VERB CLASSIFIERS IN EAST ASIA*

MATTHIAS GERNER
City University of Hong Kong

ABSTRACT. Many linguists define classification systems in terms of semantic profiling. The classifier profiles a semantic trait common to all the classified items. This paper rejects semantic profiling in favor of a combinatorial definition of classification and evaluates verb classification in five languages of the Sinitic, Tai-Kadai, Miao-Yao and Tibeto-Burman families. Only sortal verb classifiers in Sinitic, Tai-Kadai, Miao-Yao (not Tibeto-Burman) are classificatory in the combinatorial sense. Sortal verb classifiers stand for a lexical classification technique in which the classifiers are derived from adjunct noun phrases. Cross-linguistically, the technique contrasts with other techniques such as the classification of verbs by incorporated core arguments found in Native American languages. This paper also evaluates mensural verb classifiers and auto-classifiers which are generally not classificatory in the combinatorial sense.

Keywords: Verb classifiers, Mandarin Chinese, Kam, Hmong, Nuosu, Hani

1. Introduction

When two form classes \( M \) (a set of classifiers) and \( D \) (a set of classifieds) co-occur in a syntactic construction as the one epitomized in (1), linguists have discussed the definitional properties of classificatory phenomena, i.e. the properties for a classification of \( D \) by \( M \).

(1) Classification in syntactic constructions

\[
\begin{align*}
\{ M_1, \ldots, M_n \} & \quad \{ D_1, \ldots, D_m \} \\
(\ldots) & \quad (\ldots)
\end{align*}
\]

Many scholars adopt semantic criteria (Bisang 1999: 116–121; Croft, 1994: 162–163; Greenberg 1972: 7; Silverstein 1986: 509–511): an item of \( M \) classifies a subset of \( D \) if it profiles a semantic trait common to all items of that subset. The classifiers of \( M \) provide together a classification of \( D \).1

Semantic profiling is a problematic criterion. Many classificatory phenomena do not involve profiling, whereas some nonclassificatory phenomena are semantically motivated (Gerner 2009: 704–5, 2011), see (2).

(2) Counterexamples

<table>
<thead>
<tr>
<th>Phenomenon</th>
<th>Classificatory Principle</th>
<th>Languages</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declension classes (( M )) of nouns (( D ))</td>
<td>yes</td>
<td>formal ( \text{Latin (Indo-European)} )</td>
<td>Mahoney (2007: 9-32)</td>
</tr>
<tr>
<td>Conjugation classes (( M )) of verbs (( D ))</td>
<td>yes</td>
<td>formal ( \text{Yingkarta (Australian)} )</td>
<td>Dench (1998: 40-41)</td>
</tr>
<tr>
<td>Classificatory verbs (( M )) select covers (( D ))</td>
<td>yes</td>
<td>formal ( \text{Tsafiki (Barbacoan)} )</td>
<td>Dickinson (2002: 201-210)</td>
</tr>
<tr>
<td>Subcategorization of nouns (( D )) by verbs (( M ))</td>
<td>no</td>
<td>semantic ( \text{almost all} )</td>
<td>---</td>
</tr>
<tr>
<td>Resultative auxiliaries (( M )) profile verbs (( D ))</td>
<td>no</td>
<td>semantic Nuosu (Tibeto-Burman)</td>
<td>Gerner (2013: 264-71)</td>
</tr>
</tbody>
</table>

Linguistic classification is rather a combinatorial phenomenon defined by a proportional relation between \( D \) and \( M \), not by semantic profiling (see earlier work by Gerner 2009: 708; McGregor 2002: 16–22):

(3) Combinatorial definition of classification

i. There are a finite number of syntactic constructions in which elements of \( M \) and \( D \) co-occur in an irreducible and exhaustive way;2

ii. \( M \) has more than one element (e.g. excluding \( M = \{ \text{the} \} \) as a classifier in English);

iii. \( D \) has significantly more elements than \( M \) (e.g. excluding \( M = \text{class of verbs} \) and \( D = \text{class of nouns} \));

iv. at least two classes generated by two classifiers \( m_1, m_2 \in M \) must be significantly different from each other (e.g. excluding \( m_1 = \text{this} \) and \( m_1 = \text{that} \) to form a set of classifiers in English).
A combinatorial definition captures the notion of linguistic classification more accurately. Classification systems may involve semantic profiling but do not need to. For verbs (D), languages employ grammatical classification techniques or lexical classification techniques. For the second technique, three major subtypes exist (Gerner 2011):

(4) Lexical classification techniques

i. Classifiers are derived from core NP-arguments of the classified verbs (e.g. noun-incorporation in native American languages);

ii. Classifiers are derived from adjunct NP-arguments of the classified verbs (e.g. instrumental verb classifiers in isolating languages of East Asia);

iii. Classifiers are derived from generic verbs (e.g. "coverbs" in Australian languages).

In the isolating languages of East Asia (Sinitic, Tibeto-Burman, Kadai and Miao-Yao), verb classifiers are derived from instrumental NPs (subtype 4ii). They form a frequency phrase with selectional restrictions on the verb (Gerner 2009 with a detailed discussion on Kam):

Kam (Tai-Kadai: China)

(5) a. mau33 au55 mai31 sat13 jau11. Instrumental NP
3P.SG COV.take rod, stick whip 1P.SG

‘He whipped me with a rod.’

b. mau33 sat13 jau11 sam35 mai31. Verb classifier
3P.SG whip 1P.SG NUM.3 VCL.rod
Verb Numeral Verb classifier

‘He whipped me three times with a rod.’

Specialists in East Asian languages also employ the term classifier for phenomena that are not classificatory in the sense of definition (3). Both true and pseudo-phenomena are presented in §2–§3 of this paper, which extends the findings of Gerner (2009) to five East Asian languages, see Table 1.

<table>
<thead>
<tr>
<th>Language</th>
<th>Branch/Family</th>
<th>Place (Province/Prefecture/County)</th>
<th>Number of speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandarin</td>
<td>Sinitic</td>
<td>China</td>
<td>1,183,000,000</td>
</tr>
<tr>
<td>Kam</td>
<td>Tai-Kadai</td>
<td>Guizhou/Qiandongnan/Rongjiang</td>
<td>ca. 1,100,000</td>
</tr>
<tr>
<td>Hmong</td>
<td>Miao-Yao</td>
<td>Yunnan/Honghe/Hekou...</td>
<td>ca. 400,000</td>
</tr>
<tr>
<td>Nuosu</td>
<td>Tibeto-Burman/North. Loloish</td>
<td>Yunnan/Liangshan</td>
<td>ca. 1,100,000</td>
</tr>
<tr>
<td>Hani</td>
<td>Tibeto-Burman/South. Loloish</td>
<td>Yunnan/Honghe/Lüchun…</td>
<td>ca. 500,000</td>
</tr>
</tbody>
</table>

Table 1. Profile of East Asian languages surveyed

The following map locates the minority languages surveyed in this paper (Mandarin is omnipresent in China).
I collected the data and discussed them with native language informants in three steps: identification of verb classifiers; judgement on the co-occurrence of verb classifiers and verbs; identification of double noun and verb classifiers. All minority language informants have linguistic training. For Mandarin Chinese, three informants who grew up in Beijing, Shenyang and Yangzhou provided feedback.

