Expressives in Kam (Dong 侗): A study in sign typology (Part I)

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Like many Austro-Tai languages and many Sino-Tibetan languages, Kam (Dong 侗) exhibits a wealth of descriptive syllables after the verb or the adjective. These syllables, henceforth called *expressives*, are typically reduplicated and cover a wide range of functions such as grading, speed and manner modification, and various kinds of sound symbolism, metaphor, etc. I propose to view the expressive compound as a sign: the predicate-head functions as the *signified* and the expressive as the *signifier*. In fact, since the predicate-head itself has the classical Saussurean sign anatomy, the head-expressive compound presents the case of a complex sign or what I call a second-order sign. The attested types of relationship that hold between the signified and signifier spread across almost the whole spectrum of sign species recognized in the literature. This paper is the result of a survey of ca. 260 expressives and is one product of a long-term Kam dictionary project.

Key words : Tai-Kadai, Kam, semantics, semiotics, expressives, onomatopoeia.

Comme beaucoup de langues austro-tai et sino-tibétaines, le kam fait un abondant usage après le verbe de syllabes descriptives. Ces syllabes, dites "expressives", sont généralement redoublées et remplissent de multiples fonctions linguistiques : spécification de degré, de vitesse ou de manière. Elles renvoient à divers symbolismes sonores, métaphores etc. Le composé "prédicat-syllabes expressives" est ici analysé comme un signe. Le prédicat, en lui-même signe saussurien, a rôle de *signifié* et les syllabes expressives celui de *signifiant*. Le composé en question serait un signe complexe de second ordre dont les relations entre signifié et signifiant recouvrent toutes celles décrites dans la littérature. Cet article, résultat de l'examen de près de 260 items expressifs, s'inscrit dans le projet à long terme d'un dictionnaire du kam.

Mots clés : Tai-kadai, kam, sémantique, sémiologie, expressifs, onomatopées.

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1. INTRODUCTION: DEFINITION, PROPERTIES AND ILLUSTRATIONS FROM NARRATIVE DISCOURSE

The dogma of the arbitrariness of the linguistic sign in its modern form was formulated by Ferdinand de Saussure (1966: 67-70). The linguistic sign is a bifacial entity consisting of a "concept" side and a "sound-image" side. The relationship, according to de Saussure, between both faces appears as "arbitrary". Arbitrariness does not mean that the speaker and hearer have any power to manipulate or alter the sign. Rather, it implies that signs, once they are established in the linguistic community, exhibit an "unmotivated" link, a link without "natural connection" between the concept side and the sound-image side. De Saussure plays down the importance of onomatopoeia and interjections, two phenomena that seem to contradict his principle of arbitrariness. He cites three reasons for their irrelevance or low relevance: first, they are limited in number for any given language; second, their arbitrariness is a matter of degree — why for example, are English *ouch!* and French *aïe!* that different? — ; third, their sound structure becomes assimilated, and hence more arbitrary, once they are introduced into a language. Since the appearance of these ideas, many works were dedicated to the purpose of presenting limits to the principle of arbitrariness, especially by exploiting the difference, already established in de Saussure's *Cours* (1966: 133), between sign and system of signs: a sign is arbitrary while a configuration of signs is motivated. The most important adjustments to the principle of arbitrariness were delivered in the 1980s with studies on the iconicity of syntax (cf. footnote 28). This paper also works in the direction of demonstrating limits to the principle of arbitrariness though I will stay in the realm of the lexicon. In Far Eastern languages, onomatopoeia and other motivated phenomena are much more common than de Saussure originally thought. In this paper I will present these phenomena in a framework that is impossible to develop for European languages because of the randomness with which they occur there. My starting point is the following example

from Kam,[1] a Kadai language spoken in South-West China, where phrases such as the following, are highly organic and commonly used:[2]

(1) mau^{33} pən^{323} son^{55}nak^{35} hot^{31} hot^{31}.
3P SG *always* *snore-sleep* *EXPR* *EXPR*
'He/she always snores loudly. [hot^{31} mimics the sound of snoring]'

In fact, while in Western languages iconicity and sound symbolism are more marginal and covert features, they are well-structured and occupy part-of-speech status in the lexicon of Far-Eastern languages (Sino-Tibetan and Austro-Tai). Iconicity is

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[1] Kam (autonym) or Dong 侗 (Han-Chinese appellation) belongs genetically to the Kam-Sui language group which is part of the Kam-Tai branch belonging to the Kadai language family. Kadai besides the Miao-Yao language family is one of the components of the Austro-Tai language phylum (cf. Benedict 1975, Edmondson and Solnit 1985, 1997). There is an ongoing controversy as to whether Kadai and Miao-Yao languages should be joined with the Austronesian language family into an Austro-Tai phylum. The Austronesian-Tai connection was pioneered by Benedict (1942, 1975) and this link is accepted by a number of historical linguists working on Kadai and Miao-Yao. However, Austronesian linguists remain skeptical about the reconstructions made and have characterized them as "too loose" (Ross 1994: 96).

[2] The numbers ^{55}, ^{13} etc are tone markers and indicate relative pitch on a scale from 1 (lowest) to 5 (highest). The first number represents the beginning and the second number the end of the tonal contour. For the interlinear abbreviations in examples of this paper, refer to the following list of abbreviations:

1P PL	First person plural pronoun	DEM:PROX	Demonstrative: proximal
1P SG	First person singular pronoun	EXPR	Expressive
2P PL	Second person plural pronoun	GET	Resultative get versatile
2P SG	Second person singular pronoun	LOC	Location particle
3P PL	Third person plural pronoun	LOC:be at	Location particle with its gloss
3P SG	Third person singular pronoun	MEET	Resultative meet versatile
ADVL	Adverbializer	NEG	Negation particle
ARRIVE	Resultative arrive versatile	NUM	Numeral
CL	Classifier	NUM:2	Numeral with its value
DEM	Demonstrative	OPI	Speaker's opinion particle
DEM:DIST	Demonstrative: distal	RES	Resulative connector
DEM:MED	Demonstrative: medial	SoA	State of Affairs

manifested in Kam (and probably in most analytic languages) by a set of mono-syllables with stable morpho-syntactical properties.[3] Different labels have been proposed for similar sets of syllables in related languages: for Ngeq (Mon-Khmer), "descriptives" (Smith 1973); for Vietnamese, "impressives" (Durand 1961); for Japanese, "giseigo" or "giongo" (lit. 'imitate-sound-words') and "gitaigo" (lit. 'imitate-attitude-words') (Amanuma 1974, Hamano 1998); for Chinese, "hòufù yīnjié" (lit. 'postposed syllable').[4] I adopt Diffloth's term of "expressives" he used for several Mon-Khmer languages (Diffloth 1972, 1976, 1979, 1994). The term "expressive" has the advantage of being neutral enough to cover the wide range of functions attested in Kam, and to testify of the phonetically enlivening function all of these syllables convey in various ways.

1.1. Definition and properties

Expressives in Kam are syllables occurring in the postfield of the predicate and are defined by the following roster of properties:

A. Morpho-syntactic:

- The expressives are typically reduplicated (many must be reduplicated, the rest include at least the possibility of reduplication).

- When the predicate incorporates two arguments, then the second argument, typically the goal,[5] intervenes between the

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[3] In English there are several idiomatic adjectives which convey a rough idea of at least one segment of the Kam expressives I propose to put under the lens in this paper. These English adjectives include 'brand-new', 'brand-spanking-new', 'blind-drunk', 'stark-naked', 'trigger-happy', 'hopping-mad', 'dead-keen', 'dead-right', 'dead-calm', 'rock-solid', 'spot-on', etc.

[4] The Chinese term of "hòufù yīnjié" 后附音节 is not widespread among Chinese linguists (though understandable when explained), since this topic is understudied in China for Mandarin.

[5] The semantic roles used in this paper involve the terminology of Dik (1997). The goal is the entity affected by a controller; the controller is the entity controlling an intransitive or transitive action. The force is the non-controlling entity instigating a process.

predicate and the expressive. (Kam is an SVO language, the order is SVO+EXPR).

- The set of expressives is a closed form class that numbers ca. 300 in Kam. It is comparable to the set of noun classifiers with a cardinality of between 30 and 120 for most Sino-Tibetan and Austro-Tai languages.

- Not every predicate (noun, adjective, verb) allows expressives in its postfield. There is no procedure *a-priori* which allows one to determine the existence and the form of the expressive(s) of a given predicate. The acquisition of the system of expressives is thus similar to the acquisition of classifiers or of gender. Each compatible predicate commands a small set of expressives whose number varies between one and seven.[6]

- Each expressive is dependent on a head-predicate. The number of compatible head-predicates is restricted. In most cases, the expressive can only co-occur with *one* predicate. In other cases the expressive is compatible with a small number of semantically closely related predicates.

B. Semantic-semiotic:

- The expressive sometimes has, but most often does not have, an independent lexical meaning (i.e. nominal, verbal or adjectival). When it has a lexical meaning, many different types of combinations 'head-expressive' may be witnessed.

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[6] When I was based in Beijing from 1995 to 1998, a Miao student at the Central University for Nationalities submitted a Master's Thesis about a Hmu adjective with 76 expressives. (Hmu is a Western Miao language spoken in Guizhou province not far away from where the Kam live; Miao is an Austro-Tai branch.)

Consider the following figure.

