Terminology development in Zulu avian nomenclature

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Two interlinking threads run through this article: one is a broader framework of terminology development in South African languages; the other a narrower, more focused description of a particular terminology development project, namely the deriving of isiZulu names for birds found in the KwaZulu-Natal region, where no names have previously been recorded. The broader thread contains a theoretical look at terminology development; the narrower thread documents the background and the execution of five isiZulu bird name workshops conducted between 2013 and 2017. At the beginning of the 21st century ornithological literature in South Africa had long contained species-specific names in English and Afrikaans for all species of southern African birds. The situation for isiZulu, as for the other Bantu languages in southern Africa, was that many birds shared the same name, many birds had several names, and many species had no name at all. The goal of the workshops, and the project as a whole, was to develop individual names for all species of birds in the KwaZulu-Natal region. The article looks in detail at the linguistic processes involved in developing these names, placing this within the broader thread of terminology development, and then concludes by evaluating the value of having isiZulu species-specific names for birds in the isiZulu-speaking region.

Introduction

In 2003, BirdLife South Africa (BLSA) initiated a project to translate *Our Beginners Guide to Birds* (Oliver 2003) into isiZulu. This booklet deals with 187 more commonly encountered birds throughout South Africa. Of the 187 birds listed, over 50 had no isiZulu names documented and many more had shared names, e.g. *unongozolo*, which is used to refer to a variety of different kingfisher species, and *inkotha*, a name given generally to bee-eaters. This situation was identified in a statement made by Maclean over 30 years ago:

> Bird names in the African languages[1] present far more problems than in the European-derived languages. Many of them are generic (i.e. all species of sparrows may have the same name), others are regionally limited in application, one name may be applied to two or more different birds, some well-known birds may have more than one name in a different language, and so on. Most bird species have no African names at all (1984: xxix).

This situation led to a bird-naming project, which we undertook. It is essentially a terminology development project to ensure that for each scientific name that exists in the current BirdLife KwaZulu-Natal bird list, there is an equivalent isiZulu name. The project was initiated in 2012 and is now in the final stage of dissemination of results.

Background to avian terminology development in South Africa

In biology, a "common" name of a taxon or organism is a name that is based on the normal language of everyday life; this kind of name is often contrasted with the scientific name for the same organism,

which is Latinised. A so-called "common name" is the one most frequently used. In contrast to the situation with the "African" language names, bird names in English and Afrikaans have long undergone "terminology development" processes to ensure species-specific names for southern African birds. We outline some of the details below.

Currently in South Africa, according to the history stated on the BLSA website, the work done by committees and interest groups such as the BirdLife South Africa (BLSA) List Committee and the Afrikaans Bird Name Group, Afrikaanse Voëlnaamgroep, has led to there being distinct English and Afrikaans book names for every single species of bird found in South Africa.[2]

Afrikaans bird names

Currently in South Africa, the Afrikaans Voëlnaamgroep is responsible for Afrikaans bird names. In 1997, Aldo Berutti asked Morné de la Rey to gather a group of keen Afrikaans-speaking birders in order to standardise Afrikaans bird names. Publishing this need on SABirdnet resulted in the formation of the Afrikaanse Voëlnaamgroep (AVNG). The AVNG was formally recognised by BLSA in 1998. The group followed a process of wide consultation, circulating its existence widely in the printed and electronic media, and distributing a list of names most commonly used whenever the opportunity presented itself. The group attempted, wherever possible, to reach decisions through consensus, and the main aim has always been not to change names unnecessarily. Other principles governing the names on the list include that descriptive names are used whenever possible, and that people or regions, such as Wahlberg's Eagle or Natal Robin Chat, are only included when no descriptive name can be found. Other Afrikaans bird lists do exist, but the name list provided by the AVNG is used by most authors and publishers of bird books. The Board of BLSA made it policy on 1 December 2007 that the AVNG list is accepted as the official Afrikaans list, and only amendments advised by the group will be accepted.[3]

English bird names

The provision of English vernacular names for southern African birds has had to take into account English names used elsewhere in the world, and the South African list is based on the work done by the International Ornithological Committee (IOC). The IOC World Bird List is an open access resource of the international community of ornithologists. Their goal is to facilitate worldwide communication in ornithology and conservation based on an up-to-date classification of world birds and a set of English names that follow explicit guidelines for spelling and construction (Gill and Wright 2006). The IOC World Bird List complements three other primary world bird lists that differ slightly in their primary goals and taxonomic philosophy, i.e. *The Clements Checklist of the Birds of the World*, *The Howard & Moore Complete Checklist of the Birds of the World, 4th Edition*, and *HBW Alive/Bird Life International*. Improved alignment of these independent taxonomic works is set to be discussed at a Round Table discussion by the newly structured International Ornithologists Union, at a 2018 meeting in Vancouver, Canada.

