The Grammatical Temporal System from Middle Mongolian to Modern Mongolian

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The paper traces the development of the Mongolian temporal system from Middle Mongolian to Modern Mongolian, and deals with questions of how and why languages change typologically. It is shown that Mongolian is undergoing analytic-synthetic cyclic changes. On the one hand, Mongolian is getting more analytic, encoding past time with a combination of a perfective verbal noun and the present tensed existential verb. Previously it employed a synthetic inflectional verb to denote past tense. On the other hand, the emergence of modern non-past suffixes -na/-ne shows that there is also a series of changes making Mongolian more synthetic. Symmetry and economy are two opposing motivations for changes in Mongolian verbal paradigms.

Key words: Mongolian verb, typological change, analytic-synthetic cycle, symmetry & economy

1. Introduction

The history of Mongolian is divided into Old Mongolian (~12th century AD), Middle Mongolian (13th to 16th centuries), Late Mongolian (17th to 19th centuries) and Modern Mongolian (20th century ~). Previous work on the Mongolian temporal system...
have been mainly synchronic. Street (1957, 2008) and Ozawa (1961) tackle indicative endings in Middle Mongolian, while Binnick (1979, 1990), Hashimoto (1993), Wu (1995, 1996), and Song (1997), among others, deal with the tense system in Modern Mongolian. In (2007a), I show that pre-verbal negative adverbs ülü and ese gradually gave way to the negative predicate ügei and the negative verbal suffix -gui/-güi in Mongolian diachronically. Among typological changes in negative constructions, Mongolian is getting more analytic. Modern Mongolian expresses past time by a perfective verbal noun and a predicate of ‘existence’ rather than a synthetic indicative verb. I further propose that the competition between these two sets of negators triggered a series of syntactic changes in the temporal system of Mongolian and that there exists a ‘synthetic-analytic cycle’, as shown in Figure 1, in Mongolian historical syntax.

Figure 1: Substitution of sets of verbal suffixes and the Analytic-Synthetic cycle

This paper traces diachronic developments of the temporal system from Middle Mongolian to Modern Mongolian. Data are drawn from the Inner Mongolia University Modern Mongolian Corpus and Mongolian text corpora from 13th to 19th centuries compiled by the author, including Monggol-un niuča tobča’an ‘the Secret History of the Mongols’ (hereafter SHM), Mongolian Monuments in Uighur-Mongolian Script from 13th to 16th centuries (Tumurtogoo 2006), Mongolian Monuments in ‘Phags-pa Script (Tumurtogoo 2010), Erdeniyn Tobčiya ‘Precious Summary’ (hereafter ET), Mengyu Laoqida (Korean Mong-eo Nogeoldae)3 ‘Mongolian edition of Laoqida’ (hereafter phonological changes. Chinggeltei (1991:1-2) names this period Late-Modern Mongolian and divides it into two sub-periods, Late Mongolian (17th century to 1948) and Modern Mongolian (1949–).

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2 Figure 1 is adapted from Figure 4 in Hsiao (2007a).
3 Nogeoldae, Chinese laoqida (老乞大). Lao (老) means ‘old hand, expert’, while qida (乞大)
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MLQD), the 1716 wood-block Mongolian Geser published in Beijing (hereafter Beijing Geser) and Yeke Yuwan Ulus-un manduysan törü-yin Köke Sudur ‘Blue Chronicle’ (hereafter Köke Sudur). SHM, originally written in 1228, is regarded as a representative sample of the Middle Mongolian language. It is the earliest surviving Mongolian text of considerable length. The original in Mongolian script has been lost, but transcriptions of texts in Chinese characters dating from the late-14th to early-15th centuries have been preserved. ET, MLQD, Beijing Geser, and Köke Sudur belong to the Late Mongolian period. ET was compiled by Saγan Sečen Hungtaiji in 1662. MLQD was a textbook used in learning Mongolian at the Office of Interpreters in Korea, translated from a Chinese edition by Li et al. in 1741 and revised in 1776 and 1790. Beijing Geser tells stories about a hero called Geser qaγan ‘King Geser’ and the language in Geser contains some oral features. Köke Sudur was written by Inǰannasi (1837-1892), whose works mark the end of Late Mongolian. It will be shown that Mongolian is indeed undergoing analytic-synthetic cyclic changes.

2. Empirical data

Mongolian is an agglutinative language. Verbs are marked by suffixes for the imperative, indicative, verbal noun, and converb forms. Indicative suffixes contain not only temporal but also modal or aspectual meanings. Verbal nouns are nominalized verbs and possess characteristics of both verbs and nouns. Converbs are non-finite and used for connecting clauses. Roles of nouns are marked by a system of grammatical cases including nominative, accusative, genitive, dative, locative, ablative, instrumental, and comitative cases. Mongolian exhibits vowel harmony. Masculine (a, o, u) and feminine (e, ö, ü) vowels do not co-occur in a non-compound word, and neutral vowel (i) is free from the constraint. 

means qidan (契丹) in Chinese. It refers to ‘China’ in the languages of some nationalities in the north and west of China, e.g. Russian Китай (Kitái ‘China’), Mongolian Kitad ‘China, Chinese’. Therefore, the term laqida means ‘China Hand’.

There is no consensus among researchers regarding the date of SHM. According to the final paragraph (§282) of SHM, it was completed in the Year of the Rat, when the Great Assembly was gathered. A generally accepted view is that the Year of the Rat was 1240, one year before Ögödei Khaan’s death. Another popular date is 1228, one year after Chinggis Khan’s death. De Rachewiltz (2004:xxix-xxxiv) reviews previous proposals and favors the opinion that the original edition of SHM was written in the Year of the Rat 1228, while the sections on Ögödei Khaan were added as a supplement in a revised, enlarged edition. We have a preference for de Rachewiltz’s opinion.

Masculine vowels are commonly transliterated as back vowels and feminine vowels as front vowels in Mongolian studies. However, modern Mongolic languages exhibit diverse vowel
There are four sets of non-past indicative markings in *SHM*, Uighur Mongolian monuments and 'Phags-pa Mongolian monuments. They are -mU/-mUi, -yU/-yi, -U/-Ui/-i/-Ai and -d. See (1) to (4).

