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Preliminary Analysis of the Old Zhangzhung Language and Manuscripts

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1. Purpose

The purpose of our research project is linguistic analysis of the oldest written records of possibly the Zhangzhung language (or Old Zhangzhung): to decipher the texts and reconstruct the linguistic forms behind them in comparison with the Zhangzhung language corpus found in the later texts (or New Zhangzhung) and other Tibeto-Burman languages. This preliminary report presents our working methods and some observations obtained during the early stage of our research.

2. Sources

Before going into Old Zhangzhung texts, let us briefly look at the other materials regarding Zhangzhung.

A. Modern Tibeto-Burman languages

a) Zhangzhung is considered to be a dead language, in other words, no direct descendant seems to exist. However, there may be languages closely affiliated with Zhangzhung among the modern Tibeto-Burman languages, especially of Western Himalayan branch, such as Kanauri, Rangpa, Bunan, and Byangsi. Comparison with Eastern Tibeto-Burman languages, such as Gyarong, Minyag, and Newari, should be considered as well. For more details, see the articles of Nishi and Nagano, Matisoff, and van Driem in the present volume.

b) Several Tibetan dialects along the Tibet-Nepal border contain many Zhangzhung loan-words according to Bstan-'dzin gnam-dag (in personal communication). Although they have not been systematically studied yet, they will certainly comprise important data.

B. New Zhangzhung

In the 1960s, Tibetan Bonpo scholars published a Tibetan-Zhangzhung dictionary,[1)] and a bilingual text Mdzod-phug.[2)] The former is studied and reproduced in Haarh (1968). A more extensive computer database was compiled by

Dan Martin (1998). Namgyal Nyima also compiled a new Zhangzhung dictionary from other Bon sources. Although Mdzod-phug is ascribed to a 8th c. Bonpo scholar, the text seems to have been written later, and the Zhangzhung language described is significantly different from that found in the Old Zhangzhung manuscripts. We thus call it New Zhangzhung (NZ) here.

There have been discussions concerning the nature of New Zhangzhung, including whether it is a real natural language or it is an artificial make-up. We will discuss the issue in §8 regarding its relation with Old Zhangzhung.

Now let us look at Old Zhangzhung.

C. Old Zhangzhung

Three manuscripts in Tibetan script were previously identified or alleged to bear the Zhangzhung language. Here we call them OZ (= Old Zhangzhung Texts) 1, 2 and 3. OZ 1 and OZ 2 are in the Stein Collection and now preserved in the Oriental and India Office Collections of the British Library. OZ 3 is in the Pelliot Collection at the Bibliothɭeque Nationale in Paris.

In 1999 while examining manuscripts bearing unknown languages in Tibetan script at the Bibliothɭeque Nationale, Takeuchi found two more manuscripts that are likely to bear the same linguistic corpus. We call them OZ 4 and OZ 5.

Thus, we have five OZ texts. All were found from the famous Dunhuang cave. They are written on the back of scrolls with Chinese Buddhist texts on the other side. All of them seem to be medical texts. In spite of these common features, they are apparently different texts, namely, they are not pieces of the same text.

The basic palaeographical features and approximate size of each text are given below. OZ 1 and OZ 2 contain similar amount of text. OZ 3 is the most extensive. OZ 4 and OZ 5 are much smaller. Although palaeographical evidences indicate that the Zhangzhung texts were written after the Chinese texts, the Zhangzhung sides are designated as recto in the following descriptions.

1) **OZ 1: VP 755** (Ch. Fragment 43)

The text is catalogued by de la Vallée Poussin under the catalogue number 755. It bears the site number Ch. (= Ch'ien-fo-tung) Fragment 43. The text is written on the back side of a scroll which has a Chinese vinaya text on the other side. It lacks the beginning due to paper damage. The remaining part measures 187 x 25 cm and contains 126 lines, where we count 578 different syllables, and in total *c.* 2,000 syllables (Plates 1-4).

2) **OZ 2: Or 8212 / 188**

This text is found among the group of texts with the requisition number Or. (= Oriental Manuscript) 8212, in which it bears the number 188 together with another totally independent manuscript. The text is written on the back of a scroll with the

Chinese Buddha-nāma sūtra. It lacks both the beginning and the end. The remaining part measures 115 x 26.3 cm and contains 86 lines. Eight more lines are written on the Chinese side; probably a continuation from the recto. Thus, there are in total 94 lines, with 593 different syllables, in total *c.* 2,200 syllables (Plates 5-8).

3) **OZ 3: P 1251**

The text lacks the beginning (the top edge is torn off). The remaining part measures 285 x 25.5 cm and contains 293 lines, with a total of *c.* 6,300 syllables (Plates 9-14).

4) **OZ 4: P 1247**

The text lacks the beginning (the top edge is torn off). The remaining part measures 72 x 25.5 cm, and contains 50 lines of most probably OZ, in total *c.* 790 syllables (Plates 15-16).

5) **OZ 5: P 1252**

Written on the back of the Chinese sutra Guang-yin-jing. Although the bottom edge is torn off, the text is complete with 47 lines of most probably OZ, in total *c.* 850 syllables. Two more lines are written on the Chinese side, but their relation to the recto text is not clear (Plates 17-18).

A transliterated text of OZ 1 was published by F.W. Thomas (1967). Takeuchi checked Thomas' transliteration against the original manuscript and revised the reading, then databased it. Thomas also made an unpublished transliteration of OZ 2, which was found among his unpublished drafts preserved in the Collection of European Manuscripts of the Oriental and India Office Collections. In 1999 Takeuchi checked Thomas' transliteration against the original manuscript and revised his reading. Takeuchi also examined and databased OZ 4 and OZ 5. As a result, the readings of OZ 1, 2, 4, and 5 have been databased, but OZ 3 has not really been touched. Though we quickly went through it, it will take some time to database it.

3. Script and Palaeography

(1) The texts are written in Tibetan script in a style peculiar to the Old Tibetan texts in the 8th to 9th c. (see Plates). For example, a bilabial nasal *m-* is palatalized with *-y-* when followed by the front vowel *i* , as in *myig dog ci*, but a variant form *mig* without *-y-* also exists (OZ 1: 102); *min* is usually written without *-y-*. An inverted *gi-gu* or vowel *i* sign (transcribed as ɨ) is used. The palaeography conforms to that of the Old Tibetan texts from the late 8th c. to early 9th c. These

palaeographic features and the provenance of the manuscripts lead us to date the manuscripts to the period from the late 8th c. to the first half of the 9th c.

(2) Spellings mostly conform to Tibetan orthographic rules, but some deviations exist. For example, several consonant clusters which are not used in Old Tibetan texts are found (e.g., *rngv-*, *rva-*, *ry-*, *rhy-*, *ghy-*, *ryv-*, and *-ngg*). Syllable boundaries are sometimes not explicitly marked: for example, *rhyasang*, *rhyelse*, and *khlangg* are written without *tsheg*. Consequently, it is difficult to decide whether *rhyasang* should read *rhyasang*, *rhyasng*, or *rhysang*. Though we are relatively familiar with Old Tibetan orthography, since the language is not Tibetan, it is difficult to specify the most appropriate readings from the contexts. These leave us with many uncertainties and result in ambiguous and dubious readings. For example, *lvang* / *wang* (OZ 1: 16, 17), *rva* / *rba* (OZ 1: 31), and *khɨ* / *wɨ* (OZ 1: 79) are difficult to decide. *mna* and *mni* turned out to be variant spellings for *man* and *min*.

As we have gradually understood the syllable structures and some morphological constructions, as will be shown in the following chapters, many of these dubious points have been solved. Nevertheless, the readings still need to be gradually revised as we proceed.

4. Statistic Analyses

Faced with these difficulties (along with a shortage of time and brain), Nagano and Takeuchi decided to seek help from an expert in computer and statistics, Sumie Ueda of the Institute of Statistical Mathematics. Upon our request, Ueda made the following analyses.

(1) A list of all syllables occurring in the texts. They are arranged in frequency order as well as in alphabetical order. List 1 shows the first page of the list.

(2) A list of sequences of two to six syllables occurring more than twice. List 2 gives lists of four to six syllable sequences in alphabetical order. These provide parallel passages (syntactic units) as well as possible words (morphological units).

(3) Minimal pairs of three to seven syllable sequences; the two sequences of each pair are differentiated from each other by having only one different syllable. See List 3, where the different syllables are listed in the right-hand three columns. These different syllables occurring in the same contexts are paradigmatically interchangeable and may belong to the same lexical classes. They may also be variant spellings and due to wrong readings.

(4) The sentence boundaries of OZ 1 are exceptionally clear cut. List 4-L gives the syllables occurring in sentence final position, while List 4-B shows the syllables preceding the final syllables. They will be discussed in §6.

(5) A list of key syllables in context was made by the staff of the National Museum of Ethnology.

The data of OZ 1 and OZ 2 were statistically analyzed first. OZ 4 and OZ 5 are now in the process of statistical analysis. OZ 3 is yet halfway done. It will take some more time to read and database it. Consequently, the following linguistic analysis will be based on the data of OZ 1 and OZ 2.

With the help of these data we have tried to analyze the language of OZ 1 and OZ 2. The first step is to cut the text into smaller units or constituents. The clear units we have are syllables and sentences.

5. Phonology

5.1 Syllable Structure

We may tentatively propose the following canonical syllable structure. Initial consonant clusters C_1 C_i, a glide R, and a vowel V, followed by a final consonant C_2 or consonant clusters C_2 C_3. Of these, C_1, R, C_2 C_3 are optional, while C_i and V are obligatory and are core constituents of the syllable structure.

C_1 C_i R V C_2 C_3 (e.g., skrigs)

C_1

r- :	rng-, rny-, rb-, rc-, rk-, rky-, rg-, rl-, rm-, rn-, rp-, rt-, rth-, rts-
	rh- (rha, rhi, rho) = C_i ?
s- :	sb- (sbib), sd- (sdom), sk-, sg-, sl-, sm-, sn-, sp-, sr-, st-
g- :	gt-, gth-, gd- (gtog, gthag, gdang)
l- :	lng- (lnga)
'- :	'ng-, 'p- ('ngag, 'pab)

C_i

p	t	k	?	ts	c	s	sh	h
(ph	th	kh)		(tsh	ch)			
b	d	g		dz	j	z	zh	'(=ñ)
m	n	ny	ng	l	r	rh	w	y

t / d *vs.* t / th / d ; rh (= voiceless r?)

R

-r- :	pra, prog, bra, bri, tri, dra, dri, gra, khrags, sran
-l- :	gla, glod, glum, khlog, sli
-y- :	**ryag, rhye**, lyag, byi, cyul, skyi, ryum
-v-:	shve, chva, gva, khva, rngva, gvi, rva, lvi, zva (-v-=-w-)
	yved, gyvad, slye, ryvi, ryvege

V i, e, a, o, u, (ɨ)

C_2 b, d, g, s, l, r, m, n, ng
' : pha', rta'
y : gyaye

C_3 --s : -bs, -gs, -ms, -ngs
-**ns** (shans), -**ls** (rhyelse), -**rs** (tsars)
--d : -nd, -ld, -rd
--b : -**mb** (khumb, lhyumb)
--g : -**ngg** (khlangg, shingg)

Tonal or atonal ?

In C_1 or prefixal consonant position, *r-* and *s-* occur frequently. *g-* appears only before a dental stop. *l-* and '- are found in OZ 2, but very limited in number. The presence of pre-consonantal *r-* and *s-* is similar to Amdo and some Western archaic dialects of Tibetan. The bold-faced ***rh-*** is rare in Tibetan but very common in OZ. It is likely to be not a cluster but a single consonant, i.e., a voiceless *r*.

As for initial consonants (C_i), one major problem is: whether we should propose a binary contrast (e.g., *t / d*) or a tripartite set (*t / th / d*) for stops and affricates. Alternations of voiceless non-aspirates and aspirates seem to point to the binary system without a contrast in terms of aspiration (e.g., *thum = tum, khyero = kyero*), as in Old Tibetan. There are no voiceless nasals.

R stands for resonants, glides or semivowel type sounds in post-consonantal position. *r, v, y,* and *l* are listed. *v* may be better represented phonetically by *w*, but we use *v* to avoid confusion with *w* in initial position. Note that *ry-*, *rhy-*, and *yv-* combinations are very common in OZ.

As for vowels, besides five ordinary vowels (*i, e, a, o, u*), an inverted *i* (transliterated in *ɨ*) is used. However, it does not seem to reflect a different sound from *i*, as shown in variant spellings *gvɨ / gvi* (OZ 1: 39) and *skrɨgs / skrigs* (OZ 1: 73). No long vowels or geminate vowels are found.