East Asian verb classifiers bear similarity with noun classifiers at a syntactic and conceptual level. Syntactically, verb classifier constructions like that in (5a) resemble noun classifier constructions, as in (6).

\[
\text{Kam}\quad \text{sam}^{35}\text{ muq}^{31}\text{ non}^{11}\text{ Numeral}\text{ Noun classifier}\text{ Noun}
\]

'three people'

Conceptually, it is possible to distinguish sortal and mensural verb classifiers in the same way linguists have done for noun classifiers. We scrutinize sortal verb classifiers in §2, mensural verb classifiers and other minor types in §3.

2. Sortal verb classifiers

Sortal or numeral noun classifiers (Greenberg 1972: 1; Grinevald 2000: 63) categorize count nouns. By analogy, sortal verb classifiers are morphemes that categorize activity verbs. Most sortal verb classifiers are monosyllabic and function as instrumental adjuncts of the classified verbs. The five languages surveyed comply with Lehmann (1973: 49, 1978: 178)'s implicational word order universals. Sinitic, Tai-Kadai, Miao-Yao languages have VO and V-VCL order, whereas Tibeto-Burman languages have OV and VCL-V order.
(7) Sortal verb classifier constructions:

i. Mandarin (Sinitic)  
   V (N₀)  NUM/QUA  VCL

ii. Kam (Kam-Tai)  
   V (N₀)  NUM/QUA  VCL

iii. Hmong (Miao-Yao)  
   V (N₀)  NUM/QUA  VCL

iv. Nuosu (Tibeto-Burman)  
   (N₀)  NUM  VCL  V

v. Hani (Tibeto-Burman)  
   (N₀)  Instr N  NUM  VCL: lā⁵³  V

A morphosyntactic difference is that in Mandarin, Kam and Hmong verb classifiers co-occur with numerals and quantifiers, while in Nuosu and Hani they only select numerals. Examples in this section are taken from Mandarin, Hmong, Nuosu and Hani.

**Mandarin (Sinitic)**

(8)  
   wǒ hàn le tā hǎo duō shēng.  
   3P.SG call DP 3P.SG QUA:many voice  
   Verb Quantifier Verb classifier

   ‘I called him many times.’

(9)  
   tā kàn le wǒ jǐ yān.  
   3P.SG watch DP 1P.SG QUA:several eye  
   Verb Quantifier Verb classifier

   ‘He observed me several times.’

**Hmong (Miao-Yao)**

(10)  
   kʰj⁴⁴ nʰiⁿ²¹ j⁴¹ tsoⁿ³¹ tʰaⁿ⁴⁴  
   bind 3P.SG NUM.1 VCL:rope  
   Verb Numeral Verb classifier

   ‘bind him once with a rope’ [i.e. take the rope around him in one complete turn]

(11)  
   [sʰaⁿ⁵⁵ nʰaⁿ³¹ tʰiⁿ³⁵ tʰaⁿ¹³  
   cut meat QUA:several VCL:knife  
   Verb Numeral Verb classifier

   ‘cut the meat with a knife in several moves’

(12)  
   mʰiⁿ⁵⁵ qʰaⁿ³¹ sʰaⁿ⁴³  
   cat meow NUM.2 VCL:voice  
   Verb Numeral Verb classifier

   ‘The cat meowed two times.’

Nuosu lacks many verb classifiers that are available in Mandarin, Kam and Hmong. Nuosu frequency phrases use the general mensural classifier lā³³ ‘time’ and an optional instrumental noun, as in (13)-(14). Only a few instrumental nouns can be directly employed as sortal verb classifiers, as in (15). In (16), the verb classifier is a suppletive morpheme of the instrumental noun.

**Nuosu (Tibeto-Burman)**

(13)  
   tʰiⁿ³³ (tʰuⁿ²¹ tʰuⁿ²¹) nʰiⁿ²¹ lā³³ nʰaⁿ⁴⁴ tʰiⁿ³⁵.  
   3P.SG stick NUM.2 VCL:time IP.SG beat  
   Instrument Numeral Verb classifier Verb

   ‘He beat me twice (with a stick).’

(14)  
   tʰiⁿ³³ (vʰiⁿ³³ mʰoⁿ²¹) tʰiⁿ²¹ lā³³ kʰiᵉⁿ³³.  
   3P.SG axe NUM.1 VCL:time cut  
   Instrument Numeral Verb classifier Verb

   ‘He cut once (with an axe).’

(15)  
   tʰiⁿ³³ gaⁿ⁴⁴ nʰiⁿ²¹ bʰaⁿ³³ lᵃⁿ²¹ nʰiⁿ⁵⁵.  
   3P.SG IP.SG NUM.2 VCL:mouth bite  
   Numeral Verb classifier Verb

   ‘He bit me twice with his mouth.’
For several instrumental meanings, there are two suppletive morphemes: one instrumental noun and one verb classifier morpheme. See examples (21), (22) and also Table 2.

### Hani (Tibeto-Burman)

#### (17). For several instrumental meanings, there are two suppletive morphemes: one instrumental noun and one verb classifier morpheme. See examples (21), (22) and also Table 2.

<table>
<thead>
<tr>
<th>(16a)</th>
<th>nə33 tsi55mo21 si44 tsi55.</th>
<th>(16b)</th>
<th>nə33 ni21 tə5hə33 tsi55.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P.SG pickaxe COV.take dig</td>
<td>1P.SG NUM.2 VCL.pickaxe dig</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument Verb</td>
<td>Numeral Verb classifier Verb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘I dug with a pickaxe’</td>
<td>‘I dug with a pickaxe twice’ (lit. I dug two pickaxes)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Hani, sortal verb classifiers are derived from instrumental nouns, either in identical form, as in (17)-(18), or by dropping one syllable, as in (19)-(20).

**Hani (Tibeto-Burman)**

(17a) | mja33 ne33 tə5hə21 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>eye COV.use peek, watch</td>
<td>Instrument Verb</td>
</tr>
<tr>
<td>‘watch with an eye’</td>
<td></td>
</tr>
</tbody>
</table>

(18a) | sə55dzə55 ne33 di21 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>axe COV.use hit</td>
<td>Instrument Verb</td>
</tr>
<tr>
<td>‘hit with an axe’</td>
<td></td>
</tr>
</tbody>
</table>

(19a) | a21jo11 ne33 tə5hə21 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>hand COV.use pound</td>
<td>Instrument Verb</td>
</tr>
<tr>
<td>‘pound with a hand’</td>
<td></td>
</tr>
</tbody>
</table>

(20a) | tə5hə33 yu11 ne33 pe33 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pickaxe COV.use dig</td>
<td>Instrument Verb</td>
</tr>
<tr>
<td>‘dig with a pickaxe’</td>
<td></td>
</tr>
</tbody>
</table>

For several instrumental meanings, there are two suppletive morphemes: one instrumental noun and one verb classifier morpheme. See examples (21), (22) and also Table 2.