Avian nomenclature in indigenous languages

These comprehensive bird lists, however, have not been formulated for bird names in most of the South African vernacular languages from the Bantu language group. Some work has been done on the names of birds in Herero and Sesotho, and further afield in Swahili,[4] but at the time of writing no work had been done on bird names in the other languages. With our interest in birding, a previous background linking bird names to the isiZulu language,[5] we, both academics in the Department of African Languages at the University of KwaZulu-Natal, decided that while it was not practicable to tackle bird names in all the outstanding "African" languages of southern Africa, we could at least see what could be done about securing a comprehensive species-specific list of bird names for isiZulu.

To this end, a series of isiZulu bird naming workshops were conducted over a period of five years from 2013 to 2017, with a core of specialist isiZulu-speaking bird guides[6] together with the two authors. The aim of these workshops was essentially

- to identify and record existing vernacular isiZulu names for all birds found in the KwaZulu-Natal (KZN) region;
- to select preferably one commonly used name for birds when two or more names existed for a particular species;
- to distinguish between various species having the same name;
- to reassign names where possible; and
- to coin and create new names where none had existed before.

Outline of terminology theory and development

The need for unambiguous communication in theoretical and applied fields of human activity is constantly evolving and developing. Terminology development is the process of excerption, documentation, standardisation, publication and dissemination of terms. It is a time-consuming and labour-intensive process where specialised skills, commitment and devotion are essential. A terminologist aims to provide unambiguous terms for well-defined concepts. Marietta Alberts (2008: 6), a terminologist providing training workshops in terminology development in South Africa, outlines the great backlog concerning the development of African language terminologies, and describes various methodologies being used to harvest terminology in South Africa. These three main methodologies are subject-oriented terminography, translation-oriented terminography, and linguistic community-oriented terminography. The two areas that are of particular interest in this project are subject-oriented terminography and linguistic community-oriented terminography.

Subject-oriented terminography refers to the terminologies of all official languages which are being developed to enhance the multilingual heritage of the country, and to develop the languages into functional languages in all subject areas and domains. The collaborators (mostly linguists or language practitioners) in this instance form a core group to assist the language-specific terminologists. When the terminologists, for instance, compile a zoology term list, the core group of collaborators will get subject specialists working in the field (e.g. teachers or lecturers in this branch of the sciences) who are first-language speakers of the relevant language to assist them with the discussion of the terms and related information. The terminologist then returns to the office and changes the database according to the suggestions made by the collaborators and subject specialists. After the finalisation of a specific terminology list, the relevant National Language Body (NLB) is requested by the Terminology Coordination Section (TCS) to verify and authenticate the terminology. After verification and authentication, the relevant terminologist changes the database according to the suggestions made by the language-specific NLB members. After the specific database has been finalised, the relevant terminology list can be published and disseminated to target users.

This particular project on isiZulu bird names, although to some degree a subject-orientated terminography project insofar as it deals with avian nomenclature, leans more towards the linguistic community-oriented terminography, although there is overlap between the two fields. Terminology in this particular field is harvested from both rural and urban speech communities (community-oriented terminography) for documentation in the central terminology bank. Alberts (2008: 8) makes the point that this process, which entails fieldwork, is costly and therefore seldom undertaken. Various terms in a variety of domains already exist in the African languages. The problem is that these terms are not documented in a systematic format (e.g. in a database), and are therefore not standardised. The various

dialects also contain a wealth of terms which could be harvested and utilised in the standard languages. For terminology development in a specific language to be effective, trained terminologists are required to do fieldwork to obtain and document the terminology or names that exist in various subject areas and domains in the relevant language. In order to do this, the language-specific terminologist is required to visit both urban and rural areas to document the terminology related to animal names, bird names, customs and beliefs, traditional medicines, etc. (i.e. linguistic community-orientated terminography). These terms can normally be obtained from the older members of the communities.

