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LEXICOGRAPHY AMONG HUNTER GATHERERS: THE ECD AS AN ETHNOGRAPHIC TOOL

Abstract. A number of entries are presented from an Explanatory Combinatorial Dictionary of Eastern Penan, a language spoken by hunter gatherers in Borneo. These entries belong to the semantic domain of traditional religion, the most complex and difficult part of the culture from the viewpoint of an outsider. The goal is to demonstrate the practicality of ECD formalisms in the description of culturally alien concepts, and also to show the important role the ECD can play in assuring an accurate ethnographic record. Also discussed is a problem of lexicographic theory that arises when the ECD is applied to the Penan language. The latter may in fact be incapable of serving as its own lexicographic metalanguage, for it lacks lexemes for certain concepts that appear to be essential components of some dictionary definitions. Penan also cannot express certain of the putative semantic universals in what is called Universal Semantic Metalanguage.

Key words: Explanatory Combinatorial Dictionary, ECD, lexicology, ethnology, anthropology, translatability, semantic primitives and universals, Natural Semantic Metalanguage, Eastern Penan, Borneo, hunter gatherers, indigenous religion

1. Introduction

My goal is to show how the methodology of the Explanatory Combinatorial Dictionary can be used in ethnographic research. I will try to demonstrate how the ECD can be applied to the task of cultural description, and how it can help prevent the semantic errors that so easily plague field research.

The article will be largely structured around a series of entries taken from a dictionary based on ECD principles which describes the Eastern Penan language of Borneo.

As a secondary goal, I want to show some of the difficulties facing a lexicographer describing a language very different from English. In the process I hope to shed light on some problems relating to the translatability of certain concepts, and specifically how such problems might affect lexicographical theory.

2. History of a field project

Over the course of the last two decades, I have conducted research on the Eastern Penan people. Perhaps 6000 strong, they live in Sarawak, the Malaysian

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federal state that occupies the northwest portion of Borneo. Until the last of the nomadic bands settled some five years ago, they were one of the world's last groups of nomadic hunter gatherers. My initial engagement with this people was as co-author and co-photographer of a book depicting their traditional material culture¹. The field work that immediately followed was primarily linguistic, as I strove to acquire enough of their language to allow me to create an ethnography. I have so far transcribed well over a million words of text, much of it describing their belief system. The majority of this is already translated, and all will be published in due course. However, in terms of sheer size, the most significant work is destined to be a dictionary of their language based on the principles of the ECD. This draft dictionary of the Eastern Penan Language currently contains about a million words of text, the majority in examples and encyclopaedic information.

The field work in which I am engaged is not typical of that conducted by most academic researchers, whether they be linguists or ethnographers. At least four things distinguish my work from that of the majority of field workers. First, there is the factor of time. As is well known, universities have limited funds for putting graduate students into the field; most cannot expect to stay more than a year. I enjoy the immense privilege of being able to support my own research, and this fact has enabled me to make thirty trips to Borneo for a cumulative stay in excess of two years. (The total time spent at home analysing texts adds up to quite a number of additional years.) The second difference is the scope of the work. While graduate students are wisely counselled to select a rather narrow subject, I am pursuing the overambitious goal of recording the language in its entirety, and at the same time collecting an ethnography. A third difference is my heuristic methodology. The traditional ethnographer is a witness to a living culture, and while information obtained from informants is an essential part of the investigation, such data generally supplements behaviour actually observed. In a dying culture, like that of the Penans, much of the most interesting knowledge is no longer applied; it remains hidden in the memories of elders. This is especially true in the case of the pre-Christian belief system. Thus, I rely much more heavily on oral history than most fieldworkers of the past, and this, needless to say, requires a deeper knowledge of the language. The fourth way in which my research is unusual is in the way it combines linguistics and anthropology. Lexicography is one of my ethnographic tools. Demonstrating how this is so is the main object of this paper.

I began my fieldwork in the way most ethnographers do: by starting to acquire the language, and simultaneously attaching myself to a mentor. My first mentor was bilingual in Penan and Malay, and my initial method was eliciting Penan equivalents of common Malay words.

¹ (Davis, Mackenzie, Kennedy 1995).

Even before I found myself speaking the language at a basic level, I became aware of the inadequacy of this approach. Penan and Malay are both Austronesian languages, and are rather similar in terms of phonology, syntax and morphology. There is also a certain amount of obviously cognate vocabulary. Nonetheless, it soon became clear that at the semantic level their respective vocabularies were much more «asymmetrical» than any two European languages with which I am familiar — English and Russian, for example. Even at the outset I was often unable to elicit any kind of Penan equivalent for a Malay term. And the more I advanced beyond basic vocabulary, the more frequently I encountered Malay words which my informants could or would not gloss, or did so in a way that was obviously wrong.

My word list gradually turned into a dictionary, and in time I found that the majority of lexemes I was adding had no English equivalent. Thus, the need for ECD-like definitions constantly increased. At the moment, some eighteen years into the project, I am continuing to expand a dictionary containing more than ten thousand entries. Only a small minority of newly added lexical items can be glossed with an English word or set phrase reasonably close in meaning. Whenever there is such a word or phrase, I enter it in a dictionary zone that I call «English near-equivalent». I have made use of that zone to prepare an English-Penan dictionary. Perhaps to the disappointment of my Penan friends who asked me to compile it, this work is much shorter than the Penan dictionary proper, containing as it does only about 2,800 entries.

In other words, most of the Penan vocabulary names concepts that do not exist in English — both because English «slices up» our common reality in a way quite different from Penan, and because Penan labels ideas and knowledge that simply do not exist in our European universe. Yet another way of putting this is that Europeans and Borneans live in very different cultures².

² One might expect the lexicons of English and Penan to be semantically asymmetrical in both directions — i.e. if the majority of Penan lexemes have no close English equivalent, then the majority of English lexemes should have no close Penan equivalent. A test I recently conducted suggests that this is indeed the case. With the help of Komeok, my best language informant (who is reasonably functional in English) I attempted to translate 46 entries selected at random from an English learners dictionary. (Longman Active Study Dictionary of English.) In only 9 cases did Penan lexemes exist with meanings sufficiently close to the English ones to be given as simple equivalents. Another 14 English lexical items could be satisfactorily explained with paraphrases no longer than 18 words. Fully half of the English items could only be explained with very long texts. Eleven of the English lexemes would require such lengthy explanations of the alien cultural concepts underlying them that in practice they were untranslatable (the data can be viewed at <http://www.rimba.com/pdlextestf/pdlextest.html> or by searching for the phrase «English-Penan equivalents test landslide-last»).

