Localisation of bird sounds in the German and English versions of Lars Svensson’s Swedish ornithological field guide Fågelguiden

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ABSTRACT

It is often argued that localisation is exclusively used for software development in the computer industry. This study has, however, tested the application of the concept of localisation in a new area, in the bird sound descriptions of an ornithological field guide. The analysis is based on the content of bird sound descriptions in three versions of the revised second edition of the ornithological field guide Fågelguiden, the original in Swedish and the German and English translations. The main focus lies on the Swedish original and the German translation, Der neue Kosmos Vogelführer, while the English version, Collins Bird Guide, is used as an additional reference to check features of localisation.

Besides ‘normal’ text, the bird profiles make use of transcriptions of bird sounds, analogies and mnemonics to describe bird vocalisation. The quality of these features, i.e. the degree of localisation, is analysed based on concepts related to onomatopoeia and phonetics and based on concepts of Translation Studies related to cultural transfer. Based on this analysis linguistic, cultural and content issues as well as technical aspects that are typical for localisation can be identified, such as the English text as intermediate, strategies to culturally adapt the text, rearrangement of text, or partial localisation. The study provides an example for the applicability of localisation in an area other than software and a pioneer approach for dealing with the translation of bird vocalisation by applying localisation criteria.

KEYWORDS

Bird vocalisation, field guide, phonetics, onomatopoeia, transliteration, transcription.

1. Introduction

1.1 Localisation

Localisation generally describes any changes necessary to adapt a product to the needs of a particular group of target users (Esselink 2000). The core principle of localisation is to make an international product feel local irrespective of its origin and area of application. This process involves linguistic issues (translation), cultural and content issues, and technical issues (LISA 2003). In the localisation process, several strategies from Translation Studies are assimilated such as omission, cultural substitution or the use of more neutral or general words for elements that would not make sense in the target culture and that are not vital for a text to be understood. In fact, there is no true consensus on the boundaries between localisation and translation.
The concept of localisation is mostly used in relation to the computer industry, i.e. localisation of software. So far there have been few examples of localisation in other areas e.g. in Kristensen (2002) or Pym (2004:6). This study will provide an example of localisation in a new area, in scientific field guides. It will compare examples of bird sounds, i.e. onomatopoeic content, and other content related to vocalisation in the Swedish original of Fågelguiden with the corresponding content in the German and English versions (Svensson et al. 2009; German: Svensson et al. 2011; English: Svensson et al. 2011). Concepts from Translation Studies relating to onomatopoeia and phonetics will be used to evaluate the extent and applicability of localisation in field guides.

1.2 Localisation and ornithological field guides

Ornithological field guides are moderately sized, portable identification guides aimed at facilitating field identification of birds in nature by means of illustrations (drawings or photos) and text. Lars Svensson’s transnational field guide Fågelguiden covers the Western Palearctic ecozone which encompasses Europe, North Africa, the Arabian Peninsula, with the Ural mountains as the eastern barrier. First published in Swedish in 1999, this field guide has been translated into 14 European languages. While the structure, range of species and the illustrations remain the same, the text and cover are adapted to the respective target countries. This raises the question of whether it could match the process of localisation. Just like a software product, this field guide must meet local requirements and fulfil the purpose of bird identification to be sold and used successfully in different countries.

1.3 Localisation of birdsongs in field guides

Birds produce all kinds of sounds, mainly with their own vocal organ. Most of these sounds are species-specific, which means only one species utters a particular sound, or a similar one in closely related bird species. Thus bird sounds play an important role in bird identification and an accurate description in words, i.e. transcription, may be useful. If field guides are translated, these original transcriptions ideally become so-called transliterations (‘translations’ of the transcriptions) that are adapted to the target language, i.e. they are localised, or are transcribed from scratch in the target language.