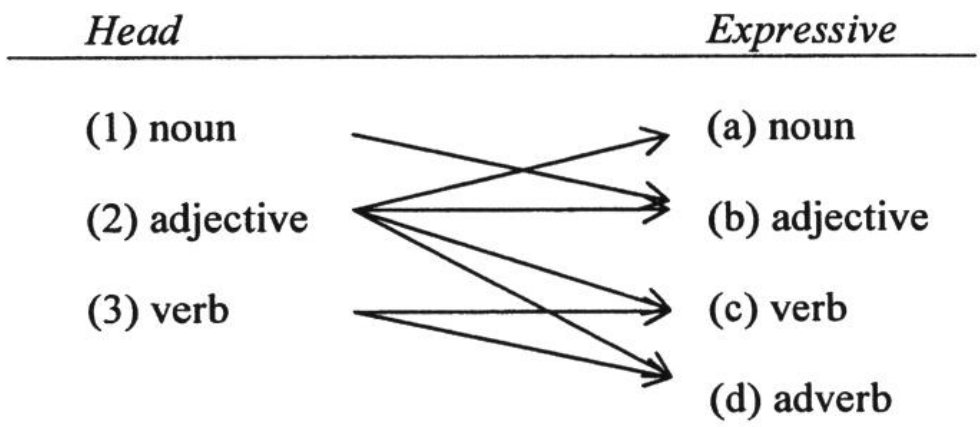

Fig. 1: Types of head-expressive configurations

- There are a great number of semantic and semiotic relationships holding between head and expressive, independently of the lexical status of both the head and the expressive (i.e. nominal, verbal, adjectival).

1.2. Illustration from narrative discourse

I won't demonstrate the above properties in a systematic way in this paper but concentrate more on the myriad of semantic and semiotic relationships which hold between the head (predicate) and the expressive. Nevertheless, the following example should illustrate their use in narrative texts. It was selected from the opening passage of the folk story "How the crab trained the ox to plough the rice field" (unpublished), a Grimm brothers-style fairy tale which is very popular in a number of places in the Kam area.[7]

[7] Expressives convey an aesthetical note to narrative discourse. The frequent and varied use of expressives qualifies the narrator as a distinguished story-teller. The story "How the crab trained the ox to plough the rice field" was composed by Yang Tongyin 杨通银.

(2)

taŋ^{55}ɕu^{55}	ɕi^{11}	ɬa^{53}	ɬəi^{33}	pən^{323}
long ago	*time*	*DEM:DIST*	*crab*	*always*
ɳau^{33}	au^{31}	ɳa^{55}	ɬa^{53}	ɳau^{33}.
LOC:be at	*LOC:at*	*river*	*DEM:DIST*	*live*
tu^{11}	ɬa^{33}	ton^{11}	tok^{31}	tok^{31}
CL	*DEM:MED*	*round*	*EXPR*	*EXPR*
ɬa^{33},	tɐŋ^{11}	mɐn^{55}	au^{31}	ɬa^{33}
ADVL	*whole*	*day*	*LOC:at*	*DEM:MED*
k^{hw}ai^{31}k^{hw}ai^{31}	ɬa^{33}	ɬ^{h}am^{13}	pai^{55}	ɬ^{h}am^{13}
happy	*ADVL*	*walk*	*go*	*walk*
ɕon^{53}.				
return				

'A long time ago there was a crab that always lived on the riverside. The crab was as round as a plate and walked happily back and forth the whole day.'

Certain expressives entertain with their head regular semantic relationships which run in grammar theory under the labels 'manner', 'speed' or 'grading'. Other expressives, however, stand with their head in indexal, onomatopoeic, metaphorical or symbolic relationships which constitute more general semiotic concepts. In fact, neither grammar theory or semiotics can, on their own, cover the whole range of relationships which hold between the expressives and their heads. This is why I propose a two-way analysis in the following sections: first, a semiotic-ontological analysis which is relevant for perhaps the majority of the closed set of expressives, and second, a linguistic-functional approach dealing with the rest.

2. SEMIOTIC-ONTOLOGICAL ANALYSIS OF KAM EXPRESSIVES

The pivotal notion around which semiotics is organised is the *sign*. Semiotics is the study or the science of signs. The Saussurean or linguistic (some say 'verbal') sign is only one among numerous other signs on the radar screen of semioticians. The linguistic sign, though a critical and very prominent example

(especially in the view that linguistics is a developed sub-branch of semiotics), is not even historically the progenitor of modern semiotics. The roots of semiotics may rather lie in medical or clinical concerns. Semiotics, as the study of symptoms, i.e. as the study of "sensible indications of changes in the condition of the human body, constituted one of the three branches of Greek medicine" (Sebeok 1994: 25). Other sign systems of interest are scattered over an array of sciences:

- Meteorology: weather forecast with the help of a barometer.
- Genetics: a serial murderer leaves his genetic fingerprint in a handkerchief near the place of the crime. The comparison with the data in a central database allows immediate identification.
- Anthropology: many cultures prescribe the performance of transactional symbols in the event of the death of an elder in order to regulate the problem of succession of power (see Parmentier 1994).
- Zoology/animal behaviour: many if not all animals have some sort of signalling behaviour toward members of their own species or other species (see Carpenter 1969; see also section 2.2.).

Eligible candidates for signs or sign study are all pairs of entities or phenomena which somehow fit under the bifacial characterisation *designatum-vehicle* or sometimes *information-code*, or for French *signifié-signifiant* (de Saussure 1993: 92).

There are five or six widely recognized sign species in the literature of semiotics (Sebeok 1994): signal, index, icon, symbol and name. In addition, three subspecies are identified for the icon type: image, diagram and metaphor. In fact, not all of these labels actually denote signs. Only the signal and the metaphor are signs. The index species designates the signifier of a sign. The diagram type sometimes denotes a sign (with a configurational structure) and sometimes a configuration of signs. The image type points to

the signifier in the case of onomatopoeia and designates a whole configuration of signs for the sub-species diagram and so forth. In brief, there is a lack of a clear principle of classification in this roster of subspecies. Table 1 presents an overview of the principles on which these labels are built.[8]

I will discuss and apply these categories in detail in the following sections. It is most convenient to view these labels as denotations for certain configurations (or networks) of signs. A network has nodes and relations between nodes. The forth column in the above table provides the number of 'nodes' (signs) of the network. A structural diagram is the case where the whole network is one sign with a certain number of sub-signs (e.g. a sentence composed of words is a sign and at the same time a set of signs). Diagrams always require more than one node (signs). For example, the phenomenon of sound symbolism which belongs to the image type and also to the diagram type may never be evaluated on a single word but rather on a set of words. Every 'node' has the bifacial signifier-signified structure. In the fifth column I marked what part of the sign (signifier/signified/whole sign) or what part of the whole network the label in question denotes. Column six and seven provide information about the type of relation holding between the nodes of the network. We will discuss these subspecies in detail in the following sub-sections.

2.1. The head-expressive compound as a second-order sign

As already indicated, I propose to view the head-expressive compound as a sign. The predicate-head functions as the *signified* of the sign while the expressive plays the role of its *signifier*. In (3) the head is the verb $p^{j}ɐk^{55}$ 'whip' and $\underline{ɕit^{323}}$ is an onomatopoeic expressive simulating the sound of a rod when waved about.

(3) mau^{33} $p^{j}ɐk^{55}$ $\underline{ɕit^{323}}$ $\underline{ɕit^{323}}$.
3P SG *whip* *EXPR* *EXPR*
'He/she is flicking the whip.' [$\underline{ɕit^{323}}$ mimics the whistling sound of a rod]

[8] Sr means 'signifier' and Sd means 'signified'.

Label	Sub-label	Sub-distinction	Number of signs involved	Part of sign (Sd/Sr/whole sign), or Part of configuration	Correspondence between what	Type of correspondence
Signal	---	---	2	Marked member	Between both Sd	Interactive
Index	---	---	1	Sr	Sr-Sd	Ontological
Icon	Image	Portrait	1	Sr	Sr-Sd	Vision
		Onomatopoeia	1	Sr	Sr-Sd	Sound
		Sound symbolism	≥ 2	Whole configuration	All Sr; all Sd	Sound; meaning
	Diagram	Structural	1; sub-signs ≥ 2	Whole sign	Sub Srs-sub Sds	Order of elements
		Relational	≥ 2	Whole configuration	All Sr; all Sd	Sound; meaning
	Metaphor	---	3 (= S_1, S_2, S_3)	S_3	$S_1 \Rightarrow S_3$ (by rule S_2)	Metaphor transfer
Symbol	---	---	1	Sr	Sr-Sd	Intensional
Name	---	---	1	Sr	Sr-Sd	Extensional convention

Table 1: Semiotic networks

The syllable <u>ɕit^{323}</u> plays the role of an acoustic image (icon) of the activity of whipping. The question which naturally arises is whether <u>ɕit^{323}</u> is an acoustic image of the activity of whipping existing in some real or imaginary world or rather of the syllable p^{j}ɐk^{55}. The question, when posed this way, suggests that the semiotic relationship only holds between <u>ɕit^{323}</u> and the real-world activity of 'whip' and not necessarily also between <u>ɕit^{323}</u> and the syllable p^{j}ɐk^{55}. However, it also holds with the syllable p^{j}ɐk^{55} since <u>ɕit^{323}</u> can never be used in isolation but only in the postfield of p^{j}ɐk^{55}. In fact, the semiotic relationship in (3) holds between the syllable <u>ɕit^{323}</u> and the Saussurean sign //p^{j}ɐk^{55} (linguistic) – real world activity of 'whip' (conceptual)//. In other words, the sign exhibited in (3) is the case of a sign where the signified itself is a sign. This sort of sign is complex in its make-up and may be called *second-order sign*. There are three types of second-order signs which I describe in Figure 2.