For C_2, we find stops (*b, d, g*), a fricative (*s*), liquids (*l* and *r*), and nasals (*m, n, ng*). The voiced stops, which accord with Tibetan orthography, are likely to reflect voiceless unreleased stops, though we still have to hold the possibility that they are voiced released stops as in Kanauri (cf. Takahashi's paper in this volume).

--s and *--d* stand in C_3 position, as in Old Tibetan; but unlike Old Tibetan both *--s* and *--d* appear after *-n, -l,* and *-r*, thus *--s* and *--d* do not make complementary distribution. *--b* and *--g* occur after homorganic nasals.

Is the language tonal or atonal? It is no doubt monosyllabic and includes many homophonic syllables; in other words, it is a typologically tone-prone type. Nevertheless, there is no sign to indicate the tonal contrasts.

5.2 Syllable Concatenation or Sandhi Phenomena

There is nothing much that can be said about this for the time being.

6. Grammar

6.1 Sentence Structure

One great advantage of choosing OZ 1 as the first target is that sentence boundaries are exceptionally clear-cut. As shown in Plates 1-4, there is a line-break at the end of each sentence and a new sentence begins the next line. Besides line-breaks there is another important clue to mark the end of the sentence. In the <sample sentences> below, we have listed a few examples. The ending part of each sentence is in bold-face. ⁜ marks a sentence boundary.

<sample sentences>

(*line no.*)

⁜ rma ˆag blan cang sku drul **sa shid-do** ⁜ (11)
⁜ mang ga ya [dI=rI] ˆin sig [shvid] cho **min stung-ngo** ⁜ (05)
⁜ lang nad **ga nve'o** ⁜ (79)
⁜ ko ko yag // kar ka na // nu skyu tse // sum med tog mar kul thum **ca kyer-o** ⁜ (86)
⁜ . . . // did na gu ram ti kar ca khyere // yar . . . **ca rhyvis-o** ⁜ (15)

Each sentence ends with the vowel *-o* with sometimes the final consonant of the preceding syllable being repeated (e.g., *shid-do*, but *kyer-o* also exists). This practice is so familiar to everyone who knows Old Tibetan or Classical Tibetan that it even makes us think of "Tibetanization." In fact we always have to keep in mind the possibility of "Tibetanization or Tibetanism." Nevertheless, it is clear that a vowel *-o* is used in OZ 1 to mark the sentence final (S-final) boundary. It is used in OZ 2 as well, but much less frequently.

Accordingly, the syllables preceding the S-final *-o* may be considered to belong to one and the same category or lexical class. They are listed under the heading V.

V: predicator (verb/noun/adjective): lexical words

chans	ci	gyil
khlogs	khyer	khyerd
lo	lod	lyang
nve	rhyug	rhyvis
rtog	run	rung
sdung	shans	shid

shved	skug	skyo
slang	slig	spral
spurd	spya	stung
tshag	tund	tung

Class V comprises relatively long syllables. We assume that they are verbs, nouns and adjectives, and constitute the core of the predicates. Here, we conventionally label them V (meaning verb-like elements). Among them, *khyer, lod, shid, stung* etc. seem to be verbs; *nve* and *lo* may be nouns; *rung* and *tshag* might be adjectives. Needless to say, these identifications are very hypothetical.

Part: (particles in pre-verbal position): functional words
ca, ce, cang, chud, tsa
ga, ge, gan
gun, kun
na, nig
dug, dog, tog
min, myin (= negation)

Now the second syllables from the S-final are listed above under the heading Part. They are mostly short syllables. We assume them to be grammatical particles, including the negative (*min*).

Going back to the last example in <sample sentences>, we find the underlined form *khyere*, which is apparently the same *kyer* in the S-final position, but is in this case followed by a vowel *-e* and a double *shad* (slashes). A few more similar occurrences of *-e* are found, which may lead us to infer that *-e* functions as a conjunctive and marks the end of the subordinate clause, just like Tibetan conjunctives *ste, te,* and *de.*

Based on these speculations, we tentatively propose a sentence structure scheme as follows: Sentence consists of subordinate clause(s) which end with V + -e; the main clause or sentence ends with S-final form, Part-V-o.

S --> [[-- V-e]$_{Cl}$ -- Part -- V-o]$_{S}$
S-final = Part (/ Neg) + V-o

6.2 Morpho-syntactic Analyses: Trials and Errors

Now how can we make sense out of these sentences? In order to identify the meanings of words or morphemes, we need lexical comparisons with other Tibeto-Burman languages and the later Zhangzhung texts. Thomas (1933) already tried to identify many words by comparing them with Tibetan, Kanauri, and Rangpa. Some

of his identifications seem to be acceptable. Let us then try to combine them with the formal analysis given above.
We have listed below short parallel sentences, all ending with *ga nve'o.*

ꕥ // rab this ga nve'o // ꕥ
ꕥ // lang nad ga nve'o // ꕥ
ꕥ // rye tshod ga nve'o // ꕥ
ꕥ // ˆang ryod ga nve'o // ꕥ

Following Thomas, we may consider *nve* to be a noun meaning "disease, illness" comparable to Tibetan *na / nad. ga* may be considered to be a genitive particle comparable to Tibetan *kyi / gyi.*

nve	disease	(T) na, nyes
ga / ge	genitive	(T) kyi, gyi

Then, the sentences would mean "[It] is the diseases of *rab-this (/lang-nad, rye-tshod, ˆang-ryod).*" *rab-this, lang-nad, rye-tshod,* and *ˆang-ryod* seem to be the names of disease.

The genitive particle *ga* seems to have a variant form *ge.* The following phrases all contain *ge* and again *nve* "disease."

rhim ge nve'o		
nve	ge rmin	
nve	ge rmin ne	
nve	ge rmine	"by the development of disease"

The last two sentences with *rmin ne* and *rmine* are apparently variant spellings. *rmin* may be compared to Tibetan *smin-(pa)* meaning "ripe, maturity." Then, *nve ge rmin* may mean "ripe or development of disease." Then, what about *rmine* with *-e*? We have inferred that *-e* functions as a connective or conjunctive when suffixed to a verb. But when it is suffixed to a noun we may consider it to function as an instrumental marker, following Thomas' suggestion.

-e connective (V_) / instrumental (N_)

This *ga / ge* variation or alternation suggests other possible alternations. In the list of Part (particles) above, we find groups of syllables, such as *ca / ce / cang, gun / kun,* and *dug / dog / tog.* Since they occur in similar or same contexts, members of each group may be considered variants or alternations.

6.3 Other morpho-syntactic possibilities

What else can we speculate or guess on the morpho-syntax of Old Zhangzhung?

(1) Among the alleged verbs, we find a pair *khyer / khyerd*, the latter with the post-consonantal *-d*. A comparison with Old Tibetan verb morphology would lead us to think that this *-d* may be a perfective stem marker; also *-d* in *spurd, tund, buld, lend,* and *byund. -s* in *chans, shans, byabs, lings, khlogs,* and *khrags* may possibly have the same function. Note, however, that unlike Old Tibetan *--d* and *--s* do not make complementary distribution in OZ.

(2) A pair *tung / stung* may suggest *s--* to be a causative marker; also *s--* in *skug* and *spral.*

(3) No post-verbal Aux / Person markers exist except for the S-final marker-*o.*

(4) Verbs seem to be preceded by grammatical particles (e.g., *ca, ce, ga, ge, gun, kun*). No pronominal affixes or person markers seem to exist either in pre-verbal and post-verbal position. Absence of person markers may result from the nature of the extant texts (i.e., they are all medical texts where first and second person subject or object are not likely to appear). Nevertheless, as far as our OZ texts are concerned, there is no trace of a verbal (pronominal) agreement system, contrary to the assumption by Thomas and Haarh to consider Zhangzhung to be among the complex pronominalized languages of Western Himalayan group.

6.4 Lexical Classes and Word forms

Statistical data (e.g., Lists 2-4) provide sequences of one to seven syllables in paradigmatic relations. They are candidates for various lexical classes and syntactic units. Though it is not yet clear how to distinguish words or morphological units from syntactic units, we may tentatively assume the following word constructions.

Words seem to be primarily monosyllabic, but disyllabic words also exist: e.g., *mu-sa, lvi-shi, dro-tsa, lyam-tsha, shi-shi,* and *sa-sa.* Trisyllabic words may exist, but they are not so numerous.

Variations of word-final forms (e.g., *-# / -s / -g*) suggest the presence of affixation as shown below.

-# / -s / -g

nve / nveg / nves lyam-tsha / lyam-tshas

tse / tseg / tses lang / langs

-# / -e

lang / lange skrigs / skrigse skyus / skyuse

wam skrigs nug min / wam skrigse nug min

7. Lexicon

We have not yet done an extensive work on lexical comparisons. The items listed below with possible glosses are mostly proposed by Thomas (1933) and accepted by us. Comparable NZ (New Zhangzhung), OT (Old Tibetan), K (Kanauri), R (Rangpa), and other possible languages in the West Himalayan branch (e.g., By for Byangsi, Bun for Bunan, Tin for Tinan, Th for Thebor) are added.

Numerals

En	OZ	NZ	OT	K	R	W. H.
1	ta / tha	tig	gcig	id	tig	(Tin, M) itsa
2	nis	ni	gnyis	nish	nhi:s	
3	sum	sum	gsum	shum	sum	(Tin, M) ṣum
4	pi	bing	bzhi	py / pə:	pi	(Tin, M, Bu) pi
5	nga	nga	lnga	nga	ngE	(Tin, M) nga
6	trug ?	drug	drug	trug	truk	
7	stes ?	snis	bdun	stish	nhisi	(M) nhidži
8	gyvad ?	gyad	brgyad	rai	jyad	
9	gvi ?	gu-dug	dgu	sgui	gvi	(Bu) gu, (Th) gwi
10	sa ?	cu	bcu	sa, sai		(Tin, M) sa

The OZ forms of the higher numbers (6-10) have not been firmly identified, while the lower numbers (1-5) are better attested. OZ and NZ show basic correspondences, but numbers 'one, four, seven, and ten' reveal minor differences. The NZ form *bing* for 'four' has the addition of *-ng*, which is characteristic to NZ. The OZ form for 'ten' finds cognates in W. H. languages, while the NZ form *cu* is closer to the OT form. Number 'seven' also gives significant correspondences between OZ, NZ, and W. H. languages. Examples of some other lexical correspondences are shown below.

En	OZ	NZ	OT	W.H.
arrow	ma	wer	mda'	(K) mo
autumn	tog-kha	dun-tshogs	ston-kha	
bring, give	khyer		skyel	(R) kyə-
cold	glang / khlang	ti-gra	grang	
count, medicine	tsis	rtsi	rtsi	(K, M) soi
die	shid	gyag / gyog	shi	(K, M) ši-
disease	nve		na / nyes	
dry	skams	tsa-ga	skams-pa	(K) skams
eye	myig / mig	mig / yig	dmyig / mig	
face	ngo		ngos	(K) ngo
fever	tshad	tsag	tshad	
fire	pu	ne	me	(Bu) pa

genitive	ga / ge	gi / ti / ni / pi *etc*	kyi, gyi, gi	
hand	la	khri-tse, tsa-rang	lag	(K, Th) la
head	go	pu, dbu-tsam	mgo	(K) go, (B) puśa
man	mi	ni	myi	(K, Bu) mi
mouth	ag	khag, ag-sho	ag-tshom	
pl. marker	nam?	nam, rngi	rnam	
plague	rhim		rims	
red	mar	mang, ra-ga	dmar	(R) mangd
ripe, maturity	rmin		smin	(M) min
salt	lyam-tsha		lan-tshva	
say	lod ?		lab / glon ?	(K, B) lo-
stomach	rgvil	khog-tse	grod-pa / lto-ba	
tail	ting		rting / gting	(Th) mekon
to be right	ran		ran	(K) ran
urine-disease	rabs-this		rabs-	
vitality	na		na	
water	ti	ting, ti	chu	(K, M, R) ti
wind, moist?	lang	li / le	rlung	(M, B) lan
winter	gun-kha	shi-bi	dgun-kha	
wound	rma	rma	rma	

8. Comparisons with Other Material: OZ and NZ

Several attempts at comparing Zhangzhung with other Tibeto-Burman languages, such as Kanauri, Rangpa, Tsangla, Byangsi, and Gyarong, have been made, but they have mostly been based on a small number of lexical items and the New Zhangzhung forms (e.g., Haarh 1968, Hoffmann 1967 and 1972, Kvaerne 1995: 14). However, as shown in the above examples, the NZ forms are often different from the OZ forms. As will be discussed below, the latter represents the colloquial Zhangzhung language before extinction better than the former. We thus need to use the OZ forms and compare not only words but also morpho-syntactic structures with modern Tibeto-Burman languages using more updated data (e.g., the description of Kanauri by Takahashi in the present volume).