1. a. üdür büri man-dur irejü esüğjilejü odumu.
   day all 1PL-DAT come.CVB drink_yogurt.CVB depart.NONPST
   ‘Every day he comes to us, drinks yogurt and leaves.’ (SHM, Vol. 1, 31)

   b. Yesügei aqa Temüjin-i maši möröl:ljü öre-be:n
   Yesügei elder_brother Temüjin-ACC very think.CVB heart-REFL
   hurt.NONPST
   ‘Elder brother Yesügei misses Temüjin so much that his own heart hurts.’
   (SHM, Vol. 2, 69)

   c. šibawu:lan abalan yabuqui-dur joboldumui.
   falcon.CVB hunt.CVB go.IMPFV-DAT suffer.RECP.NONPST
   ‘At the moment when (I) go falconing and hunting, they are suffering together with (me).’ (SHM, Vol. 10, 233)

   d. Qorutu moya:i-a:ca gemü:d törümüi.
   poisonous snake-ABL sin.PL be_born.NONPST
   ‘Sins are born from poisonous snakes.’ (Subhäsitaratnanidhi, IV)

For instance, Oirat and Kalmyk varieties have palatal (front-back) vowel harmony (Quejingzhabu et al. eds. 1986, Svantesson et al. 2005:149), while Khalkha and Inner Mongolian varieties show pharyngeal (RTR, Retracted Tongue Root) vowel harmony (Svantesson 1985, 2005, Hsiao 1995). See Svantesson (1985) and Ko (2011) for opposite hypotheses on the direction of diachronic vowel harmony shift in Mongolian. The status of neutral vowel $i$ is debatable. Orthographically there is only one form for the vowel $i$, but it has two phonetic variants, i.e. /i/ and /ï/.

6 Capital letters stand for varieties in concordance with vowel harmony rules. Generally speaking, the difference between -U and -Ui is number, and -U and -i gender. -Ui forms mark plural subjects, and -i forms mark female subjects. See Ozawa (1993:3-22), Garidi (2006:327-330). However, the number and gender concordance between the subject and verb is not obligatory.

7 List of abbreviations used in glosses in this article: ABL, ablative case; ACC, accusative case; APL, applicative; CAUSE, causative morpheme; COOP, cooperative; CVB, converb; DAT, dative case; EXP, experience; GEN, genitive case; HAB, imperfective habitual; IMP, imperative; IMPFY, imperative; IND, indicative form; ITER, iterative; LOC, locative case; NEG, negation; NM, nominalizer; NOM, nominative; NONPST, non-past; NSR, non-subject relative; PART, particle; PASS, passive morpheme; PFV, perfective; PL, plural; POSS, possessive; PRON, pronoun; PRS, present; PST, past; Q, question particle; QUOTE, quotation marker; RCM, relative clause marker; RECP, reciprocal; REFL, reflexive; SG, singular; SR, subject relative; TOP, topic marker; VOL, volition.
(2) a. Garudi šibayu:n qoru-tu moya'-yi alayu. Turay'un
good-of_birds bird poison-ACC COM kill.NONPST crow
NEG be_able.NONPST
‘The king of birds kills poisonous snakes; crows cannot.’
(Subhāsitaratnānidhi, I)
b. ökin köi:n manu öngge üjegdeyū.
girl child(ren) our beauty watch.PASS.NONPST
‘Our girls’ beauty is beheld.’ (SHM, Vol. 1, 65)
c. amin ele činu bö:e:sü öki qatu oluyi ǰe.
life this your exist.CVBJV girl wife get.NONPST PART
‘If your life exists, you shall find a wife.’ (SHM, Vol. 1, 55)

(3) a. üdür gege'e:n bol'ayu üje'e:sü qoyi:nača nigen
day light become.CVBJV see.CVBJV behind.ABL one
man come.NONPST
‘At dawn (they) saw a man coming from behind.’ (SHM, Vol. 6, 172)
b. Öçügü:ken erdementen omur'tu bolui.
little scholars arrogant exist.NONPST
‘Shallow scholars are arrogant.’ (Subhāsitaratnānidhi, IV)
c. ama-‘a:r alaşan ači:a:su ülü boli.
mouth-INS kill.PFV load.CVBJV NEG become.NONPST
‘If one (wish to) load the (prey) killed with (one’s) mouth, it will not do.’
(SHM, CVol. 1, 255)
d. Naiman kürčü ayi:sai.
Naiman arrive.CVBJV come.NONPST
‘The Naiman are coming.’ (SHM, Vol. 7, 195)

(4) a. qubiya:ldu-d ǰe bida.
distribute-NONPST PART we
‘We shall distribute (them among us).’ (SHM, Vol. 5, 153)
b. Ker-ber keme:rün bida uqad ǰa.
how-INS say.CVBJV we know.NONPST PART
‘We know how to say.’ (The Edict of Khubilai Khan 1261)
c. Erdeni-tü qulużan_a ed-iye:n buliydaju
treasure-LOC mouse property-REFL.POSS rob.PASS.CVBJV
There are also four sets of past indicative markings in Middle Mongolian. They are: -bA/-bAi/-bi, -ǰUGU/-čUGU/-ǰUGUi/-čUGUi/-ǰigi/-čigi/-jiGAi, -lUGA/-lUGAi/-lAGA/-lAGAi/-ligi/-liyi, and -GA/-GAi.

(5) a. te'ü:n-dür Temüjin uyi:la:d ğarču yorčiba.
   he/she/it-DAT Temüjin cry.CVb come_out.IMPFV depart.PST
   ‘At that, Temüjin cried, went out and departed.’ (SHM, Vol. 2, 73)

   Büri-bökö NEG overcome.PASS.IMPFV person fall.CVb give.PST
   ‘Büri-Bökö, a man who is not to be overcome, fell on purpose.’ (SHM, Vol. 4, 140)

c. Toγto'a:-yin esgel qali'u:n-i ğamuqa anda-da
   Toγtoa-GEN yellowish_white_mare-ACC ğamuqa brother-DAT
   unu'u:lbai.
   ride.CAUSE.PST
   ‘(He) made Anda Jamuqa ride Toγtoa’s yellowish white mare.’ (SHM, Vol. 3, 117)

d. Barulas-aça Qubilai Qudus aqa-nar de'ü:-ner
   Barulas-ABL Qubilai Qudus elder.brother-PL younger.brother-PL
   irebei.
   come.PST
   ‘Qubilai and Qudus brothers came from the Barulas.’ (SHM, Vol. 3, 120)

e. Temülün neretei nigen ökin törebi.
   Temülün name.COM one girl be_born.PST
   ‘One daughter named Temulun was born.’ (SHM, Vol. 1, 60)