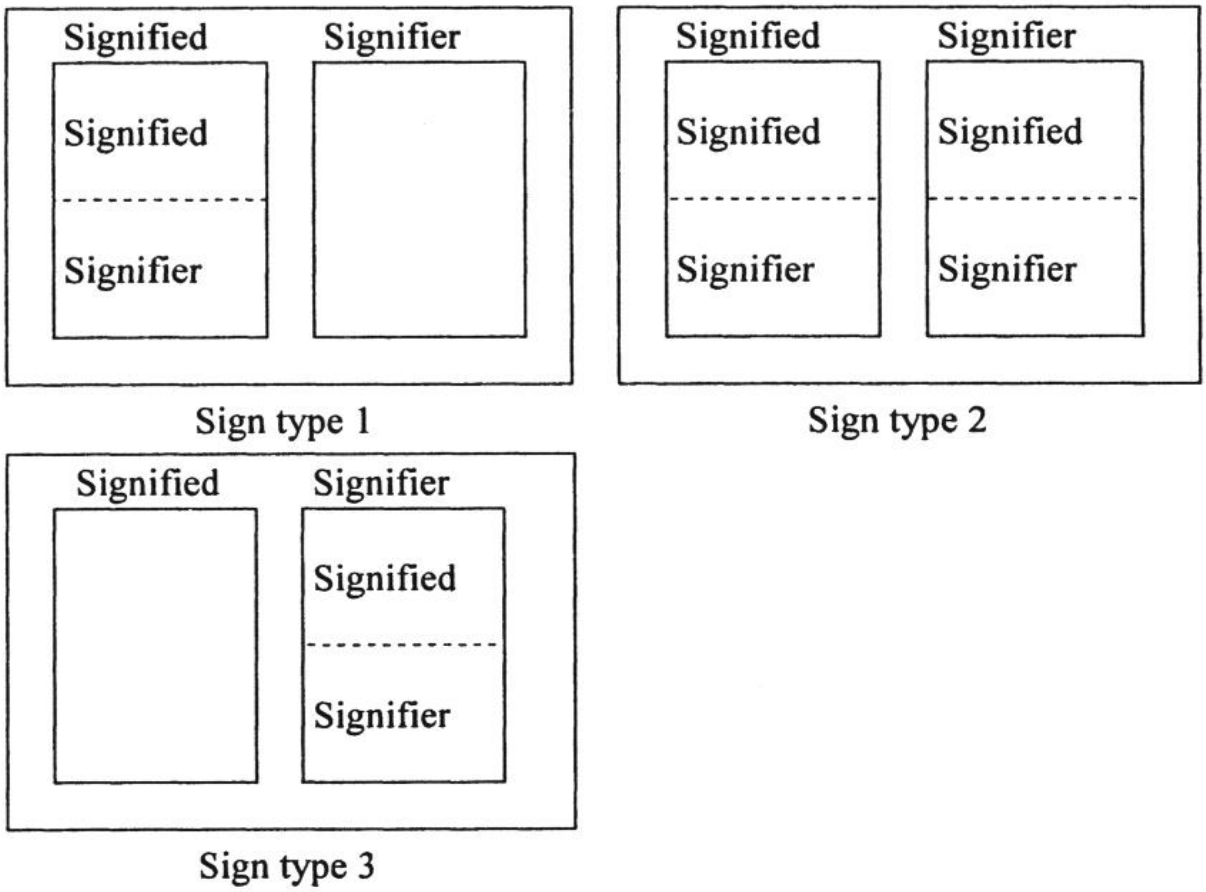

Fig. 2: Second-order signs

(3) is an example of the first type. Type 3 is not relevant for the head-expressive compounds considered in this paper because the head (=signified) is always a lexeme (a verb, an adjective and occasionally a noun) and always fits in the dichotomist Saussurean semiology. As an example for type 2, we may consider the following phrases:

(4a) ja^{11} ta^{55} ŋaŋ^{53} mən^{55}pʰaŋ^{35}.
NUM:2 eyes look upward sky- universe
'Both eyes peer into the sky.'

(4b) pʰaŋ^{35} ŋaŋ^{53} ŋaŋ^{53}
tall EXPR EXPR
'straight and tall, tall and upright'

Phrase (4b) is an expressive compound with an adjectival head, its compound meaning is a graded state (adjective) which may be glossed in English by 'straight tall'. The expressive ŋaŋ^{53} itself appears in independent contexts as the main lexeme, i.e. as the verbal predicate as exemplified in (4a) where it has the meaning 'look upward'. It means that pʰaŋ^{35} 'tall', the head in (4b), and the expressive ŋaŋ^{53} are both Saussurean signs. The ground rule is that whenever the expressive itself is a lexeme of the lexicon, we have a sign of type 2. When it appears that the expressive is not a lexeme (which is the case for the majority of expressives), then the head-expressive compound falls in the type 1 category. In (4b) the meaning of the head-expressive compound is derived from the Saussurean signified of ŋaŋ^{53}: 'look up'. The meaning of the compound is formed through the *metaphorical* suggestion that someone is tall and upright just as one is in upright position when peering into the sky, for example. It means that certain positional aspects of the verb/activity ŋaŋ^{53} 'look up' are metaphorically translated into shape and form aspects of the state pʰaŋ^{35} 'tall'. To sum this up in Lakoff and Johnson's (1980) formula-like terminology, (4b) is a case of the 'ASPECTS OF A STATE ARE (LIKE) ASPECTS OF AN ACTIVITY'-metaphor. This means that the second-order sign of (4b) is a metaphor, which is an iconic sign (see section 2.3.3).

I have said before that the semiotic relationship holds between the expressive which may or may not be a Saussurean sign and the head which always is a Saussurean sign. While it is true that the relationship is between entire signs, it is often the case that the bridge either leads through the signified of the head or through its signifier. In the case of onomatopoeic expressives (example (3)), the expressive mimics the sound of the head-signified. For metaphorical expressives (example 4b), the expressive entertains a metaphorical relationship with aspects of the head-signified. We have not yet encountered examples where the bridge is established via the head-signifier. Consider therefore:

(5) k^wa^{323} $\underline{k^wat^{55}}$ $\underline{k^wat^{55}}$
hard *EXPR* *EXPR*
'extra hard'

In (5), the expressive $\underline{k^wat^{55}}$ has no lexical meaning. Its function is to phonetically enliven the state of the head k^wa^{323} 'hard'. Its sound structure is obviously an alteration of k^wa^{323}, the signifier of the head. Example (5) constitutes an example of the above type 1.

2.2. Signal and index

Semioticians define *signals* as signs over which a) the emitter exercises *control* and which b) trigger a *response* from the receiver (cf. Sebeok 1994: 22; Pazukhin 1972). Both notions of 'control' and 'response' are crucial in separating signals from other signs as, for example, indices (discussed below) or other more general phenomena of causation. For example, it is inappropriate to view a hunger-strike that prisoners start to enhance better conditions of detention as a signal. Though there is deliberation or control in the prisoners' action, there is no natural bond between their behaviour and a/the response of the authorities. (This example constitutes a phenomenon with control but without a response or, at least, not necessarily with a response.[9]) On the

[9] The prisoners function as the 'emitter' of the hunger-strike, the authorities as the 'receiver'. The notion of control is exercised in a hunger-strike, but it does not (necessarily) provoke a reaction on behalf of the receiver. A hunger-strike therefore fails the criteria of a signal.

other hand, it is also inconvenient to view temperature above 0° C as a signal for the snow to thaw. (It is a phenomenon with a response but without control.[10]) The notion of control in the definition of a signal is discussed in detail by Pazukhin (1972).[11]

Originally, the term signal is employed by technicians with a loose meaning to denote the control mechanisms in charge of releasing energy sources. The most prominent examples of signals, however, are reported from the biological sphere, i.e. from animal behaviour. Carpenter (1969: 44), a researcher on the behaviour of alloprimates defines signalling behaviour as a "condensed stimulus event, a part of a longer whole, which may arouse extended actions. Signalling activity, in its simplest form, is produced by an individual organism; it represents information; it is mediated by a physical carrier, and it is perceived and responded to by one or more individuals."

The signalling behaviour (of alloprimates) may be viewed as a signal that *naturally* or *mechanically* triggers a response which stands in contrast to signals which are *artificial* or *conventional.* The fire alarm in a hotel at 11 pm is for example a conventional signal and spurs the guests, as a response, to evacuate their suites immediately. A signal can be viewed as the marked member of a pair of *interactive* signs. An interactive pair of signs where both signifieds (of the two signs) entertain a stimulus-response relationship (compare with Cruse 1986: 201). While the signal is always a bifacial sign, the response, however, does not necessary

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[10] In this example, the 'emitter' of the phenomenon of thawing is the 'temperature above 0° C' while the snow functions as the 'receiver'. This phenomenon triggers a response from the 'receiver', but no control is exercised, it therefore does not match the case of a signal.

[11] Pazukhin distinguishes between two types of control: *direct control* and *block-and-release control.* Direct control is practiced in actions (not necessarily signals) like 'A man (= emitter) opens the door (= receiver)'; 'A tiger (= emitter) kills a man (= receiver)' (1972: 31). Block-and-release control concerns phenomena where the emitter exercises control via a medium. The example that Pazukhin cites is the cyclist who pedals a wheel which, in turn, activates a dynamo-generator. The generator powers a lamp (1972: 32). The dynamo-generator functions as a block-and-release medium for the cyclist.

need to be a complete sign. In the case of the fire alarm, the signifier of the signal would be the sound of the siren, its signified the conventional warning message. A response to the signal would be the evacuation of the suite which is an action without vehicle or signifier.

Index is one component in Peirce's trichotomy of the sign (the other two components are icons and symbols). He defines the index as "a sign which refers to the object that it denotes by virtue of being really affected by that object" (1955 [1902]: 102). Indexicality can be best understood as a generalization of the (linguistic) notion of deixis also to non-linguistic phenomena. This point was made by Fillmore (1972: 275) who claims that "a theory of grammar must be informed by a theory of conservation, and [that] certain understanding about deixis and pronominal reference make up part of that theory." An index of a phenomenon or entity points to some intimately related phenomenon or entity. One famous example of index or deixis, established by Peirce (cited from Sebeok 1994: 32), is that of Robinson Crusoe for whom the discovery of footprints in the sand was an index of some creature. Another example of index are gesticulations which point or direct the receiver to an object. In epidemiology, the person who first imports an epidemic into a new area is called the 'index case' (Sebeok 1994: 67). He serves as the index cause of the epidemic in the new area. In brief, we can sum up by saying that an index is a sign whose signifier stands in an existential (Hiraga 1994: 6)[12] or contiguous (Sebeok 1994: 31) relationship with its signified.