A comparison of OZ and NZ, using the NZ data recently made available by Martin (1998), is another important task. A rough comparison suggests that the difference between OZ and NZ is greater than what can be explained as a result of natural historical change. For example,

(1) NZ has prefixal consonants (*d-*, *b-*, *bs-*) which are not found in OZ. We suspect this is a result of Tibetanization.

(2) NZ has voiced aspirated stops (*gha*, *bha*, and *dha*) which are not found in OZ. This may be a result of Sanskritization.

(3) NZ grammatical particles (e.g. *dang*) are much closer to the Tibetan ones than OZ. --possibly another Tibetanization.

(4) Many OZ lexical items are replaced in NZ.

These transformations may be the results of Bonpo priests' attempts to make the NZ forms look more authentic and similar to Tibetan or Sanskrit forms. In other words, the New Zhangzhung language developed as a result of Tibetan Bonpos combining their knowledge of OZ with that of Tibetan and Sanskrit.

If NZ has such artificial elements, then how natural is OZ? Before going into this topic, we need to touch on the identification of the OZ manuscripts.

9. Identification of the language

Identification of the language of the manuscripts is a problem not yet completely settled. Thomas (1933) poses several reasons for identifying the language as Zhangzhung, none of which is definitive. Nevertheless, its affinity with the Tibeto-Burman languages of the West Himalayan region seems acceptable. And the only language of this region which is mentioned in contemporaneous Old Tibetan texts is Zhangzhung. Other languages which are known to have been included into the Tibetan Empire, namely, Sum-pa, Rgya-rong, Nam, and Mi-nyag, are located in the eastern region of the Empire. The manuscript with Nam was identified and published by Thomas (1948). Titles in Sum-pa, Mi-nyag, and possibly Rgya-rong are included in the titles of Bon texts side by side with titles in Zhangzhung;[3] so they were considered to be different languages at least by Bonpos. The New Zhangzhung language claimed to be Zhangzhung by later Bonpos is, as we have seen, not identical with Old Zhangzhung, but shares significant linguistic features. These considerations leave us little doubt that Zhangzhung is the most probable candidate for the language of our manuscripts.

10. Sociolinguistic Background

Provided that the language written in our Dunhuang manuscripts is Zhangzhung, a question may be raised as to what sociolinguistic milieux the Zhangzhung texts were written in or brought into Dunhuang in the 9th c. Zhangzhung is known to have been conquered and incorporated into the expanding Tibetan Empire in the 7th c. After that, Zhangzhung troops were drafted by the Tibetan great minister in 662-663 (Dog year in the *Old Tibetan Annals*) for his campaign to conquer 'A-zha (Beckwith 1987: 29). Thus, Zhangzhung soldiers went to Kokonor already in the mid 7th c. When the Tibetan Empire occupied Dunhuang and the Gansu Corridor in the late 8th c., the Tibetan army stationed there was made up of various ethnic groups, including Sum-pas, Turks, Khotanese, and Mthong-khyabs, who had been subjugated and incorporated into the military system of the

Tibetan Empire. There is little doubt that Zhangzhung men also moved to Dunhuang; possibly some of them wrote down our Zhangzhung texts.

But the questions of why the remaining texts are all medical texts, and whether they were translated from any language(s) remain enigmatic.

If the texts were written by Zhangzhung natives, to what extent they reflect colloquial Zhangzhung forms of the day without Tibetan constraint? When a language without an established writing system has borrowed a script, it is apt to be heavily influenced by the orthography and linguistic forms of the donor language as well. The recipient language usually goes through transitional stages before it is written down in the new script: firstly, speakers of the language learn to write a donor language and script (e.g., speakers of the Balti Tibetan dialect have no knowledge of writing Tibetan in Tibetan script; when they need to write, they use Urdu in Arabic script.) Afterwards, they start writing a few passages of their own in the newly acquired script, often inserting them within a text in the donor language, thus resulting in a text with frequent code-switching or language-mixing. Uighur-Sogdian bilingual texts may be a contemporaneous case-in-point (Sims-Williams and Hamilton 1990; Yoshida forthcoming).

Our Old Zhangzhung texts are no doubt one of the earliest attempts at writing Zhangzhung. The writers, possibly Zhangzhung native speakers, must have been well versed in Tibetan as well. When they tried to write Zhangzhung in Tibetan script, they were more or less constrained by Tibetan orthography and grammatical rules. The above-mentioned S-final *-o* might be a result of such Tibetan influence, because it is much less frequently found in other OZ texts than OZ 1. However, compared to the above-mentioned Uighur-Sogdian texts, Tibetan and Zhangzhung elements are more difficult to distinguish because the two languages are genetically related.

To what extent the Tibetan influence may figure, our Zhangzhung texts show clearly different linguistic constructions from Tibetan. Also, the degree of Tibetan influence seems to vary from text to text. Thus, by analyzing and comparing these five texts, we believe that we can eventually ferret out the basic constructions of the Old Zhangzhung language.

For the time being, we may make the following tentative propositions regarding the nature of the Old Zhangzhung and New Zhangzhung.

(1) OZ reflects the 9th c. Zhangzhung linguistic forms, constrained by Tibetan orthography and grammatical rules.

(2) NZ developed as a result of Tibetan Bonpos combining their knowledge of Zhangzhung with that of Tibetan and Sanskrit.

Notes

1) Nyi-ma grags-pa compl., *Sgra yi don sdeb snang gsal sgron ma*, New Delhi: Bonpo Foundation, 1965.
2) Bstan-'dzin gnam-dag ed., *Srid pa'i mdzod-phug*, Delhi, 1966. It is ascribed to Dran-pa nam-kha' in 8 c.
3) E.g., *Klu gnyan sa bdag gi spang skong phan yon dgos 'dod kun 'byung rgyas pa bzhugso* (Or. Mss. Tib. I. 1-4). *Klu 'bum nag mo zhes bya ba'i g.yung drung theg pa chen pa'i mdo* (C. I. 2.: Box i/29/2). *Bon rin po che 'phrul ngog bden pa'i mdo las gtsang ma: Klu 'bum dkar mo* (C. I. 3.: Box 1/29/3). *Klu'i spang bkong bzhugs so* (Tib. Mss. I. 185-210: Lhasa Collection). All are preserved in the British Library.

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List 1

sylfrequency:syllables 588

frequency order

No.	freq	overlap	leng	syllable	
1.	64		(3)	SHi	
2.	60		(2)	ci	
3.	43	2 0	(2)	na	(ra=na/da=na)
4.	38		(3)	min	
5.	35		(2)	sa	
6.	30	1 0	(2)	ca	(ca=ra)
7.	28		(4)	tiNG	
8.	27		(2)	ma	
9.	26		(2)	bu	
10.	23		(3)	sum	
11.	23	1 0	(3)	tsa	(tsa=rca)
12.	22		(2)	ga	
13.	21		(3)	mar	
14.	21		(4)	maNG	
15.	21		(5)	nve'o	
16.	20		(3)	tog	
17.	18		(2)	mu	
18.	18	1 0	(2)	ru	(ru=du)
19.	17		(4)	ruNG	
20.	16		(2)	ti	
21.	16		(4)	laNG	
22.	16		(4)	tsha	
23.	16		(6)	khyero	
24.	15		(2)	ce	
25.	14		(2)	ku	
26.	14		(2)	se	
27.	14		(3)	gun	
28.	13		(2)	do	
29.	13		(2)	ge	
30.	13		(3)	kha	
31.	13		(3)	lvi	
32.	12		(2)	da	
33.	12		(3)	kul	
34.	12		(3)	tse	
35.	12		(4)	raNG	
36.	12		(5)	SHiNG	
37.	12	1 0	(4)	SHvi	(wi=SHvi)
38.	11		(4)	lyam	
39.	11	1 0	(2)	la	(lab=la)
40.	10		(2)	ba	
41.	10		(3)	rma	
42.	10		(4)	SHer	
43.	9		(2)	ne	
44.	9		(2)	pu	
45.	9		(3)	dro	
46.	9		(3)	nis	
47.	9	1 0	(4)	thum	(khum=thum)
48.	8		(2)	go	
49.	8		(2)	ra	
50.	8		(3)	SHa	
51.	8		(3)	SHe	
52.	8		(3)	ken	
53.	8		(3)	lag	
54.	8		(3)	na'	
55.	8		(4)	luNG	
56.	8		(4)	rNGa	
57.	8	7 0	(7)	tur=rur	(tar=tur)
58.	7		(2)	gu	
59.	7		(3)	lod	
60.	7		(3)	nve	
61.	7		(3)	ram	
62.	7	1 0	(3)	kun	(kun=kur)

List 2

4 syllables (syllable order)

No.	freq	leng	4-syllables							
1.	2	(2)	^e	(2)	ru	(5)	ra=na	(3)	kha
2.	2	(2)	ci	(3)	mar	(4)	skar	(4)	tiNG
3.	2	(2)	da	(3)	cho	(3)	min	(6)	slaNGo
4.	3	(3)	did	(2)	na	(3)	mar	(3)	kul
5.	2	(2)	ga	(3)	por	(3)	lvi	(3)	SHi
6.	2	(4)	khug	(2)	ma	(2)	ci	(3)	tsa
7.	2	(5)	lvaNG	(2)	mo	(2)	ca	(7)	rhyviso
8.	2	(4)	lyam	(11)	tshas=tsham	(3)	tri	(3)	min
9.	2	(5)	lyuNG	(5)	ru=du	(2)	ci	(5)	da=na
10.	3	(3)	mar	(3)	kul	(3)	tum	(2)	ca
11.	7	(3)	mar	(3)	kul	(4)	thum	(2)	ca
12.	2	(3)	mar	(3)	kul	(9)	khum=thum	(2)	ce
13.	2	(3)	min	(3)	mar	(3)	kul	(4)	thum
14.	2	(2)	na	(3)	lod	(2)	do	(4)	lyam
15.	2	(3)	nug	(3)	min	(3)	mar	(3)	kul
16.	2	(2)	pu	(5)	khumb	(4)	rNGa	(2)	pu
17.	2	(3)	rab	(4)	this	(2)	ga	(5)	nve'o
18.	2	(7)	rus=zus	(2)	ma	(3)	tar	(4)	raNG
19.	3	(3)	SHi	(2)	mu	(2)	sa	(4)	tiNG
20.	4	(3)	SHi	(3)	SHi	(2)	mu	(2)	sa
21.	4	(5)	SHiNG	(3)	gun	(3)	SHi	(3)	dag
22.	2	(3)	tog	(3)	mar	(3)	kul	(9)	khum=thum
23.	2	(4)	ZHag	(5)	du=cu	(2)	ci	(3)	tsa

5 syllables (syllable order)

No.	freq	leng	5-syllables								
1.	2	(2)	ce	(4)	maNG	(4)	tsha	(4)	tsha	(3)	min
2.	2	(2)	ce	(3)	sum	(3)	ken	(3)	tog	(6)	khyero
3.	2	(2)	ci	(3)	na'	(4)	slye	(2)	ci	(3)	na'
4.	2	(3)	kha	(2)	ci	(2)	na	(2)	ti	(2)	ce
5.	2	(3)	lvi	(3)	SHi	(3)	dro	(3)	tsa	(3)	SHi
6.	3	(3)	lvi	(3)	SHi	(3)	SHi	(2)	mu	(2)	sa
7.	5	(3)	mar	(3)	kul	(4)	thum	(2)	ca	(6)	khyero
8.	2	(3)	mar	(3)	kul	(3)	tum	(2)	ca	(6)	khyero
9.	2	(2)	mu	(2)	sa	(3)	dro	(3)	tsa	(3)	SHi
10.	2	(4)	SHer	(4)	thun	(2)	da	(4)	gral	(3)	min
11.	2	(3)	sum	(3)	ken	(3)	tog	(3)	mar	(3)	kul
12.	2	(5)	waNGs	(2)	ga	(2)	ra	(2)	ci	(4)	ruNG

6 syllables (syllable order)

No.	freq	leng	6-syllables										
1.	2	(3)	did	(2)	na	(3)	mar	(3)	kul	(4)	thum	(2)	ca
2.	2	(3)	SHi	(2)	mu	(2)	sa	(4)	tiNG	(2)	mu	(2)	sa
3.	2	(4)	tiNG	(3)	sag	(5)	skyus	(2)	ci	(3)	sum	(2)	sa
4.	2	(4)	tsha	(3)	mar	(3)	kul	(4)	thum	(2)	ca	(6)	khyero