### Hani

(21a) | a21yo11 ne33 pe55ə21 ku11 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>needle COV.use clothes sew</td>
<td>Instrument Verb</td>
</tr>
<tr>
<td>‘sew the clothes with a needle’</td>
<td></td>
</tr>
</tbody>
</table>

(22a) | bu11tu55 ne33 so11mja33 bu11 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pen COV.use text write</td>
<td>Instrument Verb</td>
</tr>
<tr>
<td>‘write text with a pen’</td>
<td></td>
</tr>
</tbody>
</table>

The verb classifier lu11 is derived from the noun a21jo11 ‘hand’ and counts the number of beatings with a hand, see (19). Lu11 also developed into a more general verb classifier. For instruments other than the hand but using the hand, it encodes event counting profiled by the instrument, as in (23) and (24).

### Hani

(23) | sə55dzə55 tə5hə21 lu11 di21 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>axe NUM.1 VCL.hand hit</td>
<td>Instrument Numeral Verb classifier Verb</td>
</tr>
<tr>
<td>‘beat once with the axe’</td>
<td></td>
</tr>
</tbody>
</table>

(24) | di21 pə55u21 lu11 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument Numeral VCL.hand hit</td>
<td>‘hit twice with a hammer’</td>
</tr>
</tbody>
</table>

Table 2 provides a non-exhaustive list of the more common VCLs in five languages. For Mandarin, compare with Chao (1968: 616–620) and He (2001).
The number of sortal VCLs varies in the five languages surveyed. Only verbs with the instrumental role, but not all of these verbs, can be modified by sortal VCLs. In Kam, Mandarin and Hmong, there are 50 sortal VCLs categorizing about 70-80 activity verbs. All the classified verbs belong to the basic vocabulary. These classifieds stay with their VCLs in the proportional relation required by definition (3). Nuosu and Hani, however, only number 3-8 sortal VCLs which categorize about a dozen activity verbs. With this low ratio of VCLs and classified verbs, these morphemes could not be verb classifiers in the sense of definition (3), especially in violating (3-iii). For the sake of tradition, we also adopt the term verb classifiers for Nuosu and Hani as the morphemes occupy the same slots as in Mandarin, Kam and Hmong.


**ANIMACY > PHYSICAL PROPERTY > FUNCTIONALITY**

A language first partitions nouns into animate and inanimate items. Within the inanimate class it distinguishes items for physical properties (shape, dimension). In some of these subclasses it subdivides items further for their functional use.

Verb classes involve other semantic profiles. McGregor (2002: 29–34) proposes three profiles for Australian-style verb classifiers: SPATIAL ORIENTATION, AKTIONSART, VALENCY. These profiles are not applicable to East Asian languages. Gerner (2009: 733–735) suggests three profiles for classified verbs in Kam, re-termed here as:

**HIT-type, ATTACH-type, TRANSMIT-type**

In HIT-type events, someone hits an object with a physical instrument (hand, fist, hammer…). In events of the ATTACH-type, someone attaches something with a physical medium (needle, pen, rope…). In TRANSMIT-type events, someone reaches out to an object through an intermediate channel (eye, voice, fan, gun…). These types are reminiscent of Levin (1993: 25–42)’s four verb types CUT, BREAK, TOUCH, HIT which she defined by co-occurrence restrictions in three constructions: middle, conative and body-part ascension. Future typological work needs to integrate these profiles into a system.

3. Epiphenomena

Mensural (§3.1), double (§3.2) and auto-classifiers (§3.3) are not verb classifiers in the sense of definition (3). They exhibit loose selectional restrictions and do not stand in the required relation with the verbs they
modify but linguists call them verb classifiers too as they occupy the same slot as sortal VCLs. However, a subset of mensural classifiers in Mandarin and Hani form an exception and are classifiers in the sense of the definition, see §3.1.1.

3.1 Mensural verb classifiers

Linguists distinguish between sortal and mensural noun classifiers (NCLs). Both are sensitive to the existence of minimal parts in an object. The existence of minimal parts in count objects and stuff was discussed in the philosophical literature (Bunt 1979: 255–256, 1985: 45–46; Quine 1960: 97). Bunt proposed to view stuff and mass terms as “a way of speaking about things as if they do not consist of minimal parts.” On this view, sortal NCLs actualize minimal parts that belong to the noun referent, while mensural NCLs create shape boundaries not belonging to the noun concept (Bisang 1999: 113–121, Croft 1994: 148).

Matthews & Yip (1999) applied the terms of sortal/mensural to verb classifiers. Sortal VCLs actualize minimal temporal parts of the referring event, whereas mensural VCLs create temporal boundaries which are not inherent to the verb. For example, the verb beat has minimal parts provided by the idea of punctual collision. The sortal VCL fist actualizes the idea of collision in the same way as a linear noun classifier actualizes the shape boundaries of the noun river. On the other hand, a verb such as wait has no minimal phase. The mensural VCL day imposes artificial temporal boundaries that are alien to wait.

For mensural classifiers, another distinction can be recycled from the nominal domain. Some scholars divide mensural NCLs further into collective and measure NCLs (Bisang 1999: 122; Rijkhoff 1991: 291–301; T’sou 1976). Both impose artificial shape boundaries. Collective NCLs create boundaries for entities that have inherent minimal parts. They erase the minimal part structure and impose a different collective structure: a group of students, a collection of stamps. Entities without minimal parts reject collective classifiers: *a group of wine, *a collection of air. On the other hand, measure NCLs modify noun concepts without minimal parts like a cup of water, a cubic meter of air. With objects that have minimal parts, measure NCLs are pragmatically marked as in #a container of people, #a box of mice. See Table 3.

<table>
<thead>
<tr>
<th>Objects with minimal parts</th>
<th>Collective NCLs</th>
<th>Measure NCLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects without minimal parts</td>
<td>group of students, flock of sheep</td>
<td>#container of people, #box of mice</td>
</tr>
<tr>
<td>*group of wine, *collection of air</td>
<td>cup of water, cubic meter of air</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Collective NCLs and Measure NCLs

This distinction is also available for verb classifiers. Collective VCLs modify verbs with minimal parts, erase these parts and set up a new grouping of parts. The collective VCL round in box three rounds indicates that on three occasions one or several collisions happen. Collective VCLs are natural in events with minimal parts and are pragmatically marked in events without minimal parts. On the other hand, measure VCLs such as hour, year impose time measures on events. They most naturally modify events without minimal parts such as wait or love events. In events with minimal parts, measure VCLs are pragmatically marked. See Table 4.

<table>
<thead>
<tr>
<th>Events with minimal parts</th>
<th>Collective VCLs</th>
<th>Measure VCLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events without minimal parts</td>
<td>box one round, eat three times</td>
<td>(#)box for an hour, (#)eat for ten minutes</td>
</tr>
<tr>
<td></td>
<td>#wait one round, #love twice</td>
<td>wait for an hour, love for two years</td>
</tr>
</tbody>
</table>

Table 4. Collective VCLs and Measure VCLs

Example (24) illustrates a collective verb classifier in Hani, and (25) a measure verb classifier in Nuosu.