Indices have to be distinguished from signals. On the one hand, indices miss both criteria of response and control. For example, while in the making of footprints (in the Robinson Crusoe example) the concept of control is present, footprints never trigger compulsory reactions (responses) from the interceptor of the footprint. On the other hand, the signifier of a signal does not necessarily entertain an indexical or existential relationship with the

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[12] *Icons*, in contrast, mark the signifier for its similarity to the signified, while *symbols* define the relationship between signifier and signified as a convention or a law (cf. Hiraga 1994: 6).

signified. For example the sound of the siren is a conventional sign and has no indexical or existential relationship with the warning message of a looming fire. When, for example, the headmaster of a school makes his plans known that a fire alarm exercise is scheduled for Tuesday at 10 am, then the siren does not announce a fire but the taking place of the exercise. There is no existential relationship between the sound of the siren and the message of a fire.

There are a small number of expressives in Kam which entertain with their head-predicate an indexical relationship. These are expressives which have the sound shape of interjections (section 2.2.1.) and which inject a meaning of surprise or disapproval. Furthermore, there are expressives which I call transitive indices (section 2.2.2.). They manifest sound structure similarity with a lexeme which, in its turn, is semantically correlated to the head (predicate). All of these indices do not match the criteria of a signal, though they manifest some surprising affinities with signals. Consider:

(6a) mau^{33} tap^{323} lɪ^{323} ho^{453} p^{h}e^{13} pai^{55}.
3P SG *carry on shoulders* *RES* *goods* *tremble* *go*
'He/she carries [so heavy a load] that the goods [in the load] are shaking.'

(6b) ma^{55} nai^{33} l^{j}an^{33} p^{h}e^{13} p^{h}e^{13}.
dish *DEM:PROX* *spicy* *EXPR* *EXPR*
'This dish is so spicy [it makes people] agitated.' (Simulating the effect of eating spicy food.)

In the phrase (6a) the verbal usage of p^{h}e^{13} is illustrated, while (6b) exemplifies its involvement as an expressive. In (6b) the expressive exhibits the effects of the state of hot pepper and spiciness: it makes the enjoyer of the dish tremble and gesticulate. The expressive p^{h}e^{13}, through its verbal meaning of 'tremble,' can therefore be viewed as the response to the state of affairs of spiciness described by the predicate l^{j}an^{33} 'spicy'. However, it is not acceptable to regard the head or the state of spiciness as a signal

since no idea of control is present. Rather, it is suitable to view the effect of trembling as an index to the state of spiciness. The expressive $\underline{p^he^{13}}$ displays an indexal relationship with l^jan^{33} 'spicy.'

2.2.1. Interjections

In the Kam sign system of expressive compounds, there are several expressives which are speaker injections.[13] Interjections can be interpreted as an effect of a cause which qualifies them as indices (effects are contiguous to their cause, cf. Sebeok 1994: 67). The state of affairs encoded by the head functions as cause while the expressive, often very melodic, exposes a speaker injection which can be viewed as the indexical effect. It is interesting to note that all the expressives presented in this subsection are only compatible with their head and not with other predicates and have hence completely entered their architecture. Consider the following examples.

iu^{31} */expressing the speaker's dismay with the situation/.* This expressive is used after the adjective an^{11} 'messy' to simulate a speaker injection expressing his/her dismay with the state of affairs in question.

(7)

au^{31}	$səm^{31}$	nai^{33}	an^{11}	$\underline{iu^{31}}$	$\underline{iu^{31}}$.
LOC:in	*room*	*DEM:PROX*	*messy*	*EXPR*	*EXPR*

'This room is really/completely a mess.'

The expressive iu^{31} in (7) can be viewed as an articulation of the speaker's dismay with the messy state of the room he just entered. The head an^{11} 'messy' appears as the cause provoking the spontaneous interjection iu^{31}, the index.

hu^{33} */simulating a purring sound expressing the speaker's cosy feelings in a situation/.* This expressive has to be distinguished

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[13] The view of interjections as a case of (linguistic) index is not new and has been brought to the fore by several authors (cf. Carnoy 1927: 20; Pharies 1985: 82). In English typical index-interjections are *ah*!, *oh*!, *ouch*! *(wh)oops*!, and *ugh*! See Pharies (1985: 83) for a list of spontaneous physiological pain interjections in 21 languages from 9 language families.

from other onomatopoeic expressives discussed in section 2.3.1.2. It does not simulate the sound of an activity but rather exposes speaker sound symbolism (i.e. interjection). This expressive is identical in sound structure and use to the Mandarin expressive hū 呼 in rèhūhū 热呼呼 'cosily warm'.[14] It simulates a purring sound expressing the speaker's pleasant attitude with regard to the situation.

(8)

au^{31}	jan^{11}	ɕau^{35}	tun^{55}	hu^{33}	hu^{33}.
LOC:in	*house*	*2P PL*	*warm*	*EXPR*	*EXPR*

'In your house it is cozy and warm.' [I am well here.]

Again, the head tun^{55} 'warm' plays the role of the cause and the expressive hu^{33} the role of index-effect.

i^{31} */speaker interjection expressing his/her surprise (and potentially dismay) toward a situation/.* There is a closely related interjection particle in Kam, the melodic long-stretched syllable i::^{453}, which is used by the hearer in response to an unexpected, potentially pejorative, piece of news previously reported by the speaker. The expressive i^{31} is related to this interjection particle and is used after the adjective en^{53} 'multicoloured' to express the pejorative nuance of 'gaudy, garish'. It has to be reduplicated.

(9)

lak^{31}m^{j}ek^{323}	ʈa^{53}	sui^{35}	ɕən^{55}	en^{53}
girl	*DEM:DIST*	*dress*	*body*	*multicoloured*
i^{31}	i^{31},	nan^{11}	nu^{53}	guŋ^{11}.
EXPR	*EXPR*	*difficult*	*see*	*very*

'That girl is dressed garishly, and it is not pleasant to look at.'

As in the previous examples, the adjectival head en^{53} 'multicolored' functions as the cause and the expressive i^{31} as the effect or index to the cause.

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[14] It is interesting to note that the Chinese character '呼' has an incorporated '口'-key ('口' 'kǒu' means 'mouth') in its make-up which is also present in all kinds of speaker-modality particles (e.g. ne 呢, ba 吧, ou 呕, a 啊).

2.2.2. Transitive indices

There are a limited number of expressives which stand in an interesting indexical relationship with their head and which can be viewed as pointers. These expressives do not have lexical meaning themselves but, via their sound structure, they hint at or evoke a lexeme which manifests some semantic affinity with the head-predicate. Consider for example the following pair of phrases.

(10a) $p^{j}ən^{55}$ $ɕən^{33}nai^{33}$ $\underline{k^{h}iu^{453}}$ $ɬeŋ^{31}$ la^{11}.
rain *now* *stop* *a little bit* *OPI*
'The rain has almost stopped now.'

(10b) $kəm^{53}$ $\underline{kiu^{323}}$ $\underline{kiu^{323}}$
quiet *EXPR* *EXPR*
'dead calm, very quiet'

The expressive $\underline{kiu^{323}}$ in (10b) is only compatible with the adjective $kəm^{53}$ 'quiet', and has no (lexical) meaning but manifests a similar sound structure as the verb $\underline{k^{h}iu^{453}}$ 'stop, cease' in (10a). The verb $\underline{k^{h}iu^{453}}$, on the other hand, has much semantic affinity with the adjective $kəm^{53}$ 'quiet', since silence is correlated to the cessation of any activity. The expressive $\underline{kiu^{323}}$ appears therefore as pointing to the adjective head via its sound structure cousin $\underline{k^{h}iu^{453}}$. It is true, this form of index differs slightly from the Robinson Crusoe example. The footprints that he discovers are deictic 'without detour'. Nevertheless, the expressive $\underline{kiu^{323}}$ exhibits a form of indexical relationship which I want to call *transitive index*. In mathematical set theory a binary relation '~' on a set X is called transitive when for all members x, y and z of X the following property holds: x~y and y~z entails that also x~z.[15] In the context of (10b) the binary relation '~' is the indexing of or the pointing to the signified by the signifier. The property 'x~y and y~z entails that also x~z' can be translated by 'the expressive $\underline{kiu^{323}}$ hinting at

[15] This property is expressed in mathematics by the following formula: $\forall x, y, z \in X, (x \sim y \text{ and } y \sim z) \rightarrow x \sim z$.

k^hiu^{453} and the verb k^hiu^{453} hinting at the adjective kəm^{53} means also the hinting of kiu^{323} at kəm^{53}.[16]

The following pairs of phrases are further examples of transitive indices, all revealing the same indexical mechanism. In (11) the expressive tu^{31} hints at the adjective tu^{13} 'poisonous' which differs in tone from the expressive.[17] At the same time, tu^{13} 'poisonous' hints at the adjectival predicate ɬɕi^{453} 'angry' through the metaphorical suggestion that 'anger is poison'.

(11a) tu^{11} pa^{55} nai^{33} tu^{13} kuŋ^{11}.
CL *fish* *DEM:PROX* *poisonous* *very*
'This fish is very poisonous.'

(11b) ɬɕi^{453} tu^{31} tu^{31}
angry *EXPR* *EXPR*
'very angry/of poisonous mood'

In (12a, b and c) the expressive ɬɐt^{55} points at its sound structure relative ɬɐt^{323} 'twist' which, in its turn, provides some illustration for the adjective head ɬoŋ^{53} 'crooked' (12c).

(12a) ɬat^{323} lam^{33}
twist *rope*
'twist into a rope'

(12b) ɬat^{323} uk^{323}
twist *clothes*
'knit clothes'

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[16] A similar problem is discussed by some authors under the title '(iconic) regression' (cf. Pharies 1985: 67; Sebeok 1994: 30). The idea of regression is that for a given signifier it might be possible to find iconic signifieds with ever more generalizing features. For example, a child (=signifier) resembles his/her mother (=signified), is an iconic sign for his/her family (=more general signified), for those of her ethnic group, for mankind, for all creation and so on. The problem with no easy solution in sight is where the limit of iconic relationship between the signifier and the signified lies. The problem of transitivity is very similar. (Example: the friend of the friend of the friend of the friend of my friend is not necessary my friend.)