In the case of this isiZulu bird name project, this information has been acquired by the various isiZulu-speaking bird guide experts from their own communities and this is the information that has been collated and systematised.

Overall project methodology

Essentially, this isiZulu bird name project can be situated within a five phase structure. *The first phase* consisted of a review of the existing literature to establish as extensively as possible all currently published isiZulu bird names in existing bird guides, particularly all isiZulu names in existing *Roberts* editions since the 1984 Maclean edition and the background to these names. In addition, existing lists of isiZulu names orally accessed and compiled over time by various people and kept by BirdLife South Africa were also examined. Koopman also compiled a list of isiZulu bird names gleaned from scouring various English-Zulu dictionaries, particularly the work of Bryant (1905) and Doke and Vilakazi (1958).

The second phase dealt with the first three workshops held between 2013 and 2015, dealing with the problem as identified by Maclean of "many birds – one name; many names – one bird; many birds – no name", and the lack of clarity between folk genus and scientific species.

The third phase involved the interrogation of the information gleaned from the first three workshops. In this phase, Roger Porter, a retired scientist from the erstwhile KwaZulu-Natal Wildlife, identified lacunae, irregularities, unsuitable names and various other problems.

The fourth phase addressed the outcomes of the third phase in the way of two further workshops held in 2017, where questions were answered and problems were resolved.

The fifth phase dealt with correlation and compilation. In this phase, the results of all four phases were correlated and a single master database of isiZulu bird names was compiled with linguistic notes, semantic background and historical and cultural references noted about these names.

The focus of this particular article is on the second phase outlined above, where the linguistic processes and the actual methodology of the workshops is examined.

Modus operandi of the isiZulu bird name workshops 2013–2017

The pattern established at the first workshop at Phinda Game Reserve in September 2013 was to be followed in subsequent years. At this first workshop in 2013, the "basics" of the project were explained, i.e. the background, the aims and goals, and the resources available. Participants were reminded about isiZulu derivational grammar, i.e. the name formatives *-so-*, *-no-* and *-ma-*, reduplication of stems, compounding of different lexical elements, and literary devices such as metaphor and onomatopoeia – all potential tools in terminology development. The use of the worksheet issued to each participant was explained, as was the way in which the *Roberts VII Multimedia* was to be used during the workshops.

As a preliminary exercise, the twelve participants present on the first day were then divided into three groups of four. Each group was given six unnamed birds and asked to think up names. Each group then presented their "findings" and then discussed these with the other groups.

After these preliminaries, the group as a whole then settled down to the first birds on the worksheet:

albatrosses, pelicans, gannets, and cormorants. For each cluster of birds,[7] the first author called up each species found in KwaZulu-Natal, reviewed the existing names, enumerated the problems (the "Maclean problems") and using the *Roberts Multimedia* on her laptop together with a data projector, displayed the characteristics of each bird on a screen, i.e. their appearance (plumage, colour, markings, distinctive stripes, spots, crests, etc.), their call, and their movements (flight, gait, diving, and so on). Details about habitat, distribution and diet were also available when called for.

During this first session, we played three roles between us: facilitator, operator of the *Multimedia*, and scribe. All participants were asked to write on their worksheet what name decisions had been reached for each species after group discussion, and these sheets were returned at the end of the workshop as a means of checking the main list that was compiled.

On the very first day of the first workshop, it soon became apparent who of the twelve participants really "knew their birds", who understood isiZulu derivational grammar better, who were more creative in their thinking, and who were prepared to actually contribute to the discussion. At the end of the first day, only five participants were asked to come back on the second day. From these five, a "core group" emerged, most of whom were able to attend workshops in the following years.

By the second day of that first workshop, as the aims, goals and methodology started to clarify, so did the pace. By the end of the first three-day workshop in 2013, names had been revised or created for about a quarter of the birds found in KwaZulu-Natal, and we estimated that we would be able to complete the list if we had similar workshops in 2014 and 2015. This, in fact, proved to be the case. A three-day workshop in the town of St Lucia in the Greater St Lucia Wetlands Park in November 2014, and another three-day workshop at the Baobab Inn near Mkhuze in northern Zululand in November 2015 enabled us to complete the first draft of a comprehensive list of birds found in KwaZulu-Natal, each one with a confirmed, a revised, or a newly minted name.

