

THE CATEGORY OF 'ANIMAL' IN EASTERN INDONESIA

GREGORY FORTH

*Department of Anthropology, University of Alberta, Edmonton,
Alberta, T6G 2H4 Canada*

ABSTRACT.—It is a generally accepted idea among ethnobiologists that most non-western languages lack a term for 'animal'. Evidence from eastern Indonesia reveals that, understood as labels for an ethnotaxon comparable to vernacular English 'animal', such terms are by no means rare in this part of the Austronesian-speaking world. At the same time, the lexical resources employed to name a general 'animal' category reveal a notable diversity that corresponds to the variety documented by K. Alexander Adelaar in regard to Austronesian languages as a whole. In this article, I review terms translatable as 'animal' in several eastern Indonesian languages. I conclude by addressing issues illuminated by the eastern Indonesian evidence, including the perceptual salience of the 'animal' taxon and Berlin's evolutionary thesis concerning the lexical recognition of categories belonging to different ethnotaxonomic levels.

Key words: Eastern Indonesia, Austronesian languages, ethnotaxonomy, ethnozoological nomenclature, terms for 'animal'.

RESUMEN.—La idea de que la mayoría de las lenguas no occidentales carecen de un término que signifique 'animal' está generalmente aceptada entre los etnobiólogos. Los datos de Indonesia oriental muestran que estos términos, entendidos como etiquetas para un etnotaxon comparable al de 'animal' en español vernáculo, no son en absoluto escasos en esta parte del mundo de habla austronesia. Al mismo tiempo, los recursos léxicos empleados para nombrar una categoría general de 'animal' revelan una notable diversidad que corresponde a la variedad del conjunto lenguas austronésicas. En este artículo reviso los términos traducibles como 'animal' en varias lenguas de Indonesia oriental. Finalizo proponiendo ideas, basadas en la evidencia indonesa, sobre la prominencia perceptual del taxón 'animal' y la tesis evolutiva de Berlin en lo que concierne al reconocimiento léxico de categorías de diferentes niveles taxonómicos.

RÉSUMÉ.—Parmi les ethnobiologistes, il est généralement admis qu'il n'existe pas d'équivalent au terme «animal» dans la plupart des langues non occidentales. Cependant, dans les régions où l'on parle malayo-polynésien, de pareils termes ne sont pas rares et des faits provenant de l'est de l'Indonésie indiquent que ces termes pris en tant qu'étiquettes pour un ethnotaxon comparable au terme anglais vernaculaire «animal» existent. Aussi, de façon parallèle, les ressources lexicales utilisées afin de nommer une catégorie «animal» générale montrent une diversité remarquable qui correspond à celle documentée dans l'ensemble des langues malayo-polynésiennes. Dans cet article, je fournis une synthèse des termes se traduisant par «animal» parmi plusieurs langues de l'est de l'Indonésie. Je termine cette synthèse en soulevant différents points à la lumière des faits tirés de l'est de l'Indonésie, incluant la perception du taxon «animal» ainsi que la thèse évolutive de Bertin qui a trait à la reconnaissance lexicale des catégories appartenant à des niveaux ethnotaxonomiques différents.

INTRODUCTION

In the study of ethnobiological classification, it has become a virtual maxim that terms in nonwestern languages denoting a category corresponding to English 'animal' are uncommon—even "normally" absent (Berlin 1992:15, 27, 190; cf. Berlin et al. 1973:215; Brown 1984:4; Lévi-Strauss 1966:1). Among the Austronesian languages of Indonesia, however, such terms are not nearly so rare as this generalization would suggest. At the same time, as Adelaar (1994:12–13) has noted, Proto-Austronesian, the hypothetical ancestor of all Austronesian languages, appears to have lacked a general term for 'animal'. Accordingly, the lexical means employed by modern Austronesian speakers to refer to 'animal' are remarkably various.¹

The purpose of this paper is to demonstrate a comparable variety among general terms for 'animal' encountered in several eastern Indonesian languages spoken on the islands of Flores, Sumba, Roti, Timor, and Seram. I further consider the implications of this variety for ethnobiological theory pertaining to folk zoological classification. One interest in this connection is evidence indicating that 'animal' exists, at least as a covert category, even among speakers of languages that lack a term unequivocally denoting the taxon. Especially relevant here is the widespread incidence of numeral coefficients (or classifiers) cognate with Malay *ekor* 'tail' (cf. Proto-Austronesian **ikuy* 'tail', Dempwolff 1938:68), which are employed when counting or enumerating any kind of animal (see Berlin et al. 1974:30; also Taylor 1984:107, 1990:44).

In his review of 'animal' terms, Adelaar (1994:13) lists four general ways in which the folk taxon appears to be labelled in Austronesian languages. These include: naming with a descriptive phrase (or paraphrase) such as 'living creature' or 'animate thing'; with a word denoting a particular animal kind; with a term referring to 'domestic animal'; or with a loan word (often deriving from Malay *binatang*, Sanskrit *sattva*, or Arabic *haywan*). As I demonstrate below, all of these methods are reflected within a much more restricted group of eastern Indonesian languages. This variety is discernible within clusters of the most closely related languages or dialects, and in some instances even possibly within one and the same language.

LANGUAGES OF FLORES, SUMBA, AND TIMOR

All the languages I survey here have been identified by Blust (1980) as members of a Central-Malayo-Polynesian grouping within the Malayo-Polynesian family of Austronesian languages. Included in this grouping are two subgroupings identified by Esser (1938) as the Bima-Sumba and Ambon-Timor groups. More recently, Wurm and Hattori (1981) have proposed a more detailed classification of languages included in the second group, but this need not overly concern us here.² Bima-Sumba languages include those spoken on Sumba, Savu, western and central Flores, and Komodo, as well as the Bimanese language of eastern Sumbawa. Of the languages treated in this article, Esser's Ambon-Timor group includes those spoken in more easterly parts of Flores—including Sika, the Lamaholot languages of East Flores (Flores Timur) and the smaller islands immediately

to the east (Solor, Adonara, Lembata/Lomblen)—as well as Rotinese, the Tetum (or Tetun) language of Timor, and the Nuaulu language of Seram.

I begin by reviewing Bima-Sumba languages, partly because their ethnozoological lexicons are rather better documented than those of Ambon-Timor languages, and I begin with Nage and closely related dialects of western Keo, since ethnozoologically this is the case that I know best (see Forth 1995, 1999, 2004). An alternative procedure might have been to frame the lexical data with regard to the four methods of labelling 'animal' isolated by Adelaar. However, since some languages exhibit more than one of the four ways of referring to animals in general, this is less convenient.

BIMA-SUMBA LANGUAGES

Nage (and Western Keo), Central Flores.—The Nage term *ana wa* labels a category of living things that closely corresponds to the English vernacular sense of 'animal' where it contrasts with 'human'. By the same token, the expression corresponds to modern Indonesian (and Malay) *binatang* 'animal'. Accordingly, Nage recognize the taxon as comprising a number of labelled and unlabelled (or covert) life-form taxa, including *nipa* 'snakes', *ika* 'fish', and *ana wa ta'a co* 'flying creatures' or 'birds' (coinciding mostly with the zoological class Aves), even though the focus of *ana wa* is large mammals and then especially domesticated varieties (Forth 1995:47–48).³ Instancing an apparently universal feature of folk taxonomy, Nage *ana wa* definitely excludes human beings (*kita ata*), although, as I discuss presently, the term can be applied metaphorically to a certain category of human beings.