(6) a. Odčigin noyan oduγsan irge-be:n γuyi:ra
   Odčigin chief go.PFv people-REFL.Poss request.CVb
   Soqor neretü elći-yen ile:jũ:ũ:i.
   Soqor name.COM messenger-REFL.Poss send.PST
   ‘Chief Odčigin sent his messenger named Soqor to request his people who went (there).’ (SHM, Vol. 10, 245)
b. Bars-un arasun nemlegsen eljigen tariya:n idegsen-ü tiger-GEN skin wear.PFV donkey grain eat.PFV-GEN qoyi:n_a alaqdayju:ü_i. afterwards kill.PASS.PST

‘The donkey which wore a tiger’s skin was killed after eating grains.’
(Subhāsitaratnādihi, V)

c. Gergei inü Gang ši-da Sing qoo gün wife 3.POSS Gang familyname-DAT Sing guo gung vusin ner_e ōgēgi. lady name give.PST

‘His wife, with the family name Gang, was given the title Lady Sing guo gung.’ (Chang Ying-jū 1335)

(7) a. ... Yedi-tubluγ neretu noyan inu qara'u:l yabu:ju Yedi-tubluγ name.COM chief 3.POSS sentry go.CVB bidan-u qara'u:l-a hüldegejü a'u:la ō'c:de we-GEN sentry-DAT chase.PASS.CVB mountain uphill dua't:qu bolun olang-niya:n tasuraydaju flee.IMPFV become.CVB belly_strap-REFL.POSS detach.PASS.CVB tende bariydalu'ɑ:. there catch.PASS.PST

‘While his chief named Yedi-tubluγ, being a sentry, was chased by our sentries and fleeing to the mountain, his belly strap was broken and he was caught there.’ (SHM, Vol. 5, 158)

b. Jorγal γun:u Hula'a:n:u d Bolda'u:d-ta bida ese 'ü: Jorγal γun-GEN Hula'anud Bolda'ud-DAT we NEG Q ügüleldülü'e:i? say.RECP.PST

‘Didn’t we say to each other at the Hula'anud Bolda'ud of the Jorqal Qun?’ (SHM, Vol. 6, 177)


‘Genghis Khan made someone bring Tayang’s mother Gurbesu to him,... and took her (as his wife).’ (SHM, Vol. 7, 196)

d. Ene uring-a terigu:leši ūgei orčilang-dur-i this anger-ACC beginningless NEG transmigration_cycle-DAT-ACC
kijayalal ugei qour kürgegedle:i bidan-dur.
limitation NEG harm deliver.PASS.PST we-DAT
‘Harms without limitation were delivered to us by the anger, which transmigrates cyclicly since beginning of the material world.’
(Subhäsitaratnanidhi, IX)

e. gergei inü Börte üjin-ü eke Čotan neretei būliyi.
wife 3.POSS Borte Ujin-GEN mother Cotan name.COM be.PST
‘His wife, Borte Ujin’s mother, was named Cotan.’ (SHM, Vol. 2, 94)

(8) a. ...Šigi-qutuqu ese abu'a.
    Sigi-qutuqu NEG take.PST
    ‘Sigi Qutuqu didn’t take (them).’ (SHM, CVol. 1, 252)

b. Tayiči'u:d aqa de'ü: činü naidamu
    Tayiči.PL elder_brother younger_brother 2.POSS expect.NONPST
    ke'én međežů maši herüjů čokele'e:i.
    QUOTE know.CVB very be_troubled.CVB loss_hope.PST
    ‘Knowing that your Tayičiud brothers are jealous, (I) am very troubled and have lost hope.’ (SHM, Vol. 2, 94)

Along with a temporal meaning, indicative suffixes might differ in mood or aspectuality, which we shall not discuss in this paper. Besides, aspectual suffixes sometimes occur at the position for indicative endings. The distributions of indicative endings in Middle Mongolian texts SHM, 8 Uighur Mongolian monuments and 'Phags-pa Mongolian monuments is shown in Table 1.9

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8 Based on the Chinese transcriptions, γ and g occurring in Past suffixes are generally transcribed with '<' in the literature for SHM.
9 Defective copula verbs büi, bei, buyu and their negative forms bisi, busu are excluded in our discussion in this paper.
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Table 1: The distributions of indicative endings in Middle Mongolian

<table>
<thead>
<tr>
<th>Endings</th>
<th>SHM (1228)</th>
<th>'Phags-pa Mongolian (XIII-XIV)</th>
<th>Uighur Mongolian (XIII-XVI)</th>
<th>Sum</th>
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<tbody>
<tr>
<td>Nonpast</td>
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<tr>
<td>-mu/-mü</td>
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<td>189</td>
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<td>-muli/-müi</td>
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<td>-yu/-yü</td>
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<td>488</td>
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<tr>
<td>-u/-ü; -ul/-üi; -i; -al/-ei</td>
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<td>-d</td>
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<td>4</td>
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<td>21</td>
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<table>
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<th>Past</th>
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The distributions of indicative endings in Late Mongolian texts ET and MLQD is shown in Table 2.
Table 2: The distributions of indicative endings in Late Mongolian

<table>
<thead>
<tr>
<th>Endings</th>
<th>ET (1662)</th>
<th>MLQD (1790)</th>
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<td>-u/-ūi; -i/-ei</td>
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<tr>
<td>-ba/-be</td>
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<td>-gan/-gsen</td>
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<td>{buyu/büi/bei/bisi/busu/ügei}</td>
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</tbody>
</table>

The non-past suffix -d and past suffix -γa and -γai do not occur in ET or MLQD, while -nam/-nem and -na/-ne emerge.

