

27 Hua (Papuan)

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Hua is a Papuan language of the Gorokan family, spoken by approximately 3,000 people in a dozen villages around the Lufa District Office in the Eastern Highlands of Papua New Guinea. Both the language itself and the immediate family to which it belongs (including Move, Yate, Kamano, Gimi, Asaro, Alekano, Fore, Siane, and Gende) are among the best known and most deeply studied non-Austronesian languages of the island of New Guinea: which is to say that there are at least a handful of descriptive articles on each of them, and in some cases a full-scale grammatical description. All of these are SOV predominantly suffixing and predominantly agglutinative languages characterized by an absence of grammatical gender and a striking degree of morphological regularity in their marking of nominal case and verbal tense, mood, and aspect, and subject–verb agreement. They are reminiscent in these respects of Turkish.

The Gorokan languages differ in the degree to which agglutinative expression of subject–verb agreement (invariable stem + personal desinence) has been replaced by a synthesis of these two morphemes. In Hua, it is impossible to make a morphological separation between stem and desinence, as the person and number of the subject of the verb are marked through a combination of vocalic ablaut affecting the final segment of the verb stem + an only partially specified personal desinence. Comparative evidence suggests that stem ablaut arose through vowel crasis, or *gunah*, the relatively unstable vowel chain sequence / . . . V1 + V2 . . . / (still comparatively well preserved in Gimi), being replaced by / . . . V3 + . . . /. Nevertheless, it is impossible to posit phonologically plausible abstract underlying representations of the first type in a synchronic grammar of Hua. Rather, V3 is a person–number-sensitive derivative of V1, which belongs clearly to the verb stem, and the morph(eme) boundary between stem and desinence has shifted over one segment. Thus, contrast the Gimi and Hua cognate forms of ‘you (sg.) do’:

Gimi: ho + ane do + 2sg. *assertive*

Hua: ha + ne do (2 person) + 2sg./1pl. *assertive*

All of the Gorokan languages, in addition to marking subject–verb and (much more limited) object–verb agreement by verbal affixation, also exhibit exuberant morphological markings for different types of clause linkage in compound and complex sentences. There are a variety of devices for linking clauses, depending on whether they are invested with the same illocutionary force. For example, there is a characteristic subject–verb agreement-marking suffix roughly equivalent to our colon when an assertion is to be followed by a balancing assertion or a rhetorical question:

hi-va do (3 person) + colon 1sg./3sg./2, 3 pl.,

another when an imperative is followed by an assertion, and another when an assertion is followed by an imperative.

When the marking clause and the following clause are in the same mood (or have roughly the same illocutionary force), then the verb of the nonfinal clause (or *medial*) in a compound sentence, in addition to marking the person and number of its subject, will also mark the person and number of the following verb.

Medial verbs are a notorious feature of many of the Papuan languages of the so-called trans-New Guinea phylum, and the distinction between medial and final verbs has been familiar to specialists since the appearance of Pilhofer's grammar of the Kate language in 1933.

A more recent discovery (Haiman 1976) is that in a somewhat smaller number of languages, including Hua, medial verbs may be of two types, coordinate and subordinate. Coordinate clauses are in the same tense and mood as the following clause and observe tense iconicity: that is, the events described in the prior clause occur before the events described in the subsequent clause. Subordinate medial clauses are invariably in the assertive/indicative mood (corresponding roughly to presuppositions), need not observe tense (iconicity), and need not be in the same tense as the following clause.

In addition to marking person and number of two subjects, *coordinate medial verbs alone* also indicate whether the following subject is or is not identical with its own. This is what is known as "switch-reference marking." Comparative evidence and typological universals allow us to reconstruct the origins of both medial verbs and the mechanism of switch reference with a fair amount of confidence.

There are a handful of morphological categories in all the Gorokan languages which are expressed by prefixes: on certain inalienably possessed nouns, the pronoun expressing the possessor:

d-vari 'my sweat';

on some transitive verbs, the pronoun expressing the human object (in the case of ditransitive verbs, this will be the indirect object):

d – mi –e
me – give (non-first person) – 1, 3 sg., 2, 3 pl. assertive.

In Hua alone, for a fairly substantial number of verbal and nominal roots, these prefixes are infixes rather than prefixes, and comparative evidence from other languages and productive processes in Hua allow us to conjecture how infixation may have become established.

1 Nominal morphology

The superficial syllable structure of Hua is CV('), with the glottal stop as the only permitted final consonant. At a slightly more abstract level, the canonical syllable structure is C*V(C): underlying syllable-initial consonant clusters are broken up by the insertion of anaptyctic schwa, and the final consonant may be one of the three consonants /r, n, '/. Consequently, all syllabic morphemes in Hua end in open syllables, or at most in syllables closed by one of the consonants /r, n, '/.

1.1 The citation suffix

To some extent, the parts of speech are identifiable from their phonetic structure. Verb stems may end only in a vowel, in fact, one of the vowels /i, o, u/. Only nouns may end in /r, n/, and only before a single suffix /-a/, the “citation” suffix. This is an optional variant of the nominative case marker, and may occur only with monosyllabic roots or stems. The citation suffix may be followed by the predicate/exclamative marker /-e/ and no other suffix. When a nominal stem is itself polysyllabic, the citation suffix is disfavored. When the nominal stem is followed by any other suffix, the citation suffix cannot occur:

de-a-e	<i>man + cit. + pred.</i>	'Man!'
ar-a-e	<i>woman + cit. + pred.</i>	'Woman!'
mnin-a	<i>water + cit. + pred.</i>	'Water!'

Before any suffix other than the citation suffix, including zero, morpheme-final /r, n/ are realized as the glottal stop – hence the nominatives *de* 'man', *a* 'woman', *nni* 'water'.

As indicated, the citation suffix is hard to elicit or is rarely attested with polysyllabic stems:

okrumar-a	~	okruma'	'sky'
gian-a	~	gia'	'foot, leg'
ovu-a	~	ovu	'star',

but:

gasino'	'braid'
gana'	'younger brother'
atve	'taro'
ege	'banana, plantain'

In Hua (as in English) many proper nouns are derived from common nouns. All proper nouns, however, end in the glottal stop – hence the contrast *momoti* 'kind of wallaby' versus *momoti* 'male name'.

