorded March 16, 1965, Tape M-8, Track 1,8.4. Âisha Sibui.
Transcribed (with Ben Daoud ou Mouloud), Book 15.52-3.

1. 'iša, ilis n sibui. lat:asix taḏuṭ:, auixt: γr
2. iyżr, siruxt:, fnuxt: sg: uḥšlaf, fsrxt: at:zui, fsuxt:,
3. kršlx: g: ukršal, l:mx: g: izdí, grx aḥṇbl, ymx azguay,
4. ymx auray, ymx aḥbšan, 1kdx ażt:a n:u, snlxt, zdix diks
5. šuia, gx alḵiḏ. alḵiḏ rix, lat:srusx. dik algr:žx,
6. ażt:a n:u, gixt g: lmaḥal inu, km rix, znzx t.
7. (another speaker): šhal as mi tznxt aḥṇbl nm?
8. (Âisha): latznuzx, il:a bu-rb'a alf, bu-xmsa alf,
9. al s:ta alf, as:mi znuzx aḥṇbl. tažřbit, km it: gix
10. al:u ntat, latznuzx s:ta alf, sb'a alf, tmna alf, ...
11. (other woman): n mi?

1Âisha, daughter of Sibui. I take wool, I take it
to 2the river, I washed it, I picked it over for grass,
I spread it that it dry, I separated it, 3I carded it
in the card, I spin it at the spindle, I threw a blan-
ket, I dyed red, 4I dyed yellow, I dyed black, I tied
my weaving, I raised (alternate threads in) it, I wove
in it 5a little, I put in a stripe. The stripe I
wanted, I would set down. Thus until I finished, 6my
weaving, I put it in my house, if I had wanted, I
(would have) sold it. 7(Other speaker): How much
with which you sell your blanket? 8 (Aisha): I sell it, there is the one of four thousand, the one of five thousand, 9 up to six thousand with which I sell a blanket. A rug, if I had made it 10 also, that, I sell it for six thousand, seven thousand, eight thousand ... 11 (Other speaker): of what? 12 (Aisha): Of reales, with which I sell it.
4. BOYS ARE ASHAMED BEFORE THEIR PARENTS

Recorded August 23, 1965, at Khemisset, Morocco, from Lalla Rūma, of Ait Yahdin (but speaking Khemisset dialect).
Transcribed Book 15.85-7.

1. tnam, γirnx išt lka'id:a. nkni, arba, laithšam sg:
2. ib:as. la ziks itššam bz:af. im:as, ŝuia. xals, la
3. ziks it:ššam ŝuia. xals, akin. isd 'm:s, la ziks
5. iua safi.
6. (2d speaker): unit:ššamn, mag:tg:? 
8. it:ini aual l'ib zdat asn. aual if:γ lk:anun, ur
10. zdat ib:as, ur it:ini adjnx ag: tmtuţ zdat ib:as, ur
11. it:kmu zdat as, ur it:ks ib:tan ns ad ixim hz:udi zdat
12. ib:as, Ššuma γirnx. la it:ššam sg: ib:as bz:af, d
15. (2d speaker): is il:a g: r:ad:iu ŝa izlan,...
16. (rūma): ... ur it:γima agd ib:as. xa it:f:γ γr
17. br:a, al ifat r:ad:iu, 'nd: at:xsin. ad ili ib:as
18. xas uhd:u.

1She said to you (i.e., I will tell you), among us (there is) a custom. We, a boy, he is embarrassed of 2his father. From him he is very embarrassed. His
mother, a little. His mother's sister, from her he is embarrassed a little. Mother's brother, likewise. If it's his father's brother, from him he is very embarrassed. Other people, from them he is embarrassed just a little. Well, that's enough. (2d speaker): One who is embarrassed, what does he do? (R̪̣̄ma): He does, he is embarrassed from his parents. He does not say a bad word in front of them. A word which departs from propriety, he doesn't say it, he does not sing before his father, he doesn't go to prostitutes before his father, he doesn't say, "I slept with a woman" before his father, he doesn't smoke before him, he doesn't remove his clothes that he remain naked before his father, a disgrace among us. He is embarrassed from his father a lot, and his mother. He doesn't bathe before his father, a disgrace among us, us, a lot. He departs from propriety. He will be a mocker of his parents. (2d speaker): If there is on the radio some songs... (R̪̣̄ma): ... he doesn't remain with his father. He goes out to the outdoors, until the radio is past, or they turn it off. His father will be all alone.
5. THE STORY OF JOSEPH AND HIS BROTHERS

(As told by a young wife of a farmer in the Tizidine, Cercle de Zemmour, Morocco.)