(9) a. yakiji sibarγa surulju bičig čeجمل؟
    how_to_do lot draw.CVB book memorize.NONPST
    ‘How to draw in a lottery to memorize books?’ (MLQD, Vol. 1, 04b, Line 4-5)

b. manaγar tabuŋ jaγun elčis-tür qurim öggümüzü.
    tomorrow five hundred envoys-DAT feast give.NONPST
    ‘Tomorrow (I) will give a feast for the five hundred envoys.’ (ET, 13b22-13b23)
(10) a. tere ber ejen boyda Temujin kemekü endeki
that PART master holy Temujin say.IMPFV being_here
tendeki ulüs-i abçu yabunam genem.
being_there people-ACC take.CV go.NONPST say.NONPST
‘It is said that holy Temujin, the master, goes here and there to obtain
peoples.’ (ET, 36a07-36a08)
b. liyoodung qotun dotor saun_a.
Liaodong city inside dwell.NONPST
‘(I) live in the Liaodong city.’ (MLQD, Vol. 3, 09b, Line4)

(11) tere cay-tur kümün kemekü ner_e ügei.
that time-DAT person say.IMPFV name NEG
yerünge-ı-yin ner_e inu amitan kemen nereidüyükü.
general-GEN name 3.POSS living_being QUOTE name.PASS.NONPST
‘At that time, there is no name for “person”. Their cover term (with other
creatures) is living being.’ (ET, 2a04-2a06)

(12) ĉi ali ɣajaran-ün köbegün bui?
you which place-GEN son be
‘Where are you from?’ (ET, 8b04-8b05)

(13) a. bi dolon sar_a-yin sine-der mordaba.
I seven month-GEN new-DAT depart.PST
‘I departed in early July.’ (MLQD, Vol. 5, 4b, Line3-4)
b. tere cay-açu qoyinaaysia edüged-tür kürtele kümün
that time-ABL hereafter now.DAT-DAT arrive.CV person
cemen nereidkü bolbai.
QUOTE name.IMPFV become.PST
‘Since then (they) are called human beings.’ (ET, 3v14-3v16)
c. ... eçige-yin anu čolabar Darqan bayatur kemebi.
father-GEN 3PL.POSS title.INS Darqan bayatur say.PST
‘(They) called (him) Darqan-bayatur according to their father’s title.’ (ET,
84r29-84v12)

(14) a. tedüi tegüni Dobun mergen degügü-degen
thereupon he/she/it.ACC Dobun mergen younger_brother-DAT.REFL.POSS
kelelejü gergei bolγajuqu.
say.COOP.CV person make.PST
‘So (he) discussed (with the girl’s family) and made her become his own
younger brother Dobun-mergen’s wife.’ (ET, 25r10-25r11)
b. tere ber Enedkeg-ün Suvandu kemekü baysi-aça
that PART India-GEN Suvandu say.IMPFV teacher-ABL
uqay-an-u nom-i surçuqui.
intellect-GEN book-ACC study.PST
‘(He) learned the Intellect Books from the teacher named Suvandu of India.’(ET, 34r01-34r03)

c. bi temdeg talbiji.
I mark put.PST
‘I have put the marks.’ (MLQD, Vol. 5, 18a-b, Line7-1)

(15) a. tegünü qoyina, ene časutu-yin oron-a dumda
he/she/it.GEN after this snow.COM-GEN territory-DAT middle
bükü čakravard qay-an-u caγ-tur Joγro
be.IMPFV wheel_turning ruler-GEN time-DAT Joγro
klui rjalmsan kemekü kelemü bolun törölüge.
klui rjalmsan say.IMPFV interpreter become.CVB be_born.PST
‘After that, (you) were born to be an interpreter named Joγro klui
rjalmsan during Middle Wheel-Turning ruler’s era in this Snow country.’
(ET, 90r25-90v09)

b. tendeče qay-an tūsimel qoyar-un yosun bülüge kemejü,
thence king official two-GEN doctrine be.PST say.CVB
nom-un qay-an Mayidari-yin gegen-eše čoytu
book-GEN king Mayidari-GEN Serene_Holiness-ABL splendid
včir sadu-yin abisig-i qamtubar sonosuluγai.
diamond good-GEN consecration-ACC together.INS hear.PST
‘(They) listened to the Consecration of čoytu včir sadu from the religious
king Mayidari Serene Holiness together according to the doctrines of
kings and officials respectively.’ (ET, 91r24-91r27)

c. nidunun γurban čin-dü niįged giň bile.
last_year three čin-DAT each giň be.PST
‘(It) was three čin10 a giň11 last year.’ (MLQD, Vol. 5, 3b, 1-2)

We shall discuss the historical changes of indicative markings in the next section.

\(^{10}\) čin, Chinese qián (錢), a unit of currency.
\(^{11}\) gin, Chinese jīn (斤), an unit of weight. One gin in Qing dynasty (1644-1911) equals to 596.82 grams.
3. The analytic-synthetic cycle and historical changes in paradigms of Mongolian verbs

3.1 Analytic-synthetic continuum

A language is analytic if it shows a low ratio of words to morphemes and syntactic relationships are expressed by word order or individual function words rather than by inflectional affixes. A synthetic language forms words by derivational morphemes; grammatical relationships are expressed by means of inflections.

The analytic-synthetic dichotomy, however, is not a discrete one, but a continuum. There exist highly analytic languages such as Modern Mandarin Chinese and highly synthetic (polysynthetic) languages such as Classical Ainu. See (16) and (17) for examples.

(16) Zhangsan ba shu jie gei le Lisi.
    Zhangsan hold book(s) lend give PFV Lisi
    ‘Zhangsan lent (the) book(s) to Lisi.’ (Modern Mandarin Chinese)

    various-rumors 1SG-APL-REFL-APL-far-REFL-heart-sway-ITER
    ‘I wonder about various rumors.’ (literally ‘I keep swaying my heart afar and toward myself over various rumors.’) (Classical Ainu, Shibatani 1990:72)

Typologically analytic languages might exhibit synthetic features, and synthetic languages might display analytic features. Example (18) shows that Japanese is more synthetic in verbal morphology but less synthetic in nominal morphology. Furthermore, English is more analytic than Japanese in causative formation. Causation is expressed by a periphrastic construction ‘make...to do’ in English and by a verbal suffix -ase in Japanese.

(18) sensei-ga eiko-ni piano-o hikaseta.
    teacher-NOM Eiko-DAT piano-ACC play.CAUSE.PST
    ‘(The) teacher made Eiko to play the piano.’