List 3

[FRAGMENT 43: VP no 755] 7-3 syllables
Order (frequency)

length	No.	frequency	syllables	first	middle	last
7	1	2	skar tiNG sag skyus ci sum sa	skar		
			bin tiNG sag skyus ci sum sa	bin		
	2	2	tiNG sag skyus ci sum sa ma			ma
			tiNG sag skyus ci sum sa khug			khug
	3	2	kum tsha mar kul thum ca khyero	kum		
			lyam tsha mar kul thum ca khyero	lyam		
	4	2	tsha mar kul thum ca khyero ci			ci
			tsha mar kul thum ca khyero snis			snis
	5	2	tsha' did na mar kul thum ca	tsha'		
			ZHil=ZHis did na mar kul thum ca	ZHil=ZHis		
	6	2	did na mar kul thum ca SHer			SHer
			did na mar kul thum ca khyero			khyero
	7	2	did na mar kul tum ca khyero		tum	
			did na mar kul thum ca khyero		thum	
	8	2	ru ra=na kha ci na ti ce		ra=na	
			ru tsha kha ci na ti ce		tsha	
	9	2	chago SHi mu sa tiNG mu sa	chago		
			SHi SHi mu sa tiNG mu sa	SHi		
	10	2	SHi mu sa tiNG mu sa lyam			lyam
			SHi mu sa tiNG mu sa con			con
6	1	5	tsha mar kul thum ca khyero (ci)	tsha		
			tsha mar kul thum ca khyero (snis)	tsha		
			na mar kul thum ca khyero	na		
			skar mar kul thum ca khyero	skar		
			min mar kul thum ca khyero	min		
	2	3	did na mar kul thum ca (SHer)		thum	
			did na mar kul thum ca (khyero)		thum	
			did na mar kul tum ca		tum	
	3	3	na mar kul tum ca khyero	na	tum	
			na mar kul thum ca khyero	na	thum	
			tog mar kul tum ca khyero	tog	tum	
	4	3	SHi mu sa mar mu sa		mar	
			SHi mu sa tiNG mu sa		tiNG	
			SHi mu sa tiNG mu sa		tiNG	
	5	3	do lvi SHi SHi mu sa	do		
			por lvi SHi SHi mu sa	por		
			nve'o lvi SHi SHi mu sa	nve'o		
	6	3	lvi SHi SHi mu sa maNG			maNG
			lvi SHi SHi mu sa kha			kha
			lvi SHi SHi mu sa dro			dro
	7	2	tsha ce maNG tsha tsha min	tsha		
			lvi ce maNG tsha tsha min	lvi		
	8	2	ce maNG tsha tsha min SHi			SHi
			ce maNG tsha tsha min tiNG			tiNG

List 4-L

last syllable

	frequency order		syllable order		backward order	
No.	frequency	syllable	frequency	syllable	frequency	syllable
1	9	khyero	1	chaNGo	1	khyere
2	5	do	1	ci'o	1	spral
3	2	go	5	do	1	ci'o
4	2	NGo	2	go	2	NGo
5	2	SHido	1	khyer	1	chaNGo
6	1	chaNGo	1	khyerdo	1	ruNGo
7	1	ci'o	1	khyere	1	sduNGo
8	1	khyer	9	khyero	1	slaNGo
9	1	khyerdo	1	kyero	1	stuNGo
10	1	khyere	1	lodo	1	tuNGo
11	1	kyero	2	NGo	5	do
12	1	lodo	1	rhyugo	2	SHido
13	1	rhyugo	1	rhyviso	1	lodo
14	1	rhyviso	1	ruNGo	1	khyerdo
15	1	ruNGo	1	sduNGo	1	spurdo
16	1	sduNGo	1	SHanso	2	go
17	1	SHanso	2	SHido	1	tshago
18	1	skugo	1	skugo	1	rhyugo
19	1	slaNGo	1	slaNGo	1	skugo
20	1	spral	1	spral	9	khyero
21	1	spurdo	1	spurdo	1	kyero
22	1	stuNGo	1	stuNGo	1	rhyviso
23	1	tshago	1	tshago	1	SHanso
24	1	tuNGo	1	tuNGo	1	khyer

List 4-B

booby syllable

	frequency order		syllable order	
No.	frequency	syllable	frequency	syllable
1	6	ca	1	ba
2	4	tog	6	ca
3	3	ce	3	ce
4	3	SHid	1	chud
5	2	min	1	ci
6	1	ba	1	dis
7	1	chud	1	kun
8	1	ci	1	lod
9	1	dis	2	min
10	1	kun	1	myin
11	1	lod	1	na
12	1	myin	1	NGir
13	1	na	1	nves
14	1	NGir	1	rho
15	1	nves	1	rtog
16	1	rho	1	ru
17	1	rtog	1	ryum
18	1	ru	1	sa
19	1	ryum	1	sdu
20	1	sa	1	sduNGi
21	1	sdu	3	SHid
22	1	sduNGi	1	stuNG
23	1	stuNG	1	sum
24	1	sum	1	tiNG
25	1	tiNG	4	tog
26	1	tsag	1	tsag