[17] The Kam language has nine tones (see Long and Zheng 1998: 30) which is a very high number even for the Austro-Tai languages where many languages have six tones. (Mandarin has four stressed and one unstressed tone.)

(12c) ʈoŋ^{53} ʈɐt^{55} ʈɐt^{55}
crooked *EXPR* *EXPR*
'twisted and crooked'

Cats often have a black coat. This is the background for the expressive meu^{35} indexing in (13b) the adjective təŋ^{53} 'dark' via the sound structure correlate meu^{31} 'cat'.

(13a) saŋ^{31} meu^{31} sɐp^{55} no^{13}
nourish *cat* *catch* *mouse*
'raise a cat to catch a mouse'

(13b) təŋ^{53} meu^{35} meu^{35}
dark *EXPR* *EXPR*
'jet black (cat-dark)'

In (14) the indexical link is evident through the triple ɳəm^{323} 'expressive'—ɳəm^{33} 'love'—ko^{55} 'laugh, smile'.

(14a) jau^{11} ɳəm^{33} ɳa^{11} tɐŋ^{33} ɳi^{13}
1P SG *love, depend on* *2P SG* *and, with* *a little bit*
waŋ^{11}ʈi^{53} ɳəm^{33} li:k^{31}.
emperor *love, depend on* *daily calendar, almanac*
'I depend on you like the emperor depends on his almanac [which organizes his life].

(14b) ko^{55} ɳəm^{323} ɳəm^{323}
laugh, smile *EXPR* *EXPR*
'smile lovingly'

In (15b) the expressive moŋ^{55} designates the kind of white colour of a fruit or of cotton. It points to the adjective moŋ^{11} 'unclear' which in its turn gives a hint for the colour nuance of pɐk^{31} 'white'.

(15a) suŋ^{35} mau^{33} moŋ^{11}.
word *3P SG* *unclear*
'His/her words are unclear.'

(15b) pak[31] moŋ[55] moŋ[55]
white *EXPR* *EXPR*
'off-white (of a fruit, of cotton)'

2.3. Icon

Icon is the second component in Peirce's triad of signs with three incorporated subtypes: images, diagrams and metaphors.[18] Icons are roughly spoken signs where the signifier manifests a certain similarity with the signified.[19] This relationship may hold because of sensory (e.g. portrait) or mimetic (sound symbolism) similarity, or because each signifier and each signified is a node in a network of signifiers and signifieds respectively, such that both networks have a similarity in configuration. The former type is called image (cf. section 2.3.1.) and the latter diagrammatic similarity (cf. section 2.3.2.).[20] The metaphor is an iconic sign of a different type. It involves three signs: a metaphorical statement, a non-metaphorical statement, and a sign which regulates how the metaphorical is derived from the non-metaphorical statement (cf. section 2.3.3.). The icon is the most fruitful and productive semiotic notion in circulation among linguists.

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[18] He defines it as "a sign which refers to the object that it denotes merely by virtue of characters of its own, and which it possesses, just the same, whether any such object actually exists or not" (Peirce 1955[1902]: 102).

[19] For icon-signs the signifier is ontologically distinct from the signified, while for index-signs both are ontologically contiguous or co-existential. For Pharies (1985: 70-74) image-icons (i.e. portrait and onomatopoeia) also constitute instances of an index. In fact, it may be a problem of regression or transitivity, mentioned in a previous footnote, where the signifier is attached to an increasingly loose signified. Images lie on a less contiguous orbit of the signified, but this is a matter of degree and might be debatable.

[20] For images, the iconic relationship between the significant and the signified is observed in *one* sign, while for diagrams similarity between both faces of the sign is only discerned in *a network* of signs. I am here more restrictive on images than other authors who see images and diagrams largely overlapping. Consider for example the notions of aural and visual images (cf. Rhodes 1994) which are submorphemic and phonesthemic diagrams (for English) based on aural and visual aspects.

2.3.1. Image

In the linguistic realm, images deal with the phenomena of sound symbolism. For the Saussurean sign (i.e. the lexeme), onomatopoeia and synesthesia are the two pillars of sound symbolism recognized by an array of authors.[21] Since the basic sign we consider in this paper is a second-order sign and hence more complex than the usual Saussurean sign, the image relationships between the signifier and the signified of this sign are also more complex. There are three cases with various sub-cases: first, the expressive mimics the sound structure of the signifier of the head (a form of partial reduplication: section 2.3.1.1.), second, the expressive simulates the sound of the signified which is a natural sound (onomatopoeia: section 2.3.1.2.) and third, the expressive imitates other qualities than acoustic of the signified (synesthesia: section 2.3.1.3.). Most expressives of the image type have no independent lexical meaning being related in some way to their involvement as expressives.

2.3.1.1. Head-signifier imaging: Partial reduplication

The phenomenon of reduplication contemplated here is different from the fact that the Kam expressives are themselves (totally) reduplicated in the postfield of the predicate head. Rather, the kind of reduplication I want to point to here is partial and imitates the sound structure of the predicate head.

While reduplication is not very common and productive in English and other languages of Europe, it is very wide spread in almost all other regions of the world.[22] We consider here two cases:

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[21] Cf. Jakobson and Waugh (1979), Waugh (1992). Pharies (1985: 100) rejects the term 'sound symbolism', but makes use of 'onomatopoeia' and 'cross-modal indices' (roughly our synesthetic images). Hinton, Nichols and Ohala (1994b: 1-6) use the terms of 'onomatopoeia' and 'synesthetic sound symbolism' and furthermore juxtapose a third term, 'corporeal sound symbolism', which is irrelevant for our study of the Kam expressives since it tries to transcribe certain corporeal sounds out of (a predicational) context like the *Achoo*! (sneeze) encountered in comic strips.

[22] Most papers in Hinton, Nichols and Ohala (1994a) deal with some form of reduplication. In Far-East Asian and Oceanic languages reduplications of nouns often

first, the sound structure of the expressive is built on the initial of the monosyllabic head and, second, it is copied from the final. In all cases the reduplication has a phonetically enlivening function.

A) Reduplication based on the initial of the head

Kam expressive compound	*Meaning of head,*	*of expressive*
ta^{22}tu^{31}tu^{31} 'conical, coniform, tapered'	ta^{22} 'pointed'	---
təŋ^{53}təp^{55}təp^{55} 'shiny-black'	təŋ^{53} 'dark'	---
təŋ^{53}tum^{55}tum^{55} 'pitch-black'	təŋ^{53} 'dark'	---
kɐn^{31}kɐt^{55}kɐt^{55} 'very tidy, very orderly'	kɐn^{31} 'tidy, in order'	---
məi^{453}mʲɐu^{13}mʲɐu^{13} 'brand-new'	məi^{453} 'new'	---
kʷa^{323}kʷɐt^{55}kʷɐt^{55} 'compacted'	kʷa^{323} 'hard'	---
kʷa^{323}ku^{55}ku^{55} 'really hard'	kʷa^{323} 'hard'	---
kʷan^{53}kʷən^{323}kʷən^{323} 'starched' (clothes)	kʷan^{53} 'stiff' (clothes)	---
kʰo^{35}kʰoŋ^{453}kʰoŋ^{453} 'very slippery; very fluent'	kʰo^{35} 'slippery; fluent'	---
jim^{453}ji^{13}ji^{13} 'pleasantly cool' (by cool breeze)	jim^{453} 'cool'	---
lʲan^{33}lʲəu^{11}lʲəu^{11} 'extremely spicy and piquant'	lʲan^{33} 'spicy, piquant'	---
lu^{35}leŋ^{33}leŋ^{33} 'crystal-clear' (e.g. water)	lu^{35} 'clear'	---
ma^{323}məm^{33}məm^{33} 'mushy' (used for food)	ma^{323} 'soft, supple'	---
ma^{323}mop^{11}mop^{11} 'soft and loose'	ma^{323} 'soft, supple'	---
ɬʰa^{13}ɬʰek^{13}ɬʰek^{13} 'very light'	ɬʰa^{13} 'light'	---
ȵan^{35}ȵi^{13}ȵi^{13} 'very itchy'	ȵan^{35} 'itchy'	---
pʰa^{35}pʰu^{13}pʰu^{13} 'ash-grey; blind'	pʰa^{35} 'grey; blind'	---
si^{453}səp^{55}səp^{55} 'very fine, very subtle'	si^{453} 'thin, fine'	---
ɕek^{323}ɕe^{33}ɕe^{33} 'burning' (e.g. sun)	ɕek^{323} 'scald'	---

B) Reduplication based on the final of the head

Kam expressive compound	*Meaning of head,*	*of expressive*
pʰaŋ^{35}ŋaŋ^{53}ŋaŋ^{53} 'tall and upright'	pʰaŋ^{35} 'tall, big'	ŋaŋ^{53} 'look up'
mun^{11}tum^{323}tum^{323} 'densely-foggy'	mun^{11} 'foggy'	---
ɕek^{323}ɬet^{323}ɬet^{323} 'scorching'	ɕek^{323} 'scald, burn'	---
so^{35}jok^{323}jok^{323} 'very coarse, rough' (cloth)	so^{35} 'thick, coarse'	---
su^{35}siu^{13}siu^{13} 'luscious'	su^{35} 'green, blue'	---

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means universal or relative quantification (e.g. for Kam, also for Mandarin, cf. Li and Thompson 1981) and plurality (e.g. for Malay-Polynesian languages, cf. Kiyomi 1995); reduplication of verbs exhibits extent augmentation (for Kam), delimitation (for Mandarin) and repetition or continuation (for Malay-Polynesian languages).