Besides, that a language was synthetic at some historical stage does not mean that it will be synthetic at any other period. For instance, Old Chinese is more synthetic than Modern Mandarin as shown in (19a) and (19b). Compare the verb yin ‘cause to drink’ in (19a) and rang ma he shui ‘let horse(s) drink water’ in (19b).
b. Women huanghun-shi zai Jiao he pang rang
we evening-time at Jiao river beside let
ma he shui.
horse(s) drink water
‘We let horses drink water beside the Jiao River in the evening.’

The history of Korean negation illustrates synthetic-analytic cyclic changes, too. There are two types of negation in Korean, which are often called short-form/pre-verbal negation and long-form/post-verbal negation respectively in the literature. It is claimed that these two types of negation are historically related. Kim (1977) argues that Korean negation has drifted from short-form to the long-form type. According to Kim (1977), negative adverb ani occurs before the matrix verb ca-n-ta ‘sleep’ in (20a) while it occurs as part of the verb phrase ani hanta and take the nominalized clause ai-ka ca-ci as object in (20b).

(20) a. ai-ka ani ca-n-ta.
child-NOM NEG sleep-PRS-IND
‘The child is not sleeping.’ (Kim 1977: ex.(2b))

b. ai-ka ca-ci (rűl) ani ha-n-ta.
child-NOM sleep-NM ACC NEG do-PRS-IND
‘The child is not sleeping.’ (Literally ‘The child is not doing the activity of sleeping.’) (Kim 1977: ex.(2c))
position. The only difference is that in (20a) negator *ani* occurs before a lexical verb, but in (20b) it occurs before a light verb ‘do’.

There are indeed empirical data supporting Kim’s (1977) ‘adverb-to-predicate’ analysis, however. Both Kim (1995) and Kim (1996) note that the negated predicate *ani* sounds archaic and is barely used in modern Korean. Instead, *an*, presumably a reduced form of *ani*, is used in short-form negation. Besides, *ani ha-* is contracted and turns into a negative verb *anh-* in the long-form negation.\(^\text{12}\) We claim that at this stage the ‘adverb-to-predicate’ development was completed. See (21) and (22).

\[(21)\]
\[
\begin{align*}
a. \quad & \text{John-un an ka-ass-ta.} \\
& \text{John-TOP NEG go-PST-IND} \\
& \text{‘John did not go.’ (Kim 1995:31, ex.(47))}
\end{align*}
\]
\[
b. \quad & \text{John-un ka-ci anh-ass-ta.} \\
& \text{John-TOP go-NM NEG-PST-IND} \\
& \text{‘John did not go.’ (Kim 1995:32, ex.(49))}
\]

\[(22)\]
\[
\begin{align*}
a. \quad & \text{Pi-ka an o-n-ta.} \\
& \text{rain-NOM NEG come-PRS-IND} \\
& \text{‘It does not rain.’ (Kim 1996:4, ex.(2b))}
\end{align*}
\]
\[
b. \quad & \text{Pi-ka o-ci an-nun-ta.} \\
& \text{rain-NOM come-NM NEG-PRS-IND} \\
& \text{‘It is not the case that it rains.’ (Kim 1996:5, ex.(2c))}
\]

### 3.2 Historical changes in paradigms of Mongolian verbs

#### 3.2.1 The emergence of *-na/-ne*: an analytic to synthetic change

Table 3 lists the distribution of non-past indicative markings in all finite clauses in *SHM*, Uighur Mongolian monuments, 'Phags-pa Mongolian monuments, *ET, MLQD*, and the Inner Mongolia University Modern Mongolian Corpus (2007). It shows the emergence of the non-past indicative suffixes *-na/-ne* and the imperfective habitual verbal nominal suffixes *-day/-deg*, and the decline of the archaic *-mu, -yu, -u, -d* markings. See Figure 2.

\(^{12}\) The phonetic realization of *anh-* is *an-* in certain environments. See (22b) for example.
Table 3: Non-past verbal indicative endings in all finite clauses in some Middle Mongolian texts (SHM, Uighur Mongolian monuments and 'Phags-pa Mongolian monuments), Late Mongolian texts (ET and MLQD), and Inner Mongolia University’s Modern Mongolian Corpus

<table>
<thead>
<tr>
<th>Sets of markings</th>
<th>Middle Mongolian</th>
<th>Late Mongolian</th>
<th>Modern Mongolian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SHM (1228)</td>
<td>ET (1662)</td>
<td>MLQD (1790)</td>
</tr>
<tr>
<td>-mu (-mu/-mü),</td>
<td>Tokens (%)</td>
<td>Tokens (%)</td>
<td>Tokens (%)</td>
</tr>
<tr>
<td>-mi (128 (33.4))</td>
<td>7 (10.4)</td>
<td>413 (30.8)</td>
<td>548 (30.6)</td>
</tr>
<tr>
<td>-mu (-mu/-mü),</td>
<td>78 (14.7)</td>
<td>323 (35.4)</td>
<td>593 (1.6)</td>
</tr>
<tr>
<td>-yi</td>
<td>44 (17.9)</td>
<td>17 (27.2)</td>
<td>3 (0.6)</td>
</tr>
<tr>
<td>yu (-yu/-yū),</td>
<td>444 (33.1)</td>
<td>488 (27.2)</td>
<td>40 (10.5)</td>
</tr>
<tr>
<td>-yu (-yu/-yū),</td>
<td>14 (7.4)</td>
<td>14 (8.1)</td>
<td>25 (6.6)</td>
</tr>
<tr>
<td>-ai (-ai/-ei),</td>
<td>100 (7.4)</td>
<td>145 (8.1)</td>
<td>131 (24.7)</td>
</tr>
<tr>
<td>-i (-i/-ëi),</td>
<td>5 (0.4)</td>
<td>21 (1.2)</td>
<td>156 (17.1)</td>
</tr>
<tr>
<td>-d</td>
<td>12 (3.1)</td>
<td>181 (34.2)</td>
<td>181 (19.8)</td>
</tr>
<tr>
<td>-na/-ne</td>
<td>4 (1.0)</td>
<td>54 (10.2)</td>
<td>58 (6.4)</td>
</tr>
<tr>
<td>-nam/-nem</td>
<td>168 (43.9)</td>
<td>381 (28.4)</td>
<td>591 (33.0)</td>
</tr>
<tr>
<td></td>
<td>42 (62.7)</td>
<td>381 (28.4)</td>
<td>591 (33.0)</td>
</tr>
<tr>
<td></td>
<td>381 (17.6)</td>
<td>83 (15.7)</td>
<td>151 (16.6)</td>
</tr>
<tr>
<td></td>
<td>1,343 (24.7)</td>
<td>9,131 (24.7)</td>
<td>9,131 (24.7)</td>
</tr>
<tr>
<td>-dor/-deg (Neg)</td>
<td>9,033 (24.5)</td>
<td>9,033 (24.5)</td>
<td>9,033 (24.5)</td>
</tr>
<tr>
<td>Sum</td>
<td>383 (100.0)</td>
<td>381 (100.0)</td>
<td>912 (100.0)</td>
</tr>
<tr>
<td></td>
<td>67 (100)</td>
<td>381 (100.0)</td>
<td>530 (100.0)</td>
</tr>
<tr>
<td></td>
<td>1,343 (100.0)</td>
<td>1,793 (100.0)</td>
<td>912 (100.0)</td>
</tr>
<tr>
<td></td>
<td>1,793 (100.0)</td>
<td>1,793 (100.0)</td>
<td>912 (100.0)</td>
</tr>
</tbody>
</table>
Figure 2: Developments of Non-past verbal indicative endings from Middle Mongolian to Modern Mongolian