Altogether, the names of 540 species of birds were discussed. As each workshop averaged 21 hours (eight hours each day for the first two days and five hours on the third day), an approximate total of 63 hours was devoted to this second phase of the project. This works out roughly to between eight and nine birds discussed each hour, but this can really only be a vague approximate as some birds (those with well-known and well-attested names) required no discussion, while other birds might have needed more than half-an-hour each to decide on a name.

The core workshop participants were all bird experts, many of them trained bird guides. They "knew their birds". Nonetheless, in the process of deciding which of the salient features of each bird was the most desirable for naming purposes, each bird was called up on the screen and the bird was looked at from each angle, videos were played of its flight or gait. Its diet and habitat were noted, and recordings were played of its call. For each bird with no recorded name, there was discussion, not only on which of the features of the bird was the most suitable for naming, but which linguistic strategies could be used for naming it, i.e. onomatopoeia, metaphor, adaptation of a suitable verb or noun, or a compounding of such. We go on now to look at such linguistic strategies.

Linguistic strategies used in the naming process

Cluver (1989: 254) points out that since the terminographer working on a developing language actually participates in the elaboration/development of the terminology, he/she needs a deeper understanding of the word-formation processes than his/her counterpart who works on a so-called "developed language". In the analysis of the names of the 540 species discussed in the workshops, both old and new, the following processes were identified: *confirmation*; *selection* and *relegation*; *redirection*; *assignment*; *coinage*; *adaptation* and *extension*. These are not necessarily always mutually

exclusive processes. Adapting and extending existing bird names produces new lexemes (new words in a bird name list). So in a way they are coinages as well. The processes are enlarged upon below.

Confirmation

In the 2013–2017 workshops, the most common process, and the one that took the least amount of time and thought, was the process of confirmation. This process acknowledges that a name is well-known and well-attested in the literature. An excellent example here is the name *inkwazi* (African Fish Eagle). Every dictionary records this isiZulu name for the bird. Research has shown cognates in a number of southern African Bantu languages, so the word is old. All the workshop participants had no hesitation in confirming this name.

Confirmation of a name was easy if three factors coincided: the name was well-attested in the literature, the name was well-known by the workshop participants, and the name was one that was widely and consistently used throughout KwaZulu-Natal.

Examples of other names which were confirmed with no hesitation were *uthekwane* (Hamerkop), *inkankane* (Hadeda Ibis), *intshe* (Ostrich), *indwe* (Blue Crane), *impangele* (Helmeted Guineafowl), and *ihhoye* (Spur-winged Goose).

It may seem that the process of confirmation of an existing name has little to do with terminology development, but within any terminology domain (such as isiZulu bird names), determining which of the existing terms are accurate and pertinent is important. As such, confirmed names provide a solid base on which to build.

Selection and relegation

Selection, as applied to individual birds, refers to the choice made when a bird had more than one name, or a single name had been recorded in different forms. Two different types of selection were carried out, each involving a choice of some sort. For example, the Hadeda Ibis has been equally recorded as *inkankane* and *ihahane*. Clearly these are both onomatopoeic names describing the bird's nasal call, but which should be the first choice in a system of "one bird one name"? On balance, more workshops participants were familiar with *inkankane* and so this form was selected. The selection becomes more difficult when there are several names for one bird. After considerable discussion on the three recorded names of the Hoopoe (*umzolozolo*, *uziningweni* and *umambathingubo*) the well-known name *umzolozolo* was selected, together with the descriptive name of *umambathingubo* ("one that wears a colourful blanket") as "book" names for this bird. As with the slightly lesser-known name *ihahane* for the Hadeda, the lesser-known name *uziningweni* was relegated to a "second-level name", a "lower status", as it were, not to be forgotten, but described as "also used orally by some people in KwaZulu-Natal", or a similar phrase.