The citation suffix is impossible to elicit with proper nouns. When they are used in the vocative, proper names lose the final glottal stop:

momoti – (o) 'Momoti!'

For practical purposes, all nonverbal syllabic stems in Hua end in either a vowel or the glottal stop. The contrast has consequences when these stems are followed by other morphemes, with two exceptions. The first we have already seen: the final glottal stop disappears in the vocative "case." In the second, before the possessive suffixes, a final glottal stop is apparently supplied.

1.2 The possessive suffixes

All nominal stems, whether or not they are inalienably possessed, may be followed by a possessive suffix marking the person and number of the possessor. The form of the possessive suffix (and of this suffix alone) is identical irrespective of whether the nominal stem ends in a vowel or the glottal stop.

The possessive suffixes, unlike other pronominal categories, distinguish second and third person not only in the singular, but also in dual and plural numbers:

Person	<i>Singular</i>	<i>Dual</i>	<i>Plural</i>
1	'di	ti'a	ti
2	ka	titi'a	ti
3	'a	'i'a	'i

Thus *zur-a* 'house, home': 1sg. *zu'di*, 3sg. *zu'a*, 3pl. *zu'i*, and *zu-a* 'work, garden': 1sg. *zu'di*, 3sg. *zu'a*, 3pl. *zu'i*. (Most kin terms occur with an extension *-ma'* on the possessive suffix, thus *naru'ama'* 'his wife'.)

1.3 The case suffixes

No such neutralization occurs before other suffixes, such as the true case suffixes, which typically occur in two forms:

Case	Postvocalic	Postconsonantal
Benefactive	hi'	si'
Inessive	vi'	pi'
Allative	ro'	to'
Comitative	gi'	ki'

Thus, for *zura: zusi* 'for the house', *zuto* 'at the house', but for *zua: zuhi* 'for the work', *zuro* 'at work'. The forms in the right-hand column exemplify a general pattern of glottal stop absorption, whereby glottal stop + C1 yields a generally homorganic but less sonorant C2. (As a special case of this, a sequence of two glottal stops is pronounced as a single glottal stop.) The fact that the contrast between vowel- and consonant-final stems is neutralized before the possessive suffixes suggests that the latter may be analyzable as consisting of glottal stop + other material: thus 3sg. 'a = ' + a, 2sg. -ka = ' + ga, etc. Then /zu + ' + ga/ 'your work' is indistinguishable from /zu' + ' + ga/ 'your house'.

Two other case suffixes are notable in that they distinguish singular and plural: these are the ergative and the genitive. The ergative case is irregular in the singular:

Case		Postvocalic	Postglottal
Ergative	sg.	mu'	'bamu'
	pl.	mi	'bi
Genitive	sg.	ma'	'ba'
	pl.	i'	'i'

1.4 The personal pronouns

The personal pronouns are heteroclitic, in that they seem to be vowel-final with some affixes (among them the citation suffix *-a* and the comitative suffix *-gi'*), but glottal-stop-final with others (such as the benefactive suffix *hi'* and the allative suffix *-ro'*). The forms of the genitive and the ergative are irregular with personal pronouns, as well: the genitive is uniformly *-'*, while the ergative agrees in both person and number with the personal pronoun. As is clear from the examination of any single column in table 27.1, the personal pronouns consist of various prefixes (identical with the prefixes which mark the person of the inalienable possessor) on a common stem *gai*, the meaning of which is uncertain. Thus *T'* is literally 'my *gai*', etc.

1.5 The possessive prefixes

Some (but not all) kin terms, effluviae, and body-part terms obligatorily mark possession with possessive prefixes identical with those which occur in the paradigm of personal pronouns. Thus *d-naru* 'my wife', *k-gehu* 'your grandchild',

Table 27.1 Personal pronouns

	<i>Citation</i>	<i>Benefactive</i>	<i>Ergative</i>	<i>Genitive</i>
1sg.	dgai-a	dgai-si'	dgaivi'bamu'da	dgai-'
2sg.	kgai-a	kgai-si'	kgaivi'bamuga	kgai-'
3sg.	gai-a	gai-si'	gaivi'bamu'	gai-'
1du.	ra'agai-a	ra'agaisi'	ra'agaimuta'a	ra'agai-'
2/3du.	pa'agai-a	pa'agaisi'	pa'agaimita'a	pa'agai-'
1pl.	rgai-a	rgaisi'	rgaimuta	rgai-'
2/3pl.	pgai-a	pgaisi'	pgaimita	pgai-'

r-gia' 'our feet', *p-vari* 'their sweat', *p-gau* 'your vaginas'. With three kin terms, *e'gu* 'elder brother', *i'ra'* 'mother', and *e'va'* 'father', the possessive prefix is irregularly infix: thus *e'dgu* (*e'-d- gu*) 'my elder brother', *ikra'* (*i' -g - ra'*) 'your mother', *epva'* (*e' - p - va'*) 'their father'.

A number of kin terms and body parts, seemingly as inalienably possessed as any others, do not permit a possessive prefix at all. Among these are the kin terms *ba'de* 'boy, son', *a'ba'de* 'girl, daughter', *ete* 'husband', and the body parts *iko'* 'navel' and *aigi'* 'anus', as well as the effluviae *vi* 'tears, urine' and *ai* 'feces'. Their inalienability is covertly marked, however, in the following way: with alienably possessed nouns, possession may be marked by either the possessive suffix or the expression possessor + genitive possessum, and the possessive suffix does not indicate inalienability at all. Thus 'my dog' can be either *dgai' kra*, 1sg. + genitive dog, or *kra -'di*, dog + 1sg., possessive. With inalienably possessed nouns, the possessive suffix is always obligatory. Thus *iko-'di* (**dgai' iko'*) 'my navel', and so on. The same need to mark the possessor by an affix on inalienably possessed nouns is reflected in regular nouns when the possessor is 3sg. The pronoun prefix is nil, but this kind of non-expression is unacceptable: *d'za'* 'my hand, arm', but **0-za'* 'his/her hand'. Here the possessor again has to be indicated by the otherwise optional possessive suffix *za'a* 'his/her hand'.