Hani

(24) a²¹jo²¹ 5o⁵⁵ tʰa²¹ 5o⁵⁵
3P.SG NUM.3 VCL.time worship
Numeral Verb classifier Verb

‘He worshipped three times.’
3.1.1 Collective verb classifiers

There are 3-6 collective verb classifiers in the five languages surveyed. Some collective VCLs display no selectional restriction (№ 18, 19, 22), whereas others are restrictive (№ 20, 21, 23). In Mandarin and Hani, the classes generated by the VCLs № 21 and 23 significantly differ from each other, in accordance with (3-iv). Collective classifiers in these languages are thus classificatory in the sense of definition (3). In the other languages, however, the collective morphemes fail to form a classificatory system. Some VCLs are historically derived from directional verbs. The Mandarin VCLs xià and huí mean ‘go down’ and ‘go back’. The directional meaning is bleached but still alive when they are used as VCLs. See Table 5.

<table>
<thead>
<tr>
<th>Collective Verb Classifier</th>
<th>Mandarin</th>
<th>Kam</th>
<th>Hmong</th>
<th>Nuosu</th>
<th>Hani</th>
</tr>
</thead>
<tbody>
<tr>
<td>№ 18 ‘time’</td>
<td>ci 次</td>
<td>tau^{1}</td>
<td>zǎ^{1}</td>
<td>vi^{2}</td>
<td>t^{1}hu^{2}</td>
</tr>
<tr>
<td>№ 19 ‘quick time’</td>
<td>xià 下</td>
<td>cón^{1}</td>
<td>nǐshì^{1}</td>
<td>l^{3}</td>
<td>zǐ^{2}</td>
</tr>
<tr>
<td>№ 20 ‘round’</td>
<td>dūn 顿</td>
<td>tōn^{3}</td>
<td>pluа^{1}</td>
<td>dźi^{3}</td>
<td>tē^{1}u^{1}</td>
</tr>
<tr>
<td>№ 21 ‘path’ (mainly motions)</td>
<td>tāng 蹲</td>
<td>---</td>
<td>---</td>
<td>těo^{1}</td>
<td>dżo^{5}</td>
</tr>
<tr>
<td>№ 22 ‘turn’</td>
<td>huī 回</td>
<td>---</td>
<td>hua^{2}</td>
<td>gu^{2}</td>
<td>bō^{2}</td>
</tr>
<tr>
<td>№ 23 ‘process’</td>
<td>biān 鑛</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>do^{5}</td>
</tr>
</tbody>
</table>

Table 5. Collective Verb Classifiers

The generic collective classifier *time/occasion* (№ 18) categorizes a wide range of verbs in all five languages. It is also a double classifier of verbs and nouns (§3.2). The verbs classified by this classifier refer to events with or without minimal parts:

**Kam**

(26) mau^{33} heu^{1} jau^{11} ja^{11} tau^{3}.  
3P.SG beat 1P.SG NUM.2 VCL.time  
Verb Numeral Verb classifier

‘He beat me on two occasions.’

The classifier *quick time* (№ 19) originates in Mandarin from the directional verb *go down*. The metaphorical suggestion is that the flow of time is directed downwards (rather than upwards). In Mandarin, Kam, Hmong and Hani, this classifier displays almost no selectional restriction except that the activity must be realizable in a short time period. In Nuosu, this VCL is more selective without any obvious semantic principle.

**Mandarin**

(27) tà kū le yī xià.  
3P.SG cry DP NUM.1 VCL.time  
Verb Numeral Verb classifier

‘He cried once (briefly).’

**Hmong**

(28) qài^{43} qua^{4} pe^{43} nǐshì^{13}.  
hen, rooster crow NUM.3 VCL.time  
Verb Numeral Verb classifier

‘The rooster (briefly) crowed three times.’
For Mandarin, Kam and Hmong, the VCL *round* (№ 20) categorizes only a few verbs, basically *eat, say, curse, shout, beat*. The Nuosu morpheme *dzì*33 ‘round’ classifies a broader range of verbs: 15 of 122 sample verbs. Most compatible verbs are verbs of appropriation (*eat, drink,…*). In Hani, the collective VCL *te*¹¹¹¹ ‘round’ classifies 96/128 sample verbs but does not profile any common trait of these verbs.

**Kam**

(31) mau³³ heu¹⁵ jau¹¹ jì¹¹ ton¹¹³.
3P.SG beat 1P.SG NUM.2 VCL round

‘He battered me on two occasions.’

**Nuosu**

(32) tsi³³ ni²¹¹ dzì³³ kʰu³³ o⁴⁴. (33) * tsi³³ tsì³³ dzì³³ kʰu³³ o⁴⁴.
3P.SG NUM.2 VCL round steal DP 3P.SG NUM.1 VCL round call DP

‘He took part in two robberies.’

‘He called twice.’

**Hani**

(34) a²¹jo²¹ ni²¹¹ teʰu¹¹¹ ga²¹
3P.SG NUM.2 VCL round cook

‘He cooked on two occasions.’

‘He was in a round of hatred.’

(36) * a²¹jo²¹ teʰu¹¹¹ sì³³
3P.SG NUM.1 VCL round know

‘He knew once.’

The collective VCL № 21 with the meaning *path* is only attested in Mandarin, Nuosu and Hani. It profiles the motion inherent in several activity verbs, sometimes metaphorically as in in (38).

**Nuosu**

(37) na³³ m³³ sò³³ tɕo³³ dzì³³ o⁴⁴.
3P.SG horse NUM.3 VCL path ride DP

‘I rode a horse on three occasions.’

(38) * na³³ sò³³ tɕo³³ sù⁴⁵ o⁴⁴.
3P.SG NUM.3 VCL path remember DP

‘I remembered on three occasions (lit. I remembered three mental paths).’

The collective VCL № 22 with the meaning *turn* is derived from the directional verb *go back*: in Mandarin *huì*, in Hmong *huìa*²⁷ which is borrowed from Chinese, and in Nuosu *gu*²¹ (Gerner 2002: 29). The etymology of the Hani VCL *bo*²¹ is uncertain. The Mandarin VCL *huì* is pragmatically conditioned and used in three contexts. Firstly, the clause with *huì* contrasts with an event understood in the context. Secondly, the clause with *huì* refers to an unexpected or rare event. Thirdly, it co-occurs with the experiential marker *guo* and counts the number of times an event was experienced.
Mandarin

(39) tā nán dé ài wǒ yī huí.
   3P.SG get chance love 1P.SG NUM.1 VCL.turn
   Verb Numeral Verb classifier
   ‘It was difficult but he loved me once.’

(40) kě suàn tā shuō le yī huí zhēn huà.
    finally 3P.SG speak DP NUM.1 VCL.turn true word
    Verb Numeral Verb classifier
    ‘He spoke finally the truth on one occasion.’

(41) tā wā le yī huí dì.
    3P.SG dig DP NUM.1 VCL.turn soil
    Verb Numeral Verb classifier
    ‘He engaged in a process of soil cultivation.’