In its most common usage, *ana* means 'child, children' or 'child of'. In a broader sense, the term can further refer to a member of any human collectivity or social unity (see, for example, *ana loka* 'participant in a ritual assembly or other activity'; *ana one* 'insider', cf. *one* 'inside'). Since *wa* means 'wind,' *ana wa* might thus be glossed as 'children, people of the wind'. Entailing a figurative usage (insofar as Nage contrast 'animals' with 'people'), this interpretation is recognized by Nage themselves, who rationalize it with reference to the idea that, like the wind but unlike humans, animals are uncontrolled and unpredictable in their behavior (Forth 1989, 1995:47). Consistent with this representation, Nage further apply *ana wa* to small children (*ana éno*; Forth 1995:47–48), who—as one informant explained—do not yet understand speech and cannot be constrained by verbal commands or admonition. (In this connection, the informant noted how toddlers will heedlessly grab at everything in sight.)⁴

Contrariwise, in some contexts Nage use *ana* 'child' alone with reference to animals, although mostly it appears with reference to birds. In attempting to identify a particular kind of bird, for example, one might thus inquire *ana apa ke?* 'what (animal, bird) is that?'.⁵ In this context, *ana* might simply be construed as an abbreviation of *ana wa*; alternatively, it can be understood as specifying an instance of a larger collectivity, a 'member of' the larger group of 'flying animals' (*ana wa ta'a co*). Interestingly, in the Wangka dialect of Rembong (northwestern Manggarai), the cognate *anak* similarly occurs in *anak reman* (*reman* refers to wild vegetation, see note 16), identified by Verheijen (1977 s.v. *anak*) as a general

term for 'bird'. Also relevant here is the mostly optional use of *ana* in Nage names for many kinds of birds (e.g., *koka* and *ana koka*—Helmeted friarbird, *Philemon buceroides*), although *ana* also occurs in the names of other sorts of small animals (e.g., *ana gu*—house lizard, *Hemidactylus frenatus*; *ana fe*—tadpole; *ana bo* and *ana tebhu*—two kinds of freshwater fish).

Interestingly, a clan resident in villages near the Nage center of Bo'a Wae is named 'Ana Wa'. As shown by their alternative naming simply as 'woe Wa' (clan Wa), however, the name in this context does not necessarily translate as 'animal', but is usually understood to mean 'Wind people'. According to another local interpretation, it can be construed as 'animal', but only in the metaphorical sense of 'small children'.

However *ana wa* is precisely to be understood, the Nage term clearly instances the use of a descriptive phrase to express the general sense of 'animal'—or to label an ethnotaxon at the level of the 'kingdom' (or 'unique beginner', Berlin 1992:15). As a general term for 'animal', *ana wa* is also known in western Keo, where it was defined as referring to all four-footed animals, livestock, birds, and snakes. Two other Keo terms, both elicited when asking about local terms for 'animal', are *ngawu nitu* and *bugu lara*. Meaning 'possessions (goods, wealth) of spirits', *ngawu nitu* more precisely denotes wild animals, and reflects the idea, also found in Nage (Forth 1998:70–72), that various wild creatures are the domestic animals of free spirits (*nitu*). The endemic Flores giant rat (*Papagomys armandvillei*, *bétu*) is thus considered the water buffalo of these spirits, Green junglefowl (*Gallus varius*) are their chickens, and so on. As these specific equations are restricted in number (if only by virtue of the fact that humans possess limited kinds of domestic animals), it is equivocal how far *ngawu nitu* can be understood as including all wild creatures. Nevertheless, in response to questioning, I was assured that *nipa* (snakes), for example—which are more often identified as manifestations of *nitu* spirits themselves rather than as some particular kind of animal belonging to the spirits—are also included in this category.

The second Keo term, *bugu lara*, refers specifically to livestock (owned by humans). A synonymous expression recorded in Nage is *bugu beti*. For the most part equivalent to *ngawu* ('wealth, possessions'; also, in context, specifically 'bridewealth'), the relevant sense of *bugu* is 'thing, possession, good(s)' (cf. *bugu ngawu*, wealth, including both livestock and inanimate objects). No one I questioned could explain either *lara* or *beti* in these contexts. The usual sense of Keo *lara* (cf. Nage *laza*), however, is 'ill, illness', while in neighboring Ngadha, *beti* (cf. Nage *bugu beti*) also means 'ill' (Arndt 1961). One possibility, therefore, is that the phrases distinguish domestic animals from other possessions as things which are subject to illness, and which thus may decrease through sickness and death.

I introduce these expressions in order to demonstrate that, while *ana wa* includes both domestic and wild animals in Keo as well as Nage, there are also special terms distinguishing wild and domesticated kinds. Like the general term, moreover, the latter are descriptive phrases designating essentially utilitarian classes of animals as the 'property' of spirits and humans respectively, though a peculiarity of *ngawu nitu* is that, by virtue of a cosmological principle of "recip-

rocal inversion" (Forth 1998), it is used to specify not human livestock but wild creatures.

One interest of the western Keo use of *ana wa* relates to the fact that while *wa* is the Nage word for 'wind', in western Keo 'wind' is *waya*. Yet one does not hear *ana waya*. This circumstance, then, suggests the use of a loan word for 'animal', though one adopted from a neighboring dialect rather than from Malay or another quite different language.

Lio and Endenese, Central Flores.—Located to the east of the Nage, inhabitants of the Lio and Ende regions speak dialects that are closely related to those of Nage, Keo, and Ngadha. Indeed, they form a single grouping with these, distinct from both the language of Sika (spoken immediately to the east of Lio) and Manggarai (the language of western Flores; see Wurm and Hattori 1981:map 40).

In what remains the major source for the Lio lexicon, Arndt's dictionary (1933) lists two terms that may be glossed as 'animal'. One is *binata*, clearly a loan from Malay (see *binatang*). The same term is given for 'animal' in Endenese (Stokhof 1983; Suchtelen 1921:330, for the 'Ja'o' dialect). For Lio, Arndt defines *binata* more specifically as 'large animal, especially four-legged animals'. However, according to Takashi Sugishima,⁶ an anthropologist who has recently conducted extensive research among Lio, the term is further employed in the general sense. (Sugishima also states that *binata* is often used in contradistinction to a term for 'human being'—for example when abusing people by comparing them with animals.) Although the Lio term is obviously borrowed from Malay *binatang*, for it to appear in a dictionary published as early as 1933—and in regard to Suchtelen's Endenese word lists, in a publication dated 1921—it must have been adopted in this part of Flores before the earliest years of the twentieth century. In fact, the adoption likely occurred prior to the era of effective colonial administration, a circumstance entailing that its introduction in Lio and Endenese was not a function of widespread bilingualism or the establishment by the Church of elementary education in Malay.

Another possible candidate for 'animal' in Lio is *ule* (Arndt 1933). As in Nage and other Flores languages, the primary meaning of Lio *ule* is 'worm, maggot, grub' (see Appendix 1). The term is thus comparable to Malay/Bahasa Indonesia *ulat* 'caterpillar, worm, insect', and, like the latter, evidently reflects a Proto-Austronesian or Proto-Malayo-Polynesian form that referred, at least primarily, to worms and similar creatures.⁷ In regard to the variety of small creatures named by the term, *ule* (like Malay *ulat*) appears largely to correspond to the sort of widespread folk taxon generally designated 'wug' (a neologism formed from 'worm' and 'bug'; see Brown 1984:16). Yet *ule* further occurs in compound names of several Lio folk generics that denote birds.⁸ Among these are *ule a* 'crow', *ule mesi* 'heron', Stokhof 1983, *ule mi'u* 'a bird that shrieks *mi'u*', *ule si* 'a small bird', *ule molo*, and *ule polo*.⁹ A particular connection of Lio *ule* with birds is further indicated by the term *haba ule* 'bird's nest' (Arndt 1933:132, s.v. *haba* '(bird's) nest', cf. *haba manu* 'hen's nest').

Other Lio compounds with *ule* listed by Arndt (1933) denote folk generics including worms, grubs, and insects. In regard to the application of the term to birds, it is interesting that of five insect terms, at least four refer to flying insects

(see *ule ae* 'various sorts of dragonflies', *ae* 'water'; *ule api* 'wasp with a red lower body', *api* 'fire'; *ule hetu* 'moth'; *ule n'gake* 'butterfly'; *ule si* 'a sort of beetle, chafer' but also a small bird). Apparently nonzoological applications of Lio *ule* include *ule re'e* (*re'e* 'bad, mean, ugly'; cf. Nage 'e'e) and *ule ola*, both of which Arndt translates as 'evil spirit' (German *böser Geist*). The first term, however, Arndt additionally glosses as 'all poisonous snakes' (see note 3, regarding Nage *ana wa ta'a* 'e'e).