1.6 Number marking

Except in personal pronouns and in the ergative case marker, number is not a fully grammaticalized category in nominal morphology. A handful of common human nouns have suppletive plurals:

	Singular	Plural
man	de	ve'de
woman	a'	a'de
person	gnu	naga'

Others form plurals by compounding or the addition of a collective affix like *-gi* 'group':

	Singular	Plural	
boy	ba'de	ba'de+ve'de	'boys'
bird	mna	mna+vza	'flock of birds'
sweet potato	bza	bza + vutavu	'pile of sweet potatoes'
Norope	Norope	Norope + gi	'Norope and his family'

1.7 *The potential topic marker*

Nominal expressions (including deverbal nominal expressions) may be marked as such by the addition of the potential topic marker *-mo* (postglottal *-'bo*), the distribution of which is somewhat complicated. First, the potential topic suffix may never co-occur with the citation suffix, even when this is functioning as nothing more than the redundant marker of the nominative case. One may say *vi-a toe* or *vi-mo toe* 'I cried, shed tears', but never **vi-a-mo toe*. This is the most evident constraint on the distribution of the suffix, leading one native language consultant to suggest that *-mo* occurred where words are joined together in an utterance, while the citation suffix tends to occur when words are uttered in isolation. But there are other constraints as well. The suffix is forbidden on nominal expressions acting as adjectives. That is, it cannot occur on nouns in the genitive case, nominal modifiers in the inessive or adressive/allative cases, or on relative clauses:

dgai' (*mo) fu	'my pig'
fina + roga (*mo) de	'a fighting (lit. fight-at) man'
dmima' (*mo) fu	'the pig he gave me'

The suffix is also forbidden on nominal expressions which act as entire utterances. That is, it cannot occur on nouns in the vocative "case":

momoti (-o) (*mo) 'Momoti!'

And it is probably for this same reason that it never occurs on final finite verbs, and why it is listed here as an essentially nominal affix.

With nouns in other cases which are "acting as nouns" (not verbs or adjectives), the suffix is optional, though it is favored as a fatterer (as is the citation suffix) on what would otherwise be monosyllabic words: one may say *dgai* or *dgai-a* or *dgai-mo* 'I', but the first occurs rarely. Similarly, one may say *dgaisi'* or *dgaisi'bo* 'for me', but both are common. (Recall that the citation suffix *-a* is impossible with any other suffix.)

Finally, the suffix *-mo* is virtually obligatory on one subordinate clause type, the conditional protasis (which would otherwise be identical with the relative clause):

d-mima-mo 'given that he gave it to me'

Within the limits of its permitted distribution, the potential topic suffix is virtually meaningless. It certainly cannot be translated as anything like "as for . . .", the way we might translate Japanese *wa* in some cases. For this, there exists an actual topic suffix *-ve*, which may follow the suffix *-mo*:

dgai-mo-ve 'as for me'

Nor can it be translated as the definite article (as the cognate etymon is translatable in Alekao or Asaro, for example; cf. Haiman 1992). Hua has no grammaticalized marking for definiteness at all.

2 Verbal morphology

The most striking fact about the Hua verb is that in all but the most common cases, it consists of a presumably nominal root followed by a verbalizer, the support verb *hu-* 'do': thus *zagita hu-* 'cook', *kori hu-* 'flee, be afraid', *finu hu-* 'fight'. Although the nominal stem in such compound verbs frequently has no independent existence, there are nevertheless three good reasons for analyzing it as a noun (and, in fact, an object noun). First, the nominal root is frequently found with the potential topic suffix *-mo*, here utterly meaningless, thus *finu-mo hu-* 'fight'. Second, the negative prefix 'a' (*a-*), which generally precedes the verb stem, comes between the nominal stem and the support verb; compare 'a-d- *gorai-* 'not -me- trick' with *kori - 'a- fu-* 'fleeing - not- do'. Finally, the subjects of semantically intransitive verbs of the form NP + *hu-* may occur in the ergative case.

The second most striking fact about Hua verbs, already touched on in the introductory paragraphs of this survey, is that the final vowel of the verb stem (which must be one of the vowels /i, o, u/) is subject to ablaut, depending on the person and number of its subject. There are, in fact, two person-marking ablauting rules of general validity, depending on the nature of the immediately following affix. Before we deal with these, some remarks on the structure of the verb phrase are in order.

Like other SOV languages, Hua has V + Auxiliary order, with personal or infinitival desinences following at the end of this complex. Auxiliaries marking aspect precede those marking tense and mood. Mood is marked by both auxiliaries and final desinences, and, in at least one case, by an invariable portmanteau of the two. Except in the case of the progressive aspect marker *bai-*, which is identical with the copula/existential verb "to be," the auxiliary verbs are distinct from lexical verbs. Some of the other common auxiliaries and auxiliary combinations are the following:

Perfective (past):	-ro-
Habitual:	-ro + hu-
Future	
(a) indicative:	-gu-
(b) subjunctive:	-su-
Avolitional:	-ro + gu- ~ ro + su-

(This last, clearly a combination of the perfective and one of the future auxiliaries, translates “it would be bad if . . .” in principal clauses, or “lest . . .” in subordinate clauses.)

Finite personal desinences are characterized by the peculiarity that they occur in three forms. Since there are seven persons in Hua, it follows that the desinences leave person and number systematically underspecified. Some examples of these “threefold desinences” are:

Person	Assertive	Interrogative	Exclamatory	Colon
1, 3sg., 2, 3pl.	e	ve	mane	va
dual	'e	've	'mane	'va
2sg, 1pl.	ne	pe	pane	pa

(It is notable that the glottal stop, where it functions as the characteristic mark of dual number, is impervious to the otherwise general rules of glottal-stop coalescence exemplified in the discussion of nominal morphology.)

Nonfinite desinences include the infinitives *-di* and *-gasi*, and the imperative *-(o)* (dual *-o*, plural *-(h)o*).