(42) tā chī le yī huí nuòmǐ fàn.
    3P.SG eat DP NUM.1 VCL.turn glutinous rice
    Verb Numeral Verb classifier
    ‘He ate glutinous rice on one occasion.’

(43) * tā chī le yī huí fàn.
    3P.SG eat DP NUM.1 VCL.turn rice
    Verb Numeral Verb classifier
    ‘He ate rice on one occasion.’

(44) tā zuōtiān wānshang shuō guò yī huí mèng huà
    3P.SG yesterday evening say EXP NUM.1 VCL.turn dream word
    Verb Numeral Verb classifier
    ‘Yesterday evening, he talked once in his sleep.’

Finally, the VCL № 23 contributes the meaning of process and co-occurs with verbs that have a procedural make-up of phases, typically activities like write, teach or read. The VCL counts the number of times the process is run through. This classifier is only attested in Mandarin and Hani.

Mandarin

(45) a. tā zhī le yī biàn.
    3P.SG weave DP NUM.1 VCL.process
    Verb Numeral Verb classifier
    ‘He engaged in one process of weaving (lit. he wove once).’

b. gōngjī jiaò le yī biàn.
    rooster crow DP NUM.1 VCL.process
    Verb Numeral Verb classifier
    ‘The rooster crowed once (= extended time).’

Hani

(46) a. a²1 jo²1 lè¹21 d5²55 yà²1.
    3P.SG NUM.1 VCL.process weave
    Verb Numeral Verb classifier Verb
    ‘He engaged in one process of weaving (lit. he wove once).’

b. a²1 jo²1 sa²1 ni²55 s55 d5²55 yà55.
    3P.SG NUM.3 VCL.process buy
    Verb Numeral Verb classifier Verb
    ‘He bought meat on three occasions.’
3.1.2 Measure verb classifiers

Measure VCLs are time-units that indicate the duration of an event. They are East Asian equivalents of FOR-adverbials in English (for two hours) which Vendler (1967) involved to define situation types. They are compatible with any verb whose temporal frame matches theirs but are most naturally used in events without minimal phases. Measure VCLs are not classificatory as their verb classes greatly overlap, in violation of definition (3-iv). See Table 6.

<table>
<thead>
<tr>
<th>Measure Verb Classifier</th>
<th>Mandarin</th>
<th>Kam</th>
<th>Hmong</th>
<th>Nuosu</th>
<th>Hani</th>
</tr>
</thead>
<tbody>
<tr>
<td>№ 24 ‘instant’ / ‘short moment’</td>
<td>huér 会儿</td>
<td>ha(^{35})</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>№ 25 ‘while / hour’</td>
<td>zhèn 阵</td>
<td>cən(^{33})</td>
<td>t(^{b})u(^{33}) / p(^{b})u(^{55})</td>
<td>mǐ(^{21})</td>
<td>mǐ(^{21})</td>
</tr>
<tr>
<td>№ 26 ‘one hour’ / ‘two hours’</td>
<td>---</td>
<td>cī(^{11})</td>
<td>tсе(^{24})</td>
<td>---</td>
<td>tō(^{21})</td>
</tr>
<tr>
<td>№ 27 ‘evening and night’</td>
<td>wān 晚</td>
<td>nām(^{53})</td>
<td>nəu(^{44})</td>
<td>hə(^{33})</td>
<td>jə(^{21})</td>
</tr>
<tr>
<td>№ 28 ‘day’</td>
<td>tiān 天</td>
<td>mən(^{55})</td>
<td>ən(^{43})</td>
<td>nə(^{21})</td>
<td>nə(^{33})</td>
</tr>
<tr>
<td>№ 29 ‘month’</td>
<td>---</td>
<td>nən(^{55})</td>
<td>tī(^{44})</td>
<td>bù(^{34})tù(^{21})</td>
<td>θi(^{21})</td>
</tr>
<tr>
<td>№ 30 ‘year’</td>
<td>niān 年</td>
<td>nɪn(^{11})</td>
<td>əŋ(^{44})</td>
<td>kʰv(^{y})(^{33})</td>
<td>yə(^{21})</td>
</tr>
<tr>
<td>№ 31 ‘lifespan’</td>
<td>bēi 柞</td>
<td>səm(^{33})</td>
<td>ʂɨ(^{24})nən(^{31})</td>
<td>dzo(^{32})zǐ(^{32})</td>
<td>zǐ(^{55})</td>
</tr>
</tbody>
</table>

Table 6. Measure Verb Classifiers

The VCL № 24 denotes short moments, as in (47) for Kam. The VCL № 25 refers to indefinite short time intervals, typically less than one hour, see (48) for Hani. The Nuosu VCL t\(^{b}\)u\(^{33}\) ‘crisis time’ selects verbs which are compatible with this sense, see (49a). The VCL p\(^{b}\)u\(^{55}\) in (49b) has no selection restriction.

Kam

(47) cào\(^{35}\) lıō\(^{35}\) sāi\(^{33}\) i\(^{55}\) ha\(^{35}\).

‘Watch out for a moment.’

Hani

(48) kʰi\(^{21}\) lɿ\(^{21}\) mǐ\(^{21}\) tsa\(^{21}\).

‘eat for one hour’

Nuosu

(49a) a. tʂ\(^{33}\) b. nə\(^{33}\) nɪ\(^{21}\) p\(^{b}\)u\(^{55}\) nə\(^{33}\).

‘The child cries a good while.’ ‘I have rested two periods of time.’

The VCL № 26 refers to the ancient Chinese time concept of shíchen 时辰, a unit that divides a day into twelve portions of 120 minutes (attested in Kam, Hmong and Hani), see (50). The VCL № 27 covers the time of even\¬\ng\^-\^ning and night in all five languages, as in (51). Examples (52)-(54) illustrate the other VCLs.

Kam

(50) məu\(^{33}\) nəu\(^{33}\) aʊ\(^{31}\) səm\(^{31}\) nəi\(^{33}\) nək\(^{35}\) ən\(^{11}\) cī\(^{11}\). 3P.SG COV.be.at LOC.at room DEM.PROX sleep NUM.2 VCL.hour Verb Numeral Verb classifier

‘He slept in this room for two hours (1 Chinese hour = 120 minutes).’

Hmong

(51) tɿ\(^{44}\) tɿ\(^{44}\). i\(^{43}\) məu\(^{44}\).

‘dance for one evening’
Measure VCLs or FOR-adverbials are incompatible with accomplishments, as illustrated in (55) for Kam. In the languages surveyed, the equivalent of IN-adverbials also involves measure VCLs but the construction is more marked. IN-adverbials are licensed in quantized events, as shown in (56)-(57).

3.2 Double classifiers of nouns and of verbs

Chinese scholars have found that some morphemes have a double role as NCL and VCL (Matthews & Leung 2001; Matthews & Yip 1999: 11–12; Paris 1989: 4–5; Yang 2001: 129–137; Gerner 2009: 717–719).

3.2.1 At least one verb classifier functions as noun classifier

No sortal VCL but at least one mensural verb classifier also modifies nouns in the five languages surveyed. It is the general mensural verb classifier № 18 (see Yang, 2001: 129–137, on Mandarin ci ‘time’).