The -nAm and -nA forms emerged in Late Mongolian and -nA became the most commonly used forms (49.2%) in Modern Mongolian. As a whole, the frequency of the -mU series in Middle Mongolian and Late Mongolian are high (30.6% vs. 35.4%), while the frequency of the -mU series in Modern Mongolian is only 1.6%. However, the distributions of indicative endings in Late Mongolian texts are quite different. The frequency of -mU/-mUi/-m, -nAm, and -nA in Middle Mongolian varies from text to text. The -nAm (>-nA) endings appeared and competed with the old -mU/-mUi and -m endings.

The language of historical chronicles such as ET and Köke Sudur is more conservative than that of a conversation manual like MLQD or a legend like Beijing Geser, which contain more oral properties. In ET, 245 non-past finite clauses take the -mU/-mUi/-m endings, and only 4 clauses take the -nAm forms, none takes the -nA endings. On the other hand, among 530 non-past finite clauses, 235 clauses are in the -nA or -nAm forms, while only 78 clauses are in the -mU/-mUi/-m forms in MLQD. Besides, Beijing Geser contains more -nAm endings than -mU/-mUi/-m endings, but Köke Sudur contains much more -mU/-mUi/-m endings. See Figure 3.
We propose that the path of the derivation of -na is (23). According to our proposal, an analytic construction ‘-n + EXIST verb’ first was contracted into a more synthetic form -nam. When -nam emerged as an indicative ending, -nem was derived by the vowel harmony rule. -nAm underwent further attrition, becoming -nA.\footnote{\textit{-nA} is phonetically realized as -n in some modern Mongolian, e.g. Khalkha and Chakhar dialects.}

\begin{equation}
(23) \quad -n \{a-mu/a-mui/a-mi\} > -nam > -nAm > -nA
\end{equation}

Cases of -n a-mu(i) and -nAm are testified in Erdeni-yin Točiya (1662), as illustrated by (24), (25) and (26). In \textit{ET}, -n a-mu occurs 5 times, -n a-mui 21 times, and -nAm 4 times.

(24) a. Quuqai dayiu čingsang čola (abura) qurimtaı irejü, Quuqai dayiu čingsang title take.CVb feast.COM come.CVb qāyan-i kūličen keger\_e sayun\_e amu. king-ACC wait.CVb steppe sit.CVb exist.NONPST ‘Quuqai, who holds the title \textit{dayiu}, coming with a feast, sits in the steppe waiting for the king to ask for the title \textit{čingsang}.’ (ET, 51b03-51b04)
b. Jüge noyan qaγañ-a maγu sedkin amu.
   Juge chief king-DAT bad intend.CVB be.NONPST
   ‘Chief Juge has bad intentions toward the King.’ (ET, 47v11-47v19)

(25) a. ...öber-ün beye-yin gerel-iyer üjen amui.
   self-GEN body-GEN light-INS see.IMPFV exist.NONPST
   ‘(They) use their own light to see.’ (ET, 2r27-2v04)

b. qaγañ noyan qoyar namayi yaγun-u tula qaran
   king chief two 1SG.ACC what-GEN reason watch.CVB
   amui ta?
   be.NONPST 2PL
   ‘King and Chief, why are you two staring at me?’ (ET, 75r23-75v14)

(26) a. tere ber eγen boyda Temüjin kemekü endeki
   that PART master holy Temujin say.IMPFV being_here
   tendeki ulus-i abču yabunam.
   being_there people-ACC take.CVB go.NONPST
   ‘Holy Temujin, the master, goes here and there to obtain peoples.’ (ET, 36a07-36a08)

b. či sutu-yin bey-e caγañ ger bolusa, bi
   you great-GEN body white yurt become.CVB I
   sutai-yin ür-e Toγan bayinam.
   great-GEN offspring Toγan be.NONPST
   ‘Even if you are the great (Genghis Khan)’s body’s (holy) white yurt, I
   am the great (Genghis Khan)’s offspring Toγan.’ (ET, 53v09-54r03)

Besides, -mU/-mUi/-m, -nAm, and -nA might occur with the same verbal stem
interchangeably in MLQD, showing that these sets of markers are competing. See (27).

(27) a. bi begejing-yin jüγ ečimüi.
   I Beijing-GEN direction go.NONPST
   ‘I’m going to Beijing’s direction.’ (MLQD, Vol. 1, 1a, Line 4-5)

b. bi odo ečine.
   I now go.NONPST
   ‘I’m leaving now.’ (MLQD, Vol. 8, 1a, Line 6-7)

c. odo qayaçajji ečinem.
   now separate.CVB go.NONPST
   ‘Now, (I)’m leaving.’ (MLD, Vol. 8, 21b, Line 5)
Table 3 and Figure 2 also reveals an unusual trend, i.e., the frequency of ‘imperfective future verbal-nominal suffix -qu/-kü + (EXIST)’ as finite endings decreased from Middle Mongolian to Late Mongolian and increased from Late Mongolian to Modern Mongolian. All of the cases of ‘-qu/-kü + (EXIST)’ in SHM occur in quoted clauses. Most of them are interrogative or negative (SHM 123/168, 73.2%; 'Phags-pa 35/42, 83.3%).