It therefore appears that in Lio, a term originally denoting worms and similar small creatures has become extended so as to encompass a far more inclusive category of living things. In other words, one is evidently dealing with an instance of a word denoting a particular animal kind being applied, if not to animals in general, then to a significantly wider variety of creatures than those originally labelled by the term. Interestingly, a remarkably similar extension appears to have occurred in the Tetum language of Timor, as indicated by Hull's (2001) gloss of *ular* as both 'worm, caterpillar; crawling insect' and 'creature, animal'. Further evidence for the Lio term is provided by Arndt (1933), who translates *ule* as 'creature, worm, grub (larva), maggot, bird' (German: *Getier, Wurm, Larve, Made, Vogel*). Arndt also lists the compound *ule age* as 'all kinds of animals, worms, reptiles, and birds' (*Getier, Würmer, Reptilen, Vögel*). On the other hand, according to more recent evidence provided by Sugishima (see note 6), *ule age* refers exclusively to birds, serving as "a general term for birds, except chickens."

In view of the meaning of *ule* (and cognates) in other languages, it may be significant that, in addition to birds, the majority of Lio compounds in which *ule* occurs severally denote small creatures (dragonflies, wasps, larvae, moths, caterpillars, butterflies, worms). According to Sugishima (see note 6), Lio do not apply *ule* to mammals or fish, although they do refer to some poisonous snakes as *ule bani* (*bani* 'angry', 'aggressive, bold'). Also noteworthy in this connection is the fact that German *Getier*, Arndt's first gloss of *ule*, not only has the collective sense of 'creatures', but also applies especially to insects (see Tyrell et al., s.v. *Getier*). There is thus a suggestion that Lio *ule* refers only to certain kinds of animals, mostly smaller ones, so that the term may accurately be glossed as 'animal' (or 'bird', 'snake', and so on) only in the context of compound expressions, where the word is modified by another, or in expressions referring collectively to a variety of creatures, where the inclusion of particular kinds is ambiguous.

Insofar as *ule* can refer to snakes, it should be noted that the Lio term cannot be interpreted as a retention of Proto-Austronesian **ulaR* (or **ulej*) 'snake, worm' (Zorc 1994:593, 550). Not only had 'snake' become separated at the Proto-Malayo-Polynesian level, as **nipay* (Zorc 1994:550), and perhaps earlier (in Proto-Hesperonesian-Formosan = Western Austronesian and Formosan, Zorc 1994:550) as **buLay*, but the evidence of other Flores languages reveals cognates restricted to worms, maggots, and other similar small animals. It would appear, therefore, that the Lio usage represents a special development, not simply a reversion to a more generalized meaning but a shift to one evidently more inclusive than that of the Proto-Austronesian form.

Obviously, the suggestion that *ule* serves as a general term for 'animal', like Nage *ana wa*, requires considerable qualification. Nevertheless, it is clear that, in Lio, the term has acquired an ethnozoological sense that is far more inclusive than

'worm, maggot', and which moreover subsumes creatures belonging to more than one life-form—notably, birds and snakes. Yet, by the same token, one cannot definitely conclude that *ule* unequivocally denotes an ethnotaxon encompassing all zoological life-form taxa, or figures as a component of productive expressions (such as Nage *ana wa ta'a co* 'flying animals' or 'birds'). The Lio compound *ule age* does not necessarily contradict this characterization. Since *age* appears to have no separate meaning, it cannot decisively be interpreted as a modifier specifying a particular segment of animal kinds. Nor does it clearly function adjectivally, in this context or in any other. On the other hand, another Lio term generally denoting wild birds, *ule bene* (see note 6), can be analyzed as 'wild *ule*' (see *bene* 'grass, weeds, bush', Arndt 1933; also note 16). Hence in this instance at least, *ule* does appear to approximate the general sense of 'creature', even if the term cannot be used alone to mean 'animal'.

While in the absence of further evidence regarding Lio usage one cannot definitely conclude that *ule* designates an 'animal' taxon, a fascinating comparison may be found in Chinese *chong* (or *chung*). Like *ule*, the commonest gloss of *chong* is worm, but other senses of the word include 'insect', 'caterpillar', 'larva', and 'vermin' (*A Pocket Chinese-English Dictionary* 1978). In addition, various kinds of evidence indicate that, in the past, *chong* has functioned as a general term for 'animal'. According to the etymologist Xu Hao, in sixteenth-century China *chong* was used for 'animal' regardless of the method of locomotion or physical form of the creature referred to (*Chinese Etymological Dictionary* 1981). Accordingly, *chong* further occurs in the names of a variety of particular animal kinds, including 'tiger' (*da-chong*, literally 'big worm') and 'snake' (*chang chong* 'long worm'). At present, however, all of these categories possess alternative names. Also, in modern Chinese, the general term for 'animal' is *dong wu*.¹⁰

If there is an explanation for this similarity between Chinese and Lio, it might be found in a widespread, and probably universal, conception of animals as things that move (or are animated). Thus, as the smallest and morphologically simplest of moving things, and perhaps as creatures which, for humans, display a particularly salient kind of movement (wriggling or crawling), worms, or perhaps better said 'wugs', might be regarded as something like 'atoms' of animation.¹¹ Also worth noting in this connection is *makayidi-yàdaku*, the eastern Sumbanese term for 'animal', which, as I describe more fully below, includes the component *yàda* 'to team, swarm, wriggle, fidget'.

Eastern Sumbanese.—As recently discussed in another article (Forth 2000), eastern Sumbanese possesses at least one expression that functions as a general name for 'animal'. This is *makayidi-yàdaku* 'things that move', a sense that reveals another instance of the use of a descriptive phrase to label 'animal'. The basis of the expression is the compound *yidi-yàda*, comprising two roughly synonymous terms meaning 'to move', and producing an alliterative sound symbolism comparable to English 'topsy-turvy' or 'twist and turn'.¹² Both Onvlee (1984) and Kapita (1982, s.v. *kayidiku*) further gloss the expression as 'the whole of creation' or 'all creatures'. (Like Nage *ana wa*, however, the category definitely excludes human beings.) As these glosses might suggest, *makayidi-yàdaku* is used mostly when speaking of 'animals' in general, rather than referring to single individuals

or single kinds. Nevertheless, not only is the term regularly applied to a variety of animals, but it is recognized by Sumbanese speakers as denoting a category that subsumes less inclusive categories, particularly *mahawurungu* 'flying things' (mostly birds) and *mabei* 'creeping, crawling things', a large and internally diverse category that includes insects, arachnids, reptiles, amphibians, and even fish.

Although *makayidi-yàdaku* can denote all nonhuman animals, its focus appears to be undomesticated kinds. Consistent with this, *yàda* can mean 'wild, untamed, difficult to tame', as well as 'to move, be capable of movement' (Kapita 1982; Onvlee 1984). According to Onvlee, *yàda* refers more specifically to a quick movement; thus he further translates the word as 'to teem, swarm' and 'to wriggle, fidget'. Somewhat curiously (since one might expect the contrast to be with *yàda*), he also describes *yidiku* as denoting a movement slower than *yidi*.

Similar to Nage and Keo, eastern Sumbanese possesses a special term for domestic animals. This is *banda*, the main sense of which is 'goods, possessions, wealth' (cf. Bahasa Indonesia *benda*; also Nage and Keo *bugu*, *ngawu*). As this derivation may suggest, the term refers particularly to large livestock, a mainstay of the Sumbanese traditional economy. Informants in the eastern Sumbanese domain of Rindi stated that *banda* could be understood in the wider sense of 'animal' (Bahasa Indonesia *binatang*), and that wild animals could then be distinguished as *banda matamba* 'wild *banda*'. Yet neither Kapita (1982) nor Onvlee (1984), the principal lexicographers of Sumbanese languages, records the latter phrase, and I suspect that, even at present, it is not a widespread or standard usage. Whatever the extent of their semantic overlap, *makayidi-yàdaku* and *banda* are not obviously related by taxonomic inclusion. By the same token, *banda* suggests a utilitarian category, referring mostly, if not entirely, to a class of economic values.

Mostly in the sense of 'wealth', variants of *banda* appear in other eastern Indonesian languages. A case where the more inclusive meaning has become restricted, not just to 'domestic animal, livestock', but to a particular domesticate, is Nage, where the cognate *bhada* is the name of the water buffalo, the most valuable animal in Nage traditional economy.