There are different ways of approaching and explaining bird sounds. Adequate transcription of sounds, so-called onomatopoeia, and related concepts such as phonetics and transliteration will be discussed shortly to illustrate the localisation process of bird vocalisation. The focus hereby is clearly on the localisation of the product, i.e. how localised the field guides
are based on these existing linguistic concepts, and not on the assessment of the author’s personal perception of bird sounds in the Swedish original.

1.4 Transcription

Transcription describes the transfer of sound into written form (Dresing 2010). Ideally both spoken words and speech features otherwise un- or underrepresented in texts such as intonation, pauses, speed, volume and even movements should be visible in the transcript e.g. by using characters such as the comma, dash, different fonts or bold face (Edwards 1993; Selting et al. 1998). The challenge is to find a balance between information content and clarity i.e. readability (Ochs 1979). According to Muhaidat (2005) a transcription is good when the spelling of the target text is closest to the phonetics of the source language, i.e. here the bird sounds or the original transcription.

1.4.1 Transcription of bird vocalisation

One of the two most commonly used methods for word descriptions of bird vocalisation is phonetic transcription (Pieplow 2007). Ornithological transcriptions deal with complex sounds that are not part of human language, e.g. the melodious song of a nightingale. There is no official alphabet or general standards established as to transcription of bird songs and there is little literature dealing with the issue (Hunt 1923, Pieplow 2007). Because speakers of the same language perceive a sound in highly subjective ways, many think that it is arbitrary or even impossible to transcribe bird sounds (Pieplow 2007). Even though there have been some initial efforts to elaborate standardised descriptions of bird songs and calls in English (Pieplow 2007), more work needs to be done to standardise them in an objective way, optimally by considering phonetics (Hunt 1923, Pieplow 2007), especially in languages other than English.

Pieplow (2007) summarises bird sounds in his five basic types of sound information that human beings can distinguish by ear: pitch, tone quality, rhythmic pattern, volume and variety. All this information should ideally be accounted for in transcriptions. One early attempt to include all these aspects was made by Hunt (1923). His approach is based on phonetics and words and it is the most detailed contribution to bird transcription in the English language. Simplified, his vowel pitch order corresponds from the lowest to highest phonetic letters [u], [o], [a], [e], [i].

Another method not addressed by Hunt and Pieplow would be to use characters other than letters and formatting to mark pauses, emphasis, velocity and other sound structure. For example the repetitive and monotonous call of a Corncrake *Crex crex* would be something like *crrk-crrk*.
1.4.2 Onomatopoeia in bird vocalisation

Linked to transcription of bird vocalisation is the concept of onomatopoeia, stemming from the Greek ‘onomatopoiia’ which can be translated as ‘making names.’ Generally the aim of onomatopoeia is to mimic all kinds of sounds in written form e.g. sounds produced by people, animals or others. One example would be the cry of a rooster, a sound most of us will be familiar with, in English cock-a-doodle-doo, cocorico in French and kikeriki in German. In a field guide this example would include additional information such as emphasis, pace and length of the syllables e.g. the rooster could be described in more detail as KI-ke-ri-KII where hyphens indicate a somewhat slow pace and capital letters indicate emphasis. Based on anatomy, the ability to form sounds is identical in all human languages, thus onomatopoeia would be a ‘linguistic universal’ (Bredin 1996:568). However, the varying availability of phonemes in different languages is a limiting factor in onomatopoeia as appropriate letters or combination of letters to describe a particular sound might not exist (Gasser 2006).

1.4.3 Phonetics and bird vocalisation

Phonetics is a system intended to represent the sounds of languages in an objective way (Delahunty 2010: 89). It can be used as a reference when comparing different languages or to find equivalent phonemes when transferring sounds from one language to another (Gasser 2006). In the present study it will be used to substantiate and stress the differences and similarities between the bird sound descriptions in the different versions and thus it can be regarded as a tool in the localisation process.