3. Formalisms and theoretical problems

The dictionary is a work in progress, as is my knowledge of the language. While many of its entries look reasonably complete, many more are just sketches or notes awaiting the acquisition of further data³. The example zones are often much longer than what one would expect to find in a normal ECD, for they contain much raw data culled from my transcriptions of Penan texts. In many cases the encyclopaedic zones are still empty, and in other cases contain unedited field notes.

In its formal structure, the dictionary is not a fully fledged Explanatory Combinatorial Dictionary. I have adopted a number of simplifications. For example, government patterns are not shown in tabular form, but by means of various space-saving shortcuts. This task is made easier by the fact that in Penan the expression of any and all semantic actants is syntactically optional. Collocations are simply listed and glossed in English, with no attempt being made to analyse them as Lexical Functions.

The definitions are written in English. In formal ECD terms, they are therefore only translations, for they do not decompose lexemes into units of the same language as the definienda.

There are three reasons why I have chosen to use English definitions, two of them being rather obvious. First, the dictionary is destined for foreigners, whether scholars or people in the field wanting to acquire the language; and definitions in Penan would present an insuperable obstacle to such users. Second, although I now write basic Penan quite correctly, I did not have this skill while I was accumulating the first several thousand entries⁴.

The third reason why I opt for English is rather more interesting. I strongly suspect that the Penan language in its natural form is not an adequate metalanguage for writing ECD definitions.

My suspicions in this regard were strengthened by a preliminary test I conducted. I tried translating into Penan the definitions of five lexemes that appear in the French ECD. I chose lexemes that have close equivalents in both English and Penan. These were *étonnement*, *conseiller*, *fatigué*, *faim*, and *attendre*, closely equivalent to *surprise*, *advise*, *tired*, *hunger* and *wait for*⁵. In the case of the former

³ This describes the current work in progress. The version I make available to interested scholars was prepared in 2006, and looks «clean» and superficially complete. However, I have added and corrected a great deal since that time.

⁴ I should point out that even today I do not take the risk of publishing any Penan text that I myself have authored, however simple it may be, without having it checked by a reliable informant.

⁵ Mel'čuk (1984) for the first of these lexemes, (1992) for the second two, and (1999) for the final two. I exploit the French ECD purely for convenience: unfortunately, there does not yet exist an English ECD.

three, which correspond to the lexemes *mujah*, *tepat*, and *mutau*, I managed to write Penan definitions that seemed at least marginally acceptable; but in the case of the latter two, I ran into serious problems.

To show these problems, I provide English versions of the two French definitions, and then do my best to further translate them into Penan. Then I provide re-translations in which I remain as faithful as possible to the Penan terms I have used in the definitions.

hunger of X for Y = need that X feels for nourishment which corresponds to X's basic need for energy and for the substances necessary for the development of X's body, which is felt by X as an emptiness in X's stomach, and which can cause malaise in X's body and even the death of X if the need is not met, and which X must satisfy by eating Y or by suckling to obtain (milk) Y.

In Penan, the basic form is not a noun but an adjective, but the meaning is identical or at least very close.

X la'au = X kelo kuman uban akam X barei usan lem betuken X, boh X meseti' kuman hun X juk ala pengegahang atau hun usah X juk tai vat, boh hun X bé' kuman X omok lemo avé mago avé matai⁶.

gloss: *X is hungry* = X wants to eat because X has a feeling that is like an emptiness in X's stomach, and X must eat if X is going to acquire strength or when X's body is going to grow bigger, and if X does not eat X can get weak and thin or even die.

Penan has no word meaning 'need', and so I replace the first instance of the English lexeme with a verb meaning 'want/desire', and the second instance with a verb meaning 'must'⁷. There is nothing in the language that comes remotely near English «substance», so I have omitted this element. «Development» is another lexical concept that does not exist. I say *lemo* 'weak feeling', since people often describe themselves as feeling this way when they are hungry. There is no translation for «malaise»; the word *sakit* perhaps comes closest but it is vague, denoting as it does both physical hurt and injury as well as systemic illness, and I've never heard people using it in connection with hunger. But *mago*, 'excessively thin for lack of food', is semantically linked to *la'au*. There exists an idiom *matai la'au*, 'die of hunger'. (I have simplified the definition by leaving out Y, which cannot be expressed in the government pattern.)

⁶ Penan spelling (standardized by myself) mostly matches IPA. /j/ and /y/ as in English, /v/ is a bilabial fricative, /ng/ and /ny/ velar and palatal nasals respectively, /ʔ/ is glottal stop, /e/ is schwa, /é/ as in French. There is no stress.

⁷ It is possible that Penan once had no word for 'must': *meseti'* is almost certainly borrowed from Malay *mesti* (as evidenced by the epenthetic schwa — Penan allows no consonant clusters), and I have been unable to elicit any obsolete word having this meaning.

Perhaps the biggest problem with the Penan definition is its overall structure. Penan is extremely resistant to grammatical embedding, so nothing similar to the series of «which» clauses is possible. While the English definition is one sentence, the Penan version can be analysed as three separate ones. The semantic relationship between them is not explicit; it must be inferred.

The next lexeme I will explore is *mena*, close or identical in meaning to English *wait* or French *attendre* I.2.

X waits for Y at Z = knowing or believing that a fact Y^1 , in particular the arrival of Y^1 from Y^2 , will occur at place Z where X is located, || X remains at Z with the purpose of being present when Y^1 takes place.

Here is the best I can do to translate this:

X mena Y éh lakau jin W tai tong Z = X jam atau ngio Y juk lakau jin retek W tai tong retek Z , boh X moko tong Z uban X kelo moko tong Z hun Y avé tong Z .

gloss: *X waits for Y that travels from W to Z* = X knows or reckons that Y will travel from place W to place Z , and X stays at Z because X wants to be staying at Z when Y arrives at Z .