2.1 The ablaut rules

The simplest and most general rule is that the final vowel of the verb or auxiliary stem immediately preceding the subjunctive auxiliary *-su-*, the invariable jussive portmanteau *-no*, and the invariable future medial portmanteau *-na-* is always fronted, irrespective of person and number of its subject. Stem-final /o, u/ change to /e, i/, while stem-final /i/ remains unchanged. The pattern is illustrated for the subjunctive only:

	Stem	Subjunctive			
be	bai-	bai-su-e	'let me be',	bai-si-e	'let him/her be'
eat	do-	de-su-e	'let me eat',	de-si-e	'let him/her eat'
do	hu-	hi-su-e	'let me do',	hi-si-e	'let him/her do'

The second rule is that the final vowel of the verb or auxiliary stem preceding any morpheme other than the subjunctive or one of the “threefold desinences” is fronted when its subject is nonfirst person and nonsingular. The pattern is

illustrated with changes affecting the final vowel of the stem preceding the future indicative auxiliary *-gu-*:

do-gu-e	'I will eat'	But:	
do-ga-ne	'You will eat'		
do-gi-e	'He/she will eat'		
do-gu-'e	'We two will eat'		
		de-ga-'e	'you two will eat' 'they two will eat'
do-gu-ne	'We will eat'	de-ga-e	'you all will eat' 'they will eat'

By the same rule, stem-final /u/ becomes /i/, but final /i/ is unaffected.

The most complex rule operates on the final vowel of the verb or auxiliary stem which immediately precedes one of the threefold personal desinences. If the desinence is 1sg., 1du., or 1pl. (*first* person), the stem vowel is backed: /i/ becomes /u/, and /o/ and /u/ remain unchanged. If the desinence is 2sg., 2, 3du., or 2, 3pl. (*second* person), the back vowels /o,u/ are lowered to /a/, while /i/ remains unchanged. If the desinence is 3sg. (*third* person), the back vowels /o,u/ are fronted, while the front vowel /i/ remains unchanged. The operation of the third rule is exemplified in the treatment of the future indicative auxiliary *-gu-* in the paradigm above, which immediately precedes the threefold assertive desinence *-e* (~*'e ~ne*).

Note that the alternation is not sensitive to the actual form of the personal desinence (e.g. the assertive *-e* does different work when it is 1sg., 2/3pl., and 3sg.), but to its "PERSON," and also to its identity as a threefold desinence with "unmarked (1, 3 sg., 2, 3pl.)," "dual (1, 2, 3du.)," and "other (2sg., 1pl.)" person forms. For example, the imperative personal desinences, which mark singular, dual, and plural, occur in three forms, but are not threefold desinences of this type. And they do not induce the complex rule, but the more simple two-way rule:

hu-(o)	'Do it!'	do-(o)	'Eat it! ([do])'
hi-'o	'You two do it!'	de-'o	'You two eat it!'
hi-o	'You all do it.'	de-ho	'You all eat it.'

2.2 *Medial verbs*

There are no clausal conjunctions in Hua. Instead, clause linkage is indicated by verbal affixes on the nonfinal or medial verbs (more generally: medial *predicates*, verbal or nominal) in compound sentences. The most common medial verb structure is the one which corresponds roughly to "and," which will be referred to as the "coordinate medial verb." Almost as common is the different

Table 27.2

Person	Present verb + medial desinence	Possible origin
1sg.	hu + ga +	*hu + e# ga
2sg.	ha + na +	*ha + ne# ga
3sg.	hi + ga +	*hi + e# ga
1du.	hu + 'ga +	*hu + 'e# ga
2/3du.	ha + 'ga +	*ha + 'e# ga
1pl.	hu + na +	*hu + ne# ga
2/3pl.	ha + ga +	*ha + e# ga

structure which may be translated as “given that . . . ,” hereafter known as the “subordinate medial.”

2.2.1 Coordinate medial verbs Coordinate medial verbs occur with two sets of subject-marking desinences: the first, which mark agreement with the subject of the medial verb itself, are threefold desinences, inducing the complex ablaut rule in the immediately preceding verbal stem.

The unmarked (1, 3 sg., 2, 3pl.) form *-ga* is similar to the collective suffix *-gi*, the symmetrical phrasal conjunction . . . *-gi* . . . *-gi* ‘both . . . and . . .’, the comitative postposition *-gi*, and is also clearly cognate with etyma in other Gorokan languages, suggesting that it may have once been a clausal conjunction meaning “and” (cf. Haiman 1992). In addition, almost every phonological process that would be required to convert an inherited *verb + final desinence# “and” into verb + medial desinence is either active elsewhere in Hua, or is phonetically plausible on general typological grounds (Haiman 1987 and see table 27.2).

On the other hand, the second set of subject-marking desinences, which mark agreement with the subject of the following verb, are much more similar to the personal pronoun sets which we have already encountered as prefixes and suffixes. The contrasting paradigms of these medial and anticipatory desinences are presented in table 27.3.

The anticipatory desinences induce an ablaut alternation in the preceding *medial desinences*: final /a/ becomes /i/ before anticipatory desinences which are nonfirst person and nonsingular. Observe the contrast between *hi - ga - ta*, 3sg. did and we . . . , and *hi - gi - ta*, ‘3sg. did and you all/they . . .’. Co-occurrence of medial and anticipatory desinences on coordinate medial verbs signals that the subjects of medial and following verbs are distinct: *hi - ga - na*, 3sg. did and 3sg. . . . , will therefore be translated as ‘he did and she . . .’ for convenience, and structures like **hu - ga - 'da* ‘I did and I . . .’ and **ha - na - ka* ‘You did and you . . .’ are ungrammatical (although presumably ripe for exploitation by a Hua Pirandello, Rimbaud, Borges, or Kafka some day).