Culture specific issues related to phonetics and transcription

One of the major challenges in phonetics is that small units such as letters, syllables or words that are written similarly or identically in different languages can be pronounced in many different ways (Ohala 1994) and conversely identical sounds produced, i.e. phonemes, can be represented by different combinations of letters (Gasser 2006). An example would be the pronunciation of ‘j’ in most Western European languages, which becomes [x] in Spanish, [j] in German, [ʒ] in French and [dʒ] in English. Furthermore languages often include sounds that are not present in others (Madieson 1984). For example Swedish with nine vowels and 18 vowel phonemes (Fant 1960) has quite a rich variety in comparison to Spanish, which has five vowels and five phonemes (Macpherson 1975). Even though these differences are not visible from the mere letters, the respective phonemes can be accurately described by the phonetic alphabet.
One important aspect is regionalism in pronunciations of words. A syllable, vowel or consonant might be interpreted and described differently by phonetic signs depending on linguistic regions (dialects) even though the original spelling remains identical (McMahon 2002, Hall 2003). This flexibility within one language can be extended to closely related languages, such as Swedish and German, where certain letters can still be correctly identified by speakers of each language despite slight variation in pronunciation (e.g. the vowel ‘e’).

**Vowels**

Vowels are produced in different parts of the vocal tract, with specific position or shape of tongue and lip (Brenner 2006). Table 1 gives an overview of the vowels in Swedish, German and English based on Schötz (2011), Hall (2003) and Mlinar (2012), respectively.

<table>
<thead>
<tr>
<th></th>
<th>Swedish</th>
<th>German</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vowels</strong></td>
<td>a, e, i, o, u, y, å, ä, ö</td>
<td>a, e, i, o, u, ä, ö, ü</td>
<td>a, e, i, o, u</td>
</tr>
<tr>
<td><strong>Monophthongs</strong></td>
<td>18</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td><strong>Diphthongs</strong></td>
<td>-</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

**Table 1. Overview over vowels, monophthongs and diphthongs in Swedish, German and English.**

A speciality, and particularly intriguing as to pronunciation for non-Swedes, are the Swedish vowels i, u and y that have almost identical tongue articulation and sound only slightly different (Schötz 2011). In Swedish, German and English the pronunciation of vowels and thus the variety of phonemes is not only defined by the vowel itself, but also depends on the pre- or succeeding letters. This dependence has the effect that the number of phonemes exceeds the number of vowels. However, for the transcriptions the focus lies predominantly on the pronunciation of the single vowels, not embedded in words. The study will deal with non-human vocalisation and thus the conventions of pronunciation will not apply strictly, i.e. it will not matter if the vowel ‘a’ is pronounced [a] or [ɑ]. In any case the flexibility of pronunciation provided by vowel phonemes offers some leeway when searching for a phonetic equivalent in another language e.g. for transcriptions and transliterations, and this aspect will be important for the present study.

To show differences and similarities between vowels of Swedish, German and English these are presented with their phonetic equivalents in Table 2 which is based on Lindqvist (2007) for Swedish and Thylen et al. (2001) for German and English.
<table>
<thead>
<tr>
<th>Swedish</th>
<th>German</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>a [a]</td>
<td>a [a]</td>
<td>[a] as in father</td>
</tr>
<tr>
<td>e [e]</td>
<td>e [e]</td>
<td>closest to [ɛ] in bed</td>
</tr>
<tr>
<td>i [i]</td>
<td>i [i]</td>
<td>e/ee/ie [i]</td>
</tr>
<tr>
<td>å [ɛ]</td>
<td>å [ɛ]</td>
<td>[ɛ] as in pair</td>
</tr>
<tr>
<td>ö [ø]</td>
<td>ö [ø]</td>
<td>closest to [ə] in turn</td>
</tr>
<tr>
<td>o [u] or [u]</td>
<td>u [u]</td>
<td>[u] as in you</td>
</tr>
<tr>
<td>u [u] or [ø]</td>
<td>between ö and ü</td>
<td>-</td>
</tr>
<tr>
<td>y [y]</td>
<td>between i and ü</td>
<td>-</td>
</tr>
<tr>
<td>å [o]</td>
<td>o [o]</td>
<td>closest to [o] in north</td>
</tr>
<tr>
<td>between u and y</td>
<td>ü [y]</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2. Swedish vowels with German and English equivalents.