The problem is that there is no way of translating into Penan two components of the English definition: *fact* and *take place*. I have therefore restricted my definition to circumstances where arrivals are involved. However, Penan *mena*, just like English *wait for*, accepts, as its second semantic actant, events other than arrivals. For example,

Irah mena ha' bolo. They are waiting for the sound of the bamboo slit drum.

Iah mena ba metei. She/he is waiting for the river to subside.

Akeu mena tinen ké' bah pi'ong. I am waiting for my mother to bake a biscuit.

Try as I might, I can find no way of writing a definition to cover such cases, unless I provisionally borrow into Penan such English terms as *event* and *occur*.⁸

⁸ After hours of effort, I did find a way around a similar problem in the case of *étonnement* — *surprise* — *mujah*. My English translation of the French definition contains the terms *occur* and *event* (as well as the equally untranslatable *circumstances* and the somewhat untranslatable *emotion*, *believe*, and *improbable*). However, I was able to write the Penan definition in such a way that the second actant Y serves as the only element bearing the meaning 'event': *X mujah na'at/menéng Y* = X na'at/menéng Y , boh bé' jak X na'at/menéng Y , X ngio barang Y bé' omok; boh uban X lepah na'at/menéng Y , X jam Y omok mu'un; uban néh kenat kenin X barei kenin uleu kelunan bé bé hun lu' na'at ineu ineu éh tenejeu lu' atau bé' sakui ta'an lu'. GLOSS: *X is surprised to see/hear Y* = X sees/hears Y , and before X saw/heard Y , X reckoned Y may not be possible; and because X has

Thus, in two out of five attempts I found myself unable to write adequate ECD definitions in Penan. It is therefore worth asking if good Penan definitions could be written using an alternative method of semantic decomposition. One might try the approach long advocated by Anna Wierzbicka. This semanticist and her collaborators, most notably Cliff Goddard, write much longer definitions than those permitted in the ECD. Rather than employing the «maximal block»⁹, she and her colleagues write their definitions in what is called Natural Semantic Metalanguage, which consists of an «alphabet» of putative universal semantic primitives. The list of primitives that Wierzbicka and Goddard currently propose contains more than 60 terms¹⁰, and they claim that all languages have «specific words or word-like elements» denoting them¹¹.

One disadvantage of their approach is the unwieldy length of their definitions, often making them impractical for use in an actual dictionary¹². However, in the case of Penan at least, their approach might have the advantage of providing a set of terms that the language actually possesses.

Unfortunately, several of her putative semantic universals cannot be clearly expressed in Penan by specific words or word-like elements — or even expressed at all. These problematic terms are: *something*, *words*, *happen*, *for some time*, and *part of*.

There is no word meaning ‘something’. There is a phraseme *ineu ineu* that very occasionally can be translated as ‘something’ — e.g. *Kineu pu’un ineu ineu ta’an ko’?* QUESTION PARTICLE there-is ineu ineu seen-by you ‘Do you see something?’ — but a better translation is always ‘anything’. *Iah seruh ineu ineu* (he think ineu ineu) does not mean ‘He’s thinking of something’; it would normally be interpreted as meaning ‘He thinks of all kinds of crazy old things’. One of the «canonical sentences» claimed by Wierzbicka to be universally translatable¹³ is *You did something bad*, and while it can be translated as *Ka’au maneu pengesa’at* ‘you do evil’ (both literal and actual meaning), no element denoting *something* ap-

seen/heard Y, X knows that Y is truly possible; because of that, X’s mood/feeling is like the mood/feeling that all we humans have when we see anything that is strange to us or that we have never seen before.

⁹ See (Mel’čuk 2006: 35).

¹⁰ (Goddard, Wierzbicka 2002; Goddard 2008)

¹¹ In (Wierzbicka 2006) and elsewhere

¹² That being said, it should be noted that Anna Wierzbicka has used this style of definition for the successful explication of any number of complex lexemes across a range of languages, and has been doing so for more than four decades. As a semanticist she is almost without peer.

¹³ (Wierzbicka 1996: 30).

pears in it. And in Penan there is no way of saying *Look for something big* — you have to decide in advance what it is you need, and say e.g. «Look for a big stick to throw at the dog»¹⁴.

If Penan had a word for ‘thing’, I could make do; unfortunately, it does not. The vocable *livah* has a primary meaning of ‘cloth’ or ‘clothing’, and a secondary meaning ‘a thing owned, made, and used by people’. It cannot, for example, be used to denote a tree or a stone in the forest¹⁵.

One can refer to «words» only vaguely with the noun *ha'*, which unfortunately also denotes ‘sound’, ‘music’, ‘human language’, ‘voice’, ‘instance of speech’, ‘say’ (*ha' X P* = utterance X P, i.e. ‘X says P’), ‘discussion’, ‘proceedings’ (e.g. in a court case), ‘news’, ‘something said in one’s mind’ (e.g. *Ha' ké' ka'au li'eu* (*ha'* mine you late) ‘I thought you were late’). When it means ‘instance of speech’, it almost always denotes a complete message at least one sentence long¹⁶, and never the plural of the spoken segment that we call ‘word’ in English¹⁷. In any case, due to the extreme polysemy of the noun *ha'*, it could never be used in any definition without first being numerically indexed to disambiguate it, *à la* ECD¹⁸.

In Penan there are no lexemes denoting ‘happen’ or ‘event’. Another of Wierzbicka’s «canonical sentences» is *I know when it happened*¹⁹. This text cannot be rendered into Penan. One cannot ask «What happened?» Instead, you have to say something like «What’s the news?» or «Was there a problem?» Of course hundreds of verbs and millions of possible utterances denote «happenings» or «events», but Penans have no general word labelling this concept.

¹⁴ The *something* in this «canonical» example denotes an event, and the one in my example denotes a physical thing. Penan has a lexeme for neither, but it occurs to me that some languages may have a lexeme for one but not the other.