Manggarai, Western Flores.—As a general term for 'animal', Manggarai *kaka* in some ways presents a more complex case than any of the usages reviewed above. To a greater extent than Lio *ule*, the lexeme appears in a large variety of Manggarai bird names (e.g., *kaka ketok*, Sunda pygmy woodpecker), all of which apparently label folk generics (see Appendix 2). It also occurs in generic names for other kinds of animals, mostly snakes and insects (e.g., *kaka ta'a*, Green tree viper, *Trimeresurus albolabris*), as well as in the life-form terms for 'bird' and 'snake', *kaka lélap* (*lélap* 'to fly') and *kaka léwe* (*léwe* 'long').¹³ For purposes of internal comparison, it should be noted that, in place of *kaka*, several Manggarai animal terms comparably incorporate *kala* (see *kala mango*, a kind of crab; *kala wara*, a kind of small red ant; and *kala iwura* 'watercock'; Verheijen 1963:686; 1967). According to Verheijen, *kala* derives from *kaka* by dissimilation (1963:685 n. 68).¹⁴ Whether this also applies to *kara*, a component of the names of just two birds (*kara kuak* and *kara kua wíé*, the White-breasted waterhen and the Night heron) is not indicated.¹⁵

In all of these usages, *kaka* and variant forms resemble Lio *ule* insofar as the resultant compounds apply primarily to insects, birds, and snakes. Yet *kaka* differs from *ule* (mostly in the sense of 'maggot, worm') in that, by itself, it appears not to designate simultaneously any folk generic, intermediate, or life-form taxon. This circumstance lends support to Verheijen's (1963, 1967) interpretation of *kaka* as a general term for 'animal'; hence an expression like *kaka léwe* 'snake' might be straightforwardly translated as 'long animal,' and *kaka lélap* 'bird' as 'flying animal.' To illustrate the general sense of animal, Verheijen further cites the phrase *tjala oné kaka* (1967 s.v. *kaka* 1) 'perhaps some animal has entered.' This, he notes, can refer, for example, to a wild pig that may have invaded a cultivated field or an ant that has crawled into a placenta (kept after the birth of a child)—usages which affirm that *kaka* can refer to quite various zoological kinds.¹⁶ Other usages with the same import include *akit le kaka* '(to be) bitten by an animal' (Verheijen 1967, s.v. *soro* II) and *ngo bang kaka* 'to go hunting', which incorporates *ngo* 'to go' and *bang* 'to bring', and more specifically means 'to bring dogs in order to hunt' (ibid. 1967:186, s.v. *kaka*; see also *bang motang* 'to hunt wild pigs', *motang* 'wild pig', ibid.: 29, 337).

The character of the Manggarai term, however, is complicated by the appearance of *kaka* in Nage and Ngadha names for quite diverse natural kinds, including, in a couple of instances, plants. In these languages, *kaka* occurs as a reference to living things only in a limited number of binary names for what are apparently folk generic categories. Nage contains six such names. While similarly few in number, the Ngadha compounds refer partly to creatures different from those designated by the Nage terms. Further variety is revealed by ethnozoological categories named with *kaka* which Verheijen records for Komodo, a language closely related to Manggarai (see Appendix 2).

Some explanation for this diversity is available from evidence suggesting that, in at least some of the Nage terms, *kaka* reflects homonymous usages. For example, *kaka* in the Nage name of the Dollarbird is locally construed as an onomatopoeic imitation of the bird's harsh cry, whereas in *kaka kea*, the more elaborate name of the Yellow-crested cockatoo (also simply called *kea*), *kaka* may be understood as a cognate of words with the same or similar referent in other Malayo-Polynesian languages (see Ngadha and Manggarai *kéka*, eastern Sumbanese *kaka*, Malay/Bahasa Indonesia *kakatus* 'cockatoo'; Proto-Polynesian **ka(a)kaa* or **kaka* 'parrot species', Wurm and Wilson 1975:147). By further contrast, *kaka watu*, the Nage name for a fish that characteristically inhabits the rocky bottoms of bodies of water, can be interpreted as incorporating *kaka* in the sense of 'to stick, adhere, be attached to' and *watu* 'stone, rock'. (It is conceivable that *kaka* also has this meaning in the name of the Praying mantis, *kaka koda*.) The sense of 'to adhere, be attached to', which applies in Ngadha as well as Nage, would also explain the occurrence of *kaka* in Florenese names for life-forms other than animals. Thus, the two Ngadha terms, *kaka bheto* and *kaka kaju*, denoting an unidentified edible plant and species of *Ficus*, ferns, or vines (Verheijen 1990: 26), can be translated respectively as 'what attaches to *bheto* bamboo' and 'what clings to trees'.¹⁷

This evidence tends to rule out the possibility of Nage and Ngadha compounds representing remnants of an earlier classification in which *kaka* consis-

tently denoted a far more inclusive category of living things, and ultimately an 'animal' taxon as, according to Verheijen, it does at present in Manggarai. It is similarly difficult to see how *kaka*, either in Manggarai or central Flores languages, could represent a semantic expansion of a term that formerly possessed a more restricted range of reference (as, hypothetically, Lio *ule* once did). For the Manggarai usage, a more likely interpretation can be found in further glosses of *kaka* listed by Verheijen (1967). These include 'thing, object, article' and nominalizing functions of *kaka*, in particles translatable as 'that which', 'the thing which', 'one who' (cf. Bahasa Indonesia *yang*). Rather than 'flying animal', therefore, the Manggarai term for 'bird' (*kaka lélap*) might be glossed as 'that which flies' (cf. eastern Sumbanese *mahawurungu*, where *ma* is the nominalizer) or 'flying thing'. Similarly, *kaka langu*, the one nonzoological Manggarai name incorporating *kaka*, which denotes a toxic mushroom (Verheijen 1967:186 s.v. *kaka*), can be translated as 'that which intoxicates' (see *langu* 'to intoxicate', 'to act as though drunk'). Further supporting this interpretation, the large majority of Manggarai *kaka* compounds referring to living things do indeed translate as 'that which (has a certain appearance)' or 'the one that (behaves in a certain way, makes a certain sound)' (see Appendix 2).¹⁸ The point applies equally to compounds with *kala*. Thus *kala wura* (watercock), for example, may be interpreted as 'one which is *wura* (a dead spirit)'; in fact, Verheijen provisionally glosses the name as 'animal of the spirits of the dead' (1963:868, n. 87).¹⁹

In view of Verheijen's knowledge of the Manggarai language and of Manggarai culture and natural history, one can hardly doubt his interpretation of *kaka* as a general term for 'animal'. Nevertheless, the usage is likely to have developed as a synecdoche, whereby a word meaning 'thing, entity' has come to denote something more specific, namely, 'living, animate thing'. Yet there remains the question of which, if any, of Adelaar's four methods of designating 'animal' Manggarai *kaka* exemplifies. If my interpretation is correct, *kaka* 'thing' may have its ultimate source in a hypothetical compound, **kaka* X 'thing that X', where X was a word designating movement or the quality of animate life. Thus we may ultimately be dealing with a descriptive phrase comparable to eastern Sumbanese *makayidi-yadaku* 'things that move'. Yet it is also possible that *kaka* 'animal' simply represents a generalization from the variety of compounds referring to particular animal kinds in which the term occurs—that is, as a kind of fictive etymology. Although Verheijen (1967) gives 'livestock' as one gloss of *kaka*, there is no reason to believe that this is the primary meaning, or that this meaning is the derivation of the more general sense of 'animal'.

AMBON-TIMOR LANGUAGES

Rotinese.—The Rotinese term for 'animal', *bana* (dialectal *banda*, Jonker 1908), provides an instance of a term denoting domestic animal having come to be used in the more general sense. Although *bana* is obviously cognate with Bahasa Indonesia/Malay *benda* (see previously) and eastern Sumbanese *banda*, it is unclear whether the term retains 'domestic animal' as its primary sense. Jonker glosses the word first as 'animal, especially a four-footed animal', and lists *bana fuik* and *bana aek* as compounds specifying 'wild animal' and 'tame, domestic animal'.

respectively. At the same time, he translates *bana manu* as 'all sorts of animals, four-footed animals and birds, livestock and poultry'. Insofar as Rotinese *manu* refers specifically to the domestic fowl, this might suggest that the phrase applies, if not exclusively, then in the first instance to domestic kinds. It also suggests a distinction between 'animal' and 'bird' comparable to one sense of English 'animal'.