1. inam, iiul urgaz snat n:ʼialin. ʼišt tiri shbʼa
2. d-uuarau, ʼišt tiri ij, ism n-s iusf. alig: ijn, ik:rn,
3. ijn g:ič, alig: iuarža, is as-il:a uiur gar ual:n.
4. ask:a g:-ifu lḥal, ina-s, a im:a, źnx iḍl:i, alig:
5. uaržax is il:a uiur gar ual:n, ḥurn-ii shbʼa d-itran.
6. tna-s, d:u, susm, a mm:i, xaur-t-t:ini ag:d ij. tk:r
7. takna, tna-s -- tsl-as i-urba g:-as-it-iʼauḍ i-m:ais.
8. ina-s, tk:r takna, tna-s i-urau n-s, at:iauim iusf,
9. at:nyim. auin-t al ʻari, amzn-t, al as-γrsn. (i:z:
10. iusf γr ib:as bs:af. uin ẓnin, la.) ik:r ij umžian
11. diksn, al it:k:r yifs, ina-s, ur-as-tγrsn. auin-t,
12. gn-t g:-lbir, gın iusf g:-lbir. γmsn-as s-ḍzra.
14. id:a iusf abrid n-s. ur-nsin la-iʼaid-d:, ur-nsin
15. maniaka id:a.
16. ikım iusf g:lbir, alig: d:-d:an. ij ukabar, id:a-d:
17. ukabar, la-inγa-t irifi. ik:-d: xf-lbir. ik:r ukabar,
18. bʻadn inγa-tn irifi, k:in-d: xf-lbir. grn dlú g:-
19. lbir, ad-suın. grn dlú g:-lbir ad-suın, al-d:-nzγn
20. aman, alig: d:-išbr diksn iusf, nzγn-t-id. nan-as,
21. bismil:ah r:ḥma r:ḥim. ina-sn, la, anslm it:inin
22. ašahadu anlahilaha ʾllah, waṣaḥhadu, sidi n:a muḥamad
23. n-r:asul uşah.
24. auin-t-id, ina-s at:d:ut a-γiri tgt ahrqan g:-lmaḥal
25. inu. ihz:a ij diks:n, at-igar unud:m i-iusf, iuḥal
26. g:-lbir, xas la-it:γtima, xas s-uaka. iu:t-it s-
27. ubariḳ, tdr'a tgnut xas sg:-r:b:i. ibd'al ik:at
28. unẓar xas xf-un-it-ιu:tn s-ubariḳ. xas afla un-it-
29. iu:tn s-ubariḳ, uid-in ẓnin, ša ur-xa-γifs:ik:at
30. unẓar. la, has nt:a uḥḍ:u. xas nt:a xf-mi ik:at
32. iauq-d: urgaz-n s-axam, rkbn-as tasirt al izḍ. rkbn-
33. as tasirt al izaq iusf, al izaq iusf γr-urgaz-n,
34. iiui-t-id ad as-ig ahrqan. al izaq tasirt, ik:r,
35. ttaug γirs išt n:mṯut:, ttaug γirs. iu:t-it: s-uarn.
36. iu:t-it: s-uarn, i'nu-i-as al:n. i'nu-i-as al:n,
37. ša ur-xa-tisi-d:. al tt:ini, 'mix, 'mix, 'mix. al
38. it-t:ḥuẓurn iusf, ad-as-isk: afus, akad-as-iks l'ama.
39. l'ama sg:-uαl:n. la-tga tabsart. ḥuẓurn, icks-as,
40. icks:-as afus i-uali:n s-uaka, icks-as l'ama sg:-uali:n.
41. tayul al tt:isi:d:, nan-as, argaz-a, ša ur-izaq.
42. argaz-a d-šrif, ša ur-izaq, ur-ikim ad izaq.
43. id:u, xa-it:d:u asal taru rutin, tmsx tg irdn,
44. id:u γr-tan, tmsx tg lfarina, id:u γr-tan, tmsx tg
45. timẓin, id:u γr-tan, al msxn la'uali, al t:ɡ:in
46. irdn. ayuln la'uali, al t:ɡ:in imni.
47. id:u, id:u, alig: d:-id:a aumatn it-granin g:-lbir,
49. imni. ikːr, iakz-itn. iakz-itn, i'br-asn imni.
50. i'br, aliq: as-i'br i-umzian, ur-ixlis sg:-umzian.
51. ikːr, igr-as arb'i i-ij g:-txnsit. ina-s, al urzun,
52. ina-s, sus:u, id:u-i-as i-iusf. la iukr-as-t um:as.
53. ikːr al asn-d:isasu isakan. aliq: asn-d:isasu
54. isakan, isuruğ ziksn arb'i. isuruğ arb'i sg:-usaku.
55. ikːr, ina-s, uhr:n amur uktysit, uhr:n arb'i ur-
56. tuymait.
57. ikːr, d:un. ikim iusf. iuš-as-d: ašruit i-umzian,
58. g:-aitmas. ina-s, uš-it i-im:a d-ib:a. la ikːr-as
59. lg:runš xf-ual:n, i-m:ais d-ib:as. sk:in ašruit
60. i-ual:n, ik:s-asn lg:rununš. td:u-d: m:ais d-ib:as,
61. γirs, a-ziks kaln. g:-d:-dan, nan-as, nra an: 'lu
62. argaz-a, argaz-ad it:kaln imni, iznuzan imni. g:-
63. taug:n γirs, ina-s i-m:ais, ma-s-mi takzt mm:im?
64. tna-s, mm:i, il:a-as uiur gar ual:n. uasa ad 'lux.
65. ihz:a tašd:, r:zt, dai takz-it. takz mm:is. tukz-
66. it. tukz mm:is, safi, ain diks ai-a.
67. itːu 'abdr:hmәn, d:uar ait 'mr u'li, ait ḥmu
68. bulman, ait ʔbl d:um, biru 1xmis:at:

1They say, a man married two wives. One bore
seven 2children, one bore one (his name was Joseph). When
he was sleeping, he began, 3he was sleeping at night, then
he dreamed, that to him was the moon between the eyes.
4The next day, when it became day, he said to her, "Oh
Mother, I slept last night, then I dreamed, that the moon was between (my) eyes, seven stars surrounded me." She said to him, "Go, hush, oh my son, do not say it to anyone." The other wife got up, she told him -- she listened to the boy when (to her) he repeated to his mother. They say, the other wife got up, she said to her children "that you take Joseph, that you kill him." They took him to the hilltop, they seized him, until they slew him (i.e., they were going to kill him). Very dear was Joseph to his father. The other ones, no. One small one among them rose up, when he was rising up on them, he said of him, "Do not slay him." They took him, they put him in a well. They put Joseph in a well, they covered him with stones. They returned to his father, they said to him, "That we took Joseph, Joseph went. Joseph went his way. We don't know (if) he is returning, we don't know where or why he went.

Joseph stayed in the well, until they came. A rider, a rider came, thirst was killing him. He came upon the well. The rider began, they began to be thirsty, they came on the well, they threw the bucket in the well, that they drink. They threw the bucket in the well that they drink, and they drew out water, then he grabbed on to them, Joseph grabbed them, they drew him out. They said to him "In the name of Allah, the merciful, the compassionate. He said to them "No, a Muslim who says (here the monolin-
They brought him, he (one of them) said to him, "You come that to me you be a slave," (that) to him he said. He brought him with him to his home. "That you be a slave in my home." One of them took, sleep called Joseph, he was tired in the well (he was tired with sitting), he was just sitting, just like this. He struck him with a slap, thunder pealed just from God. It began to pour rain just on the one who struck him with a slap. Just above the one who struck him with a slap, Those others, the rain was not falling on them at all (the rain). No, just that one alone. Just that one on whom beat the rain. He didn't reach the tents before he fainted. He was afraid. That man (the one who claimed Joseph as a slave) reached the tent, they gave him the (stone hand-) mill that he grind. They gave him the mill and Joseph ground, and Joseph ground for that man, (who) brought him that to him he be a slave. And he ground the mill, he began, a woman came in to him, she penetrated to where he was (milling is women's work, and he was embarrassed). He hit her with flour. He hit her with flour, he blinded to her the eyes. He blinded to her the eyes, she wasn't seeing at all. And she was crying, "I'm blind, I'm blind, I'm blind!" and they pleaded with him, and they were pleasing with Joseph that he pass his hand over her, so that from her he remove the blindness. the blindness from (her)
eyes. She was blind. They pleaded. He removed from her, he passed to her (his) hand to (her) eyes, like this, he removed from her the blindness from (her) eyes. 41 She returned and she saw (i.e., she saw once again). They said to her (him?) "This man, he doesn't grind. 42 this man is noble, he doesn't grind, it doesn't remain that he grind. 43 He went, he was going this day and the mound of earth bore, it changed, it was wheat; 44 he went to this, it changed, it was soft wheat, he went to this, it changed, it was barley, he went to this, and the mounds changed, they are 46 wheat. The mounds changed and they make grain.

47 He goes, he goes, (he continues like this) until (his) brothers come who had thrown him in the well, 48 they came to buy from him grain. They came to him that they buy from him 49 grain. He rose, he recognized them. He recognized them, he measured them grain. 50 He measured, when he measured to the small one, he didn't (receive) pay from the small one. 51 He rose, he threw him a measure, to one, in the sack. He said to him, and they searched, 52 he said to him, "Pour out," (the measure) was lost to him, to Joseph. His brother stole it from him (he made it appear). 53 He rose and to them he dumped the sacks. When he dumped their sacks, he retrieved from them the measure. He retrieved the measure from the sack. 55 He rose, he said to him, 56 (translator did not translate).

57 He rose, they went. Joseph remained. He gave
him a cloth, to the smallest 58 among his brothers. He said to him, "Give it to my mother and my father." There were breaking out 59 sties on their eyes, to his mother and his father. They passed the cloth over 60 the eyes, it removed from them the sties. His mother came and his father, 61 to him, that from him they buy (grain). When they came, they said to him, "We want that we see 62 this man, this man who sells grain, who sells grain. When 63 they entered to him, he said to his mother, "With what will you recognize your son?" 64 She said to him, "My son, there is to him the moon between the eyes. Now I will see." 65 He raised his turban and she recognizes him. She recognizes her son. She recognized 66 him. She recognized her son. That's all, whatever there is in it.

67 Itto (daughter of) Abdel Rhaman, of the douar Ait Amr Wali, Ait Hammon 68 Boulman, (sub tribe) Ait Djbel Douar (tribe), bureau Khemisset.