The mensural verb classifier № 18 categorizes nouns that denote events. There are two kinds of event nouns, nouns that refer to stuff and to events (e.g. film, rainfall) and nouns that only refer to events (e.g. work, attack). Nouns that denote stuff and events can be modified by noun classifiers and the VCL № 18, as illustrated for the Nuosu verb classifier vi35.

Nuosu

(58) a. Weather nouns ma33 ha33 ts31 t55 t05 ts133 n545 kha33 nu33 ko33 zo33. Numeral Num VCL Verb
NCL in subject slot Noun Num NCL Verb

‘One raindrop fell on my face.’
are listed in Table 7. These nouns refer either to the physical entity that is in motion or to the motion itself, e.g. to rain or to rainfall.

<table>
<thead>
<tr>
<th>Weather phenomena</th>
<th>Mandarin</th>
<th>Kam</th>
<th>Hmong</th>
<th>Nuosu</th>
<th>Hani</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘snow’</td>
<td>xuē 雪</td>
<td>nuì⁵⁵</td>
<td>nbo⁴⁴</td>
<td>vo⁵³</td>
<td>ʔəⁿ³ ni⁵⁵</td>
</tr>
<tr>
<td>‘rain’</td>
<td>yǔ 雨</td>
<td>pʰsn⁵⁵</td>
<td>nǎn⁵³</td>
<td>mą⁴⁴ ha³³</td>
<td>sʰ1 ze⁵⁵</td>
</tr>
<tr>
<td>‘hail’</td>
<td>bàozi 堆子</td>
<td>u⁵¹</td>
<td>léu⁴⁴</td>
<td>dzì³ sì³</td>
<td>ʔəⁿ³ lu³³</td>
</tr>
<tr>
<td>‘air, steam’</td>
<td>qì 气</td>
<td>sō³³</td>
<td>bān⁴⁴</td>
<td>so⁵⁵</td>
<td>sā²¹</td>
</tr>
</tbody>
</table>

Table 7. Nouns that denote masses and events

Event nouns proper can only be modified by the VCL 爾 18 (or other verb classifiers) but not by noun classifiers, as shown for the mensural classifier tʰa²¹ in Hani.

<table>
<thead>
<tr>
<th>Hani</th>
<th>(59) a. Activity nouns</th>
<th>* yə⁵⁵ la²¹</th>
<th>sə⁵⁵</th>
<th>kʰə⁵⁵</th>
<th>mə⁵⁵</th>
<th>lə³³</th>
<th>pja³³</th>
<th>a³³</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCL in subject slot</td>
<td>Noun</td>
<td>Num</td>
<td>NCL</td>
<td>Verb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘All three business deals were unsuccessful.’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hani</th>
<th>(59) b. Activity nouns</th>
<th>* pə⁵⁵</th>
<th>yə⁵⁵ la²¹</th>
<th>zə²¹</th>
<th>kʰə⁵⁵</th>
<th>bə²¹</th>
<th>yə³³</th>
<th>a³³</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCL in object slot</td>
<td>Noun</td>
<td>Num</td>
<td>NCL</td>
<td>Verb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘I have made four deals.’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hani</th>
<th>(59) c. Activity nouns</th>
<th>yə⁵⁵ la²¹</th>
<th>təʰi²¹</th>
<th>tʰə²¹</th>
<th>mə³³</th>
<th>sə²¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCL in subject slot</td>
<td>Noun</td>
<td>Num</td>
<td>VCL</td>
<td>Verb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘On one occasion, the business was not successful.’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hani</th>
<th>(59) d. Activity nouns</th>
<th>a³³ lo²¹</th>
<th>yə⁵⁵ la²¹</th>
<th>təʰi²¹</th>
<th>tʰə²¹</th>
<th>sə³³</th>
<th>təʰa²¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCL in object slot</td>
<td>Noun</td>
<td>Num</td>
<td>VCL</td>
<td>Verb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘On one occasion, he did not conclude a business deal.’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Event nouns refer to abstract states or relational events but not to physical masses. Several event nouns are listed in Table 8.

<table>
<thead>
<tr>
<th>Event Nouns</th>
<th>Mandarin</th>
<th>Kam</th>
<th>Hmong</th>
<th>Nuosu</th>
<th>Hani</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘catastrophe’</td>
<td>zài mn 遭难</td>
<td>cə³³</td>
<td>ʔəⁿ⁵⁵ vi³³</td>
<td>təⁿ³ na³³</td>
<td></td>
</tr>
<tr>
<td>‘activity’</td>
<td>huō dōng 活动</td>
<td>con³³</td>
<td>gu²¹ təu³³</td>
<td>ʔəⁿ³ də³³</td>
<td></td>
</tr>
<tr>
<td>‘deal, business’</td>
<td>shēng yì 生意</td>
<td>wen⁴⁵³</td>
<td>ləⁿ³ la²¹</td>
<td>ʔəⁿ³ lo²¹</td>
<td>ʔəⁿ³ lə²¹</td>
</tr>
</tbody>
</table>

Table 8. Nouns that only denote events
Count and mass nouns can only co-occur with noun classifiers not with verb classifiers. This is illustrated for the general mensural verb classifier \( z\text{a}^{1/2} \) in Hmong.

**Hmong**

(60) a. Count/mass nouns  
\[ \text{n}^{54} \text{ndi}^{33} \text{ma}^{35} \text{ta}^{21} \text{m}^{50} \text{a}^{42}. \]
NCL in subject slot  
\[ \text{Num} \text{NCL} \text{Noun} \text{Verb} \]
‘The two bowls of rice contain vegetables.’

b. Count/mass nouns  
\[ \text{ko}^{55} \text{n}^{50} \text{be}^{33} \text{ndi}^{33} \text{ma}^{50}. \]
NCL in object slot  
\[ \text{Verb} \text{Num} \text{NCL} \text{Noun} \]
‘I eat three bowls of rice.’

c. Count/mass nouns  
* \[ \text{be}^{33} \text{za}^{13} \text{ma}^{50} \text{to}^{54} \text{zo}^{21} \text{m}^{35}. \]
VCL in subject slot  
\[ \text{Num} \text{VCL} \text{Noun} \text{Verb} \]
‘Three times food are all delicious.’

d. Count/mass nouns  
\[ \text{ko}^{55} \text{i}^{14} \text{no}^{43} \text{na}^{52} \text{be}^{33} \text{za}^{13} \text{ma}^{50}. \]
VCL in object slot  
\[ \text{Verb} \text{Num} \text{VCL} \text{Noun} \]
‘I eat rice three times every day.’

Several count/mass nouns with the same syntactic behaviour are listed in Table 9. (The Hani noun \( \text{ga}^{55} \text{ma}^{33} \) ‘road’ differs from equivalent nouns of other languages in that it cannot be modified by VCLs in the object slot.)