Tetum (Tetun), Timor.—Closely related to Rotinese, and also classified by Wurm and Hattori (1981) as a member of a Timor and Islands subgroup within a larger Timor Area group (see note 2), the Tetum language of Timor contains at least two words for 'animal'. One is *binatan* (Morris 1984), obviously borrowed from Malay (i.e., *binatang*); the other is *balada* 'animal, beast' (Hull 2001; cf. *balada si'ak* 'wild beast'), which is not explained. In addition to these, another, possibly older way of referring to animals in general is the expression *buat na'in*, glossed by Morris (1984) as 'living things, any unspecified animal'. Tetum *buat* means 'thing, object' (cf. Manggarai *kaka*). *Na'in* functions as a title of respect and a numeral coefficient for persons, and is further described as referring to things that possess agency, or some particular power or skill; thus *liras na'in*, for example, means 'things that have the capacity to fly' (Morris 1984:146–147). Also noteworthy in this connection is the form *na'i* 'lord, master' (Hull 2001). Evidently an instance of the honorific use of the term, *na'i* occurs in the compounds *na'i-bei* 'grandfather, ancestor; crocodile', and *na'i-boku* 'species of large kite'.

Tetum *buat na'in* provides a further example of the use of a descriptive phrase to designate 'animal'. The essential qualification is evidently provided by *na'in*, alluding to agency and the possession of (a specific) physical power. Semantically, therefore, the expression is most comparable to Sumbanese *makayidi-yadaku* 'things that move'.

Nuaulu, Seram.—Although included in Esser's Ambon-Timor group, the Nuaulu language, spoken on the Moluccan island of Seram, is a fairly distant relative of Tetum and Rotinese. Wurm and Hattori (1981) place it in a Central Maluku group, separate from the languages of eastern Flores and Timor. Nevertheless, thanks to the work of Roy Ellen, Nuaulu is one of the few eastern Indonesian languages for which we possess detailed evidence with respect to ethnozoological classification, and for this reason alone it is worthy of comparative consideration.

According to Ellen (1993a:96), Nuaulu *ipai* serves as a general term for 'animal', but does not clearly include all life-forms that one might expect to find under this rubric. This equivocality appears largely to reflect disagreement or indifference among Nuaulu themselves. At the same time, *ipai* can be used in exclusive contrast to 'human' (*mansia*), in which context, Ellen (1993a:97) states, "it appears to be used to refer to all non-human animals." Otherwise, the term may have as its primary sense "terrestrial animals, contrasted with those of sea and air" (Ellen 1993a:96). Consistent with the first specification, Ellen also describes the Nuaulu term as somewhat resembling the polysemous use of 'animal' in English. He does not state whether or not Nuaulu explicitly consider named life-form categories (such as 'bird', *manue*, or 'snakes and allied forms', *tekene*) to be included within *ipai*, nor does he discuss the possible derivation of the term. Nevertheless, the ethnographer's statements on the whole suggest that *ipai* func-

tions as a label for a general category of 'animal' to about the same extent as does Nage *ana wa* or Manggarai *kaka*.²⁰

CONCLUSIONS: LEXICAL VARIETY AND SEMANTIC UNIFORMITY

As the foregoing discussion has demonstrated, general terms for 'animal' found in eastern Indonesian languages exemplify all of the four ways of denoting this taxon identified by Adelaar. Naming with a descriptive phrase is illustrated by the Nage, Sumbanese, and Tetum usages. The use of a term referring to a more exclusive animal taxon is exemplified by Lio *ule*. A term that originally referred to domestic animals is represented by Rotinese *bana* (and, in a qualified sense, by Sumbanese *banda*). Finally, the use of loan words (in all instances from Malay *binatang*) is instanced by Lio *binata* and Tetum *binatan*, and also in Nuauulu (see note 20, regarding *binatan*).²¹ As this distribution illustrates, one method is not confined to the Bima-Sumba group of languages, nor to the Ambon-Timor group. In fact, as the Lio, Sumbanese, Tetum, and Nuauulu usages suggest, speakers of a single language may use more than one kind of term to express the general idea of 'animal'.²²

With the possible exception of Manggarai and Nuauulu, none of the languages discussed above includes a single unanalyzable lexeme serving as a general term for 'animal', as exemplified by Malay *binatang*.²³ In this respect, the usages contrast with terms for particular life-forms, such as Nage *nipa* 'snake'. Yet this does not mean that eastern Indonesians, or a significant portion of them, lack a well-defined concept of 'animal'. As noted earlier, that they do possess such a concept is demonstrated by the widespread Austronesian grammatical feature of employing a single numeral coefficient when enumerating animals belonging to diverse life-forms (cf. Berlin et al. 1974:40, who describe the obligatory use of numeral classifiers in Tzeltal as distinguishing "unambiguously bounded" unique beginner taxa comprising 'plants' and 'animals'). All utilizing the word for 'tail' (see also Malay *ekor*), instances drawn from languages surveyed in this article include Manggarai *iko*; eastern Sumbanese *ngiu*, from *kiku* 'tail'; and Nage, Keo, and Lio *éko* (see e.g., Nage *ja éko telu* 'three horses', *nipa éko wutu* 'four snakes', *hale éko lima* 'five flies'). A comprehensive 'animal' category is also implicit in such representations as the Nage taboo on speaking to animals, a prohibition whose consequential breach is described in oral tradition as involving such diverse creatures as snakes, crayfish, and goats (Forth 1989, 1998). In addition, as I hope to show in a future paper, the Nage category of 'animal' is indicated by the use of sex terms—comparable, for example, to English 'bull' and 'cow' and 'buck' and 'doe'—which among living things are assigned only to zoological folk generics and not to plants (see Taylor 1990:117, who describes how, among the non-Austronesian speaking Tobelo, plants as well have both male and female forms, even though in the majority of cases Tobelo are unable to identify these). Among Nage, sex terms are assigned to all categories of animals (*ana wa*), including reptiles, amphibians, fish, and insects as well as mammals and birds, and all are thought to engage in sexual intercourse, a behavior which Nage are not in every case able to verify empirically.

Yet even if one accepts that all eastern Indonesians possess a category of

'animal', it may not always be clear how far particular terms—whether analyzable or not—actually name the concept. As shown, usages that are equivocal in this regard include Lio *ule* and, probably, Nuauulu *ipai*. What the evidence does show, however, is that these, like the other eastern Indonesian terms described above, denote folk taxa which include two or more life-forms (such as 'bird', 'snake', or 'fish'). That they do not definitely subsume all life-forms that a modern English speaker might wish to classify as 'animals' is a dubious criterion for rejection. Moreover, it is arguably typical of all folk categories, pertaining to so inclusive a taxonomic level, including of course English vernacular 'animal', that they are inherently indefinite and subject to "prototype effects" (Lakoff 1987), and that what speakers and culture participants will recognize as included will be situational, marked by ambivalence, and subject to individual variation.²⁴

All of the foregoing bears upon Berlin's well-known thesis concerning the evolution of ethnobiological classifications (1992). According to Berlin, in the development of a language, (folk) generic taxa (local categories mostly coinciding with scientific species or genera) will be named, or "lexically recognized," before higher order taxa, that is, life-form categories (such as 'snake', 'bird', 'fish', and so on) and 'intermediate' classes (categories comprising a limited number of similar generics included in a life-form, e.g., 'birds of prey'). Later still, according to this theory, names will be assigned to 'subgeneric taxa' (ones comprising 'folk species' and 'varietals'), while lexical recognition is finally given to the 'kingdom', of which 'animal' and 'plant' are of course the prime examples (Berlin 1992:274–75). How many of these taxonomic levels are distinguished by name, in Berlin's view, reflects the level of technological development of the society in question.