3.2.2 From synthetic to analytic: the emergence of aspectral suffixes marking time

The emergence of the ‘aspectual verbal-nominal suffixes + EXIST verb’ construction exemplifies a synthetic to analytic change in Mongolian. In this section we shall illustrate the emergence and development of ‘perfective -γsan/-gsen + EXIST’ expressing past time.

Table 4 shows a decline in the frequency of the -bA series of endings and an increase of ‘perfective plus EXIST’ from Middle Mongolian to Modern Mongolian. In Middle Mongolian, main past indicative endings are the -bA, -čUGU, and -lUGA series. -GA series are historical residues, and there are relatively few cases of perfective verbal suffixes -γsan/-gsen expressing past time in Middle Mongolian documents.

Table 4: The distributions of past verbal indicative endings in all finite clauses in Middle Mongolian texts (SHM, Uighur Mongolian monuments and 'Phags-pa Mongolian monuments), Late Mongolian texts (ET and MLQD), and Inner Mongolia University’s Modern Mongolian Corpus

<table>
<thead>
<tr>
<th>Sets of markings</th>
<th>Middle Mongolian</th>
<th>Late Mongolian</th>
<th>IMU’s MMC (Accessed in 2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-bA, -bAi, ...</td>
<td>1,788 (65.9)</td>
<td>828 (60.3)</td>
<td>10,738 (38.5)</td>
</tr>
<tr>
<td>-čUGU, -čUGU, ...</td>
<td>609 (22.5)</td>
<td>291 (21.2)</td>
<td>6,362 (22.8)</td>
</tr>
<tr>
<td>-lUGA, -lUGAi, ...</td>
<td>288 (10.6)</td>
<td>220 (16.0)</td>
<td>5,382 (19.3)</td>
</tr>
<tr>
<td>-GA, -GAI</td>
<td>15 (0.6)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>-γsan/-gsen {ø, EXIST.Nonpast, Neg (EXIST.Nonpast)}</td>
<td>12 (0.4)</td>
<td>35 (2.5)</td>
<td>5,389 (19.3)</td>
</tr>
</tbody>
</table>

Note that the ‘Perfective Verbal-nominal suffix + EXIST’ construction did occur in SHM. But the temporal meaning in those cases are taken by the tensed EXIST verb rather than by the aspectral suffixes. See (29) to (31).
(29) Altan-qa’an Jungdu-da-ča γarurun Jungdu dotora Qada-yi Altan-king Jungdu-DAT-ABL come_out.CVB Jungdu inside Qada-ACC Liušiu bolγan tüsijü oduγsan aju’u:. Liušiu make.CVB depend.CVB go.PFV exist.PST ‘King Altan appointed Qada as Liušiu and departed from Jungdu.’ (SHM, Vol. 11, 252)

(30) Qači-küülγ-ün kö’ü:n Qaidu Nomolun eke-de-če Qaci-kulγ-GEN son Qaidu Nomolun mother-DAT-ABL töregsen büle’e:. born.PFV exist.PST ‘Qaci Kulγ’s son Qaidu was born of Mother Nomolun.’ (SHM, Vol. 1, 46)

(31) Duwa-soqor manglaic dunda γaγča nidü-tu γurban ne’ü:rid Duwa-soqor forehead center only eye-COM three journey γaγča qaraqu büle’e:. place-DAT watch.IMPFV exist.PST ‘With an only eye in the middle of the forehead, Duua Soqor could look unto a place (at a distance) of three journeys.’ (SHM, Vol. 1, 4)

This type of construction occurs in ET and MLQD, too.

(32) ... Esige günji-yi Mongγoljin-u Çegüd-ün Qoosai Esige princess-ACC Mongγoljin-GEN Çegüd-GEN Qoosai tabunung-dur öggügsen büligue. husband_of_princess-DAT marry.PFV exist.PST ‘(He) married Princess Esige to Tabunung Qoosai of Mongγoljin’s Çegüd.’ (ET, 61r29-61v01)

(33) ... manaγar inu qoyar qabar-ača inu čisun tomorrow 3.POSS two nose-ABL 3.POSS blood orκiyad ükügsen ajuru. leave.CVB die.PFV exist.PST ‘The very next day blood came out from his nose and he died.’ (ET, 78v19-78v23)

(34) tegün-če qoyinaγyi Qara mören-i edüged-te kürtele it-ABL henceafter Qara river-ACC now.DAT-DAT arrive.CVB Qatun eke kemegsen buyu. Qatun mother say.PFV exist.NONPST ‘Qara River is called Mother Qatun River since then.’ (ET, 40v24-40v25)
‘(This bridge) was built of soil before.’ (MLQD, Vol. 3, 2a, Line 1)

‘(We) have not given water for the horses to drink yet.’ (MLQD, Vol. 2, 16b, Line 3-4)

The tensed EXIST verb can be omitted and as a result the perfective marker expresses past time, as shown in (37) and (38).

‘(I) was born at the tiger period\(^{14}\) on the 17\(^{th}\) day of the 7\(^{th}\) month.’ (MLQD, Vol. 8, 19b)

‘(He) didn’t come to eat the meal.’ (MLQD, Vol. 3, 7a, Line 3-5)

14 The tiger period is the time period between three to five o’clock in the morning.
3.3 Motivations for the analytic-synthetic cycle

Symmetry and economy are two opposing motivations for changes in Mongolian verbal paradigms. A symmetric system usually contains redundant information and is not economic. An ‘economy’ principle prefers synthetic reduced/contracted forms, but it might result in asymmetries in syntax. The language is then readjusted to fulfill a need for symmetry and it leans again toward the analytic side on the analytic-synthetic scale. Furthermore, changes caused by asymmetries in one set of constructions might trigger or speed up other series of changes. Table 5 shows that readjustments to eliminate asymmetries in negative constructions introduced affirmative/negative asymmetries in the temporal system.