Since in this study the original language is Swedish, the basis and reference for the vowels in German and English is Swedish. For the vowels a, e, i, å, ö there are negligible variations in pronunciation and both German- and Swedish-speakers would recognise them and therefore they are regarded as equivalents. German ü was added to include all vowels used in German and/or Swedish.

To account for a possible English intermediate text, the closest possible English equivalent is also indicated. English single vowel pronunciation differs considerably from Swedish and German, but it would go beyond the scope of this study to go into details here. Whenever there is no equivalent single vowel, an English word with the respective vowel is indicated.

**Consonants**

Consonants are produced by constricting the vocal tract (Rogers 2000; Hall 2003). Depending on their articulation, consonants are used to express soft, hard, explosive or other sound structures. Similar to and to a
larger extent than vowels, consonant phonemes can vary or change completely according to pre- or succeeding letters or combinations of letters (Hall 2003). However, single consonants in Swedish are generally pronounced as in German. Some exceptions relevant for this study are shown in Table 3, again based on Lindqvist (2007) for Swedish and on Thylen et al. (2001) for German and English.

<table>
<thead>
<tr>
<th>Swedish</th>
<th>German</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>g before e and i [j]</td>
<td>j [j]</td>
<td>[j] as in yes</td>
</tr>
<tr>
<td>k before e, i, ä, ö, y [ɛ] or [ç]</td>
<td>sch [j]</td>
<td>sh [ʃ]</td>
</tr>
<tr>
<td>v [v]</td>
<td>w [v]</td>
<td>v [v]</td>
</tr>
</tbody>
</table>

**Table 3. Relevant Swedish consonants and German and English equivalents.**

**Multigraphs**

Single vowels and single consonants can also be used in combinations of two, three or more characters to constitute one single phoneme. Such combinations are so-called multigraphs, e.g. digraphs have two letters, trigraphs three, tetragraphs four and so on. Relevant examples are shown in Table 4.

<table>
<thead>
<tr>
<th>Swedish</th>
<th>German</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>tj/kj [ɛ]</td>
<td>sch [ʃ]</td>
<td>sh [ʃ]</td>
</tr>
<tr>
<td>ch (before e, i, y, ä, ö) [ɛ]</td>
<td>sch [ʃ]</td>
<td>sh [ʃ]</td>
</tr>
</tbody>
</table>
| sch/sk/stj/skj [ɦ] | ch [x] | closest: ch as in *Loch*
| ch (before a, o, â, u) [ɦ] | ch [x] | closest: ch as in *Loch*
| closest: t-tj (tɕ) | tsch [tʃ] | ch [tʃ] |

**Table 4. Relevant multigraphs in Swedish, German and English.**

The Swedish part is based on Lindqvist (2007), the German and English part is based on Thylen et al. (2001). For English an approximate equivalent is indicated whenever the respective phoneme does not exist in English. The German tetragraph *tsch* is added as it occurs very frequently in the field guide. The function of multigraphs in ornithological field guides is comparable to consonants, i.e. to provide a particular sound structure.
1.4.4 Transliteration and translation issues

Related to and considered by some a subtype of transcription, transliteration describes the transfer of one system of writing to another system of writing by using the letters of the target language (Kharusi et al. 2011). Ideally the transfer is letter by letter. Problems arise if one system cannot be represented in the other language system when there is no equivalent sign for a particular vowel or consonant as observed for example in transliterations between English and Arabic (Kharusi et al. 2011). Despite the close relationship between Swedish, English and German, there are some significant phonetic differences as to vowels, consonants and multigraphs as explained in the previous paragraph. These must be considered in transliterations of bird vocalisation, so that the bird sounds only contain graphemes that are present in the target language and can thus be perceived as localised in the target culture.