¹⁵ Note there is also no word for *someone*, another proposed universal. However, it’s easy to get around that by using the term *kelunan* ‘person, people’. In a language with optional articles and no grammatical plural, *kelunan*, when unqualified, serves quite nicely as ‘someone/some people’ — e.g. *Pu'un kelunan mena sa usit* — literally, There-is/are persons/people wait outside. But there would be no way of translating NSM definitions containing the strings *this something* or *this someone*.

¹⁶ It is perhaps worth pointing out that in Penan many sentences are one morpheme long, for the reason that all verbal actants are optional.

¹⁷ Although *words* is the term that currently appears in the list of putative semantic primes, it appears to denote not ‘act of speech’, but rather the plural of ‘word’: plural *words* contrasted with singular *word* appear in a definition proposed in (Goddard 2008: 37).

¹⁸ The missionary who translated John 1:1 was forced to disambiguate this vocable by translating *logos* as *ateng ha'* (‘words/speech uttered aloud’) — which of course is an excessively narrow gloss.

¹⁹ (Wierzbicka 1996: 30).

Penan has no word for ‘time’, in the sense «time that passes»²⁰. Similarly, it cannot express «for some time». If I interpret the latter expression as meaning ‘neither for a short time, nor for a long time’, this also cannot be expressed, for the closest one can come in Penan — *bé’ metok bé’ lebé* (‘not briefly not lengthily’) — is uninterpretable²¹.

As for «part of», there is no general term, only values of lexical functions. One can say ‘grain (or basket) of rice’, ‘lump of dough’, ‘length of sago trunk’, but there is no lexeme that means ‘part’ that can be used as a term of a definition²². There is a lexeme *tulat* which can be roughly glossed as ‘share’. The concept of *tulat* lies at the heart of Penan culture; a *tulat* is one of the equal shares of food that each household receives. But it denotes the product of a division, not a part, and each *tulat* is by definition the same size as the next.

For the lexicographer who would write definitions in Penan, the absence in that language of terms denoting ‘thing/something’, ‘event’ and ‘part of’ is particularly irksome. These semantemes appear to be essential in many ECD definitions.

Thus, I use English in my definitions not only for reasons of convenience and practicality, but also because there appear to be theoretical obstacles to using Penan as a dictionary metalanguage, at least in unmodified form.

I do not, however, use ordinary English for my definitions. I use a carefully chosen metalanguage. To the extent possible, I only use English lexemes that can be readily translated into Penan. I also often use Penan lexemes, placing them in italics. I do so when I believe that the concepts they label are an important semantic component of the lexemes being defined, and especially when English is inadequate to describe those concepts. In this way, I believe that I can enjoy the best of both worlds. I can exploit a language long honed to express complex thoughts in

²⁰ Although Penans have expressions denoting ‘in the past’, ‘now’, and ‘in the future’, as well as ‘the time/moment when’, ‘interval’ (between two events), not to mention ‘for a long time’ and ‘for a short time’, they have no linguistic concept of an imaginary axis along which we order events, viewed as a kind of continuum, or a substance that flows. Thus, it is impossible to translate texts such as «kill time», «Time is every mortal’s greatest enemy», or «Chronos, the god of time». (I would dearly love to translate the latter — I describe our pre-Christian beliefs to my informants, in order to make them feel safe from hellfire when they tell me about theirs.)

²¹ The situation in Malay is identical, and when Wierzbicka glosses *sebentar* as ‘for some time’ it must be because she has been misinformed. (Wierzbicka 1999: 37) This Malay word actually means ‘in a very short time from now’.

²² I find it puzzling that (Wierzbicka 1996: 60) admits that although some languages have no word for *part*, they find other ways to express the idea it labels. To whatever extent that latter statement may be true, it is in contradiction with her basic premise that her putative universals must be labelled with a single lexeme or phraseme that can be used in a definition.

written form, and at the same time use whatever Penan concepts seem useful or necessary — and as I have said, thousands of these have no equivalent in English.

4. A brief tour through the Penan lexicon

4.1. The material world

Penans label even tangible things very differently from the way we do.

Take, for example, the vegetable kingdom. There is no word for ‘plant’. In early versions of my dictionary, I simply glossed *kayeu* as ‘tree’, *savit* as ‘palm’, and *ureu* as grass. But I turned out to be wrong in all three cases, and had to write a full definition for each. Although *kayeu* covers most plants we call trees, it does not include any kind of palm, and does include even tiny plants that are tree-like in form but never grow large. *Savit* covers only palms that have both edible hearts and are thorny — and four thornless sago palms as well. *Ureu* covers a variety of seemingly unrelated plants generally no more than knee-high, including grasses and at least one kind of club moss.

I have collected something like 1200 «specific» terms for plants, most of them trees. My principal informant, Galang, thinks he may know the names of 2000; I am inclined to believe him. I once roped off a 10 × 10 metre plot of forest, and he named every plant within the enclosure — about 120 kinds. But with something like 10,000 species of flowering plant, a quarter of them trees, it is clear there must be a lot of underspecification. In other words, Penan often combines more than one species under a single name. A week spent in the forest with Penan informants and two professional botanists showed me that different species to which Penans assign a single name often belong to different genera. Thus while a significant amount of Penan nomenclature matches the Linnaean system, much of it does not.

There is also overspecification; that is, dividing a single Linnaean species into two disjunct categories, based on variations in appearance or size. The latter frequently occurs in animals that they hunt. But many animals too are underspecified, such as bats and frogs. There are over a hundred species of the latter, but only a score or so of words -- none of them being a general word meaning 'frog'. Making an accurate record of all this in a dictionary is an almost impossible task, all the more so since most of the remaining forests have been degraded or destroyed by logging within the last twenty years.

4.2. The supernatural world

We now move into the realm of the intangible. In the preceding section, we gave some examples of how Penans semantically «slice up» the natural world that

they share with us. Now we shall see how they label things that sceptical westerners view as nonexistent. We come to the part of their lexicon that I find most interesting, for it embodies concepts utterly alien to European civilization. Of all Penan ideas, these are the ones most difficult for an outsider to probe.

Even though Christianity was imposed on the last nomadic bands some forty years ago, much of the old belief system remains, although the most interesting parts of it are locked in the minds of elders. It took years for me to convince Galang that he could tell me about the old beliefs and still be a good Christian. As it turns out, the majority of Penan texts that he dictates to me — even straight autobiographical accounts — reference religion to a greater or lesser degree. The preternatural permeates every aspect of their lives.