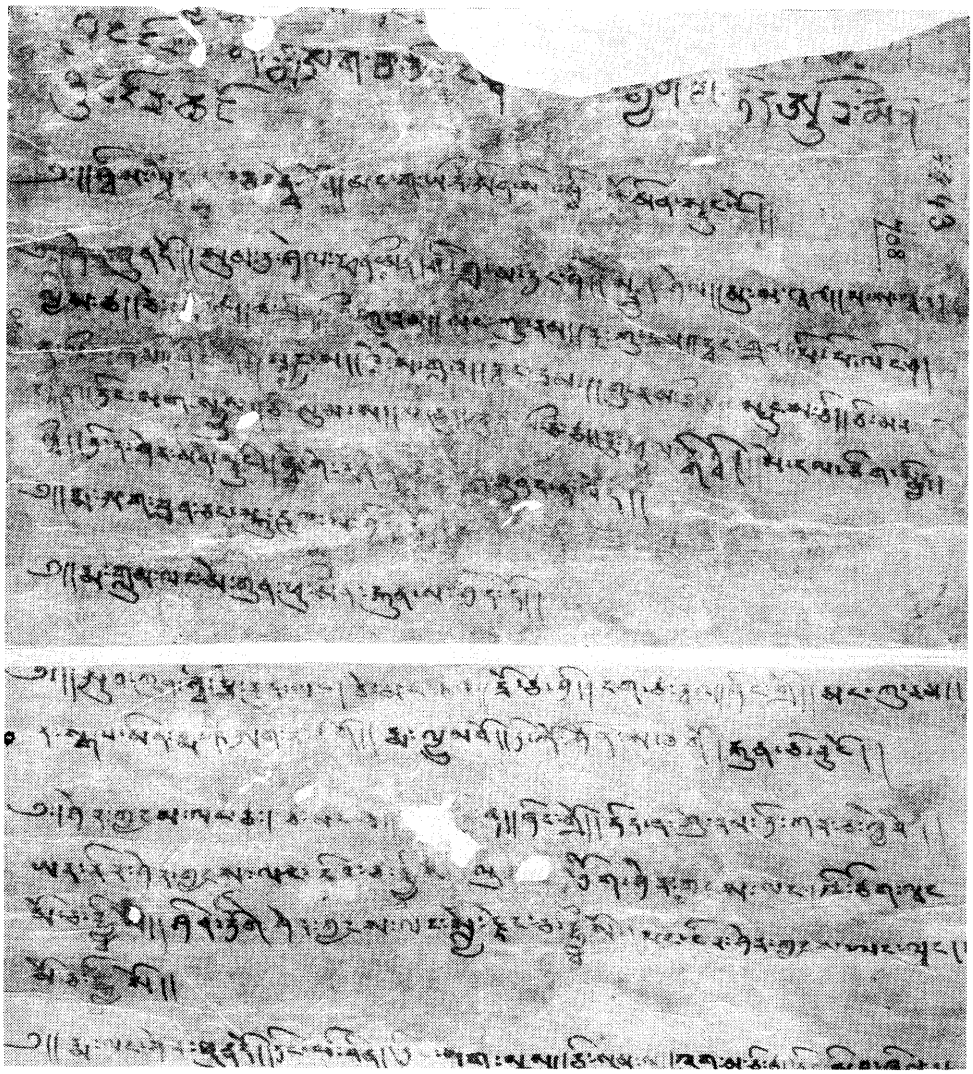


Plate 1

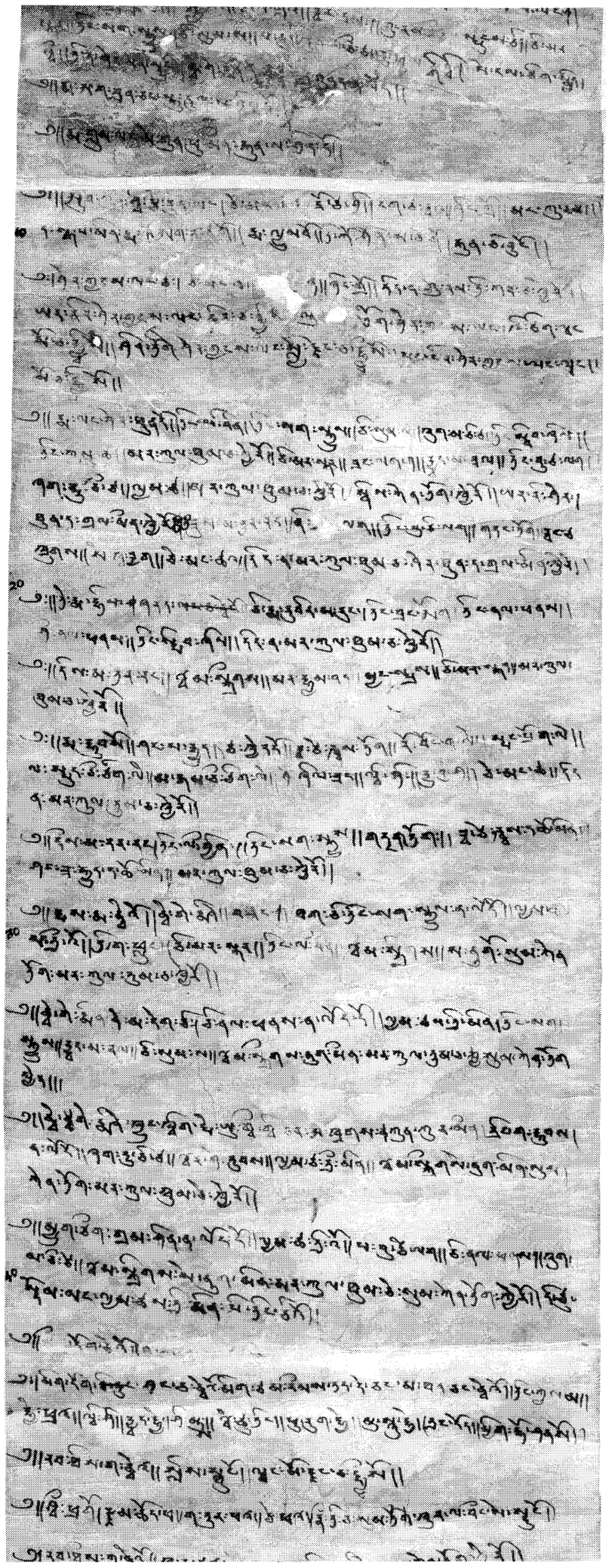


Plate 2

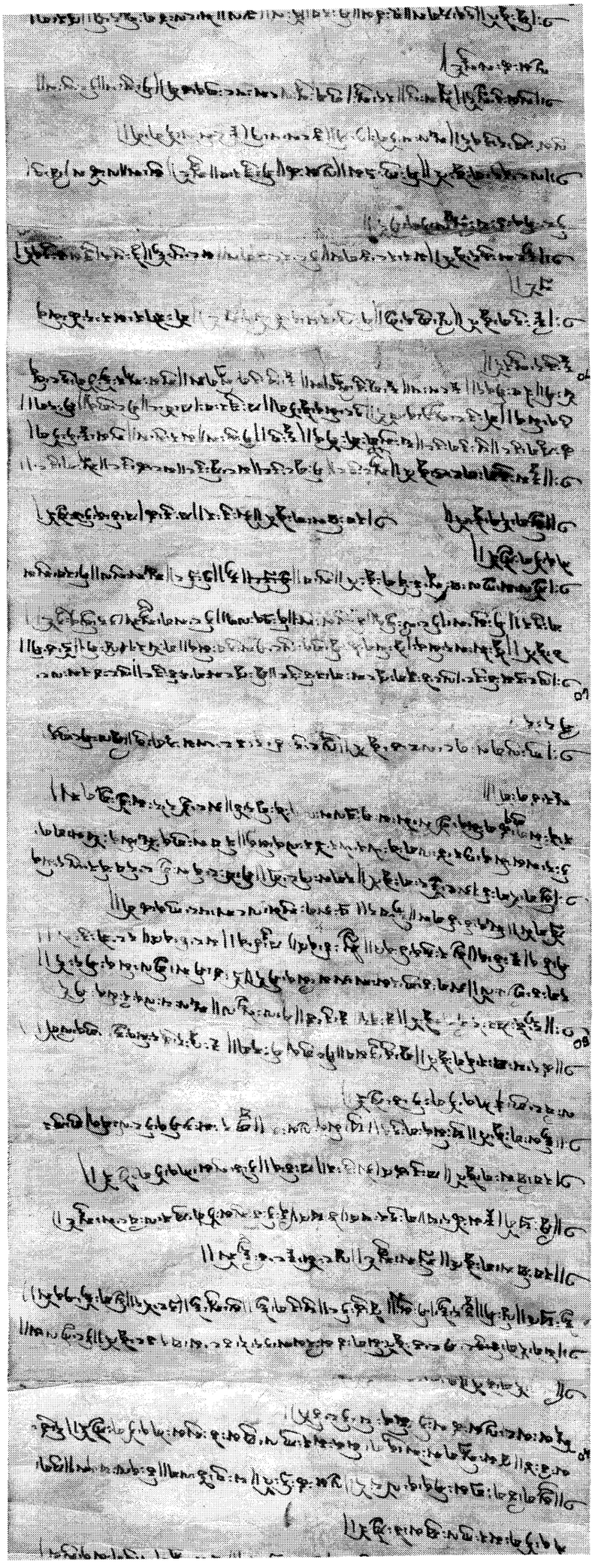
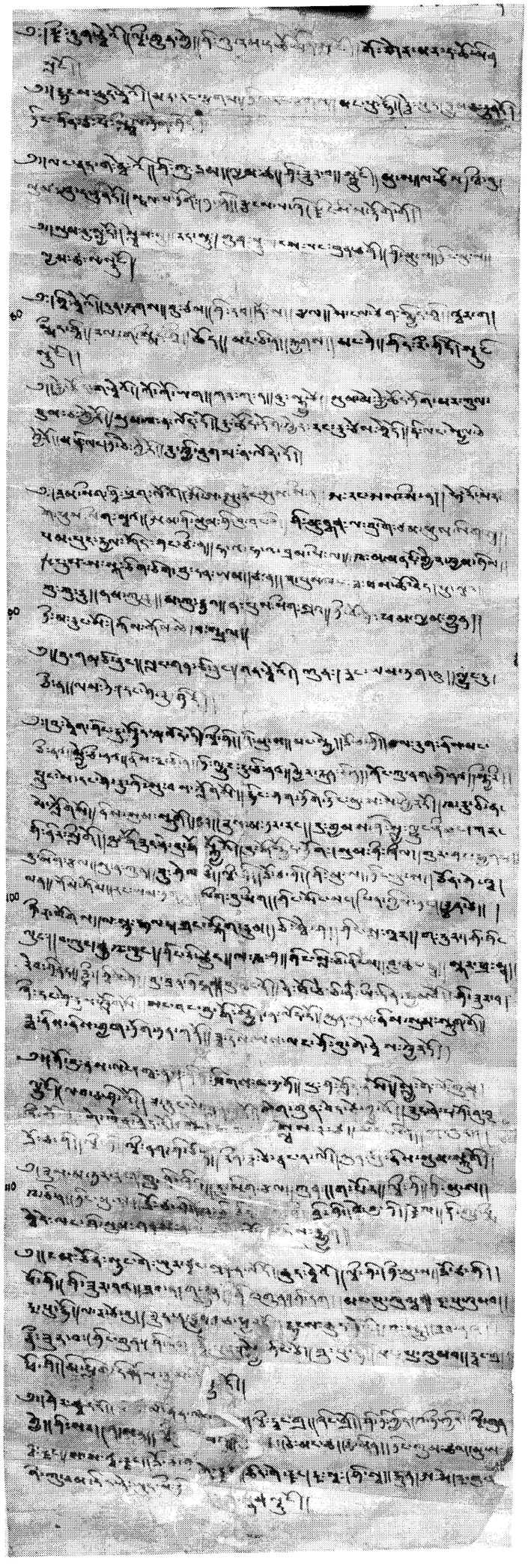


Plate 3



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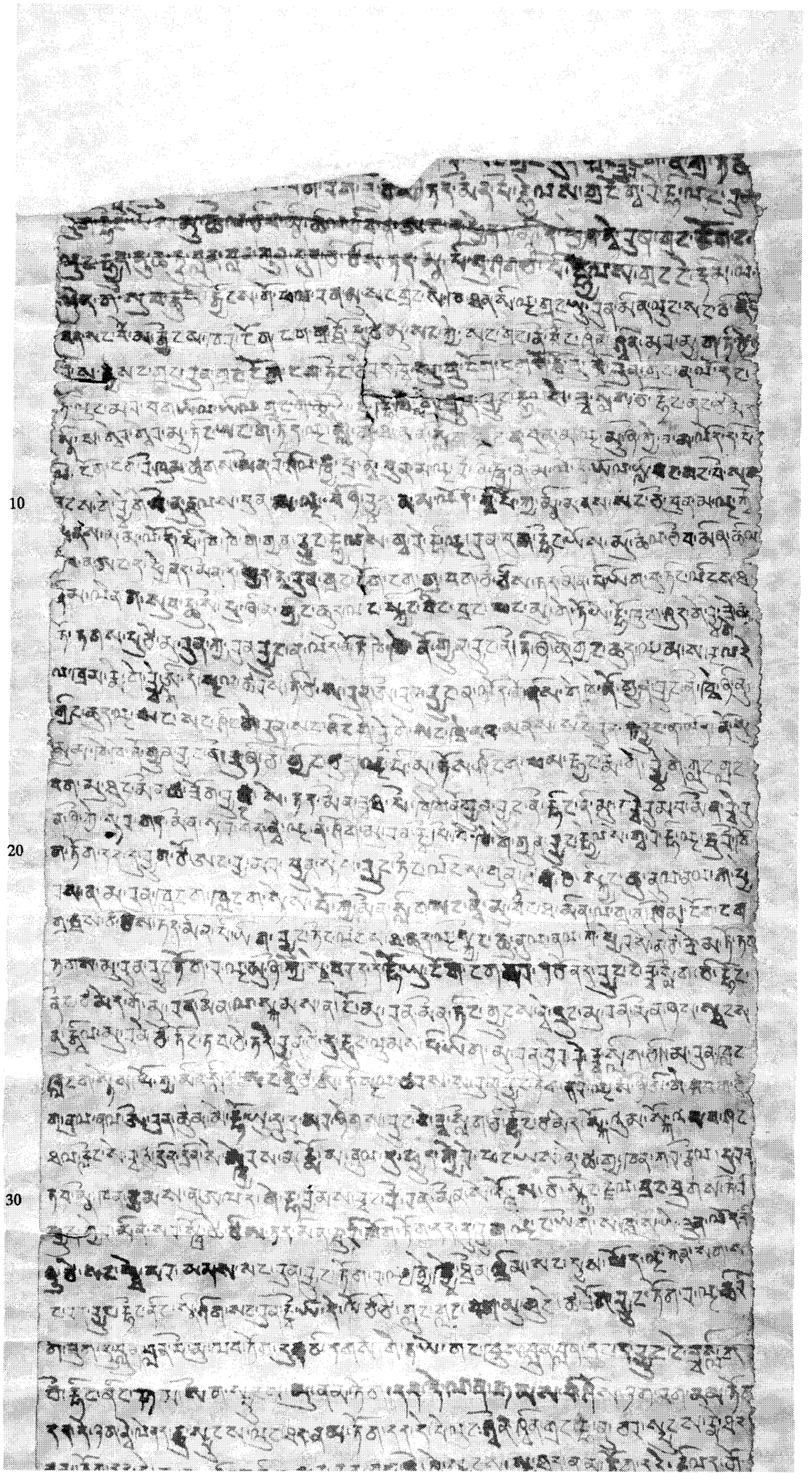