The process of relegation came up when the second author, Koopman, was working with Gordon Maclean in the early 1980s on the isiZulu names for the 5th edition of *Roberts' Birds*. Scouring the existing dictionaries, and doing field research which turned up a number of regionally different names for one species, often produced a situation where a given bird had three or four names. Maclean worked on the "one bird one name" principle as much as he could, given that this was the prevailing principle for the English and Afrikaans names – not to mention the scientific names. However, he would accept two isiZulu names for a species if these were equally well known and neither was obviously more used than the other. He drew the line at three isiZulu names for one bird, however, and the ghost of Gordon Maclean seems to have been hovering in the background when the workshop participants made their own selections.

Other examples of selection, and the corresponding relegation are:

- *unhloyile* was selected as the "book" name for the Yellow-Billed Kite, while the names *ukholwe*, *ukholo* and *isikhokwane* are described in our findings as "also known orally in KwaZulu-Natal as ...";
- *ingqungqulu* was selected as the "book" name of the Bateleur, while the alternate name *indlamadoda* (from its habit of feasting on corpses of those slain in battle**)** goes into the records as "also known orally".
- the Corncrake, previously known by two similar forms, *umjekejeke* and *umjengejenge*, had the book name *umjekejeke* selected by the participants, to align it more to the name of the African Crake also known as *umjekejeke*. This name form was then extended to *umjekejeke wasenyakatho* ("of the north")**,** and the other form was recorded as an alternate oral form.

A particularly interesting case of selection and relegation of names was that of the Rufous-naped Lark. This bird is well known in the literature as *ungqangendlela* ("what goes straight along the path"). Indeed, this name is developed into an extended image in the historical praises of this bird. The bird has also been extensively recorded in different forms of the root -*ngqwashi*: *unongqwashi*, *umangqwashi*, *isangqwashi* and more. The names *uhuye*, *intilontilo*, *uqaqashe* and *iqabathule* have also been recorded in one publication or another. Among this plethora of existing names, the workshop participants selected the names *intilontilo* and *uqaqashe* for this bird. There was considerable, and lengthy, discussion about this, but eventually the consensus opinion was that these were the two names by which the bird was currently known among the isiZulu-speaking people of KwaZulu-Natal.

Selection, and its strategic corollary *relegation*, often seem to be quite arbitrary choices – a flip of the coin, as it were – but in cases like the Rufous-naped Lark, the issue has been rigorously debated, and as with so many well-known and well-loved bird names used by English-speaking birders, the old is replaced by the new. This is part of the dynamic nature of naming systems in a diachronic context: names which were in use among a community of speakers a century ago or fifty years ago are no longer necessarily in use today.

Redirection

Redirection is in effect a kind of onomastic sharing when one species may have three or four names, while two or three other species in the same folk genus or "cluster" have no names at all. The case of the Brown-hooded Kingfisher is illuminating here: this bird had three previously recorded names – *indwazela*, *unongozolo* and *unongobotsha*. In this case the first name, *indwazela*, was *redirected* as a generic name for all the Kingfishers, indicting their behaviour (The isiZulu verb *ndwaza*, on which this name is based, indicates a motionless waiting for prey to appear). Its second name, *unongozolo*, was *redirected* to the Striped Kingfisher in the 2015 workshop.[8] The third name *unongobotsha*, considered to be rarely used and known, was relegated to "also known as" status. As this process of redirection and relegation left the Brown-hooded Kingfisher – on the books, at least – without a name, the name *isiphikeleli* was redirected from the Striped Kingfisher to the Brown-hooded Kingfisher, the name being considered to be a suitable reflection of the repetitive sound of its call.

In similar fashion, the workshop participants felt that the Red-billed Wood Hoopoe did not really need both the names *inhlekabafazi* (indicating the cackling sound of women in its call) and *unukani*, while the closely related Scimitar-billed Wood Hoopoe had none, so the name *unukani* was redirected to the Scimitar-billed.

The Martial Eagle, assigned the name *ukhozi* ('eagle') in the 2013 workshop as the epitome of an eagle, had this name redirected as a genus name for all eagles. In its place the wonderfully descriptive name of *inkosiyezinkozi* ("the king of the eagles") was coined for this "eagle of eagles".