Here are a few examples of Penan lexemes denoting concepts infused with what we would call supernatural belief.

4.2.1 *Balei*

In my prose translations, I have no qualms about glossing *balei* as ‘spirit’. However, it is by no means synonymous with that English word.

1. *balei X*

= a race of thinking, talking beings which are not persons and have never been (part of) persons, and which has the name X, or whose members live in or are connected to X; or an individual member of such a race.

balei kenangan ‘*kenangan* spirit/spirits’ (*kenangan* is just a name, and has no other meaning)

balei telesai ‘spirit of the *telesai* tree’

balei medok ‘spirit of the pig-tailed macaque’

balei berungan ‘spirit of the rainbow/dragon’

2. *balei*

= *balei I* or *ungap* or *penakoh*.

Let us examine each of the components of the definition for *balei I*. «Thinking, talking beings who are not persons» captures the central component of this lexeme. We avoid using the term «supernatural», because no such concept exists in Penan. We do not say they are invisible, because from time to time we actually meet them in the forest; and they appear in dreams in human form, and talk to us. The element «never been (part of) persons» is necessary to exclude the ghosts and souls of dead people; these are never *balei I*. (Note that even in a post-Christian context, this component excludes God, because God is supposed to have once been human.) Some races of spirit have proper names with no other meaning, whence

«which has the name X». Most spirits are associated with a particular kind of object or living thing, and their names are of the form *balei X*, where *X* denotes that thing; whence the penultimate component of the definition. The last component, «or an individual member of such a race», and the component «race» itself, are necessary because all spirits belong to a given *bengesa*’, which is also the term used to denote ethnic groups, such as Penans, Kayans, Ibans, Malays, and Chinese. You can’t think of an individual spirit without thinking of its race, and usually naming the latter.

It is safe to say that entities having names of the form *balei X* constitute the vast majority of supernatural beings.

The second lexeme, *balei 2*, is an «umbrella» term for three major categories of supernatural being, the *balei* proper as well as *ungap* and *penakoh*. The latter two are themselves umbrella terms for different races of beings. *Balei 2* has no actants; **balei ungap* and **balei penakoh* are impossible. Furthermore, you rarely use the vocable *balei* to refer to *ungap* or *penakoh*: but since you can, I am forced to posit this lexeme. Logically speaking, it should precede *balei 1*, since it is a broader category; however, I feel that it is in fact an extended meaning of *balei 1* and therefore should follow the latter. The positing of a separate lexeme is all the more necessary since there are at least two categories of *ungap* that can be thought of, in a certain sense, as being ghosts of the dead, or at least arising from them: and «former humans» do not fit under the definition of *balei 1*. (More on this presently.)

4.2.2. *Sahé*

Another key concept in the Penan belief system is *sahé*, which for convenience I routinely gloss as «soul». But it is by no means synonymous with the latter.

sahé X Y

= something inside person Y and connected to Y’s X, X being either a part of Y’s body or Y’s entire body; and which can leave Y’s body without Y’s knowledge and travel, and which can encounter problems while outside Y’s body, resulting in hurt or sickness to X; after Y’s death, Y’s *kenin*, (seat of mood and virtue) *penyeruh* (faculty of thought), and *tenesen* (memory) become part of it, and it travels to the mouth of the River Apai in order to cross this and enter an afterworld where it remains permanently.

<i>sahé maten ké’</i>	soul eye mine	‘soul of my eye’
<i>sahé bok lu’</i>	soul head-hair our	‘soul of our hair’
<i>sahé usah néh</i>	soul body his/her	‘soul of his/her body’

Sahé is like English ‘soul’ in the Judeo-Christian tradition, insofar as it is something inside a person (and only a person) that survives the death of the body

and travels to an afterlife. There the similarity ends. The primary role of *sahé* is as a causer of illness. *Sahé*, in their travels, don't have much sense; they break taboos, and disturb dangerous objects like salt springs and termite mounds. This causes them to fall sick, and their ailment is shared by the body part they represent. One has as many souls as named body parts. There is also a soul of the body as a whole; this is a sort of agglomeration of all the souls, something like the way the Christian deity is an agglomeration of three distinguishable elements. If this *sahé usah* has a problem in its travels, then the whole body will fall ill. It is also the *sahé usah* that travels to the afterlife, having «incorporated» the three components of X's person that we would call «consciousness». Note that while X is alive, X has no awareness of his/her *sahé*.

As a means of healing a sick person, a spirit medium can send one of his helper spirits to talk to a wandering soul and coax it into coming home. The soul may state certain conditions that must be met before it will return to the body of the sick person. The spirit then returns to its master to report on the encounter. The patient is not aware of his/her soul's conversation with the spirit unless the spirit medium describes it.

Some of the information in the two preceding paragraphs should appear in the encyclopaedic zone of the entry for *sahé*. This brings us to the problem of how to distinguish lexical from encyclopaedic information in the case of lexemes denoting supernatural phenomena. Consider Mel'čuk's injunction:

An ECD lexicographic definition must by all means avoid including any information about the real world (i.e., encyclopedic information), beyond what is strictly necessary to distinguish the meanings of LUs being described²³.

But what precisely is «the real world» when we are discussing the realm of spirits? All possible information about *sahé* derives not from reality, but from intellectual invention. It may also be unique to Penan culture, and much of it may be essential knowledge for a foreigner trying to construct semantically plausible texts using the word *sahé*. I would suggest that in cases like this there is a grey area between lexical and encyclopaedic information. The lexicographer must know the culture well enough to understand which aspects of the phenomenon being described are central to it, and refer to these in the definition.

Nonetheless, we can still invoke Mel'čuk's «criterion of linguistic relevance»²⁴, or at least something similar to it, to identify information that must be included in the definitions of lexemes denoting supernatural phenomena. This criterion states that a lexeme's definition must contain a given component if this component is also contained in the definition of a second lexeme that is formally linked to the first one.

²³ (Mel'čuk 2006).

²⁴ Ibid.