Plate 5

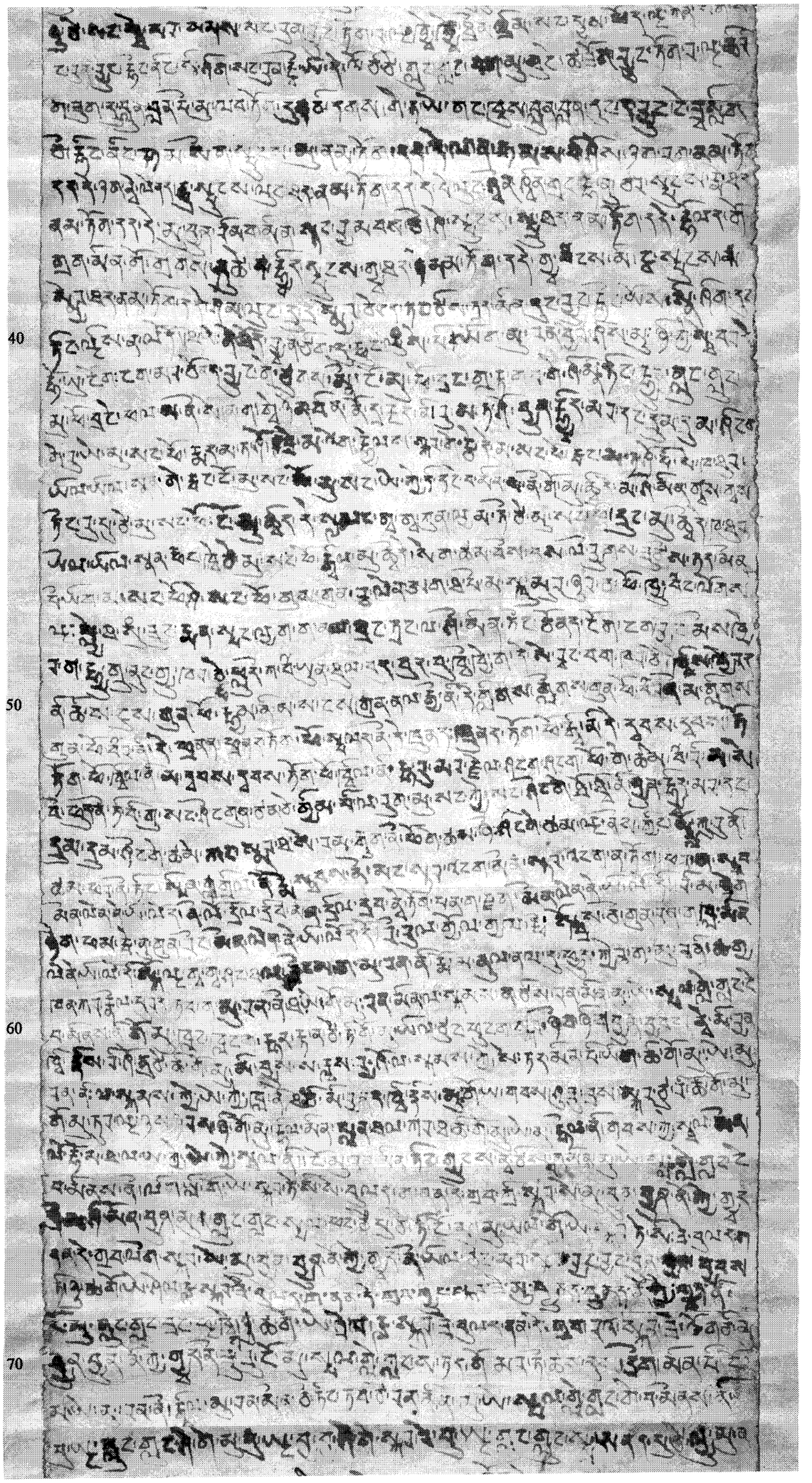


Plate 6

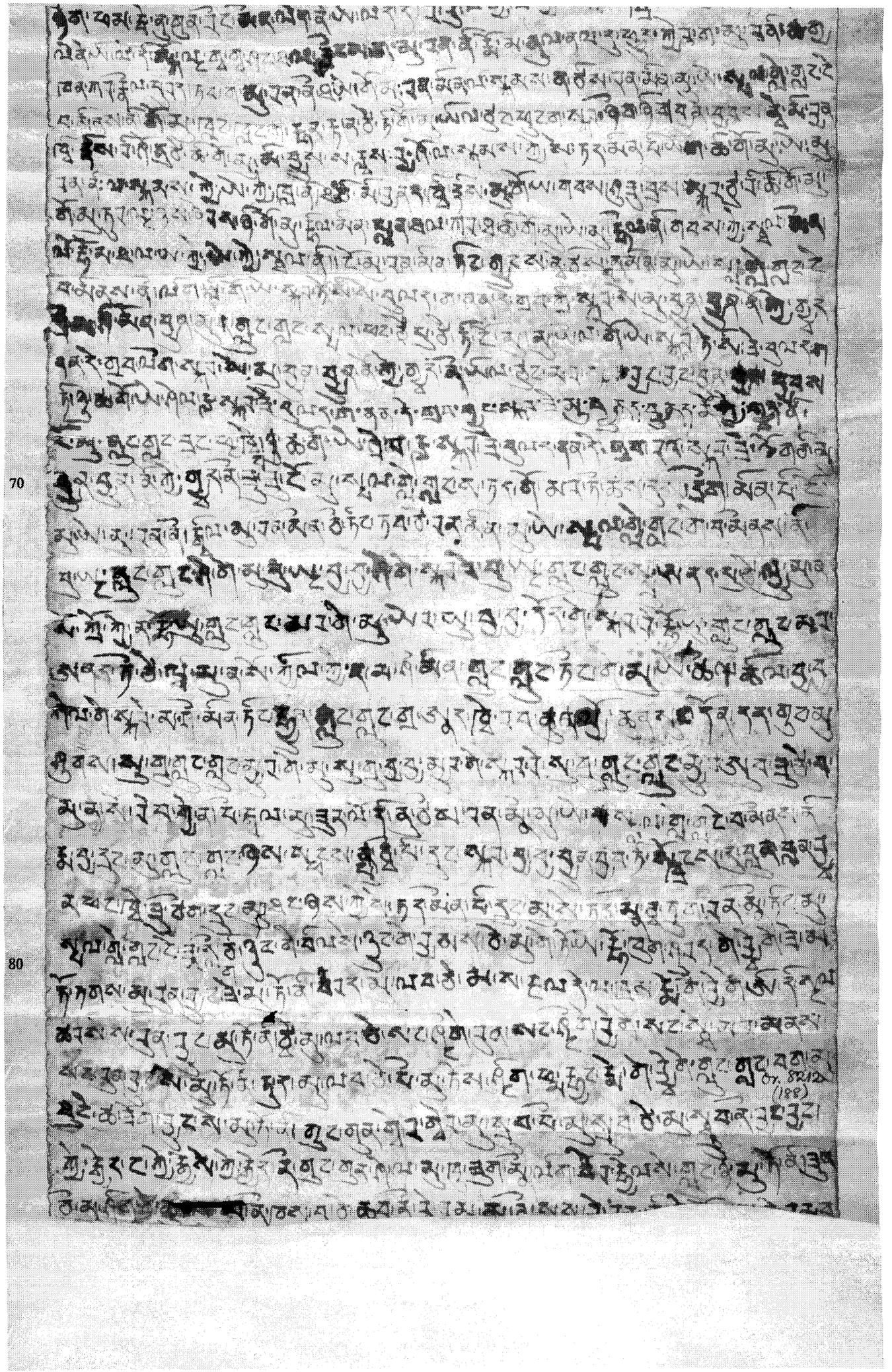


Plate 7

南无初發心佛　南无量眼佛
南无燃燈上佛　南无普光眼佛
南无照光明佛　南无帝相佛
南无一切國佛主一切衆生不斷樂說佛
南无阿樓那奮迅佛　南无迦奮迅佛
南无東北方斷一切憂惚如来為上首
南无離憂佛　南无樂成就功德佛
南无畏王佛　南无勝孫留佛
南无勝衆佛　南无狗隣佛
南无月勝光明稱佛　南无寶蓮華勝佛
南无邊光明佛　南无星宿王衆增上佛
南无畏佛　南无成就勝无畏佛
南无邊光照光明佛　南无香高山佛
南无香弥留佛　南无離鷲怖成就勝佛
南无量功德月成就佛　南无一切功德莊嚴佛
南无不可勝幢佛　南无增上讃光明佛
南无華勝王佛　南无无邊成就行佛
南无一切勝佛

Pelliot tibétain
Touen-houang 1251

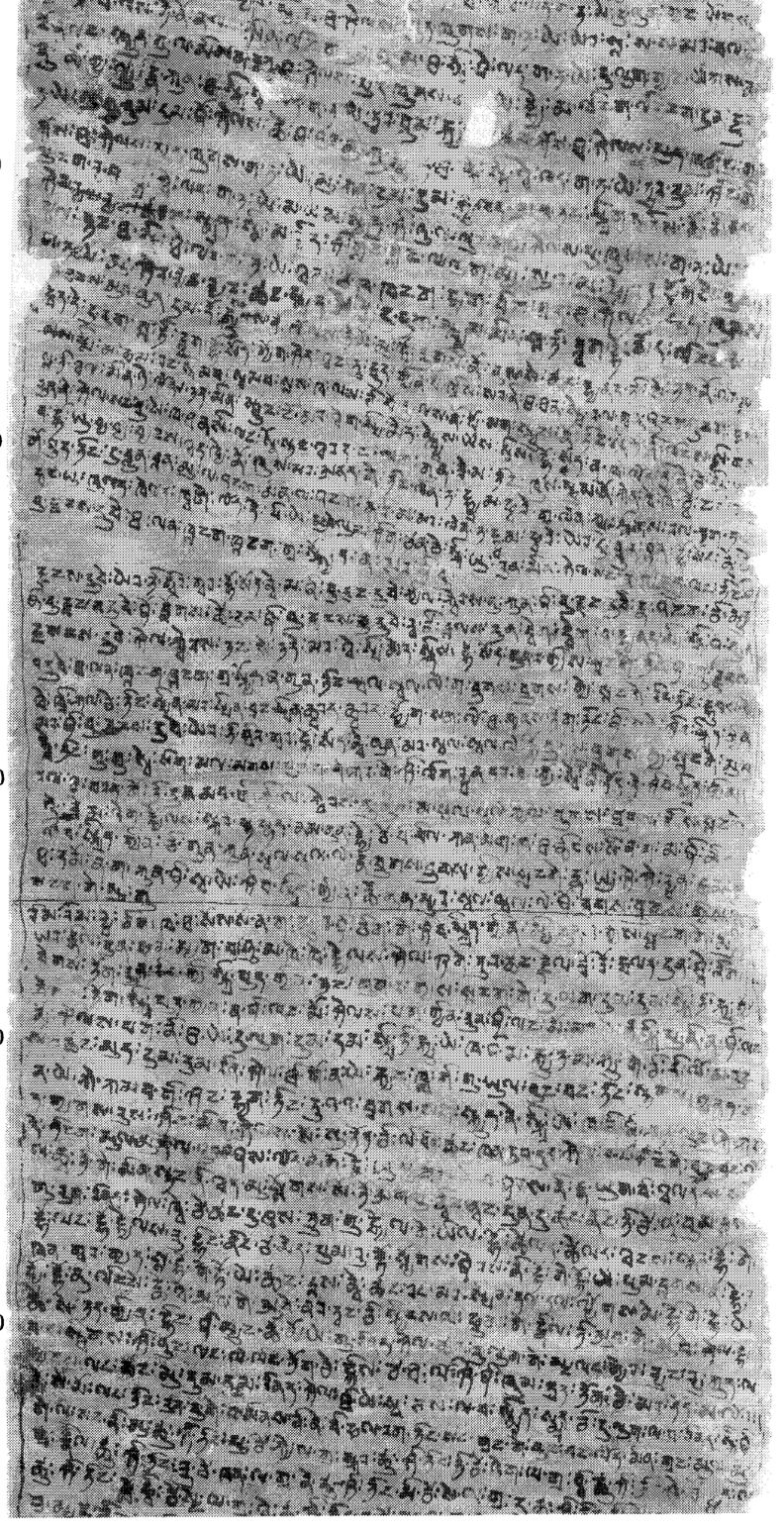
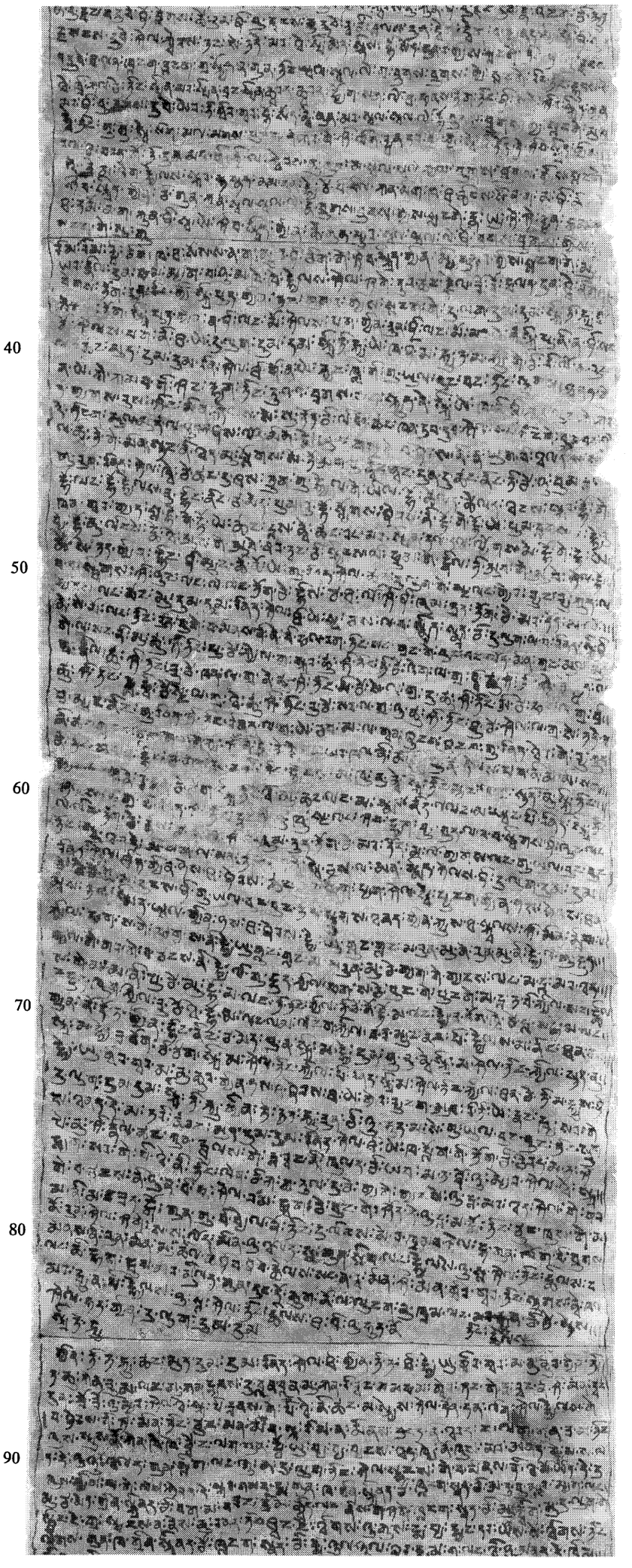


Plate 9



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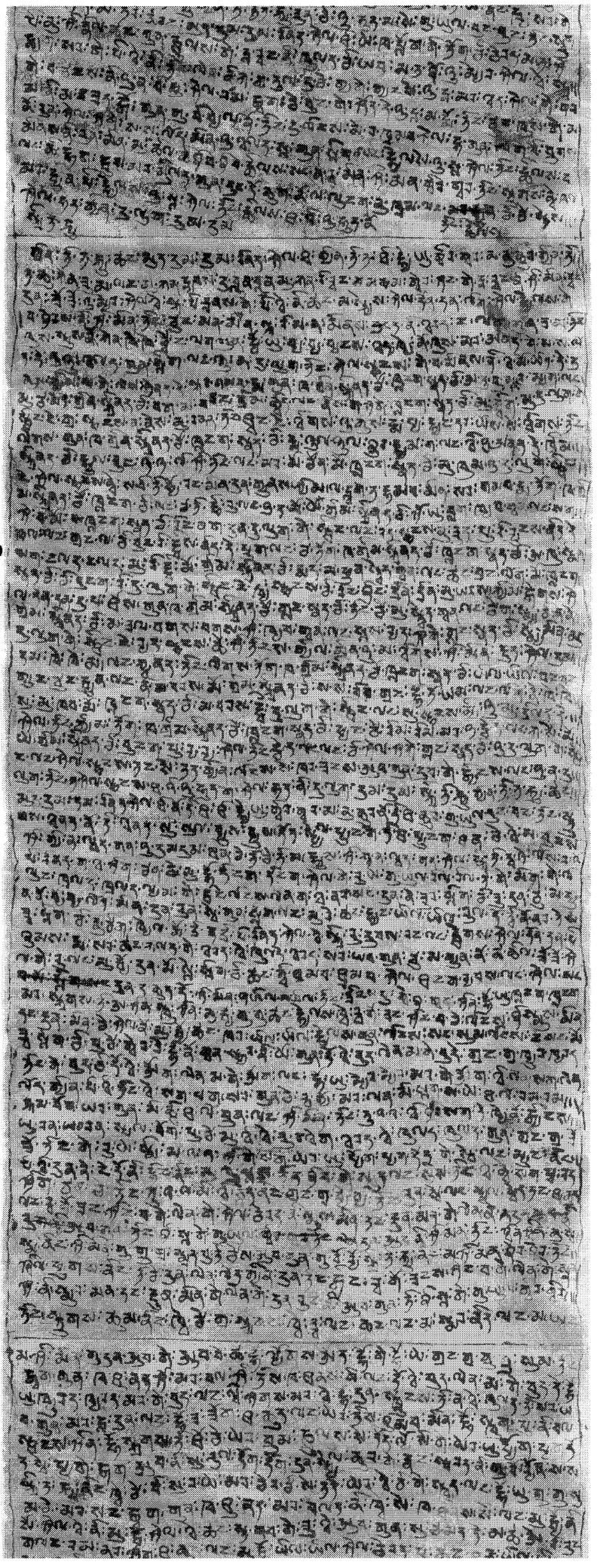