Assignment

The term *assignment* has been used for a particular process: during the workshops it often happened that no decision could be reached on what features of a particular bird should be used as the base of a name, or, having decided on a salient feature, could not come to a decision on how to frame a name for that feature. On such occasions, we then checked the list of dictionary names for unidentified birds: names such as *isambatha* ("species of yellowish-brown bird resembling a plover"), *isantinti* ("species of small water-hen"), *imbekle* ("species of small bird with green head, and red tail and beak") and *ubholoba* ("species of small bird found in the grass").[9] If the bird for which we could not decide a name *was* in fact a yellowish-brown bird resembling a plover, then the name *isambatha* was assigned to it, and if our unnamed bird *was* a type of small bird often found in grass, then the name *ubholoba* might be assigned to it.

In this way the Purple Heron (*Ardea purpurea*) was assigned the name *unoxhongo*, glossed in Doke and Vilakazi (1958: 588) simply as "species of heron", and the Black Crake, with no previously recorded isiZulu name, was assigned the name *isiqhanazana*, an abbreviated version of the name *isiqhananazana* glossed by Doke and Vilakazi (1958: 687) simply as "species of water-bird".

The case of the Southern Black Tit is a curious one. Discussed in the 2014 workshop, the bird appeared to have no previously recorded name, nor did the participants know of an extant oral name. As the name *isishishishi* does occur in Doke and Vilakazi (1958: 741) with the meaning "species of small forest bird", a shortened form of this name – *isishishi* – was assigned to this bird. Later, in phase five, when findings were correlated, the name *isicukujeje* was found in Doke and Vilakazi (1958: 128) for the "black tit bird, *Parus niger*" [= Southern Black Tit]. This name still needs to be confirmed. If it is found not to be currently known, the assigned name *isishishi* will remain.

Coinage, adaptation and extension

In the wider sense, *coinage* refers to a process that can include both *adapting* and *extending* existing words, as well as coining original new words which have no resemblance to any existing words. In the case of bird names, adaptation and extension usually involve the reworking of an existing bird name, often used as a generic name. In the process of creating new bird names, there is a manipulation of existing words in the isiZulu lexicon which are not bird names. The exception to this is an onomatopoeic name, which usually has no resemblance or connection to any existing isiZulu word.

Adaptation was one of the linguistic strategies used when the workshop tackled the isiZulu names of falcons. Maclean had given *uheshe* as the name of the Lanner and the Peregrine Falcon. After lengthy discussion at the final 2017 workshop, it was decided, based on consideration of aspects such as speed, size, habitat and call, that the falcons and buzzards would adapt the generic name *uklebe*, previously given to the goshawks, and that *uheshe* would better suit the hobbies and goshawks. This name was then adapted and extended as *uheshane*, a generic term for the sparrowhawks, by adding the diminutive suffix indicating their smaller size. These three generic terms were then extended to reveal specific aspects of each species, e.g. either

• size, as in the use of the extra diminutive in the name *uheshanyana* for the Little Sparrowhawk; or

• behaviour, as in the name *oklebeklebe* for the Amur Falcon, where the bird's tendency to congregate in large numbers is indicated by the reduplication of *-klebe*; or

• markings, as in the name *uheshanomidwayidwa* for the Little Banded Goshawk, where the generic *uheshana* is extended with *omidwayidwa* ("which is many-streaked").

Adaptation was also a strategy adopted for two tern names. The process began with the Lesser-crested Tern, which had no previously recorded isiZulu name. The workshop participants decided on a

unique coinage here, the onomatopoeic name *ukliyo*. This was then adapted with the prefix *-no-* and the suffix *-ane* to produce the name *unonklilwane*, given to the little tern. A different onomatopoeic element /*bhakla*/ was then prefixed to *-kliyo* to produce the name *ubhaklakliyo* for the Caspian Tern. The repetition of the rasping sound /kl/ in this name captures perfectly the call, described by Maclean (1984: 283) as "[r]aucous *kraka-kraaa* and *kraaak*; rapid *kak-kak-kak-kak*".