In fact, there is such a second lexeme — *pesahé*, which contains the root *sahé*, and denotes a game played by two lovers. They peel and feed fruit to each other, and this procedure is supposed to call back the loved one's soul so that it remains in his/her body and does not cause sickness. This second lexeme *pesahé* thus not only incorporates *sahé* in its meaning but also the dangerous wanderings of the latter; therefore those soul wanderings must be described in the definition of *sahé*.

Our definition of *sahé* also refers to its role-change after the death of the person to whom it belongs. Then, and only then, does a *sahé* assume a person's personality. I do not have to rely on simple statements to this effect from my informants. There is independent lexical evidence for the reality of a conscious soul post-mortem. Among other things, there is a proverb that refers to the conscious efforts of *sahé* residing in an afterworld to guarantee that fruits will be abundant in a given season.

As to the reference to the mouth of the Apai, it is justified by a lexicalized simile referring to a sloppy packing job. A misshapen backpack is compared to the one carried by a soul as it travels to that river.

Note also that a *sahé* is 'inside a person', rather than being 'part of a person', because while the person is alive, it is not part of his/her personality²⁵.

4.2.3. *Beruen*

This is another important religious concept, and in prose translations I gloss it as 'ghost'. However, in most respects it is very different from the European «ghost».

beruen X

- = (i) something that leaves X's body after the death of X and remains permanently on the earth; it can think and talk but moves more slowly than a person and often acts in ways opposite to those of a person; it *tawai* (thinks fondly of, and yearns for) its kinsfolk, and seeks to approach them in order that they might *tekenah* (fall ill due to proximity with something/someone imbued with power or magic), causing them to die so that they will join it and once again keep it company;
- (ii) the *ungap* that caused the death of X, which normally *nganan* (tends and guards) the place where X's body was abandoned, and which will cause a person who comes too close to that place to *tekenah* and die, thus giving it a new corpse to eat.

This definition contains what may strike one as a curious conjunction. How can the ghost of a dead person and the demon that killed it be one and the same? But in the Penan mind, *beruen* incorporates both simultaneously. I can find no principled way of dividing this vocable into two, no context in which a putative

²⁵ Compare the treatment of «soul» in (Wierzbicka 1992).

beruen 1 and *beruen 2* exist simultaneously as separate entities. A *beruen* has but one role: to make people sicken and die. But its origin and motives can be thought of in more than one way²⁶.

The component ‘leaves X’s body after the death of X and remains permanently on the earth’ establishes the fundamental difference between *beruen* and *sahé*. The latter travels immediately to one of the three afterworlds, while the former stays forever on earth. The component ‘can think and talk’ is justified by canonical myths in which ghosts speak. It establishes their humanoid nature. However, it should be explained in the encyclopaedic zone that human beings almost never see or hear ghosts. The three Penan words used in the definition — *tawai*, *tekenah*, and *nganan* — are so intimately connected with ghosts that it is almost impossible to talk about the latter without uttering them. The components ‘moves more slowly than a person and often acts in ways opposite to those of a person’ exist because ghosts are described as being slow and perverse. Among other things, *beruen* show their love by killing their relatives. Although not supported by any known lexical data, these components are justified not only by explanations from informants but by fixed rules of behaviour. Immediately after a death, the corpse is wrapped and abandoned in a house, and the band camp for the night a short distance away. The following day they migrate, putting a geographical barrier between themselves and the slow ghost.

On that first night, the kinsfolk of the deceased lay down a trail of upside down leaves between the corpse and their bivouac. This is so the stupid ghost will find its way to them, and not mistakenly end up near a different family, endangering them. Leaves laid in a row are a conventional sign; the leaf tips always point in the direction of travel. However, when laid down for the benefit of a ghost, the tips point toward the corpse, and away from the campsite. This is because *beruen* act in ways opposite to those of human beings.

Note that a *beruen* guarding a grave can also be called *ungap*; whence the previously mentioned need for the lexeme *balei 2*. (In particular, there is one kind of «ghost» called *ungap tilo*, ‘male-genitalia demon’. This is the *beruen* of a woman who has died in childbirth, and who seeks to avenge herself on the entire male sex. She will pursue a man and eat his testicles.)

4.2.4. *Liwen*

Discussion of the concept Penans call *liwen* showed up in the ethnographic literature decades ago²⁷; furthermore, similar beliefs are held by other Bornean peo-

²⁶ It is in the nature of religion to conflate contradictory phenomena. This is another case somewhat analogous to the Christian trinity. Consider the crucified Jesus who, when talking to God, must logically be addressing Himself.

ples. The existing literature claims that a thunder spirit punishes human beings for mocking animals. Dressing up a monkey in a skirt and laughing at it would be a typical example. Unfortunately, things are not so simple.

Here are some examples of activities that may anger a *liwen* spirit to different degrees, and cause said spirit to lash out with lightning and dangerous winds, or even hurl down thunder stones and literally petrify a community.

Children tie a scrap of cloth around a cat, declare that it's a loincloth, make it dance, and laugh at it.

People watch a *su'ung* lizard as it spontaneously changes colour, and comment on it or laugh.

People see an Australian missionary make a thing that looks like a weaving board (i.e. a tape recorder) speak human words, and then comment aloud on what they have all just observed.

People later see the same missionary trying to dance in the Penan style, and laugh uproariously at the sight.

These examples are from situations where something or someone is doing something aberrant, either spontaneously or as a result of human intervention. In the case of the *su'ung*, this rarely encountered creature is doing something strange that lizards normally never do.

The definition that follows contains *liwen I*, which is a noun denoting the nature of the punishment inflicted by the spirit.

2. *X liwen uban néh Y hun Z W* (X *liwen* for Y-ing when Z W-s)

= X suffers *liwen I* for having Y-ed when Z W-s, W-ing not being in the nature of things, creatures, or persons like Z to perform: Y = *mala'* 'laugh' or *ma'ah* 'verbally call attention to something in direct or undisguised fashion'.

Example: *Iah liwen uban néh mala' hun medok sayau*. He/she (X) suffers-*liwen* because he/she laughs (Y) when the-monkey (Z) dances (W).

(To make it easier to analyse the translations, I underline the respective accents as well as labelling them.)