In spite of ambiguity surrounding the question of what constitutes a 'name', the evidence of eastern Indonesian languages appears generally to support Berlin's thesis. It almost goes without saying that the large majority of standard names for animals in these languages denote folk generics. In addition, usually two or more life-forms are labelled, and such labels often reflect reconstructed forms at the level of Proto-Austronesian or Proto-Malayo-Polynesian (see, for example, Nage, Ngadha, Lio, Endenese *nipa* 'snake'; central Flores *ika*, Sikanese *i'ang*, eastern Sumbanese *iyangu* 'fish'; and Tetum *manu*, Nuauulu *manue*, and Rotinese *manupui* 'bird'). On the other hand, the degree to which eastern Indonesians label 'intermediate categories' is difficult to determine and defies any succinct summary—a situation which appears largely to follow from an inherent ambiguity reflected in the very designation 'intermediate'. But even if life-form taxa (and perhaps some intermediates as well) are more consistently named than is the 'animal' taxon, this does not mean that early Austronesians (speakers of ancestral languages corresponding to Proto-Malayo-Polynesian or Proto-Austronesian) did not have ways of denoting 'animal (in general)'. Indeed, the fact that the several eastern Indonesian languages surveyed here reveal precisely the same limited number of nomenclatural methods as do Austronesian languages in general tends to suggest that they did.²⁵ In other words, these various ways of naming 'animal' may have developed no later (to retain the diachronic idiom) than did those for these other 'higher order', or supergeneric, taxa. Although the point cannot be fully developed here (but see Forth 1995, 2000, 2004), it may also be noted that names for several life-forms—e.g., Nage *ana wa ta'a co* and eastern

Sumbanese *mahawurungu* 'bird' (see also Sikanese *kenaha horong* 'flying thing', Pareira and Lewis 1998)—consist of descriptive phrases and so are formally identical to terms for 'animal' in the same languages. The same may apply to Mangarai terms for 'bird' and 'snake', if as hypothetically suggested, *kaka* 'animal', derives from a similar compound translatable as 'living thing'.

Two further points should be made regarding Berlin's evolutionary theory. First, if the driving force is technological development, then differences in lexical recognition of different taxonomic levels are evidently a matter of culture rather than human cognition per se. Secondly, if ethnobiological classification is seen to be grounded in universal factors of perception (which is Berlin's position, and one that I basically accept), then it is not clear how it can be subject to any sort of cultural evolution. Only in this light may one usefully raise the question of the 'naturalness' or perceptual salience of the taxon 'animal'. It is by now well accepted that 'generic' categories—also called 'basic' categories, and in psychology and logic, 'basic-level' kinds or 'individuals', and 'basic level sortals'—are those which present themselves in perception as the most obviously discrete, and hence lend themselves most readily to lexical differentiation. By the same token, it is the representation of these categories that appears to be the most independent of the practices and values of particular cultures. Yet it should be considered that a category like 'animal' possesses almost equal salience, especially in regard to the property of movement (or animation), which as it were naturally distinguishes animals of all kinds as objects unlike all other objects, including ones that may be recognized as equally possessing the property of life (most notably, plants).²⁶ By contrast, intermediate categories (for example, groupings of birds encompassing several similar folk generic categories), and even some life-form taxa (for example, smaller creatures sometimes subsumed in named 'wug' categories), are arguably less psychologically salient, which is to say that their recognition, lexical or otherwise, may be as much dependent on particular cultural interests. Of course, one may ask why, if 'animal' possesses such salience, are names for this category apparently so uncommon? One response might be, again, that recognition of a taxon does not always result in monolexemic naming. However, if 'name' is understood in an inclusive sense, with reference to the evidence of eastern Indonesian languages I would also suggest that such names may not in fact be as uncommon as has hitherto been supposed.

NOTES

¹ Adelaar bases this assessment on data from 80 languages, belonging to four main branches of the Austronesian family, which are recorded by Tryon (1994).

² Wurm and Hattori (1981) retain Esser's Bima-Sumba group (noting its ultimate derivation from the work of J.C.G. Jonker), but place the Ambon-Timor languages of eastern Flores and the islands of Solor, Adonara, and Lembata in a 'Flores-Lembata subgroup', which they then classify within a 'Timor Area group'. Ambonese and other Moluccan languages are then placed in a 'Central Muluku group'.

³ Formally comparable to *ana wa ta'a co* is *ana wa ta'a laka* 'crawling, creeping animals', a term I first encountered in the Keo region. The category, however, encompasses snakes

(*nipa*) as well as a wide variety of other fauna, including insects, worms, grubs, crustaceans, amphibians, large reptiles like monitor lizards and marine crocodiles, and even rats and mice (*dhéke*). Subsuming or cross-cutting two and possibly three named or unnamed life-form taxa, it is difficult to see how the category could itself constitute a taxon. As Nage informants pointed out, moreover, the term can situationally include creatures that normally fly (*co*) or swim (*nangu*), such as eels and crayfish when they find themselves on dry land, and flying insects like locusts and butterflies which otherwise creep or crawl; human infants also crawl. Consistent with this, *ana wa ta'a laka* appears not to be regularly employed as a standard category, in which respect informants contrasted it with *ana wa ta'a co*. With regard to the application of the latter term specifically to birds (including bats), and not to flying insects, it is noteworthy as well that all insects that fly (*co*) also creep or crawl (*laka*). A similar category, also initially recorded in Keo and apparently less familiar to Nage, is *ana wa ta'a 'e'e* 'ugly, disgusting animals', which is identified with snakes—or more particularly dangerous snakes (such as the Russell's viper, *nipa ba*), and certain kinds of grubs.

⁴ For Tëröng-Mawöng, one dialect of Rembong, a language of northeastern Manggarai, Verheijen similarly records the cognate *anak wara* (*wara* = Nage *wa* 'wind') in the sense of 'baby, infant'. In Rembong, the expression does not simultaneously serve as a general term for 'animal', although, interestingly enough, in another Rembong dialect (Wangka), *anak wera* is listed as a euphemism for 'wild pig'. *Wera* 'spirit, spiritual being' is cognate with Ngadha *wera* and Nage *wa*—thus apparently a homonym of Nage *wa* 'wind'—both of which refer to the malevolent spirit of a witch. Arndt's dictionary (1961) does not indicate a Ngadha term for 'animal' (*cana wara*, corresponding lexically to Nage *ana wa*, is glossed as 'snare for catching birds'), but this of course does not mean that none exists.

⁵ The fact that *ana* is used in this way more often with reference to birds may be accounted for by the fact that, as Nage themselves recognize, for creatures identified with other named life-form taxa, notably *nipa* 'snakes' and *ika* 'fish', the life-form name can be used instead, at least when this much of an animal's identity is known.

⁶ Takashi Sugishima, Kyoto University, personal communication 2000.

⁷ Proto-Austronesian reconstructions include **uleg* 'worm' (listed by Wurm and Wilson, 1975 under 'maggot' and 'worm'); **qulej*, glossed with Bahasa Indonesia *ulai* (Fernandez 1996:158); and **ulaR* 'snake, worm' (Zorc 1994:593). Fernandez (1996) has also reconstructed a 'Proto-Flores' form, **uler* (equated with Bahasa Indonesia *ulai*, see Appendix 1).

⁸ I follow Berlin's practice of employing "folk generic" (or simply "generic") to refer to ethnotaxa that comprise particular kinds mostly coinciding with scientific species or genera.

⁹ Arndt glosses the last two terms, somewhat inexactly, as 'Sparrowhawk' and 'Eagle owl' (German *Uhu*). According to Verheijen (n.d.), *ule polo* refers to the Common koel (*Eudynamis scolopacea*). Evidence from Arndt's dictionary that *ule* can be used alone in the sense of 'bird' is the phrase *ule léla dzére* 'the bird flies suspended, hovers' (1933:86, s.v. *dhére*; *léla* 'to fly').

¹⁰ With regard to senses of *chong*, I am most grateful for assistance kindly provided by Dr. Lin Jenn-Shann of the Department of East Asian Studies, University of Alberta, and Dr. Wu Xu, a former doctoral student in the university's Department of Anthropology.

¹¹ Cecil Brown, who coined "wug" to refer to a life-form category comprising small creatures like 'bugs' and, frequently, 'worms' (1984:16), lists Mandarin *chung* as a 'wug' term, glossing it more specifically as 'insect+worm+nonsnake reptile' (Brown 1984:237).

¹² In combination, the affixes *ku-* and *-ku* lend a repetitive or continuous quality to the basic verbal compound, while *ma-* renders the nominal sense.

¹³ It is a point of some interest, although one which cannot be fully developed here, that Verheijen (1967) lists Manggarai *ular*, clearly a cognate of Malay/Bahasa Indonesia *ular* 'snake', as the name of a particular kind of snake and also as a component of six compounds (*u-mandur*, *u-mbani* = *u-mbangi*, *u-paka*, *u-walok*) specifying other kinds of snakes.

¹⁴ Blust (1983, "A Linguistic Key to the Early Austronesian Spirit World," unpublished manuscript), who does not cite this interpretation, treats *kala wara* and *kala mango* as reflexes of Proto-Austronesian reconstructions he collectively designates as "+qali/kali-forms." In a complex analysis, he argues that these forms, prefixed to other morphemes, once marked a variety of biological kinds and other natural entities as things associated with spiritual danger, or more generally as "referents, states or actions that were believed to be connected with the supernatural world" (Blust 1983:2). Whatever the merits of this argument, which is far too detailed to assess here, Blust evidently does not adduce the numerous Manggarai *kaka* compounds.