Table 5: Historical changes in indicative temporal system in Mongolian (Hsiao 2007a, Table 7)

<table>
<thead>
<tr>
<th>Historical Stages</th>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>V[±Past] Nominals + EXIST</td>
<td>{üli/ese} + V[±Past] Nominals + ügei</td>
</tr>
<tr>
<td>Stage II (Middle Mongolian ~ Late Mongolian)</td>
<td>V[±Past] Nominals + (EXIST)</td>
<td>{üli/ese} + V[±Past]/VN[±Perf] Nominals + ügei</td>
</tr>
<tr>
<td>Stage III (Late Mongolian ~ Modern Mongolian)</td>
<td>V[±Past] Nominals + (EXIST)</td>
<td>VN[±Perf] + ügei Nominals + ügei</td>
</tr>
<tr>
<td>Stage IV (Modern Mongolian)</td>
<td>V[-Past] VN[±Perf] + (EXIST)</td>
<td>VN[±Perf] + ügei Nominals + ügei</td>
</tr>
</tbody>
</table>

At the reconstructed Stage I, üli/ese and ügei were in complementary distribution and there was a verbal-nominal asymmetry in negative constructions. At Stage II (Middle Mongolian ~ Late Mongolian), the functions of ügei and üli/ese were overlapping. (39) and (40) show that both ügei and üli can cooccur with verbal nouns in SHM.

(39) qayibasu qa'ul<u>qa inu üli olqu ċi search.CVB way 3.POS NEG get.IMPFV you sem boli ke'ejü itqaba. quietly stop say.CVB soothe.PST
‘He soothed her, saying “If you track him, you will not find his way. Calm down!”’ (SHM, Vol. 1, 38a, L2-3; Hsiao 2007a: ex.(16))
At Stage III (Late Mongolian ~ Modern Mongolian), ülũ/ese was replaced by ügei (-gui/-güi) and an affirmative-negative asymmetry emerged in the temporal system. In MLQD, only 15.9% (77/483) of the non-negative indicative clauses denoting actions use aspect to express time, but 88.5% (69/78) of the negative indicative clauses denoting actions use aspect to express time.

Table 6: Distributions of temporal suffixes in non-negative indicative clauses denoting actions in MLQD (Hsiao 2007a, Table 5)

<table>
<thead>
<tr>
<th>Temporal suffixes</th>
<th>Clause types</th>
<th>Tokens (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past</td>
<td>Indicative</td>
<td>115 (23.8)</td>
</tr>
<tr>
<td></td>
<td>Interrogative</td>
<td>23 (4.8)</td>
</tr>
<tr>
<td>Non-past</td>
<td>Indicative</td>
<td>174 (36.0)</td>
</tr>
<tr>
<td></td>
<td>Interrogative</td>
<td>94 (19.5)</td>
</tr>
<tr>
<td>Perfective</td>
<td>Indicative</td>
<td>30 (6.2)</td>
</tr>
<tr>
<td></td>
<td>Interrogative</td>
<td>4 (0.8)</td>
</tr>
<tr>
<td>Imperfective</td>
<td>Indicative</td>
<td>37 (7.7)</td>
</tr>
<tr>
<td></td>
<td>Interrogative</td>
<td>6 (1.2)</td>
</tr>
</tbody>
</table>

Table 7: Distributions of temporal suffixes in negative indicative clauses denoting actions in MLQD (Hsiao 2007a, Table 6)

<table>
<thead>
<tr>
<th>Time</th>
<th>Negators</th>
<th>Clause types</th>
<th>Tokens (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past</td>
<td>ese</td>
<td>Indicative</td>
<td>1 (1.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interrogative</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Non-past</td>
<td>ülũ</td>
<td>Indicative</td>
<td>5 (6.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interrogative</td>
<td>3 (3.8)</td>
</tr>
<tr>
<td>Perfective</td>
<td>ügei</td>
<td>Indicative</td>
<td>8 (10.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interrogative</td>
<td>5 (6.4)</td>
</tr>
<tr>
<td>Imperfective</td>
<td>ülũ</td>
<td>Indicative</td>
<td>47 (60.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interrogative</td>
<td>7 (9.0)</td>
</tr>
</tbody>
</table>
Affirmative-negative asymmetry is also reflected in A-not-A questions in MLQD. A tensed verb is used at the affirmative part of a question, while an aspectual verbal noun is used at the negative part of the same question. See (41) and (42).

(41) edüge ḳasabau ḳasaysan ḳugei ḳu?  
now repair.PST.Q repair.PFV NEG Q  
‘Is it repaired or not?’ (MLQD, Vol. 2, 9b, L5)

(42) andanar, či γal talbiju čidamu čidaqugei uyu?  
friends you fire put.CVB can.NONPST.Q can.IMPFV.NEG Q  
‘Dear guests, will you have meals in our place?’ (MLQD, Vol. 2, 1a, L2-3)

At Stage IV (Modern Mongolian), past affirmatives tend to be expressed by perfective verbal nouns plus omissible exist verb by analogy with their negative counterparts.

4. Concluding remarks

This paper reports the results of a corpus-based investigation on the temporal system of Mongolian from a diachronic perspective. There are at least two lines of changes in the temporal system from Middle Mongolian to Modern Mongolian. One line is the emergence of -na/-ne/-no/-nö as non-past tense markers. The other line is the development of perfective suffixes -san/-sen/-son/-sön and the existential verb as past temporal markers. It is shown that Mongolian is indeed undergoing analytic-synthetic cyclic changes. An ‘economy’ principle prefers synthetic reduced/contracted forms, but it might result in asymmetries in syntax. The language is then readjusted to fulfill a need for symmetry and it leans again toward the analytic side on the analytic-synthetic scale.
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中古蒙古語至現代蒙古語的時間語法系統

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本研究檢視中古蒙古語至現代蒙古語時間語法系統的變化，並探討變化的動因、發展脈絡與方向。本文顯示蒙古語正經歷「分析—合成」的循環變化。一方面，中古蒙古語以動詞「過去時」形式，而現代蒙古語以動詞「完整貌」形式加上「非過去時」形式的存在動詞表示過去時，是蒙古語由合成性變得更具分析性的變化。另一方面，現代蒙古語的動詞「非過去時」詞綴 -na/-ne 的形成則是蒙古語由分析性變得更具合成性的例證。對稱性與經濟性是蒙古語動詞時間語法系統變化的動因。

關鍵詞：蒙古語，時制，時貌，分析—合成循環，對稱，經濟