For the translation of a field guide, transliteration largely replaces transcription since transcription has already taken place in the original version, unless the localiser wants to check the original sound to back the transliteration. No literature was available as to transliteration of bird vocalisation from one language into another. However, the aspects of transcription can be also applied to transliteration of bird vocalisation so the analysis will be based on them.

1.5 Analogies

Analogies refer to the comparison of one sound with another by providing a comparative reference for the original sound (Pieplow 2007). Analogies represent the second very commonly used method for word descriptions of bird vocalisation (Pieplow 2007) that are found in field guides. The call of our example species, the Corncrake (crrk-crrk), is described as ‘like running a finger along a comb’ (Glutz von Blotzheim et al. 1994). Such analogies can be quite useful as long as people are familiar with the reference sound or item. Difficulties arise if this familiarity is non-existent and thus the analogy becomes useless (Pieplow 2007). When translating analogies, the translator or localiser must check whether they still make sense in the target culture. Otherwise the product, i.e. the field guide would not be appropriately localised.

1.6 Mnemonics

Mnemonics are in some way similar to analogies. While analogies describe the sound itself by using a reference, mnemonics transfer bird vocalisation into human phrases (Young 2003; Bevis 2010). This is mainly used for longer utterances, i.e. songs, but also for calls. For example the song si-si-si-si-SÜÜÜ of the Yellowhammer Emberiza citrinella would correspond to the English phrase ‘A little bit of bread and no cheese’ (e.g.
Bevis 2010) or as commonly used in German ‘Wie, wie, wie, wie hab ich dich lieb’ (literally ‘how, how, how, how much I love you’). These phrases vary regionally and across languages and there are several different mnemonics for abundant, widely known bird species (Young 2003). In contrast if a bird species is uncommon or completely unknown in one area, no mnemonic will be available in the target language and thus a translation of the respective mnemonic would feel non-local.

2. Methodology

The analysis of the applicability of localisation is based on the second edition (2009) of the Swedish original Fågelguiden written by Lars Svensson and its German and English versions. The Swedish original refers to Sweden, the German version to Germany and the English version to Great Britain and Ireland. Since the analysis is focused on bird sound description, the chapter of the family of Warblers Sylviidae (Svensson 2009: 303-335) was selected because it represents the most diverse group in terms of vocalisation and distribution. It comprises 63 species and 3 subspecies, so overall 66 bird profiles with sound descriptions are included in the analysis. Besides the Swedish and German versions of these bird profiles, the Collins Bird Guide was consulted where applicable to check the option of an existing intermediate text. For this purpose its content was compared with the Swedish and German version to check for similarities and differences.

The analysis encompasses two main parts: the introductory section in which the author specifies his approach to describe bird vocalization, and the chapter of the Warblers with the bird species profiles as stated above. The introduction can be found on page 11 in the Swedish and English versions and on page 10 to 11 in the German version. In the species profiles, the descriptive text, i.e. the section describing bird vocalisation through human words, was screened for analogies to and comparisons with other species and other sound sources, omissions or additions, mnemonics, local aspects and other linguistic particularities that are linked with the localisation process and which may need to be locally adapted because of a different setting in the target culture. In contrast to the section on analogies, the mnemonics category only contains human phrases, but no comparisons with other bird or animal species or any other items in this study. Local aspects include phrases or expressions specifically aimed at the Swedish audience which are unnecessary or incomprehensible for a non-Swedish audience.

The transcriptions of the language versions are compared and classified in appropriate linguistic categories. The results of the content analysis are then discussed in the context of onomatopoeic concepts to substantiate the localisation process in the ornithological field guide.
3. Results

The two main chapters analysed are the introduction with Svensson’s explanations to his sound descriptions and the section with the bird profiles.