2.3.1.2. Head-signified imaging: Onomatopoeia

The kind of onomatopoeic phenomenon dealt with by most authors is 'Saussurean onomatopoeia', i.e. the research of hints, in the sound structure of verbs, of the natural sound the correlated event produces. For English, lists like cough, wheeze, rap, knock, ring, honk, rattle, sniff, splash, tap, click, crash, or more overt ones like *thwack, plink, klunk, thunk, thump, hiss, woosh, slurp, meow* are given (both lists from Waugh 1992: 9). The common feature of these words is that, besides their onomatopoeia, they denote activities which also include non-acoustic phases or aspects. For this reason they differ from the Kam expressives which exclusively hint at acoustic properties. On the other hand, since by definition the Kam expressives are observable in a predication, they have to be differentiated from isolated elements like, for example, *Achoo!* (sneezing)[23] which are transcriptions found in comic strips. (The Kam do not have comic strips in their language.[24]) Elements like *Achoo!* are not integrated predicational words in the same way the Kam expressives are. The presentation of the onomatopoeic expressives follows the order human, animal, weather, liquid and object sounds.

A) Human sounds

EXPR	*Onomatopoeic characterization // Compatible head-verbs*
li:^{55}	simulates partially the hihi sound of giggling // ko^{55} 'laugh'
ha^{33}	simulates the haha sound of normal laughing // ko^{55} 'laugh'
ɬ^{h}a^{31}	simulates the roaring sound of someone's laughing // ko^{55} 'laugh'
həi^{31}	simulates the sound of sighing // jaŋ^{55} 'sigh'
ŋi^{453}	simulates the sound of groaning // jaŋ^{55} 'sigh'
hot^{31}	simulates the sound of snoring // son^{55} 'snore'
(k^{h})ot^{31}	simulates the sound of gulping food // ɬi^{55} 'eat'; wum^{31} 'drink'; ɐn^{35} 'gulp'
k^{h}ot^{31}	simulates the rumbling sound of a hungry tummy (borborygmus) // uŋ^{13} 'sound'

[23] This element is called "corporal sound symbolism" by Hinton, Nichols and Ohala (1994b: 2).

[24] For data based on (English) comic strips, see Oswalt (1994).

$k^{hw}ɐk^{35}$	simulates the sound when one snaps one's fingers // $lɐn^{453}$ 'snap, bounce'; $uŋ^{13}$ 'sound'
$leŋ^{55}$	simulates human voice singing (pleasant) or shouting (disturbing) // $to^{323}a^{55}$ 'sing'; pan^{55} 'shout, call'
$m^{j}ɐt^{31}$	simulates the clicking sound of the tongue while eating a meal // $ɬan^{55}/ɬi^{55}$ 'eat, drink'
$ŋa^{453}$	simulates the crying of a baby // pan^{55} 'shout, call'
$ŋu^{11}$	simulates the sound of weeping // ne^{323} 'weep'

B) Animal sounds

EXPR	*Onomatopoeic characterization // Compatible head-verbs*
$p^{h}əi^{31}$	simulates the sound of the wings of a flying bird (flapping) // $pən^{323}$ 'fly'
top^{323}	simulates the sound of pecking (of a woodpecker) // $ɕɐu^{453}$ 'peck'
tok^{323}	simulates the sound of pecking (of a woodpecker) // $ɕɐu^{453}$ 'peck'
$l^{j}ep^{11}$	simulates the sound of noisy licking (e.g. of a dog) // $l^{j}a^{11}$ 'lick'
$ŋ^{w}e^{53}$	simulates the cawing sound of a raven or a crow // sin^{13} 'call'

C) Weather sounds

EXPR	*Onomatopoeic characterization // Compatible head-verbs*
hu^{31}	simulates whistling sound, for example produced by wind // $uŋ^{13}$ 'sound'
$hɐm^{31}$	simulates the sound of rumbling thunder // $uŋ^{13}p^{j}a^{323}$ 'rumble (thunder)'
$təp^{55}$	simulates the sound of falling rain drops // $tok^{55}p^{j}ən^{55}$ 'rain'
$ɕo^{31}$	simulates the sound of falling hail // $tok^{55}u^{31}$ 'hail'

D) Liquid sounds

EXPR	*Onomatopoeic characterization // Compatible head-verbs*
$p^{hj}ɐm^{13}$	simulates the sound when an object hits water or mud-like substances // $p^{j}iu^{55}$ 'jump'
$t^{h}əm^{35}$	simulates the sound of an object falling into a water container // tok^{55} 'fall'
$jɐm^{53}$	simulates the sound of a roaring waterfall // $nɐm^{31}nan^{33}$ 'waterfall' (noun)

E) Object sounds

EXPR	*Onomatopoeic characterization // Compatible head-verbs*
$p^{h}um^{33}$	simulates the sound of an explosion (e.g. breaking a rock) // peu^{53} 'explode'; $uŋ^{13}$ 'sound'
$p^{hj}et^{35}$	simulates a cracking sound (e.g. for popcorn, puff rice) // peu^{53} 'sprout, crack'; $uŋ^{13}$ 'sound'

pɐp^{11}	simulates dull sound of objects in shock (e.g. heart beating, crashing) // heu^{35} 'beat'; uŋ^{13} 'sound'; nəi^{31} 'move'
pɐt^{11}	simulates a continued sucking or rattling sound (e.g. engine) // heu^{35} 'beat'; ɬɕi^{55} 'smoke'; uŋ^{13} 'sound'
pɐm^{31}	simulates the sound of beating a hollow object // heu^{35} 'beat'; p^{h}ək^{13} 'flap'; uŋ^{13} 'sound'
pək^{11}	simulates the sound of weighty pounding of human body in a fight // ɕok^{55} 'pound'; te^{53} 'quarrel'
pok^{11}	simulates the sound of weighty pounding of human body in a fight // ɕok^{55} 'pound'
ɕit^{323}	simulates the sizzling sound of a whip or bamboo rod when striking // p^{j}ɐk^{55} 'whip'; uŋ^{13} 'sound'
teŋ^{55}	simulates the knocking sound of a loom // tak^{323} 'hit, knock'
ɬep^{31}	simulates the cutting sound of scissors // k^{w}ən^{55} 'cut' (scissors)
k^{h}eŋ^{35}	simulates the clanging sound of the Biba (Chinese string instrument) // uŋ^{13} 'sound'
nən^{35}	simulates the sound of the Lusheng (Chinese reed instrument) // ɕui^{35}lən^{11} 'blow the Lusheng'
ŋ^{w}ət^{323}	simulates the creaking sound of an opening door // əi^{35}to^{55} 'open the door'
p^{h}əm^{31}	simulates the sound of a gun // uŋ^{13} 'sound'
weu^{11}	simulates the sound of spinning with a loom // ɕa^{13}mi:n^{11} 'spin'

2.3.1.3. Head-signified imaging: Synesthesia

As indicated previously, I draw a relatively sharp line between image synesthesia and diagram synesthesia. Diagram synesthesia is language-specific and exhibits morphemes or sub-morphemes (phonemes or clusters) based on *a set of* words such that these words share the same (sub-) morpheme in sound and a monadic idea in meaning. The procedure of analysis is to identify this monadic idea with the (sub-) morpheme according a principle of isomorphism. The principle of isomorphism means that signifier sameness of two signs correlates with signified sameness while signifier differences correlate with signified differences (cf. Haiman 1980: 516; Hiraga 1994: 13; Waugh 1992: 13, 1994: 56). This will be discussed in section 2.3.2.

Image synesthesia, on the other hand, is illustrated on *a single* word and maps articulatory or acoustic properties of the

formants involved in the making of its sound onto correlated semantic properties. Well-known examples are 1) the phonemes [a] (for words including some concept of 'largeness' or 'darkness' which is correlated to the idea that the sound [a] requires greater openness of the articulatory formants) versus [i] (for words with an idea of 'smallness' or 'brightness': the articulatory formants are comparatively tighter);[25] [26] 2) stops (stops in syllable final position represent abrupt sounds and actions, for example *hit, kick, slap, tick*, cf. Oswalt 1994: 297); 3) fricatives and laterals (in initial position of open syllable for verbs of motion like *fly, flow*, etc). The common feature of these images is that, though they are typically presented in lists, the iconic relationship between their signifier and signified can be seen in every single sign. Image synesthesia follows 'objective' cross-linguistic sound-meaning correspondences.

Several of the Kam expressives have the [i] vowel and are indeed attached to adjectives with a concept of smallness or

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[25] The leading empirical study in Greenbergean style was conducted by Ultan (1978) on a sample of 136 languages. While not universal, he found some version of size symbolism (front vowels for smallness and back vowels for largeness) in ca. 27% of the languages of his sample. See Diffloth (1994) for a counterexample from Bahnar, a Mon-Khmer language of Vietnam where iconicity is reportedly rich and well-structured. In Bahnar [i] means 'big' and [a] 'small'.

[26] A particularly strong and interesting implementation of the '[i] = small' and '[a] = big' synesthetic sound symbolism has come to my attention from Liangshan Nuosu, a Burmese-Lolo (Sino-Tibetan) language spoken in Sichuan, China, just ca. 600 kilometers away from where the Kam live. In Liangshan Nuosu there is a set of size or dimensional adjectives where the [i] phoneme, when prefixed to a root, points to the small version, while when the [a] phoneme is prefixed to the same root, the augmented version is implied. This phenomenon only appears in Liangshan Nuosu. Witness (Chen and Wu 1998:13-15):

'small' version	*English gloss*	*'augmented' version*	*English version*
i^{44}ʂo^{44}	short	a^{33}ʂo^{44}	long
i^{44}Bu^{33}	thin	a^{44}Bu^{33}	thick
$i^{44}l^{33}$	light	a$^{44}l^{33}$	heavy
i^{44}ʤ^{44}	narrow	a^{33}ʤ^{44}	wide
$i^{44}nu^{33}$	soft	a^{44}kɔ^{33}	hard
e^{55}tsɨ^{33}	small	$a^{44}z^{33}$	big

brightness. The phoneme [u] evokes warmth. Witness:

A) [i] for 'smallness' and 'brightness'

Kam expressive compound	*Meaning of head*
$k^{w}aŋ^{55}tiŋ^{33}tiŋ^{33}$ 'shining'	$k^{w}aŋ^{55}$ 'bright'
$k^{w}aŋ^{55}jip^{323}jip^{323}$ 'glistening'	$k^{w}aŋ^{55}$ 'bright'
$maŋ^{55}ti^{55}ti^{55}$ 'extremely thin, flimsy'	$maŋ^{55}$ 'thin, rare'
$maŋ^{55}ki^{55}ki^{55}$ 'extremely thin'	$maŋ^{55}$ 'thin, rare'
$ko^{55}kit^{55}kit^{55}$ 'laugh pleasantly'	ko^{55} 'laugh, smile'

B) [u] for 'cosiness' and 'warmth'

As already noted for $tun^{55}hu^{33}hu^{33}$ 'cosily warm' in section 2.3.1., the sound [u] may be related to some purring sound and evoking warmth. The expressive considered here, however, cannot be regarded as an interjection or an onomatopoeic element.