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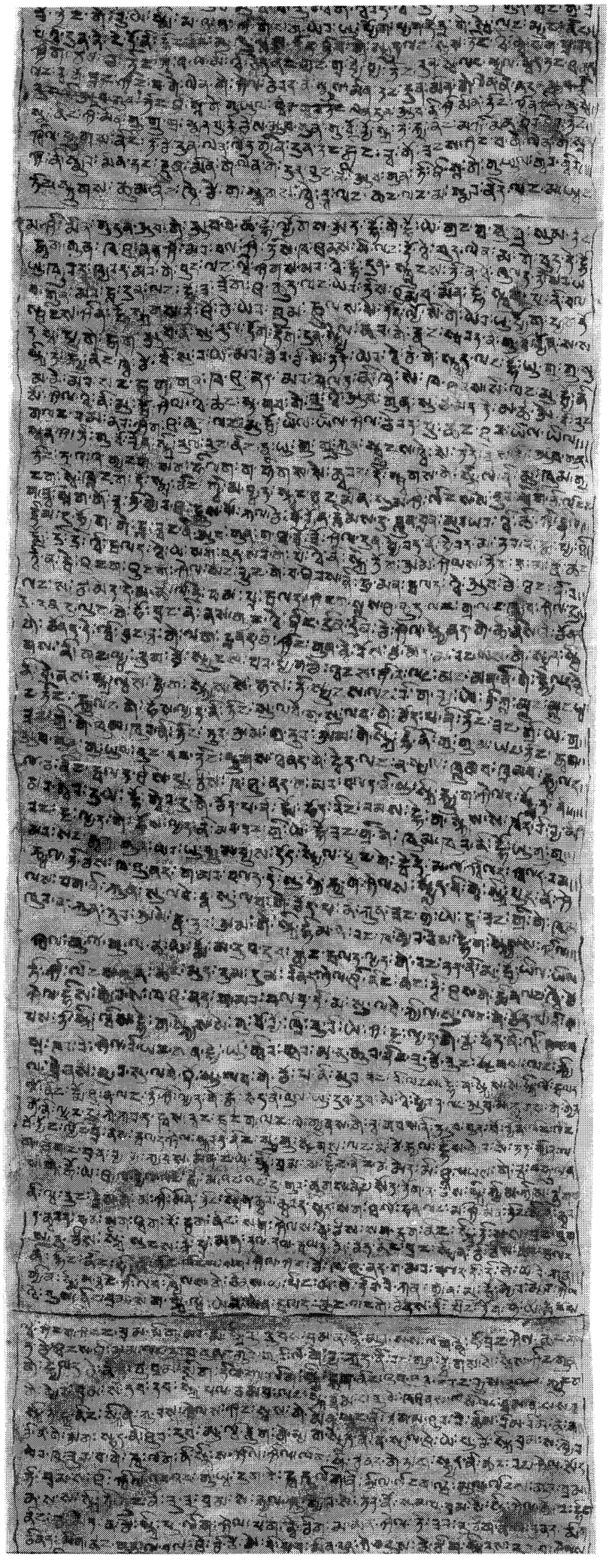

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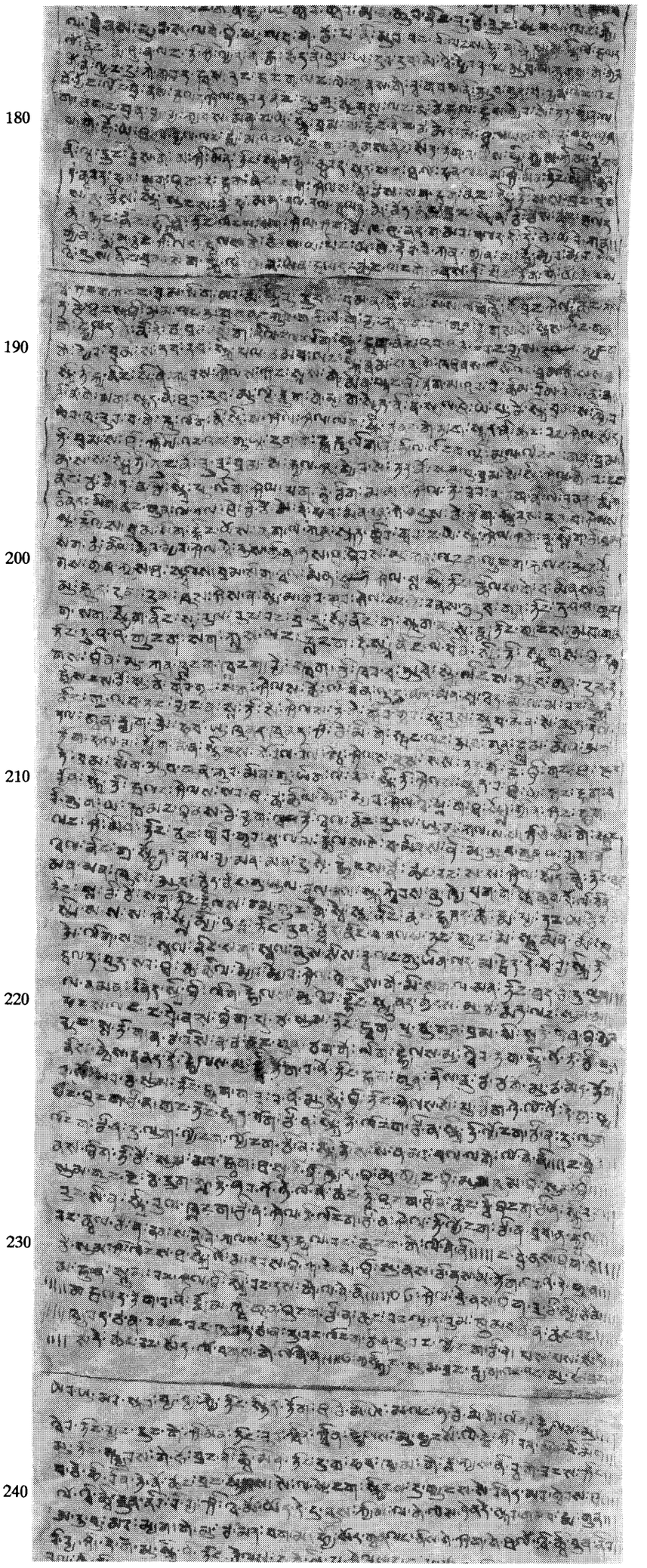