4.2.5. *Pelin*

We come to a Penan lexeme which puzzled me for many years. I long wondered why a single vocable would denote ideas as different as 'deformed' and 'clumsy'. In the end, I finally realized that while *pelin* is indeed multi-lexemic, its constituent lexemes are closely related semantically.

²⁷ See (Needham 1967).

1a. **X pelin Y uban P** (X *pelin* because P)

= X acquires a strange or disabling characteristic Y, because P: and Y looks like it is the result of what happened when P: P denotes a proposition

- (i) *Anak néh pelin pejang ujun néh uban néh nyapa tuyah metep ujun medok hun do néh nemalé. His child (X) is pelin (≈ deformed with) cleft palate (Y) because he played around while butchering a monkey and cut through its mouth while his wife was pregnant (P).*

The causation here is always «supernatural», but I don't use that word, because as mentioned the concept doesn't exist in Penan. The breaking of certain taboos makes *pelin la* much more likely, and these taboos must be described in the encyclopaedic zone.

1b. **X pelin Y uban P** (X *pelin* Y because P)

= X acquires a strange or disabling characteristic resembling Y, because P: and Y resembles something connected with the fact that P: P denotes a proposition

- (ii) *Hun bua raha nyakit nah pat lo'ong adang néh sieng uban néh pelin jipen tepun, uban jipen tepun pat éh kebit. When there are four raha nyakit fruits, that means they are tiger's bait, because they (X) are pelin (≈ oddly similar to) tiger's teeth (Y), because a tiger's teeth are long and there are four of them (P).*
- (iii) *Lakei éh pelin jin é'éng néh avé gem néh. A man (X) pelin (disabled in some way or another) from the waist down.*
- (iv) *Akeu pepunyai timah bateu pukat mujek éh lem jah kuren doko éh meket jadi lajang. Tapi' hun néh meket iah pelin barei pigan sa'at layan awah, iah bé' omok kivu pengelo ké'. I melted lead and poured it into a clay container so it would congeal and form a cooking pot. But when it congealed, it (X) pelin (≈ deformed) like an ugly plate, not the way I wanted it.*

(Examples (iii) and (iv) could also be placed under *pelin la*, insofar as Y and P are not expressed in them.)

2a. **X pelin P uban R** (X *pelin* P because R)

= X acts in a strange or ineffective way resulting in P, because R: and the proposition P denotes an event resembling the earlier event denoted by the proposition R.

- (v) *Boh éh juk kelapa ayau ri' lanyu pelin pujek telo néh barei sulat tetong balong rai kekat belat avé tahat néh ri' purun rih bepih ke' lah uban anak néh éh moko tong lamin rai pesayoh tong atip na'o ri' pujek lah bolo telak ri'. So he was about to escape from the enemies [when] suddenly [he] pelin all his blowdarts got spilled onto the ground [by his clumsiness] (P) like so*

many porcupine quills, because his children at home fought over the bamboo tube full of sago forks and spilled them (R).

(Note that X is not realized in the surface syntax of this sentence.)

2b. **X pelin Y uban P** (X *pelin* Y because P)

= X Y-s, and X's Y-ing is strange or results in X being ineffective: and X's Y-ing denotes an event caused by, and resembling, an earlier event denoted by the proposition P: Y denotes a predicate

(vi) *Pu'un lakei ja'au éh mavang ayau. Anak lakei inah éh moko tong lamin tojo getungan raho inan kayeu déhé lamin réh boh ka' ha' anak inah: «Iteu itut kei». Boh lakei ja'au inah na'at getungan raho inan kayeu dani avang néh boh lakei ja'au ri' pelin ngeradau «Iteu itut kei», boh ha' néh radau nenéng ayau ri' ayau tio kelap.* There was a man lying in ambush for enemies. The man's child who was staying behind in the house pointed to a *getungan* ant climbing down a nearby tree and said, «Look at this». Then the man saw a *getungan* ant climbing down a tree near his hiding place, and he (X) pelin shouted «Look at this», (Y) and the enemies heard his shout and fled.

P does not appear here; but a statement semantically equivalent to it is made in the preceding sentence.

(vii) *Anak teu pelin lakau.* child this *pelin* walks 'this child walks in a strange, sluggish, or clumsy manner'.

2c. **X pelin Y**

= X acts in a strange or ineffective way, caused by and reminding one of Y that happened previously.

(viii) *Avé hun iteu penakoh pelin. Penakoh kahut péh avé hun iteu «Kung, kung, kung», uban néh pelin ha' réh muja' tulang néh lem song nah.* Up until this day the *penakoh* (kind of ogre) is *pelin*. The *penakoh* still makes the noise, «*Kung, kung, kung*», for it (X) pelin the sound made by the person who pounded its bones in that rice mortar (Y). (i.e. the sound made by the mortar was «*kung, kung, kung*», and this is the sound *penakoh* make nowadays.)

2d. **X pelin Y**

= X performs a strange or ineffective act, as if X were *pelin* 2a or 2b; this act reminding us of a behaviour or characteristic of Y

(ix) *Iah pelin aseu.* He *pelin* dog. (e.g., he might be strangely scratching himself like a dog.)

All lexemes of the vocable *pelin* are linked by two semantic components: (a) occurrence of a strange or disabling characteristic or act, and (b) causation of the characteristic/act by a previous event with analogous characteristics.

The reader might have noticed that some of the examples, including (iii), (iv), and (vii), do not express this second component. Should they therefore be placed under separate lexemes *pelin* that do not presuppose supernatural causation?

Before answering that question, I should first point out that example (iv) was cooked up by me to test the limits of the meaning. It was then approved by an informant. It therefore may not be a typical use of *pelin*. But Penans would readily assume the failure described was supernatural; for in their world, all occult causation is inextricably connected with the spirit world. On every occasion where I have observed the spontaneous use of *pelin*, even where only the first actant is expressed, it has been in contexts where the causation is either explicitly supernatural, or puzzling and inexplicable²⁸. Consequently, I am convinced that the core meaning of *pelin* contains the two mentioned semantic components.