Kam expressive compound	*Meaning of head*
$tun^{55}kuŋ^{53}kuŋ^{53}$ 'very warm'	tun^{55} 'warm, hot'
$sau^{323}hu^{33}hu^{33}$ 'pleasantly warm'	sau^{323} 'warm'

2.3.2. Diagram

Pierce invented in 1896 a system of diagrams which he called 'existential graphs.'[27] Not acknowledged by his contemporaries, it took until the 1950s before Pierce's embryonal ideas were reincarnated in modern graph theory and, as a sub-discipline, in the very popular theory of categories. [28] It is most convenient to understand diagrams, graphs or categories as a *network* of nodes,

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[27] Cf. Roberts (1973) who presents a very careful and historically retracing review of Pierce's notion of 'existential graphs'.

[28] Categories are special graphs or diagrams which satisfy additional algebraic properties. The founder of modern category theory is Saunders McLane (1998[1971]). Category theory as well as graph theory are considered today as sub-disciplines of algebra with very wide ramification in an array of other mathematical sub-disciplines (especially logic and differential geometry) and other disciplines like computer sciences, neurology, etc. For an application to linguistics see Gerner (1995).

people or, in our case, of words or expressives interconnected by a web of certain relationships. The graphs or diagrams considered in linguistic iconicity display low complexity. (In fact, they do not constitute categories in general.) There are two sorts of diagrams in use in the literature of linguistic iconicity: the first, called *structural diagram*, is related to syntax [29], and the second, referred to as *relational diagram*, exhibits morphological or lexical iconicity.[30] We are concerned here with this second type which also sometimes runs under the label of 'word affinity' (cf. Waugh 1992, 1994). After examining the Kam expressives I found two families of expressives (all without independent lexical meaning) appearing with adjectives of a certain semantic connotation. One group is sub-morphemic and correlates the rhyme *-əp* with a diffuse meaning of 'clean, smooth, bright', while the other, phonesthemic, associates the syllable final phoneme *-t* with an idea of 'toughness, density'. Consider:

A) Short rhyme on *-ep*: 'clean, smooth, bright'

Kam expressive compound	*Meaning of head*
pi:ŋ^{11}tep^{31}tep^{31} 'very level, very smooth'	pi:ŋ^{11} 'level'
k^{w}aŋ^{55}jep^{323}jep^{323} 'dazzlingly bright'	k^{w}aŋ^{55} 'bright'
piŋ^{323}kep^{323}kep^{323} 'clean and in order'	piŋ^{323} 'tidy, in order'
ɕeŋ^{13}kep^{323}kep^{323} 'very clean'	ɕeŋ^{13} 'clean'
tik^{323}m^{j}ep^{323}m^{j}ep^{323} 'full to highest degree'	tik^{323} 'full'

[29] The sentence is viewed as one sign composed of monadic Saussurean signs at the word level. This hierarchal structuring allows one to discern notions like order, proximity or quantity in the network of signifiers and signifieds and to view iconicity as a matter of correspondences between both networks with regard to these notions. Important contributions in this field have been made by Bybee (1985), Haiman (1985); see also Higara (1994) for the very notions of 'structural' and 'relational diagram'.

[30] A relational diagram is a diagram such that the network of signifiers and the network of signifieds relate to each other according a principle of isomorphism, i.e. signifier sameness of the signs correlates with signified sameness while signifier differences correlate with signified differences.

B) Short rhyme on *-t*: 'toughness, density'

Kam expressive compound	*Meaning of head*
ta^{33}pit^{33}pit^{33} 'extremely hard, very stiff'	ta^{33} 'hard, stiff'
ʇo^{323}ʇɐt^{55}ʇɐt^{55} 'very sticky, strongly glutinous'	ʇo^{323} 'sticky'
ʇo^{53}ʇɐt^{55}ʇɐt^{55} 'very tough' (e.g. hardwood)	ʇo^{53} 'tough (material)'
nɐm^{33}k^{w}at^{31}k^{w}at^{31} 'very damp'	nɐm^{33} 'damp', jɐk^{55} 'wet'
ʇoŋ^{53}ʇɐt^{55}ʇɐt^{55} 'strongly curved'	ʇoŋ^{53} 'crooked'

2.3.3. Metaphor

Pierce himself did not explore in detail the notion of metaphor, the third component of his icon notion. From the 1950s to the 1980s numerous more philosophically orientated authors have elaborated on this topic.[31] The seminal work of Lakoff and Johnson, 'Metaphors we live by' (1980), greatly contributed to raise the interest of linguists in the concept of metaphor. It constitutes a unique field trip to the English colloquial language and shows how deep metaphor has penetrated every-day language. Their definition is the point of departure for this section: 'The essence of metaphor is understanding and experiencing one kind of thing in terms of another' (1980: 5). Claudi and Heine (1985, 1986) who partly based their theory of grammaticalization on Lakoff and Johnson's notion of metaphor insist in the above definition on a complexity-order of metaphor to decide which entity is understood in terms of which other: "...they use a less complex concept (typically taken from physical experience) to express a more complex one (which is typically not accessible to physical experience)" (1986: 300).

For colloquial metaphors like (a) 'You waste my time'[32], (b) 'His words carry little meaning'[33] and many others, Lakoff and Johnson established a procedure that consists of searching for

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[31] Cf. Black (1962, 1979) who discusses the role of metaphor in a philosophical framework of communication. He rejects the "substitution view" of metaphor (i.e. every metaphor is equivalent to a literal statement) and formulates the "interaction view" (i.e. metaphor involves the hearer understanding the same respects of similarity or analogy as the speaker).

[32] Cf. Lakoff and Johnson (1980: 7).

[33] Cf. Lakoff and Johnson (1980: 11).

metaphorical principles or formulas from which these expressions are derived. Every metaphorical formula they established in their book is of the form:

'Entity$_1$ (abstract, complex) = Entity$_2$ (concrete, simple)'.

Applied to the above examples, it means that (a) is a sub-case of the generic formula 'Time is money' and (b) an example of the generic metaphor 'Linguistic expressions are containers'.[34] More precisely, metaphors work according to the following procedure. Metaphors evoke a metaphorical formula and an associated non-metaphorical expression such that the metaphor is derived from the non-metaphorical expression by applying the formula:

Non-metaphorical statement about Entity$_2$ (e.g. 'You waste my money.')

⇓ Metaphorical formula: 'Entity$_1$ = Entity$_2$' (e.g. 'Time is money.')

Metaphorical statement about Entity$_1$ (e.g. 'You waste my time.')

Metaphor is a sign sub-species because the metaphorical procedure described above involves three signs: The non-metaphorical statement, the metaphorical formula and the metaphorical statement. The metaphorical and non-metaphorical statements are Saussurean signs. (Their signifier is the sound-image of the statement, and their signified is the cognitive concept behind the statement.) The metaphorical formula, however, is not a Saussurean sign: its signifier is the (more simple) Entity$_2$ and its signified is the (more complex) Entity$_1$. Metaphor is therefore a

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[34] Heine, Claudi and Hünnemeyer (1991) formulate a theory of grammaticalization based on Lakoff and Johnson's notion of transfer-metaphor. Their main point is that lexical items engage on clines mainly along the following 'highway': PERSON > OBJECT > ACTIVITY > SPACE > TIME > QUALITY. The idea is that grammaticalization in its early phase selects a lexical form and projects it into a context where its appearance can only be interpreted through a Lakoff-and-Johnson formula of the form 'member of hierarchy = next ascending member of hierarchy' (e.g. TIME is SPACE). See Gerner (forthcoming) for an explanatory framework for the grammaticalization of phase and resultative particles in Yi languages (Burmese-Lolo languages) where these ideas play a role.

configuration of three signs such that one of these signs describes a procedure of deduction.

A small set of Kam expressives entertain with their head a metaphorical relationship. It means that for these expressives, the head-expressive compound can be viewed as a metaphorical statement that can be derived from a non-metaphorical statement via a formula. There are two types of metaphors involved. The first type is made up by expressives that (i) have an independent nominal meaning denoting an entity of low animation (these are 'barrel', 'bud', 'reel of a loom') and (ii) are uniformly attached to an adjectival head. Consider the following example:

(16a) pa^{55} je^{35} nan^{11} ʈʰa^{453} jon^{33}.
fish net difficult increase barrel
'The fish caught with a net are too few to fill the barrel.'

(16b) loŋ^{13} ton^{11} jon^{33} jon^{33}.
winnowing basket round EXPR EXPR
'The winnowing basket is as round as a barrel'

(16a) exemplifies the independent nominal meaning of the expressive jon^{33} which is 'barrel', while (16b) illustrates its involvement as the expressive of the adjective ton^{11} 'round'. The metaphorical suggestion made in (16b) is that the 'winnowing' is round just as the barrel is a round entity. More generally, expressives of this first metaphor type inject metaphorical meaning with the suggestion that the argument is in the (adjectival) state just as the entity (that the expressive denotes) is in the same (adjectival) state. In other words, the underlying metaphorical principle may be represented by the following formula:

'Argument = noun meaning of expressive'
(e.g. 'the winnowing is a barrel').