<table>
<thead>
<tr>
<th>Physical nouns</th>
<th>Mandarin</th>
<th>Kam</th>
<th>Hmong</th>
<th>Nuosu</th>
<th>Hani</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘food’</td>
<td>fàn 食</td>
<td>wu^{31}</td>
<td>mɔ^{35}</td>
<td>dza^{33}</td>
<td>zɔ^{21}</td>
</tr>
<tr>
<td>‘wine’</td>
<td>jiǔ 酒</td>
<td>kʰwau^{13}</td>
<td>tceu^{55}</td>
<td>nɔ să^{33}</td>
<td>dzir^{55}ba^{21}</td>
</tr>
<tr>
<td>‘water’</td>
<td>shūi 水</td>
<td>nen^{31}</td>
<td>dle^{42}</td>
<td>z^{23}</td>
<td>wu^{54}ts^{47}</td>
</tr>
<tr>
<td>‘person’</td>
<td>rén 人</td>
<td>nän^{11}</td>
<td>nën^{34}</td>
<td>tsʰo^{33}</td>
<td>tsʰo^{55}</td>
</tr>
<tr>
<td>‘ox’</td>
<td>niú 牛</td>
<td>kʰw-em^{35}</td>
<td>no^{42}</td>
<td>lu^{33}</td>
<td>a^{21}nu^{21}</td>
</tr>
<tr>
<td>‘road’</td>
<td>lù 路</td>
<td>kʰw-en^{35}</td>
<td>ge^{42}</td>
<td>ga^{53}</td>
<td>*ga^{55}ma^{53}</td>
</tr>
</tbody>
</table>

**Table 9. Count and mass nouns**

### 3.2.2 Postverbal noun classifiers are not verb classifiers

Container nouns can be employed as measure NCLs. Some container nouns can be viewed as instruments of weighing activities, illustrated in (61), but it is not appropriate to view container nouns as verb classifiers since the element modified is a noun not a verb. The noun can be absent or present, see (62)-(63).

**Hmong**

(61) a.  
\[ \text{ma}^{43} \text{sa}^{33} \text{lo}^{31} \text{ŋ}^{43} \text{sa}^{43}. \]
\[ \text{COV} \text{use} \text{measure} \text{weigh} \text{rice} \text{Instrument} \text{Verb} \]
‘Weigh the rice with a measure’

b.  
\[ \text{lo}^{31} \text{i}^{43} \text{sa}^{33} \text{num}^{1} \text{NCL} \text{measure} \text{Verb} \text{Numeral} \text{Noun classifier} \]
‘Weigh one measure’

c.  
\[ \text{lo}^{31} \text{i}^{43} \text{sa}^{33} \text{num}^{1} \text{NCL} \text{measure} \text{rice} \text{Verb} \text{Numeral} \text{Noun classifier} \]
‘Weigh one measure of rice’
3.3. Verbal auto-classifiers

Verbal auto-classifiers are verbs whose classifier serves as their own phase and event counter. Auto-classifiers (ACLs) are reminiscent of cognate objects as in *He slept a troubled sleep* (Chao 1968: 616; Jones 1988). The term *auto-classifier* was originally coined by Matisoff (1973: 89) for Lahu, a Loloish language of Thailand.

The set M of classifiers is the same as the set D of classifieds, for which reason ACLs are not classificatory as they violate definition (3-iii). Verbal ACLs are broadly attested in Mandarin, Kam, Hmong and Hani but are unattested in Nuosu. There is variation of the morphosyntactic properties.

(64) Verbal auto-classifier constructions

i. Mandarin (Sinitic) V NUM.1 ACL (N_o)
   a. wǒ wèn yī wén zài juédìng.
      1P.SG ask NUM.1 ACL ask then decide
      ‘I’ll decide after I inquire one time / or: …after I inquire a little.’
   b. wǒ wèn yī wén tā.
      1P.SG ask NUM.1 ACL ask 3P.SG
      ‘I’ll ask him once / or: I’ll ask him a little.’

ii. Kam (Kam-Tai) V (N_o) NUM/QUA ACL
   a. tā shuǐ le yī shuǐ.
      3P.SG sleep DP NUM.1 ACL sleep
      ‘He slept once / or: He slept a little.’

iii. Hmong (Miao-Yao) V (N_o) NUM/QUA ACL
   a. mau₃₃ tʰik¹³ jau¹¹ oi⁵⁵ tʰik¹³.
      3P.SG kick 1P.SG QUA many ACL kick
      ‘He kicked me many times.’

iv. Nuosu (Tibeto-Burman) -- -- -- -- -- --
   a. nà₃₃ (e³³ tʰi³₅) tsʰi²¹ pʰi¹₁ ndzi³₃ ša³³.
      1P.SG water NUM.1 NCL basin pour
      ‘I poured a basin of water.’

v. Hani (Tibeto-Burman) (N_o) NUM/QUA ACL V
   a. tā shuǐ le yī shuǐ.
      3P.SG sleep DP NUM.1 ACL sleep
      ‘He slept once / or: He slept a little.’

Mandarin (Li and Thompson 1981: 233)

(65) a. wǒ wèn yī wén zài juédìng.
   Verb Numeral Auto-classifier
   ‘I’ll decide after I inquire one time / or: …after I inquire a little.’

iii. Hmong (Miao-Yao) V (N_o) NUM/QUA ACL
   a. mau₃₃ tʰik¹³ jau¹¹ oi⁵⁵ tʰik¹³.
      3P.SG kick 1P.SG QUA many ACL kick
      ‘He kicked me many times.’

Hmong

(67) nuchi¹₃ pe⁴³ nuchi¹₃
   turn NUM.3 ACL turn
   ‘turn three turns’
Two subgroups of auto-classifiers exist. In one group there are polysemous words referring to the verbal activity and the instrument involved in the activity (e.g. verb *chisel* and instrument *chisel*). This group has 3-15 members depending on the language.

**Kam**

(68)  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Auto-classifier} \\
\text{siu}^{53} & \text{i}^{55} & \text{siu}^{53} \\
\text{chisel} & \text{NUM.1} & \text{ACL.chisel} \\
\end{array}
\]

‘chisel once with a chisel’

**Hmong**

(69)  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Auto-classifier} \\
\text{keu}^{44} & \text{pe}^{43} & \text{keu}^{44} \\
\text{saw} & \text{NUM.3} & \text{ACL.saw} \\
\end{array}
\]

‘saw three times with a saw’

The second group consists of verbs not cognate with an instrumental noun. The auto-classifier constructions of the languages surveyed are productive to different degrees. They are productive and rule-based in Mandarin and Hani, but unpredictable in Kam and Hmong. In Hani, apart from a few exceptions, all monosyllabic verbs can be involved as auto-classifiers.