Plate 13

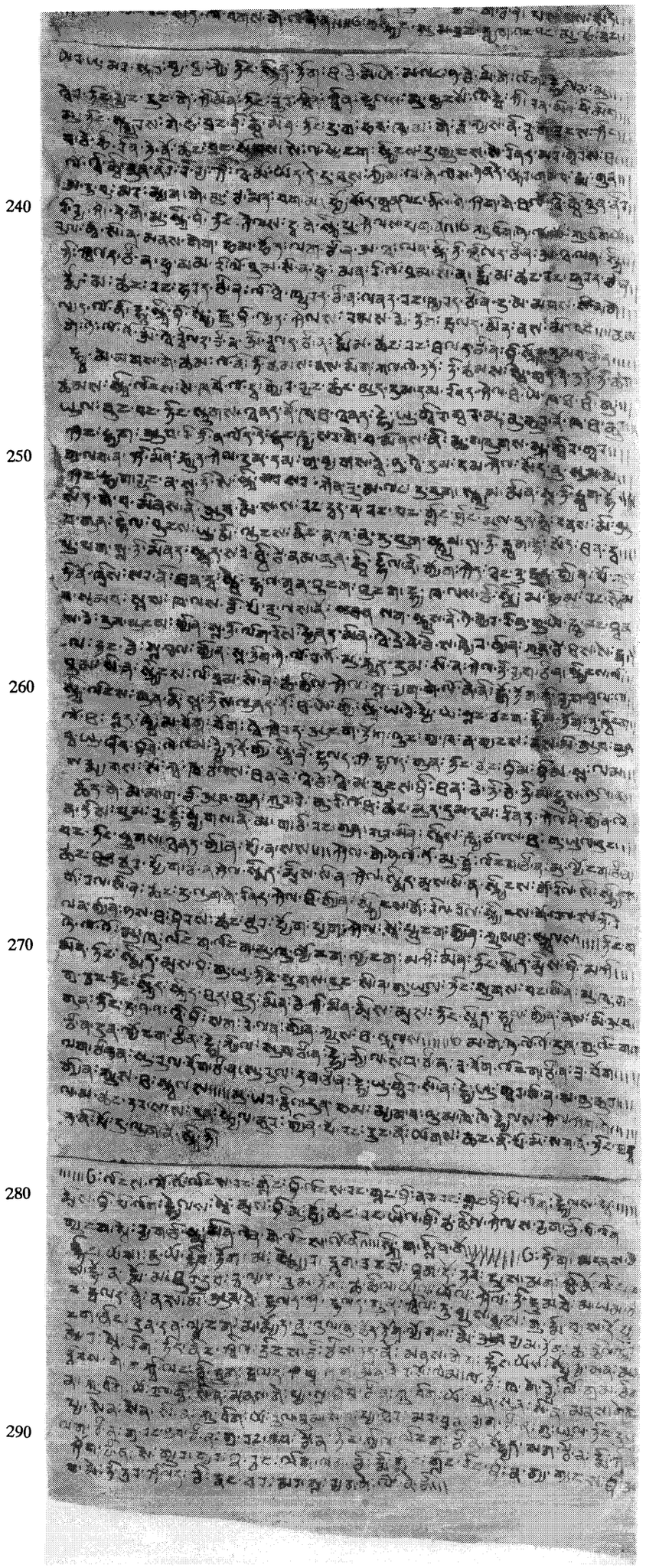

Plate 14

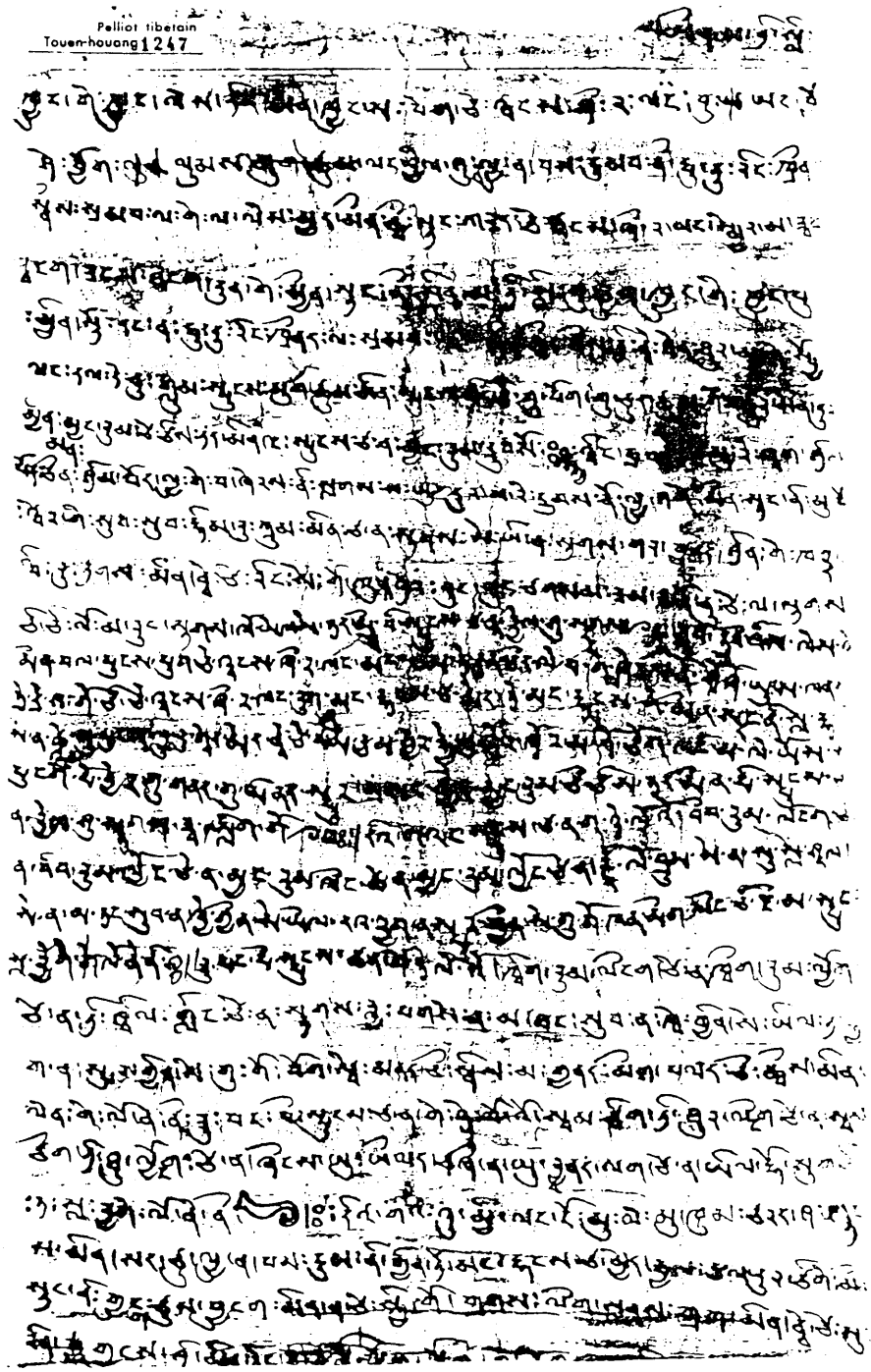

Plate 15

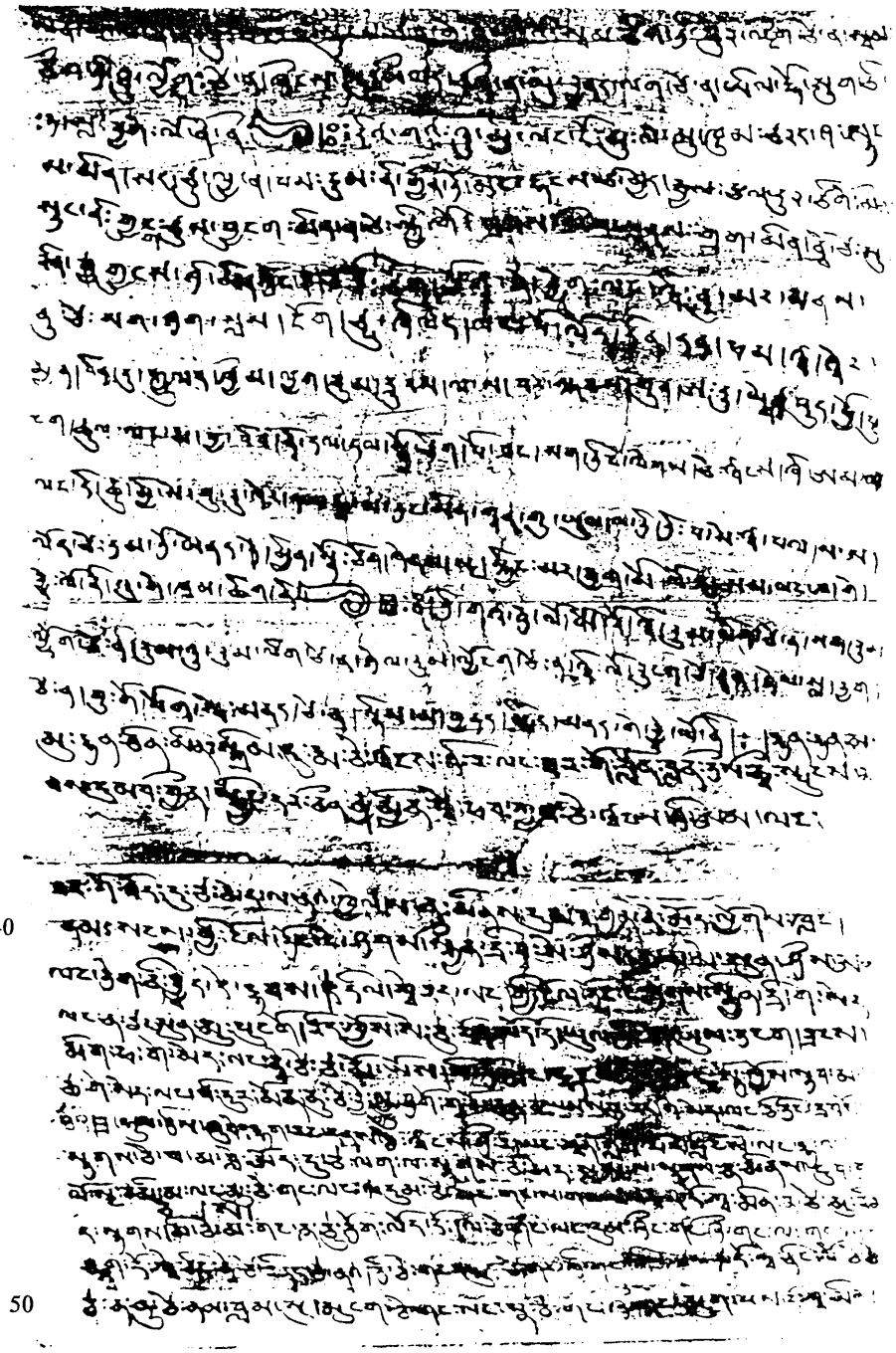

Plate 16

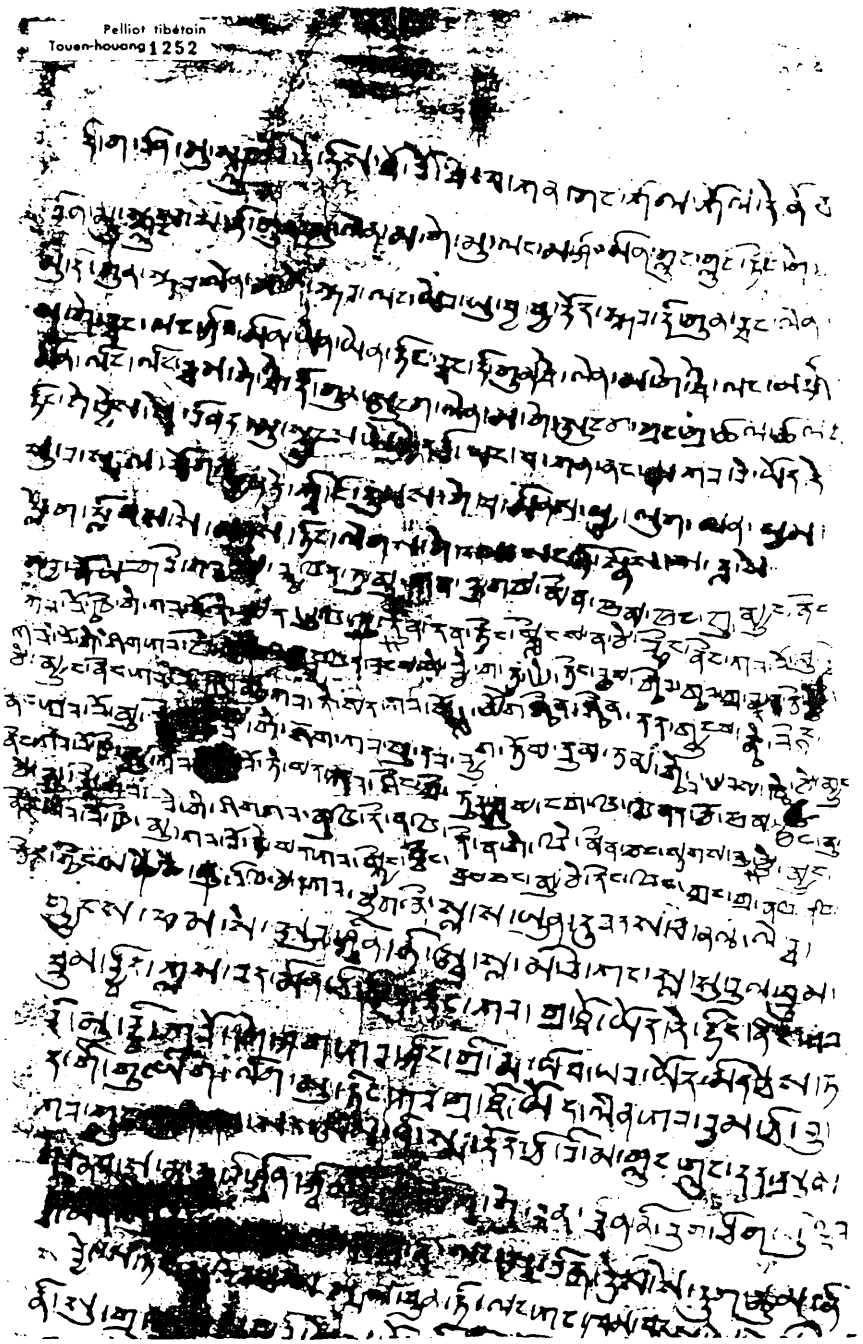

Plate 17

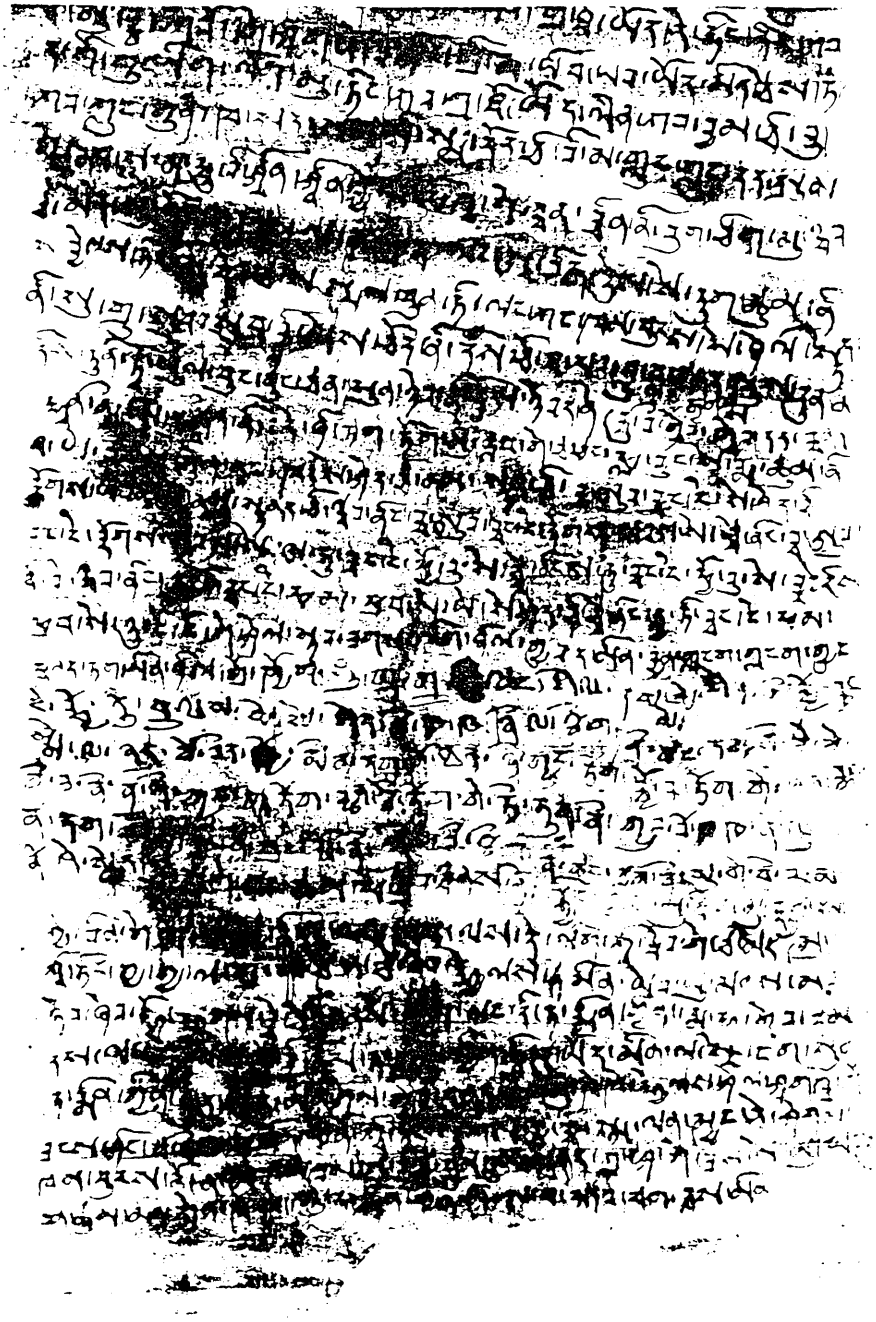

Plate 18