An interesting type of adaptation occurred in the session when names for various species of swift were discussed. Maclean (1984: 360) had given the Black Swift the names *ihlabankomo* ("what stabs the bovine"), *ihlolamvula* ("what predicts the rain") and *ijankomo* (a shortened form of *ijiyankomo*, loosely "what follows the cattle"). The participants selected the name *ihlolamvula* here, as traditional Zulu beliefs linked this bird to the coming of rain.[10] The Little Swift and the Alpine Swift lacked names, so it was decided to adapt the notion of the coming of rain and create the names *inhlolazulu* ("what predicts the weather") for the Alpine Swift, and *imvuliyeza* for the Little Swift. These could be considered "semantic adaptations" rather than the morphological adaptations exhibited by *uheshe/ uheshane/uheshanyana*.

Extension was one of the most common methods of forming names for birds which had no previously recorded isiZulu names. This was also done by the committees that decided on species-specific English names for South African birds in the first half of the twentieth century. This process simply takes a generic name like "eagle", finds a group of a dozen or so eagles, and then for each species qualifies the word "eagle" with an obvious feature. It was this process of extension which created names like Tawny Eagle, Steppe Eagle, Crowned Eagle and Martial Eagle. The workshop participants used the same linguistic strategy of extension using the basic word *ukhozi* (indicating eagle in isiZulu), in *ukhozimuhlwa* for the Steppe Eagle, a reference to the fact that it eats termites (< *umuhla* "termite"); *ukhozolusisila* for Wahlberg's Eagle, referring to its longish tail (< *isisila* "bird's tail"); *ukhozolumabala* for the Lesser Spotted Eagle (< *amabala* "spots"); and *ukhozolumnyama* for the Black Eagle (< *-mnyama* "black").

Extension has also produced names for the various harriers, known by the generic term *umamhlangeni* ("characteristically found among reed-beds"). From this generic term we have *umamhlangeni onsundu*, *umamhlangeni omnyama* and *umamhlangeni ophuzi*, referring respectively to the brown colour of the African Marsh Harrier, the black colour of the Black Harrier and the pale colour of the Pallid Harrier**.**

"True" coinages

The "true" coinages, i.e. those which are not extensions or adaptations of previously existing bird names, are perhaps the most interesting of the new isiZulu names for birds. The onomatopoeic ones simply try to recreate in combinations of isiZulu phonemes the sounds that the birds themselves make. Many existing names are onomatopoeic in nature: *ingududu* for the Ground Hornbill with its *du-du-du-du-du* call, *uphezukomkhono* for the bird that has the equally onomatopoeic name *Piet-my-Vrou* to reflect the same call, and *unohemu* for the Crowned Crane that calls *ma-hem, ma-hem, mahemu-hemu,* and is known in Afrikaans as the *Mahem*. Equally onomatopoeic names were coined in the different workshop sessions, including *umcwicwicwi* for the Malkoha (Green Coucal), *isipopopo* for the Yellow-rumped Tinker Barbet, *iklosi f*or the Grey Penduline Tit, *usibó* for the Black-headed Oriole and *isicivó* for the Puff-back Shrike.

Other coinages were adaptations of words that exist in the isiZulu lexicon, but not as bird names. Many of these also ended up as names referring to appearance, often using metaphor as in *umakhwaphamnyama* ("black armpits") for the Grey Plover, or simile as in *isankawu* ("like a vervet monkey") for the Southern Pochard because of the similarity of its call to that of the vervet monkey.

Coinage can also be based on behaviour, as in the cleverly named generic term *unozalashiye* for cuckoos, which after laying their eggs in another bird's nest then leaves them. The name is derived from the verbs *zala* ("lay [eggs]") and *shiya* ("leave behind"). In the case of the Grey-headed Bush-shrike, with its mournful hooting whistle, the name for the bird is coined by broadening the meaning of an already existing word: Doke and Vilakazi (1958: 682) give *isipoki* (< Afrik. *spook*) as meaning "ghost". Indeed, Afrikaans provides an earlier example of the same notion, calling this bird a *spookvoël*.

This last example leads us to discuss *transliteration* – a well-known strategy in terminology development where a word in one language is adopted into another, taking on the phonological characteristics of the receiving language. The isiZulu lexicon has hundreds of such adoptives, words like *isikele* (< Afrik. *skêr* "scissors"), *ibhulukwe* (< Afrik. *broek* "trousers") and *isibhedlela* (< Eng. hospital). As project leaders, we made a conscious point not to use this strategy, rather sticking to the principle of "authentic" bird names rather than "Zulu-ising" English names. For example, where we did not have an isiZulu name for a bird such as the Common Moorhen, we did not say "*imoheni*", but rather coined the word *inkukhu yamanzi* ("chicken of the water"). In the same way we avoided a word like "*idatha*" for the African Darter, rather coining the name *inyoninyoka* ("snake bird" – a reference to the shape of its neck).