**Hani**

(70) a.  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Auto-classifier} \\
\text{ni}^{21} & \text{chu}^{33} & \text{chu}^{33} \\
\text{watch} & \text{ACL.watch} & \text{watch} \\
\end{array}
\]

‘watch two times’

b.  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Auto-classifier} \\
\text{ni}^{21} & \text{no}^{21} & \text{no}^{21} \\
\text{ACL.stamp} & \text{stamp} & \text{stamp} \\
\end{array}
\]

‘stamp two times’

(71)  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Auto-classifier} \\
\text{ke}^{b121} & \text{kui}^{33} & \text{kui}^{33} \\
\text{fear} & \text{ACL.fear} & \text{fear} \\
\end{array}
\]

‘fear once’

(72) a.  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Auto-classifier} \\
\text{star}^{21} & \text{do}^{33} & \text{do}^{33} \\
\text{wear} & \text{ACL.wear} & \text{wear} \\
\end{array}
\]

‘wear three times’

b.  
\[
\begin{array}{llll}
\text{Verb} & \text{Numeral} & \text{Verb} \\
\text{star}^{21} & \text{si}^{21} & \text{si}^{21} \\
\text{ACL.know} & \text{know} & \text{know} \\
\end{array}
\]

‘know one time’

In Mandarin, only monosyllabic volitional verbs function as auto-classifiers, whereas disyllabic or non-volitional verbs may not. (65a-c) illustrate grammatical examples and (73)-(74) ungrammatical examples.

**Mandarin** *(Li and Thompson 1981: 235)*

(73)  
\[
\begin{array}{llllllll}
\text{Verb} & \text{Numeral} & \text{Verb} \\
\text{nǐ} & \text{wàng} & \text{yī} & \text{wàng} & \text{tā} \\
\text{forget} & \text{NUM.1} & \text{forget} & \text{3P.SG} & \\
\end{array}
\]

‘Forget him a little.’

(74)  
\[
\begin{array}{llllllll}
\text{Verb} & \text{Numeral} & \text{Verb} \\
\text{wǒmen} & \text{tăolùn} & \text{yī} & \text{tăolùn} & \text{zhèi} & \text{ge} & \text{wèntí} \\
\text{discuss} & \text{NUM.1} & \text{discuss} & \text{DEM.PROX} & \text{NCL} & \text{problem} & \\
\end{array}
\]

‘Let us discuss the problem a little / or: …the problem once.’

**Conclusion**

Semantic profiling is not a suitable principle for defining classification systems within and across languages. Classification is rather a proportional relation between a set of classifiers and a set of classifieds. This paper surveys verb classification in five languages of the Sinitic, Kadai, Miao-Yao and Tibeto-Burman families. Only sortal and collective verb classifiers in some of the languages stand with their classified verbs in the
required proportional relation. Sortal verb classifiers are derived from instrumental nouns that modify verbs in frequency constructions.

Mensural classifiers and auto-classifiers share the same syntactic slots as the sortal classifiers but do not stand in proportional relation with their modified verbs. For mensural classifiers one cannot identify two significantly different verb classes violating definition 3-iv (exceptions are the collective classifiers in Mandarin and Hani). For auto-classifiers, the set of classifiers does not have more members than the set of classifiers, in breach of (3-iii). Table 10 summarizes the different proportions and highlights those that are classificatory in the sense of definition (3).

<table>
<thead>
<tr>
<th>VCL</th>
<th>Mandarin</th>
<th>Kam</th>
<th>Hmong</th>
<th>Nuosu</th>
<th>Hani</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sortal</td>
<td>50/80</td>
<td>42/72 (Gerner 2009: 726)</td>
<td>45/75</td>
<td>3/10</td>
<td>8/20</td>
</tr>
<tr>
<td>Measure</td>
<td>9/open</td>
<td>8/open (Gerner 2009: 716)</td>
<td>6/open</td>
<td>7/open</td>
<td>7/open</td>
</tr>
<tr>
<td>Auto</td>
<td>most monosyllabic volitional verbs</td>
<td>8/8 (Gerner 2009: 723)</td>
<td>7/7</td>
<td>---</td>
<td>almost all monosyllabic verbs</td>
</tr>
</tbody>
</table>

Table 10. The ratio of M (classifiers) and D (classifieds)

The paper also informs a cross-linguistic typology of verb classification systems. East Asian verb classifiers represent a lexical classification technique. The classifiers are derived from adjunct (instrumental) noun phrases of the predicate. This technique contrasts with noun incorporation in Native American languages in which classifiers are derived from core arguments.

List of abbreviations

- 1P.PL: First person plural
- 1P.SG: First person singular
- 1P.SG.POSS: First person singular possessive
- 2P.SG: Second person singular
- 3P.SG: Third person singular
- ACL: Auto-classifier
- ADVL: Adverbializer
- CL: Classifier
- COV: Coverb
- COV.take: Coverb with gloss
- DEM.PROX: Demonstrative: proximal
- DP: Dynamic perfect
- EXP: Experiential aspect
- GnVCL: Generic verb classifier
- LOC: Location
- LOC.at: Location particle with gloss
- NO: Object noun
- NCL: Noun classifier
- NP: Noun phrase
- NUM: Numeral
- NUM.3: Numeral with its value
- QUA: Quantifier
- V: Verb
- VCL: Verb classifier
- UA: Universal

Notes

1. In inflectional languages, there are not necessarily single classifier morphemes but each item of D exhibits a form paradigm.

2. Irreducible means that no basic construction type can be reduced to another basic construction type; exhaustive means that every sentence in which elements of M and D co-occur can be broken down into one of the basic construction types.

3. According to the 2000 census, the total number of Mandarin speakers is 845 million (840 million in China and 5 million outside of China). For the ethnic Dong (selfname: Kam) the population is 2,960,000. Kam has two unintelligible dialects, Southern Kam (about 1,100,000 speakers) and Northern Kam (endangered and almost replaced by the local Chinese dialect). The number of 400,000 speakers for Hmong is derived from discussions with the native Miao linguist Xiong Yuyou (a native of Hekou County). This variety is also understood across the border in Vietnam. There are 2 million ethnic Nuosu, (2000 census) but perhaps only 1,100,000 can communicate in Shynra, the official dialect. My informant is a native of this
dialect. There are 1,439,673 members of the Hani nationality (2000 census). Language data for Hani originate from the official Hani-Yani dialect spoken in Lüchun County. The native Hani linguist Bai Bibo reported the existence of 10 unintelligible Hani languages clustering around three ‘dialect’ groups: Hani-Yani (850,000 people), Haoni-Baihong (350,000 people) and Biyue-Kaduo (250,000 people). An unknown number of speakers of Hani-like languages live outside of China. About 500,000 Hani are native speakers of the official dialect in Lüchun County.

4. The Loloish languages are more isolating than other Tibeto-Burman languages. With more than 110 languages, the Loloish group represents greater internal variation than the Germanic or Romance groups. This is my personal estimation which differs from reports by Bradley (1997) and Matisoff (2003), who present lists of only 30-40 Loloish languages. Bradley (2007: 175) provides the number of about 60 Loloish (‘Ngwi’) languages. These lists conflate different nVsu groups (V = vowel) into one or two languages although they speak dozens of languages. Pelkey, who collected demographic data on Loloish languages, suggested more than 110 Yi languages in personal communication to me. (He identified 24 “new” Phula languages within the Yi nationality, see Pelkey 2011).

5. Except for the Karenic group (within Tibeto-Burman) whose languages are SVO.

6. The omission of one syllable reverts to the instrumental noun in Proto-Loloish with cognates in many contemporary languages.

7. Bunt uses the term “discrete parts” rather than “minimal parts”.

References