Table 27.3 Medial and anticipatory desinences

<i>Person</i>	<i>Medial</i>	<i>Anticipatory</i>
1sg.	ga	'da
2sg.	na	ka
3sg.	ga	na
1du.	'ga	ta'a
2/3du.	'ga	t(in)a'a
1pl.	na	ta
2/3pl.	ga	t(in)a

Where the subjects of medial and following verbs are identical, the medial verb consists of the verb plus auxiliary complex followed by the anticipatory desinence alone. (It is as if the medial desinences were gapped under identity.) The anticipatory desinences, since they are not threefold desinences, behave like all other morphemes which are not threefold desinences, and induce the two-way ablaut alternation in the immediately preceding verb stem. The pattern for same-subject medials is illustrated below with the paradigm for '... saw (perfective) them and ...':

1sg.	p- go - ro - 'da
2sg.	p -go - ro - ka
3sg.	p -go - ro - na
1dl.	p -go - ro - ta'a
2, 3dl.	p -ge - re - ta'a
1pl.	p -go - ro - ta
2, 3pl.	p -ge - re - ta

In general, coordinate medial verbs are possible whenever and only when the illocutionary force of medial and following clauses are the same. There are, however, some systematic relaxations of this constraint. First, the medial clause may be a content question, and the following clause may be an assertion, as in:

kzo' k - mi - ga - ka da - ne?
who 2sg. give 3sg. 2sg. eat 2sg.
 'Who gave it to you, that you ate it?'

Second, if the medial clause occurs in the future tense (the only acceptable future auxiliary in coordinate medial clauses being the subjunctive), it may be translated as a conditional protasis, and as such may freely co-occur with following clauses in any mood:

Table 27.4 Imperative desinences

<i>Person</i>	<i>Medial imperative</i>	<i>Anticipatory imperative</i>
1sg.	—	'di
2sg.	ga	—
3sg.	—	nu
1du.	—	ti'
2du.	'ga	—
3du.	—	ti'
1pl.	—	ti
2pl.	ga	—
3pl.	—	ti

k – mi – su – ga – ka do -(o)!
 2sg. *give fut.* 1sg. 2sg. *eat imper.* *clamative*
 'If I give it to you, eat it!'

kmisugaka de – sa – pe?
 eat fut. 2sg. *interr.*
 'If I give it to you, will you eat it?'

Finally, a special form of the coordinate medial is used where the medial clause is an imperative and the following clause is assertive. The final assertive clause is frequently merely understood, as in the common formula of leave-taking:

bai – ga – 'di (ue)
stay 2 1sg.
 'Stay! and I (am going).'

The imperative medial desinences, like the imperative final desinences, mark only number (all are second person), and induce the two-way ablaut alternation in the preceding stem. The anticipatory desinences are similar to the regular anticipatory desinences not only in their form (they differ only in their final vowel), but in their capacity to induce ablaut in the preceding medial desinence (see table 27.4). To see the ablauting of the medial desinence in operation, consider the contrast between *hu – ga – ti* 'Do it and we ...' and *hu – gi – ti* 'Do it and they ...'. The second-person form of the medial anticipatory desinence is lacking in all numbers: so it is impossible to use this construction to say things like "Seek, and ye shall find." It might seem logical to assume that the reason for this gap is that the co-occurrence of medial and anticipatory desinences in this form, as in the ordinary coordinate medial, would (incorrectly) signal the nonidentity of the subjects of the medial and following

clause. Nevertheless, this plausible assumption is mistaken. One of the most remarkable things about the medial imperative, in fact, is that it can be used all by itself as a hortatory imperative: *u – ga – ti* ‘Go and we two . . .’ or ‘Let’s you and me go’ and *hu – ga – ti* ‘Do and we all . . .’ or ‘Let’s all do’. In this case, it is clear that the subject of the medial is included within the subject of the following (understood) verb. In ordinary medials, such referential overlap requires the use of a same-subject medial. One can no more say **hu – ga – ta* ‘I did and we . . .’ or **hu – na – ‘da* ‘We did and I . . .’ than **hu – ga – ‘da* ‘I did and I . . .’ or **hu – na – ta* ‘We did and we . . .’. But in the medial imperative, this constraint is mysteriously relaxed.

2.2.2 Subordinate medial verbs Nominal predicates may occur without a copula verb. When they do, they consist of the noun phrase followed by either the citation suffix or the potential topic particle, and the predicate suffix *-e* (the latter identical with the unmarked form of the assertive threefold desinence). Examples are:

<i>dtir – a – e</i>	‘(Good) morning!’
<i>bira ba‘de – a – e</i>	‘You over there!’
<i>fu – mo – e</i>	‘It’s pork.’

Such predicates may be conjoined with the following clauses, and then occur in a medial form. Medialization of a nominal predicate is achieved by substituting invariable *-ga-* for the invariable final predicate suffix *-e* and adding the appropriate anticipatory desinences. What is noteworthy about the medialization of nominal predicates is that switch reference is not marked. The medial suffix *-ga-* is present whether the subject of the following clause is the same as or different from the “subject” (the only entity) of the medial clause:

ba‘de-mo – ga – na via to – bai – e.
boy p.t. med. 3sg. tears shed prog. 3sg.
 ‘Being a kid, he’s crying.’ (Presumably same subject)

fu – mo – ga – ta do – ne.
pork p.t. med. 1pl. eat 1pl.
 ‘Since it’s pork, we eat it.’ (Different subject)

This neutralization of the same subject/different subject distinction is characteristic of verbs in subordinate medial clauses (which for this reason, among others, may be thought of as nominalizations).

The fundamental deverbalized nominal base of a subordinate medial clause consists of the verb plus auxiliary complex followed by the threefold conditional protasis desinence *-mamo* (~ ‘*mamo* ~ *pamo*). All combinations of auxiliary verbs are allowed except that the only permitted version of the future auxiliary in the subordinate medial clause is the indicative *-gu-*: *hi – mamo*

'given that 3sg. did . . .', *hu - gi - mamó* 'given that 3sg. will do . . .'. This base is then medialized in the same way as any other nominal predicate: *hu - ma[mo - ga] - na* 'given that I did, 3sg. . . .', *hu - ma[mo - ga] - 'da* 'given that I did, I . . .'. An abbreviated form of the subordinate medial clause, apparently synonymous with the full form, elides the invariable morphemes *-mo* and *-ga-* (set in brackets in the examples above): *hu - ma - na* 'given that I did, 3sg. . . .', *hu - ma - 'da* 'given that I did, I . . .'. In both the full and abbreviated forms of the subordinate medial verb, stress is shifted to the *-ma* syllable.