Since as far as I know *pelin* is the only word Penans have to denote such ideas as ‘clumsy’, ‘strangely inept’ or ‘disfigured from birth’, whenever they want to describe these phenomena they must use a lexeme that presupposes supernatural causation. Such is the effect of lexical categories on thought.

5. Discussion

This paper has presented extracts from a number of entries of an ECD of the Eastern Penan language. These entries describe some parts of the most complex and inaccessible area of Penan culture. In this way I have sought to illustrate the interdependence of lexicography and ethnography. One cannot write a dictionary that is either accurate or complete without thoroughly studying the culture of the people who speak the language in question.

Conversely, accurate ethnographic descriptions cannot be written unless the student knows the exact meaning of the lexemes that label the cultural concepts being treated. I will illustrate this caveat with an example.

The late Rodney Needham, an anthropologist who studied the Eastern Penans in the 1950's, wrote an article about *liwen*, a phenomenon we have treated above²⁹. In this article, he incorrectly identifies the phenomenon as supernatural punishment that results from the mockery of animals. A review of my definition will show it is no such

²⁸ For example, two of the examples in this paper are taken from a myth I collected entitled *Suket irah pelin mavang ayau* ‘Story of the *pelin* (\approx clumsy) people ambushing enemies’. The third actant is not expressed in the title, i.e. the reasons for the clumsy behaviour, but all the incidents related in the story make explicit reference to the latter.

²⁹ (Needham 1967).

thing; furthermore, there is a lexeme *peja* which is quite close in meaning to ‘mock’, and it is never used in connection with *liwen*. But this error I can forgive him; he was not there long enough, and simply had not collected enough data to discover the true nature of *liwen*. I reproach him for a different error: a false assumption he makes about the meaning of *balei*. He describes *liwen* spirits as «the god Balei Liwen».

As my definition of *balei* shows, each belongs to a race. There is no such thing as a singular spirit of anything. One would expect, for example, that there would be just one moon spirit, since the moon is a single object; this is not the case. Moon spirits are a race too. Even the creation was performed by a race. «In the beginning, *kenangan* spirit emerged from the barren ground like a mushroom» — so begins their creation myth. Penan has no grammatical plural, and in the absence of context or certain modifiers, the number of objects denoted by a given noun is always vague. Perhaps a single *kenangan* spirit created the world, perhaps several; it’s vague. In any case, *kenangan* spirits are a race, and more than one can appear in a given myth. There is no individual with a unique proper name that created the earth.

The fact is that Penans are perfect «animists» in the sense that this word is generally understood in English. Perhaps unfortunately, the term «animist» is not in favour among anthropologists, and the discipline does not seem to be much concerned about the difference between spirits and gods. A «god of X» — where X = thunder, river, land, love, etc — is by definition a singular being, and you should be quite sure it is singular before you call it by this English word. Needham’s error is a lesson in the perils of applying one’s own linguistic concepts to other cultures³⁰. Penan has no word for ‘god’³¹.

³⁰ I should state that Needham was a brilliant anthropologist and meticulous observer. I can confirm that most of what he did write about the Penans is accurate, and as an observer of their culture more than half a century ago, some of the information he recorded is invaluable today. However, his initial fieldwork lasted only a year, and he split his time between what turned out to be two quite different groups speaking closely related but mutually unintelligible languages: the Western and Eastern Penans. While this makes his achievements all the more remarkable, the simple fact is he didn’t have enough time. He might have avoided his blunder if he had been able to accurately translate an invocation to the thunder spirit that he recorded. In order to placate an angry *balei* and quell a storm, Penans offer a lock of hair, and invite the spirit to place it in on its *tilo* or *bono*. The first word means male genitalia; the second one denotes a prolapsed vagina. This is a sign of submission and humility; hair is from the cleanest part of the body, and the genitalia are the dirtiest, particular the vagina (men, and even women, fear its excretions), and all the more so if it is diseased. But the point I wish to make is that the supplicant invokes both male and female genitalia, for he does not know the sex of the particular *liwen* spirit or spirits that he is dealing with. In other words, *liwen* spirits are a race.

³¹ The missionary gave them *Tuhan Allah*, Malay for ‘Lord God’, so nowadays they could be called animists with an overlay of monotheism. However, *Tuhan* cannot be used

6. Conclusion

Nowadays there are very few true ethnographers at work. Doctoral students in anthropology tend to stay close to home, and even when they go far afield it's usually not to study ancient cultures, but to observe the forces that bring a people into the modern world.

Even in the old days, when anthropologists were required to spend a year among a so-called «primitive» people, few students were able to stay much longer than that. Thus, they didn't have the time to properly explore difficult subjects like religion, or even acquire the vocabulary that would enable them to do so. But even when scholars can stay for years in the field, without the right conceptual tools they can easily make linguistic mistakes. It is simply too easy to fall into the trap of glossing a foreign term with a word from one's own language. The result can be a mismatch of meaning, and an error that becomes permanent. The use of ECD methodology helps us avoid such pitfalls. When we write an entry we are forced to critically examine the target lexeme, and make the effort to gather as many examples as we can. Sometimes only in the process of writing a definition does the true meaning become clear.

As we know, the world's languages are dying out at an alarming rate. But the situation is worse than even many linguists apprehend. When most of our colleagues think of language, they think of syntax; and by that criterion, Penan is not yet endangered. Children still learn it, and consequently our heirs will still be able to study its grammar in fifty years. But not so for the vocabulary. The old lexemes are rapidly dying along with the culture they label, and a tsunami of new words, mostly Malay, is washing over the language.

Recording the vocabularies of pre-modern peoples, and the cultures they represent, is the most urgent task confronting linguists and ethnographers in the 21st century. It is truly tragic that so few people are carrying out this work.

Without the tools of semantic analysis afforded by the ECD, I simply would not have been able to pick apart the patterns of Penan thought as successfully as I have, or record them in such coherent form. For giving us the wonderful tools of the Explanatory Combinatorial Dictionary, I will be forever grateful to my dear friend and mentor, Igor Mel'čuk.

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with any sort of plural meaning; when I tried, I only caused consternation and incomprehension. When I translate classical myths for them, I am forced to translate «Jupiter» as 'king of all the spirits', «Mars» as a 'spirit of fighting', and so on.

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