3.1 The author’s approach to the description of bird vocalisation

Svensson provides a guide on how to interpret the sound transcriptions, described in the introductory section of the field guide on page 11 (in Swedish and English; pages 10 and 11 in the German version). In order to “achieve simplicity and clarity, especially with beginners in mind,” he describes only common and typical sounds. In the English version it is stated that “rendering bird voices in writing inevitably is inexact and personal,” so an attempt was made to choose a style which was “most apt.” Furthermore, it is stated that transcriptions in all three versions are indicated by quotation marks, and that explosive or particularly strong calls are denoted by an exclamation mark. The Swedish and English versions stress syllables by using bold face, while the German version uses capital letters. The author introduces consonants as indicators for soft or hard sounds, e.g. ‘tic’ (sharp) vs. ‘gip’ (soft), and vowels as indicators for pitch. The German version uses u, o, ö, a, ä, e, ü, i from low to high pitch, whereas the Swedish version uses u, o, å, ö, a, ä, e, y, i. There is no such pitch scale in the English version for “it is not so easy in English” as the author states. However, the author explains that German ü is introduced to fill a pitch gap in English vowels.

Comparing the Swedish and German vowel series, they are not quite equivalent as to pitch e.g. there is one more step in Swedish between o and ö and Swedish y is not quite equivalent to German ü which in turn is not quite equivalent to any Swedish sound. However, the following sentence indicates that the book regards Swedish y equivalent to German ü, which will be important in the analysis of the vowels. It is stated that double vowels indicate longer sounds than single ones, and if a transcription ends with a vowel plus h, e.g. tüh (tyh in the Swedish version), then the call is drawn out and fading out as if ‘breathed out.’ Finally, the use of other characters such as ellipsis, apostrophes, spaces etc. are presented as indicators for pace, i.e. how quickly the syllables or motifs are uttered. From slowest to fastest, it is described as ki... ki... ki..., then ki, ki, ki, ..., then ki ki ki..., then ki-ki-ki-... and fastest kikikiki.... The apostrophes in kr’r’r’r’r’r’r’r’ denote a vibrant, rolling sound as found in some Locustella species. It is noted that sometimes these spelling rules are sacrificed to legibility. These descriptions match quite well other recommendations on how to approach sound descriptions as for example proposed by Hunt (1923) and Pieplow (2010).
3.2. Analysis of the species section

The analysis of the species section is divided into issues related to the descriptive text and transcriptions/transliteration issues. Overall the descriptive text and 108 transcriptions of 66 bird profiles were analysed.

3.2.1 Descriptive text

The analysis of the descriptive text comprises references, i.e. analogies, to other species and other sound sources, mnemonics, local aspects and other linguistic aspects that were omitted, added or altered in the English and/or German versions.

Analogies

Of the 66 bird profiles, four profiles in all versions contain no analogies to other species or items. In the German version there are four additional profiles without analogies, amounting to eight profiles without analogies in all. The remaining profiles contain analogies to bird species, bird families, other animals and non-animal items. The German version uses 17 analogies fewer than the Swedish version. The English version coincides largely with the Swedish original, except for two omitted analogies of bird species.

The reference species omitted in the German version are all more or less equally common or uncommon in both (all three) language regions, except for just two species. These are the European bee-eater *Merops apiaster* which occurs and breeds more commonly in regions of Southern and Central Europe than in Sweden, and Blyth’s reed warbler *Acrocephalus dumetorum* which is more common in Sweden. So with the possible exception of Blyth’s reed warbler, the species were not left out for reasons of localisation, i.e. because German-speaking ornithologists would be less familiar with these species than their Swedish colleagues. A possible explanation for the omissions could be space constraints resulting from characteristics of the German language. A comparison with the English version shows that analogies were largely retained from the Swedish original.

An example of a non-animal analogy transferred into English but not German can be found in the profile of the booted warbler *Iduna caligata* on page 326:

Example 1:

Swedish:  ...som när man slår samman två stener, med ‘r’ i ljudet,...
Literally:  ...like hitting two stones against each other, with ‘r’ in the sound,...
German:  -
English: ... a little ‘compound,’ with ‘r’ in,...