The clumsy translations I have provided fail to make clear that the most striking semantic differences between coordinate and subordinate medial verbal clauses relate to the illocutionary and narrative autonomy of the subordinate medial clause. While coordinate medial clauses (subject to the relaxations noted) agree in mood with the clauses following them, subordinate medial clauses are invariably assertive and indicative; while coordinate medial clauses are in the same tense as the clauses following them, subordinate medial clauses need not be; and while coordinate medial clauses observe tense iconicity (and are thus often felicitously translated with subordinate conjunctions like "after . . ."), subordinate medial clauses do not have to do so. Both clause types are similar, however, in two fundamental ways.

First, if the first clause is assertive and the following clause is an imperative, there is a tendency to avoid the use of medial clauses entirely (except where the medial clause is a conditional protasis). The favored construction here is to use a final clause, followed by the invariable suffix *-ge*:

hepa ge ha - ne - ge iro - (o)!
bad talk do 2sg. quit imper. clamative
 'You're talking nonsense: quit it!'

u - ro - ma(e) - ge bai - o!
go perf. 1sg. stay imper. clamative
 'I'm leaving: you stay!' (Another formulaic leave-taking)

Second, use of the anticipatory desinence in many cases invites the *post hoc ergo propter hoc* inference. For this reason, medial clauses are often best translated by "if . . . then," "because," or "since." To express relations other than consequentiality, other clause-linking devices are sometimes needed.

2.2.3 Special uses of the same-subject medial Before proceeding to a survey of these, however, we should take note of a class of cases (all involving same-subject medials) where medial verbs do *not* invite the *propter hoc* inference.

2.2.3.1 Manner adverbs Hua lacks a separate category of adverbs of manner. These are expressed as same-subject medial verbs: *brgefi-e* '3sg. was quick', and *brgefú-na rgine-e* '3sg. came back quickly'. (One might suppose that this

same structure is used more generally to indicate simultaneous activity. However, if simultaneity of two conceptually equally significant actions is to be emphasized, the structure of choice is $V + mo V$:

do – na rmi – e.
eat 3sg. go=down 3sg.
 ‘S/he ate and went down.’

But

do – mo rmi – e.
eat go=down 3sg.
 ‘S/he went down, eating.’

The suffix *-mo* is unique in itself undergoing the two-way ablaut alternation:

de – me rma – e
eat go=down 2, 3pl.
 ‘You all/they went down eating.’

This property distinguishes it from the otherwise homophonous potential topic suffix *-mo*. It is cognate with the Gimi invariable same-subject marking medial suffix *-me* ‘-ing’.)

2.2.3.2 Lexicalizations In Hua, as in many Papuan languages, ‘bring’ and ‘take’ (and some other complex verbs) are lexicalized as a string of verbs: ‘bring’ is ‘hold (same subject) + come’, ‘take’ as ‘hold (same subject) + go’.

2.2.3.3 Auxiliarization Finally, in Hua the line between Verb + Auxiliary and Same-subject medial verb # following verb is not absolutely fixed. (Note that the formal distinction between the two is the presence or absence of the anticipatory desinences on the first verb.) For example, the progressive aspect is occasionally expressed by Verb + SS *bai-* as well as by the more common $V + bai$ -complex. Conversely, the anticipatory desinence tends to drop in frequently used $V + SS \# V$ collocations, making them look like $V + Auxiliary$ constructions. One particularly significant structure where this is starting to occur is $V + SS$ *to-*, where *to-* (reconstructible, on the basis of comparative evidence, as ‘give’, but in Hua meaning something more like ‘put’) functions as a transitivizer:

ehi – e ‘S/he got up.’
 ehi – (na) 0 – te (-e) ‘S/he got him up.’ ([ehitel])
get=up 3sg. 3sg. put 3sg.

The possibility of elision of the SS suffix exists only where the transitivizing verb occurs without an audible prefix:

ehi -na d - te -(e) 'S/he got me up.' [lehinandtel]
get=up 3sg. 1sg. put 3sg.

2.3 Relative clauses and conditionals

Relative clauses are prenominal. The clause-internal NP identical with the head is deleted, and in place of the final desinence, a relative desinence is used. The relative desinence may be either *'di'*, infinitive, or the threefold relative desinence *-ma'* (*~'ma'*, *~ pa'*). There may be a tendency to use the infinitive suffix (which cannot co-occur with either future auxiliary) to mark habitual aspect and indefinite agents, but this is not an inflexible rule:

do - ma' -na
eat 1sg. thing
 'what I ate'

do - 'di' - na
eat inf. thing
 'food'

The relative desinence (unlike the homophonous genitive suffix) is a nominalizer, and relative clauses may occur with a variety of case affixes and the potential topic suffix when they are not performing an adjectival function as prenominal modifiers. Relative clauses followed by the inessive suffix *-vi'* translate 'while . . .' clauses; those followed by the allative/adessive suffix *-ro'* translate 'where . . .' clauses:

d -aumo vo - bau - ma - pi' u -re - e.
1sg. eye lie prog. 1sg. in. go perf. 3sg.
 'While I was sleeping, s/he left.'

bau - ma - to' eno!
be 1sg. all. come=imper.
 'Come to where I am!'

Relative clauses followed by the potential topic suffix *-mo* (the *-ma'* desinence unaccountably losing its final glottal stop here) may be thought of as nominative absolutes. They may occur in the nonfuture tense, in which case they may be translated as 'given that . . .' or 'when . . .'. In the future tense (with the subjunctive *-su-* the only permitted auxiliary), they are hypothetical conditionals:

a - pamo k - go - e.
come 2sg. 2sg. see 1sg.
 'When you came, I saw you.'

e – sa – pamo k – go – gu – e.
come fut. 2sg. 2sg. see fut. 1sg.
 'If you come, I will see you.'

The hypothetical conditional protasis is regularly expressed with a coordinate future medial:

e – sa – na – 'da k – go – gu – e.
come fut. 2sg. 1sg. 2sg. see fut. 1sg.
 'If you come, I'll see you.'