¹⁵ Another ethnobiological instance of *kala* is as a general term for 'betel' (*Piper betle*), in which sense it further appears in compounds denoting varieties of betel as well as several other plants, including some that are considered to resemble betel (Verheijen 1967). However, it is not at all clear that *kala* in this context has the same derivation as the morpheme that appears in animal names.

¹⁶ For Rembong, a language, or cluster of dialects, spoken to the northeast of Manggarai (and within the northwestern part of the present administrative region of Manggarai), Verheijen (1977) lists *kokaq reman* as a general term for 'wild animal', and in one dialect as a specific reference to a wild pig. (A comparable double meaning is found in *kokaq kazu-kazu* 'forest, wood'—glossed both as 'monkey' and 'animal'.) Further occurring in a variety of compounds referring to particular kinds of mammals, birds, insects, and snakes, *kokaq*—glossed by Verheijen (1977) as 'animal; thing, object; person; unidentified object or person (Bahasa Indonesia *anu*)'—is evidently cognate with Manggarai *kaka*. On the other hand, he translates *reman* as 'leaf (leaves); grass, weeds; undergrowth, scrub; forest'. Relevant here are words with similar meanings used in other languages, including Nage and Sumbanese, to refer to wild varieties of animals that also occur as domesticates (see, for example, Nage *wawi witu* and eastern Sumbanese *wei rumba* 'wild pig'). It is curious, however, that Verheijen glosses *kaka remang*, the Manggarai cognate of Rembong *kokaq reman*, not as wild animal but as 'livestock' (exemplified by horses and water buffalo). The Manggarai term specifying wild animals is *kaka puar*, incorporating *puar* 'forest, jungle'.

¹⁷ The ferns denoted by *kaka kaju* are epiphytic (see Appendix 2). The only comparable plant name recorded for Endenese is *kaka rawa* (*Dysoxylum*, Verheijen 1990). Lio includes no ethnobotanical compound terms which include *kaka*, although in this language, also, the word has the sense of 'to wrap around, cling, adhere to' (Arndt 1933).

¹⁸ Also consistent with an interpretation of *kaka* as, essentially, a nominalizing particle are *kaka dagang* or *kaka wagang* 'unidentified person; thing; genitalia' (apparently as a euphemism), as well as *kaka tana* 'earth spirit' (*tana* 'earth'), assuming the first component is not a variant of another lexeme, *kakar* (see the synonymous dialectal *kakar tana*).

¹⁹ At present, *kaka* does not occur as a nominalizing particle in Nage or Ngadha. However, as already noted, most if not all of the central Flores compounds incorporating *kaka* can be accounted for in quite different ways.

²⁰ In a personal communication (22 February 2002), Ellen states that, at present, Nuauulu *ipai* is rarely used for 'animal' and is "increasingly replaced with *binatan*" (cf. Malay *binatang* and the usages described above for Lio and Endenese). He also reports *makapana* as another general term for 'animal' (cf. Ellen 1993a:96, where this term is attributed to Rosemary Bolton, 1990). However, Bolton (pers. comm. 9 March 2003) states that *makapana* (from *maka*, a nominal prefix, and *pana* 'to feed') refers specifically to domestic animals. Citing a Nuauulu informant whom she questioned in 2003 in Bandung (in Java), she has subsequently claimed (pers. comm. 27 March 2003) that *ipai* is not a Nuauulu word, or at least is not a general term for 'animal'. This apparent disagreement with Ellen is probably accounted for by the replacement of *ipai* with the loan word *binatan*, which is noted by Ellen himself. An obvious cognate of *binatan*, *pinatane*, is reported by Margaret Florey (pers. comm. 4 December 2002) as the only term for 'animal' in the Alune language of western Seram.

²¹ According to Adelaar (1994:13), a method comparable to employing a descriptive phrase is the use of a word meaning 'game' or 'meat' to denote 'animal'. Although it does not name animals in general, it is a point of interest that *nake* (usually 'meat' or 'game' in central Flores languages) is listed as a general term for 'bird' in Endenese (Aoki and Nakagawa 1993; Suchtelen 1921:340, 389).

²² Although my discussion has been restricted to Austronesian languages, it is noteworthy that Taylor (1990:49, 50, 67) reports a term for 'animal' in the non-Austronesian Tobelo language, spoken on the eastern Indonesian island of Halmahera. This is *aewani*. Since Taylor provides no interpretation of the term, it is presumably unanalyzable.

²³ I use 'unanalyzable' in the general sense. In contrast, Berlin et al. (1974:28) employ 'analyzable' and 'unanalyzable' in a way largely restricted to taxonomic relations. Thus, in their typology of lexemes, Nage *ana wa* 'animal' would be classified as an 'unproductive analyzable primary lexeme', since the second element (*wa* 'wind') does not specify the term as labelling a taxon subordinate to one designated by the first element (*ana* 'child, person'; cf. Taylor 1990:40, for a critical discussion of Berlin's typology). To the extent that he employs this typology in his 1992 book, Berlin (1992:27–28) speaks of "names" rather than "lexemes," while he replaces "unanalyzable" and "analyzable" with "simple" and "complex."

²⁴ As has often been recognized, English 'animal' can contrast for example with 'bird' or (according to Wierzbicka 1985) 'snake' (see Forth 1995:66, n. 2).

²⁵ Although the matter cannot be explored in this paper, there is perhaps also a question of whether widespread life-form terms, such as those reflecting Proto-Malayo-Polynesian **manuk* 'chicken, bird, fowl' (Zorc 1994:583; see also Proto-Austronesian **manuk* 'bird', Bellwood 1997:102, Table 4.1), or indeed the protoform itself, are, or were, as consistently

inclusive as English glosses, such as 'bird', would suggest. Since Bima-Sumba reflexes of **manuk* (such as Nage and Sumbanese *manu*), when used without modification, refer only to the domestic fowl, one is also led to ask, with regard to Berlin's evolutionary thesis, whether the apparent loss of this lexeme as the name of a life-form taxon should be understood as an instance of regression, or devolution.

²⁶ Sexual and reproductive behavior is another feature that sets animals apart from other living and nonliving things. Yet, for Nage and other folk biologists, this is not so evident or observable as is movement and, indeed, for animal kinds that are rarely or never observed mating, is mostly attributed on the basis of inference.

Nage, Sumbanese, and other eastern Indonesians apply terms for 'living' and 'dead' equally to plants and animals. Indeed, the idea that plants are 'living things' is probably universal, and, as Bloch (1998) has recently pointed out, is arguably part of the reason that plants (including trees) are, like animals, widely employed as human metaphors. This is not to say, however, that this common quality is a sufficient basis for the recognition of plants and animals—or, indeed, human beings (usually, and in a sense universally, distinguished from animals)—as members of a superordinate taxon of 'living things', as is implicit in the western scientific concept of a 'biology' equally subsuming 'botany' and 'zoology'.

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APPENDIX 1.—Cognates of Lio *ule* in other Flores and eastern Indonesian languages.

'Proto-Flores'	* <i>uler</i> = Bahasa Indonesia ' <i>ulat</i> ' (Fernandez 1996: 158; cf. Proto-Austronesian * <i>qulej</i> , <i>ibid.</i> ; cf. ?PAN * <i>ulaR</i> 'snake, worm', Zorc 1994: 593)
Manggarai	<i>uli</i> (dialectal <i>ules</i> , <i>ulos</i> ; Verheijen 1982: 131), 'maggot' (and apparently similar creatures, Verheijen 1967)
Komodo	<i>uleh</i> , <i>uler</i> 'maggot, type of worm' (Verheijen 1982: 131)
Ngadha	<i>ule</i> 'maggot, worm, caterpillar' (Arndt 1961)
Nage	<i>ule</i> 'maggot, worm, grub' (Forth, field notes)
Endenese (Nga'o dialect)	<i>ule</i> (= <i>oelech</i>) 'caterpillar' (van Suchtelen 1921)
Endenese (Ja'o dialect)	' <i>urhe</i> 'worm' (Aoki and Nakagawa 1993: 92)
Sika	<i>ule</i> (= Bahasa Indonesia <i>ulat</i> ; see also <i>ule lala</i> , <i>ule nale</i> 'sea-worms'; <i>ule klobat</i> 'cocoon'; <i>ule tana</i> 'worms that eat maize roots' Pereira & Lewis 1998: 203)
Tetum	<i>ular</i> 'worm, caterpillar, larva' (Morris 1984: 193; 'fly maggot' is labelled with another term); 'worm, caterpillar; crawling insect' (Hull 2001)

Note: Several dictionaries which employ Bahasa Indonesia (the Malay-based Indonesian national language) as the target language simply gloss the local word as *ulat*. Echols and Shadily (second edition, 1963) list *ulat* as: '1. caterpillar 2. worm, insect' (cf. *ulat serangga*, insects; cf. *serangga*, insect). The third and revised edition of their dictionary (1989) gives '1. caterpillar, worm (in compounds) 2. maggot, larva'.