Transliteration does, however, appear in the form of the name *umasikulufu* given to the African Broadbill. This name is indeed a transliteration of the English word *screw*, but is not a mere transliteration of the English name for the bird. The name is far more creative, referring as it does to the bird's characteristic spiral, screw-like, upward flight pattern.

It can be seen that all sorts of distinctive features gave rise to names: plumage, diet, behaviour and song, and at the same time a wide variety of linguistic strategies were adopted. The Zulu birders at the workshops showed an easy familiarity with the various grammatical potentials. This kind of skill, creating new words and modes of expression, through derivational grammar as well as through literary devices like metaphor and onomatopoeia, is usually something also ascribed to the professional creators of traditional oral praise poetry – the *izimbongi* (bards) who created and performed praise poems (*izibongo*) in honour of kings and chiefs. But the composing of oral poems in honour of this or that person, or indeed of this favourite dog or ox, is still common among the ordinary (non-professional) Zulu citizen, male or female, young or old, and so it is no surprise to find the isiZulu-speaking birders at the 2013–2017 workshops employing the same skills in wordplay. The process of following these discussions, and occasionally contributing to them, was at times exhilarating, and it was decidedly a privilege to be able to be present when so many creative ideas and thoughts were whirling around the room.

Conclusion

Native and traditional wisdom has historically provided a large body of knowledge about the environment. The dynamic nature of indigenous knowledge, usually handed down orally, has assisted communities in adapting to and surviving in their changing environments. Its application in biodiversity conservation, monitoring and management has, however, not been fully explored. If one considers the main function of collating, researching, recording and even coining names, it is clearly for the purpose of identification. If one cannot identify a bird by a unique individual name, then one cannot record information about birds that is vital. Biodiversity conservation efforts require an integrated approach with the involvement of local inhabitants as major stakeholders. Avian nomenclature in South African indigenous languages, in this case isiZulu, has not previously received the attention it deserves. It is necessary to understand such naming systems particularly for a popular taxon such as birds, so as to unravel the potentials of indigenous people in bird conservation and monitoring efforts in South Africa.

The five workshops that were held from 2013 to 2017 were essentially a linguistic community-oriented terminology development project, which both confirmed existing isiZulu names for bird species, as well as devising new names for specific species and genera that previously had no recorded individual names. Without a comprehensive list of names that refers to each individual species, it would be difficult to ensure the accuracy of indigenous knowledge that Zulus have about birds. By assigning each bird a specific isiZulu name in the KwaZulu-Natal region, biodiversity can not only be promoted and protected, but it will also be very useful in future bird conservation and monitoring programmes, and hopefully, once this project is completed and the list is circulated and accepted by the relevant bodies, it will stimulate avian terminology projects in the other provinces of South Africa as well.

Notes

1 By "African" languages, Maclean is referring to the Bantu-origin languages of southern Africa: the Nguni languages, the Sesotho-Setswana cluster, Tshivenda and Xitsonga, and other languages which are not listed as official languages of South Africa.
2 https://www.birdlife.org.za/documents/.../die.../745-history-avng-20100526071533
3 http://www.birdlife.org.za/publications/checklists
4 See Kolberg (1986), Mlingwa (1997), Ambrose and Maphisa (1999), and Ambrose (2005).
5 See Koopman (1990), Oliver (2003), and Chapter 13 "Generic names of birds" in Koopman (2002).
6 The bird guides were selected from different regions of KwaZulu-Natal so as to ensure a good coverage of regional or dialectal differences in bird names.
7 For the purposes of this article, the term "cluster" is used for any group of bird species showing certain similarities of appearance, behaviour, habitat, etc. Herons can be said to constitute a cluster, as can ducks and weavers.
8 To be extended to *unongozolwane* at the final 2017 workshop when the kingfisher names came under discussion once again.
9 All examples from Doke and Vilakazi (1958).
10 This name was later selected as a generic name for swifts in one of the 2017 workshops.

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