There are only three contexts in which the coordinate medial is impossible as a hypothetical protasis. The first, unremarkably, is where the subject of the second clause is identical with the subject of the medial clause (recall that co-occurrence of medial and anticipatory desinences signals different subjects in the two clauses). Here, the conditional or a same-subject conditional medial with a special auxiliary verb (?) *-to-* are required:

e- sa – pamo d- go – ga – ne.
come fut. 2sg. 1sg. see fut. 2sg.
 'If you come, you will see me.'

o – to – ka d – go – ga – ne.
come ? 2sg. 1sg. see fut. 2sg.
 'If/when you come, you will see me.'

The second (remarkably), is where the conditional is *concessive*. The clearest and most unambiguous example of a concessive conditional (given the absence in Hua of a word like 'even') is a sentence of the form "whether X or not X, Y": the need for a conditional structure here and the impossibility of a coordinate medial at once underline the consequentiality of medial verbs with the anticipatory desinence, and the inconsequentiality of the regular conditional.

'ogue' 'a'ogue' hi -sa – pamo dgaimo kge 'afu – gu – e.
I'll come I won't come do fut. 2sg. I worry not=do fut. 1sg.
 'Whether you come or not, I won't care.'

The third context where the true conditional is *de rigueur* is the counterfactual, as opposed to the hypothetical, conditional.

Counterfactual conditionals are morphologically distinct from given and hypothetical conditionals (which differ in Hua only through the presence or absence of the subjunctive future auxiliary). The counterfactual desinence is derived from an *irrealis* threefold desinence *-hine* (~'hine ~ -sine) which can be translated by 'almost . . .' or 'would have . . .': *kosa handaure – hine* 'I almost fell (but didn't)', *hepa namo do – sine* 'We would have eaten something bad.' The protasis of a counterfactual conditional will occur with the threefold desinence *-hipana* (~'hipana ~ sipana), while the apodosis will occur with *-hine*:

a – sipana k – go – hine.
come 2sg. 2sg. see 1sg.
 'If you had come, I would have seen you.'

2.4 *The inconsequential*

Further highlighting the inconsequential nature of the unmarked hypothetical conditional in Hua is the interchangeability of the conditional desinence *-mamo* with another threefold desinence *-mana*. What is remarkable about this fact is that *-mana* occurs as a desinence on *final* verbs, in which case its most striking and widespread use is to signal that the act described in the verb was undertaken in vain, or without the consequences one would have expected:

hako – e.
seek 1sg.
 'I looked for it.'

hako – mana – (o).
seek 1sg. clamative
 'I looked for it – in vain.'

One of the most philosophically interesting uses of this desinence in Hua is to signal speech which is responded to not by action, *but by other speech* (even where speech is the expected and desired response). It is easy to reconcile this with its fundamental use, given the common assumption that talk is cheap; but there is another frequent use of the inconsequential which does not follow from any familiar attitudes we may have.

Hua generally lacks complementizers like 'that', and uses the inconsequential (or the conditional) with verbs of knowing and perceiving, or even with verbs which lead up to acts of perception: it is then understood that the clause which follows a *-mana* clause represents the content of the perception:

ke – mana fi'a – ro' gnu – mo na bai – mane!
look 3sg. rack on corpse p.t. there be excl.3sg.
 'S/he looked and (saw that) there was a corpse on the rack.'

The "complements" of verbs of perception in *-mana* tend to be high in factivity: the perceiver not only saw or heard whatever it was, but it was really so. For this reason, this structure is not favored for more subjective verbs of saying or thinking, the truth of whose complements is much more a matter of opinion.

2.5 *Modality*

A survey of the expression of modality in Hua may begin with a consideration of the syntax of the verb ()*geta havi-* 'think, believe, opine', (lit. 'one's

ear hear'). Although this may occur with the inconsequential *-mana* or the conditional *-mamo*, the favored structure for the verb of opinion is:

() geta havi + gasi'
 possessor ear hear infinitive suffix

followed by the complement, which is understood to be low in factivity:

d- geta havi – gasi' abo ri – e.
 my ear hear inf. woman take 3sg.
 'I think he took a wife.'

This same structure also occurs with verbs of saying when it is emphasized that this is how the subject says it (but may not be what others would say or necessarily believe).

The internal structure of the *-gasi'* suffix (which otherwise occurs only infrequently) is unclear. It may be analyzable as bimorphemic, consisting of *-ga(') + hi'*, but the evidence for this analysis is scant. The former suffix *-ga'* occurs transparently in two rather marginal modal constructions: V + *ga'* *ktafu-* 'pretend to V' (*ktafu'* may be cognate with *gota* 'face') and V + *ga'* *'afu-* 'not be permitted to V' (*'afu-* may be *'a'a* 'negative' + *hu-* 'do').

On the basis of comparative evidence from Kamano, a closely related language of the Gorokan family, *-ga'* may be identified as a component of the future indicative auxiliary *-gu-*, which may be historically derived from **ga' + hu-*. What now functions as the nonpermissive in Hua may be a frozen relic of the original negative of the future. The regular future negative differs only in the placement of the negative morpheme:

'a'a + do – gi – e <?? 'a'a + do – ga' = hi – e.
 neg. eat fut. 3sg.
 'S/he will not eat.'

do – ga 'a'a + hi – e <?? do – ga' 'a'a + hi – e.
 eat ? neg. do 3sg.
 'S/he may not eat.'

What makes this reconstruction implausible synchronically is that in present-day Hua there is nothing contingent, modal, or subjective about the *-gu-* future: it is flatly indicative.

There is a real dearth of modal expressions in Hua, most vividly attested by the fact that the pidgin borrowing *inap* 'be able' is the only abilitative morpheme in common use. But the major expression of subjectivity and uncertainty in the language is neither *-gasi'* nor *-ga'*, but the subjunctive auxiliary "verb" *-su-*, which clearly contrasts with *-gu-* in minimally contrasting expressions like

o – gi – e.
come fut. 3sg.
 'S/he will come.'

e – si – e.
come subjun. 3sg.
 'Let him/her come.'