APPENDIX 2.—'KAKA' compounds denoting living kinds in Manggarai and other languages of Flores.

a) KAKA compounds in Manggarai (Verheijen 1963, 1967)

Note: Not all names incorporating *kaka* appear in all Manggarai dialects. Also, in some dialects, the same zoological kinds are named with terms which do not incorporate *kaka*. Glosses of second components are from Verheijen 1967 and 1963: 716–717 (see "Summary ad hoc translation of Manggarai words"); (ON) indicates that, according to Verheijen (1968), the second term is onomatopoeic. (Onomatopoeic terms can be understood either as names for the sound or as verbs meaning to produce the sound in question.) All terms follow Verheijen's orthography. For the sake of comparison, however, it should be noted that /dj/ corresponds to /j/ (cf. /j/ in English 'jaw') in the transcription of other Indonesian languages discussed in this paper, and /tj/, similarly, to the sound written as /c/ (cf. English /ch/ as in 'chat').

kaka ando aék waé, kind of dragonfly (provisional identification) (*ando aék* 'to bend over, bow'; *waé* 'water, river')

kaka awa, a kind of spider (also simply *awa*)

kaka bégol, a kind of poisonous snake (*bégol* 'to throw, hurl'. According to Verheijen, under the synonym *metjo*, this snake is said to be able to spring or jump; the name therefore probably refers to Russell's viper, see Forth 1995:52–53, s.v. *ba bago*)

kaka dangka 'earwig, locust' (referents unclear; cf. Komodo *kaka dangka*, below) (= *iko dangka*; *iko* 'tail'; *dangka* 'branch, fork; hook; branch off, diverge', evidently referring to the shape of the tail)

kaka éa, Flores crow (*Corvus florensis*) (ON)

kaka djurit, Bushlark (*Mirafra javanica*) (*djurit* 'to run'; the bird in question characteristically runs along the ground)

kaka kedéngké or *kaka koé koé*, Pitta (*Pitta brachyura*) (*kedéngké* 'to hop'; *koé* 'small')

kaka kék, White-breasted wood-swallow (*Artamus leucorhynchos*) (ON)

kaka kéntu, a species of falcon and a species of hawk (*Accipiter*). (*kéntu*, harvesting knife for rice; to cut, sever; cf. Nage *bele teka* 'sharp wing' as a name for a falcon; Forth 1996)

kaka ketok, Sunda pygmy woodpecker (*Dendrocopos moluccensis*); Great tit (*Parus major*, Méngé dialect) (*ketok* 'to knock, tap')

kaka kiong, Bare-throated whistler (*Pachycephala nudigula*; also called simply *kiong*) (ON)

kaka kuik, *Cisticola* spp. (small birds) (ON)

kaka langu, toxic mushroom (cf. *langu* 'to intoxicate', 'to act as though drunk')

kaka langu waé, sort of freshwater insect (*waé* 'water, river')

kaka lawar, Apodidae and Hirundinidae (swifts and swallows; also simply called *lawar*; cf. Malay/Bahasa Indonesia *kalewar*, bat; eastern Sumbanese *kalewaru*, swiftlet, *Collocalia* spp. Forth 2000)

- kaka leka*, kind of poisonous snake (also simply *leka*, described as a speckled snake; cf. *leka*, palm bough, dried palm leaf used as decoration)
- kaka léros*, 'birds with cup-shaped nests', generally Zosteropidae (white-eyes). (*léros* 'yellow')
- kaka lunteng*, kind of grayish black snake that eats frogs and rodents (cf. *lunteng* 'large piece of firewood')
- kaka mésé*, literally 'large creature', eagles (general term), also 'water buffalo' (*mésé* 'big')
- kaka muntung*, dark phase of *Spizaetus cirrhatus* or other dark eagles (*muntung* 'burned, dark-colored')
- kaku nanong*, kind of small insect resembling a spider; (dialectal) water strider, Gerridae (*nanong* 'to go up and down')
- kaka ndurut*, kind of insect (*ndurut* 'to hang, be suspended; (of a tree) packed with fruit')
- kaka ngé'ok*, kind of worm (*ngé'ok* 'to move the body repeatedly')
- kaka nteleng*, kind of insect similar to a wasp and the size of a fly (*nteleng* 'still, motionless')
- kaka pémpang*, kind of flying insect resembling a mosquito (*pémpang* 'fever, malaria')
- kaka petju*, sort of malodorous insect, *Pherosophus* sp. (*petju* 'to fart')
- kaka rae*, Red cuckoo-dove (*Macropygia phasianella*; also simply called *rae* or *rae-rae*) (*rae* 'reddish color, brown')
- kaka rawuk*, kinds of hawks (*Accipiter* spp.; synonymous or overlapping with *kaka kéntu*) (*rawuk* 'ash, gray')
- kaka sara*, centipede, Geophilidae (*sara*, kind of creeper growing in under-bush)
- kaka ta'a*, Green tree viper (*ta'a* 'half-ripe, green')
- kaka téi* or *kaka tik*, Brush cuckoo (*Cacomantis variolosus*) (ON)
- kaka teret*, Bee-eater (*Merops superciliosus*) (ON)
- kaka toak*, Common koel (*Eudynamis scolopacea*) (ON)
- kaka wadja*, crocodile (cf. *wadja* = Malay/Bahasa Indonesia *baja* 'steel, armor; hard iron')

b) KAKA compounds in Nage

- kaka daza*, Dollarbird (*Eurystomus orientalis*)
- kaka hika*, Flying lizard (*Draco* sp.; Van Suchtelen 1921 records *kaka héka* for the Nga'o dialect of Endenese, while Arndt 1961 lists *héka*, transcribed as *xéka*, as 'to have arms or wings')
- kaka kea*, Yellow-crested cockatoo (*Cacatua sulphurea*), also called simply *kea*
- kaka koda*, Praying mantis
- kaka meo*, one or more species of large spiders (cf. *meo* 'cat')
- kaka watu*, kind of freshwater fish (*watu* 'stone')

- c) KAKA compounds in Ngadha (from Arndt 1961, except where otherwise indicated)

Note: I employ the same orthography as I use for Nage. Where Arndt's usage differs from this, his transcription is placed in brackets.

kaka, edible crab; ringworm (*kaka* also occurs as a reference to a skin disease in the Ja'o dialect of Enderese, Aoki and Nakagawa 1993)

kaka bheto, edible plant 'with with sourish leaves' (Verheijen 1990; thus *Dysoxylum* sp.; cf. Enderese *kaka rawa*, *Dysoxylum*, *ibid.*)

kaka daza, kind of bird (cf. Nage *kaka daza*)

kaka kaju (*kaka kadju*), vine(s), fern(s) of the genus *Asplenium*, tree(s) of the genus *Ficus* (Verheijen 1990)

kaka kuwe (*kaka kuve*), heron (*kuve* 'speckled black and white')

kaka meo (*kaka méco*), large spider

- d) KAKA compounds in Komodo (from Verheijen 1982)

kaka dangka, earwig

kaka kéaq, Barn owl (*Tyto alba*)

kaka po, Large-billed crow (*Corvus macrorhynchos*)

kaka rao, Glossy swiftlet (*Collocalia esculenta*); possibly also Drongo (*Dicrurus* sp.)

kaka wetoq, Sunda pygmy woodpecker (*Dendrocopos moluccensis*)

kaka koaq, Helmeted friarbird (*Philemon buceroides*)