Consider other examples of this metaphor type. In (17a) and (17b) a metaphorical relationship is brought to the fore by the suggestion that something is wide (17b) just as buds are wide when they open and blossom. Witness:

(17a) $mə^{31}jau^{35}$ tu^{55} $\underline{naŋ^{33}}$.
Chinese maple develop bud
'The Chinese maple develops buds.'

(17b) $k^{hw}aŋ^{13}$ $\underline{naŋ^{33}}$ $\underline{naŋ^{33}}$
wide EXPR EXPR
'as wide as (blossoming) buds'

The next example has its own idiosyncrasies. The expressive compound $ma^{323}ɲa^{31}ɲa^{31}$ has two meanings: 'supple, flexible' and 'weak, feeble'. The adjectival head ma^{323} means 'soft', 'supple'. The expressive $ɲa^{31}$ has the separate nominal meaning of 'reel of loom' which conveys the idea of suppleness. The metaphorical input comes with the suggestion that someone/something is supple and flexible just as the reel of a loom is supple and flexible when put to work. However, more obscure is the etymology of the complex $ma^{323}ɲa^{31}ɲa^{31}$'s other meaning, i.e. that of 'weak, feeble'. Witness:

(18a) $təi^{11}$ $\underline{ɲa^{31}}$ ma^{35} wu^{33} $m^{j}e^{11}$.
take reed at a loom come wind yarn
'Wind the yarn with a reel.'

(18b) ma^{323} $\underline{ɲa^{31}}$ $\underline{ɲa^{31}}$
soft EXPR EXPR
'supple, flexible; weak, feeble'

For the other type of metaphor only one example exists. It is the case of the expressive $\underline{nok^{55}}$ which functions as adverb with the meaning 'again, repeatedly' as exemplified in (19a).

(19a) $aŋ^{323}li^{31}$ $\underline{nok^{55}}$ pai^{55} $\underline{nok^{55}}$ $ɕon^{53}$.
speak repeatedly go repeatedly return
'Talk over and over again.'

Furthermore it functions as the expressive of the adjective na^{55} 'thick (in the context of textiles)'.

(19b)	məi^{31}	uk^{323}	ɬa^{33}	na^{55}	nok^{55}	nok^{55}.
	CL	*clothes*	*DEM:DIST*	*thick*	*EXPR*	*EXPR*

'That garment is extremely thick.'

The metaphorical suggestion in (19b) is that the garment is thick to the same extent an activity holds when it is carried out several times. The idea is that the extent of states is like the extent of activities. The metaphorical principle underlying this type can therefore be resumed by the following formula: 'States = activities'.

2.4. Symbol

For a symbol, the relationship between the signifier and the signified is not that of contiguity (index) or similarity (icon) but that of *intensional convention.* A sign is called *convention* when the relationship between the signifier and signified holds due to a deliberation or a mutual agreement of the receivers of the sign rather than through an ontological or mimical link. Semioticians emphasize that for a symbol the signified must be defined as an intensional class (cf. Sebeok 1994: 33-34). The notion of 'intensional/extensional' in its modern version is due to Reichenbach (1948: 193). A class of objects is defined in an *intensional* way when (i) all the members of this class satisfy a property (if possible captured by a logical formula), and when (ii) an object being compatible with this property implies that it is a member of the class. By contrast, a class of objects is defined in an *extensional* way when its members are defined by explicit enumeration.[35]

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[35] An example from mathematics should illustrate the notion of 'intensional' and 'extensional'. In the following two notations the same mathematical set X is defined: in (a) it is in an intensional way and in (b) in an extensional way.

(a) $X = \{x \mid x = 2y, y \in N, y < 11\}$ (intensional)

(b) $X = \{0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20\}$ (extensional)

In summary, a symbol is a conventional sign defined in an intensional way or, in other words, a symbol is a sign due to a property recognized through deliberation or consensus. Let us contemplate an example. When a new country appears on the international scene, its authorities adopt symbols like a flag and an anthem. These symbol-signs are conventional because the authorities tell everybody how to perceive them. The authorities are well advised to choose symbols that are somehow anchored in the collective memory of the people or that can easily be associated with a certain meaning. For an array of countries or groupings the star has become a structural marker symbolizing their regional or social make up. The 51 stars of the US flag symbolize the 51 states of its federation. The (mainland) Chinese flag arranges four stars in a half-circle around a bigger star on the left top. The bigger star symbolizes the working class, the four smaller stars represent the class of farmers, soldiers, intellectuals and merchants. The last instance of interpretation of these symbols are the authorities. There is nothing ontological or mimical in stars or flags that qualifies them to represent a country or its structure. They are signs institutionalized by governments and accepted by the people. There is thus no doubt that flags and stars are conventional signs, but are they intensional (the other criterion of symbols)? To the extent that they display historical or structural (i.e. regional/social) properties of the country they stand for, they are intensional.

Some semioticians attribute the symbol exclusively to the human sphere, since the ability of deliberation or consensus is an anthropomorphic property. However, others also include some cases of animal behavior in the symbol category (e.g. Sebeok 1994: 36), probably with the assumption that not every animal motion is dictated by creation but that animals have limited choices within their code of behavior. For example, the tail action of many animals seems to be rather arbitrary. A fearful rhesus monkey carries its tail stiffly out behind (example cited from Sebeok 1994: 36). The symbol of a stiff tail expressing fear 'works' through the unified behavior that the monkey, together with all the companions of its specie, displays toward the receivers of this sign. Intensionality can be discerned in this animal behavior through the experience of

animated beings that fear paralyses, though not as a necessity or automatism.

In Kam there is one interesting expressive which can be viewed as entertaining a symbolic relationship with the head. It is related to animal behavior.

(20a) ɬɐn^{53} ai^{53}
crest *hen, cock*
'The cock's crest'

(20b) pʰaŋ^{35} ɬɐn^{53} ɬɐn^{53}
big *EXPR* *EXPR*
'of very important stature' (also for humans)

Humans widely perceive the crest of a cock as its symbol of pride and control over hens on a farm. Through an operation of metaphorical extension, the expressive ɬɐn^{53} appears after the adjective pʰaŋ^{35} 'big, important' and functions thus as a symbol of the state of importance. There is consensus through observational experience that the coq's crest is a symbol for a proud behaviour.

2.5. Name

Name is the orthogonal notion of symbol. A *name* is a conventional sign when no property of the signified is expressed by the signifier. The link between the signified and the signifier is completely arbitrary and unmotivated. Names are signs which can only be defined in an extensional way, i.e. by explicit enumeration. Personal names like Fred, Michael and the like are semiotic names as far as they do not express a purposeful etymology directly related to the carrier.[36] Much of the lexicon of a human language, i.e. the part not involved with iconicity, reveals an arbitrary relationship between the concept expressed and the sound structure.

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[36] Peter (i.e. the rock), the other name used by Jesus for his disciple Simon, would not constitute a semiotic name in the above sense but would be a symbol.

Many of the Kam expressives are completely arbitrary. They are characterized by depending mainly on nominal or adjectival heads and by having no independent lexical meaning. Their function is to phonetically enliven the head predicate and sometimes to restrict the range of qualities (cf. section 3.1.1.) and arguments (cf. section 3.1.2.). Consider the following incomplete list.

Kam expressive compound	*Meaning of head*
taŋ^{55}noŋ^{453}noŋ^{453} 'very fragrant, perfumed'	taŋ^{55} 'fragrant'
təŋ^{53}ɳoŋ^{31}ɳoŋ^{31} 'bright outside, dark inside, shiny-black'	təŋ^{53} 'dark'
it^{323}ŋ^{w}ek^{323}ŋ^{w}ek^{323} 'chronically ill or aching'	it^{323} 'ill, painful'
məi^{453}kəŋ^{55}kəŋ^{55} 'completely new, brand-new'	məi^{453} 'new'
tɐŋ^{55}wen^{31}wen^{31} 'gleaming, shining'	tɐŋ^{55} 'bright'
ɬo^{53}ɳiŋ^{35}ɳiŋ^{35} 'very tough' (e.g. root)	ɬo^{53} 'tough (material)'
ɬɐŋ^{31}ɬɐu^{11}ɬɐu^{11} 'very robust'	ɬɐŋ^{31} 'strong, robust'
p^{h}aŋ^{35}ɕau^{33}ɕau^{33} 'huge, up to the clouds (e.g. mountain)'	p^{h}aŋ^{35} 'tall, big'
man^{13}ɬam^{53}ɬam^{53} 'yellow (used for colour of cloth)'	man^{13} 'yellow'
man^{13}p^{h}i:^{35}p^{h}i:^{35} 'brown, rusty-yellow'	man^{13} 'yellow'
k^{hw}aŋ^{13}jin^{33}jin^{33} 'very wide, broad'	k^{hw}aŋ^{13} 'wide'
k^{hw}an^{35}ɬəp^{11}ɬəp^{11} 'very sweet'	k^{hw}an^{35} 'sweet'
lai^{55}ti^{33}ti^{33} 'excellent'	lai^{55} 'good, well'
səm^{13}l^{j}ut^{13}l^{j}ut^{13} 'extremely sour'	səm^{13} 'sour'
sɐŋ^{11}l^{j}u^{453}l^{j}u^{453} 'very straight' (piece of wood)	sɐŋ^{11} 'right, straight'
ɬ^{h}a^{13}wəu^{55}wəu^{55} 'very light'	ɬ^{h}a^{13} 'light'
nɐm^{55}ɐk^{35}ɐk^{35} 'black by a myriad of dots' (e.g. ants)	nɐm^{55} 'black'
nɐm^{55}m^{j}ai^{13}m^{j}ai^{13} 'black' (color of skin exposed to sun)	nɐm^{55} 'black'
sik^{13}ŋui^{13}ŋui^{13} 'flavourless' (lack of salt in food)	sik^{13} 'tasteless'
ɳən^{55}koŋ^{31}koŋ^{31} 'rotten' (e.g. eggs)	ɳən^{55} 'foul'

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