But the contrast is suspended in various corners of Hua morphology. In questions, relative clauses, hypothetical protasis verbs, and coordinate medial verbs, only the subjunctive auxiliary is possible:

aigatoga vi – sa – ne? (*aigatoga u – ga – ne?)
where go subjun. 2sg.
 'Where will you go?'/ 'Where do you want to go?'

ve – su – ma' zu'bo (*vo – gu – ma' zubo)
sleep subjun. 1sg.rel. house
 'a house for me to sleep in'/ 'the house I will sleep in'

e – sa – pamo kgogue. (*o – ga – pamo kgogue)
come subjun. 2sg.cond. I'll see you
 'If you come, I'll see you.'

e – sa – na – da kgogue (*o – ga – na – da kgogue)
come subjun. 2sg. 1sg. I'll see you
 'If you come, I'll see you.'/ 'You will come and I will see you.'

In the second person of the simple assertive future, and in subordinate medial verbs, only the indicative auxiliary is possible:

do – ga – ne. (*de – sa – ne.)
eat fut. 2sg.
 'You will eat.'

do – gi – [ma + mo] – ga – na . . . (*de – si [ma – mo] ga – na)
eat fut. 3sg.rel. p.t. med. 3sg.
 'Given that he will eat, s/he. . .'

In the avolitional, the two auxiliaries are in apparently free variation:

do – ro – gu – e ~ do – re – su – e
eat perf. fut. 1sg. eat perf. subjun. 1sg.
 'It would be bad if I ate.'

Finally, in the benefactive case of the relative clause, both futures are possible, and contrast in a quite idiosyncratic way. Relative clauses with the subjunctive auxiliary and the benefactive suffix *-hi'* are purpose clauses:

vi – su – ma' – hi' ([visumi'])
 go subjun. rel.1sg. ben.
 'that I may go'

"Relative clauses" with the indicative future auxiliary and the same case ending are principal clauses, and signal that the speaker has said this before and is tired of repeating it:

u – gu – ma' – hi' ([ugumi'])
 go fut. 1sg.rel. ben.
 '(I've already told you that) I will go.'

A final glimpse of the morphological confusion in the expression of modality in Hua may be had by considering how to conjugate the idea of 'wanting to eat' in the absence of a verb meaning 'want':

Case	Assertive	Interrogative
1sg.	desumi' hue	—
2sg.	—	desape?
3sg.	"dogue" hie	desive?

In the first-person assertive, the purpose clause is followed by the verb *hu-* 'do' in the same person. The paradigm for this form is defective: utterly lacking in the second person, and in the interrogative, it exists in the third-person assertive, but only with the meaning of 'being about to', as in *ko' zesimi'hie* 'it's about to rain'. (No volition is attributed to the rain.) There is apparently no way to question oneself about one's own wants in Hua. In the second-person assertive, there is a gap: it is impossible to impute wants to one's interlocutor. It is possible to inquire about them, however, using the subjunctive. In the third-person assertive, it is possible to impute wants to someone by putting words into his/her mouth. Literally, the 3sg. form above means "'I will eat," s/he says.' The third-person interrogative is multiply ambiguous, but one of its meanings is 'does s/he want to eat?'

3 Systematic infixation

Personal pronoun prefixes occur on transitive verbs, in which cases they designate the human object:

d- verie.
me show
 'They showed me.'

Table 27.5

Person	<i>hapai-</i> 'explain, tell'	<i>hamu-</i> 'namesake'
1sg.	ha-nd- <i>apai-</i>	ha-nd- <i>amu'</i>
2sg.	ha-g - <i>apai-</i>	ha- g- <i>amu'</i>
3sg.	<i>hapai-</i>	<i>hamu'</i>
1du.	ha-ra'a- <i>pai-</i> (also ra'a- <i>ha-pai-</i>)	ha-ra'a- <i>mu'</i> ra'a- <i>hamu'</i>)
2/3du.	fa' <i>apai-</i>	fa' <i>amu'</i>
1pl.	ha-r - <i>apai-</i>	ha -r- <i>amu'</i>
2/3pl.	fa- <i>pai-</i>	fa- <i>mu'</i>

r – gorai – ne.
 1pl. *trick* 2sg.
 'You tricked us.'

They also occur on inalienably possessed nouns, and indicate the identity of the possessor:

d- vari – a
my sweat cit.
 'my sweat'

p – za' – 'bo
 2, 3pl. *hand, arm pt.*
 'their arms'

Several hundred nominal and verbal roots in Hua begin with the sounds [ha]. Those which are transitive verbs or inalienably possessed nouns will occur with their pronouns infixes or otherwise absorbed, as in the paradigms shown in table 27.5. In the 1du., a variant exists in which the pronoun is prefixed. The pronouns *p-* "2/3pl." and *pa'a-* "2/3du." are absorbed, and although there is no productive rule in present-day Hua of the form $p + h \rightarrow f$, the rule is so plausible that it seems safe to assume prefixation here also. None of the neighboring closely related languages manifest anything similar to this pattern of infixation, which is what calls for some explanation.

It seems likely that what has occurred in Hua is a reinterpretation that is based on two structural facts about Hua and one striking ambiguity. The facts are, first, that there exists a widespread, mobile, meaningless unstressed prefix *ha-*, following which morpheme-initial /b, d/ are prenasalized. We thus observe variants like *bai'a* ~ *hambai'a* 'garden'. Second, there is a general rule which simplifies sequences of identical vowels: because of this rule, monosyllabic nouns like *za* 'tree' never occur with the citation suffix *-a*, and the

imperative of verbs like *do-* 'eat' never occur with the optional clamative suffix *-o*. Given these two facts, all words in initial [*ha . . .*] could be analyzed as having the structure */ha + a . . . /*.

The striking ambiguity is provided by the fact that the third-person singular pronoun is nil. A form like */hapai-/* 'tell him/her' could therefore be interpreted as either 3sg. + *hapai-* (clearly the inherited form) or *ha* + 3sg. + *apai-* (with invisible infixation). Invisible metanalysis in one corner of the paradigm can bring about visible results elsewhere, by a mechanism familiar since at least Jespersen's discussion of doublets like *eft* and *newt*. Although we cannot account for why this reinterpretation (which is still only partial) occurred in Hua but in none of the other Gorokan languages, we can still be reasonably certain that it could not have happened in Hua without the three favoring factors listed here.