This analogy actually sounds useful in Swedish but the English translation is hard to interpret. Hence the lack of a German equivalent may not have been down to space constraints but the challenging nature of the English version.

Other parts that were only omitted in the German version include information on time of day, season and behaviour in connection with sound production, all of which can be important for bird identification.

**Mnemonics**

Of the overall two Swedish mnemonics, only the one from the Cetti’s warbler *Cettia cetti* on page 318 was retained in the German and English version:

Example 2:

Swedish: *Hör hit!... Vad heter jag?... Cetti-Cetti-Cetti, just det!*

Literally: Listen!... What’s my name?... Cetti-Cetti-Cetti, right!

English: *Listen!... What’s my name?... Cetti-Cetti-Cetti, that’s it!*

German: *Hör zu!... Wie heiss ich denn?... Cetti-Cetti-Cetti, ich bin’s!*

However, it is unusual that *Cetti* is taken up in German, as the bird’s German name *Seidensänger* does not contain any reference to the scientific name *Cettia cetti*. In contrast it is present in both the Swedish (*Cettisångare*) and English name (*Cetti’s Warbler*). Thus in German it does not make the mnemonic feel local.

Interestingly the Cetti’s Warbler is a rare breeding bird in southern German-speaking regions (e.g. southern Switzerland) and also present in southern England, but not at all in Sweden, whereas the species where the mnemonic was omitted (Common Whitethroat *Sylvia communis*) is rather common. So, based on localisation principles, both the choice of words in the mnemonic and the distribution of the Cetti’s warbler would argue against a transfer into German.

**Addition of call**

In one species, the Radde's warbler *Phylloscopus schwarzi* on page 334 the German version adds a call, in accordance with the English version:

Example 3:

Swedish:  -

German: *tschett-et-et-et-et*

English: *chett-et-et-et-et*
The species is rarer in Germany and Britain than in Sweden, so abundance and thus localisation cannot be a decisive criterion for inclusion here either. Considering the distribution range it would have been more logical to only have this call in the Swedish version. So the reason for adding this call remains unclear.

**Country-specific aspects**

Shifts in local aspects concerned geographical issues, a Swedish term for river and genera names. For example it can be assumed that the Swedish term for a type of mountain stream (‘jåkk’) mentioned in the profile of the Arctic warbler *Phylloscopus borealis* on page 332 is unknown to the average German- and English-speaking audience, so it was logical to replace it by a more general description in German and English:

Example 4:

**Swedish:** jåkkbruset  
**Literally:** the roaring of the mountain stream  
**German:** Wasserrauschen  
**Literally:** rushing water  
**English:** rushing brook.

**Other linguistic aspects**

The verb or noun (to) *call* was used in all bird profiles and was generally expressed by a more neutral or general term both in English and German than in Swedish.

Example 5:

**Swedish:** att låta / läte orosläte lockläte  
**English:** to call / call agitation call contact call  
**German:** rufen / Ruf Erregungsruf Lockruf.

This is another indicator of the closer relationship between English and German and thus for the existence of a possible intermediate English text. In any case, the use of the unspecific term in the German version does not affect localisation. It does not confuse or feel non-local.

**3.2.2 Transcriptions and transliterations**

The analysis of the transcriptions or transliterations yields shifts related to single vowel (pitch) and non-vowel issues.
Vowels

The vowels were grouped as already explained above into those involving vowels with similar pronunciation (ö, a, ä, e, i), vowels that can be regarded as equivalent (u vs. u, ü vs. y), vowels that are false friends (o vs. o) and vowels only present in Swedish (the vowel å). Furthermore, shifts in pitch scale were assessed based on phonetics and the pitch order provided in the field guide. The English version was only used as reference, not for classification.

a) Similar pronunciation
These issues contain cases where it was not obvious based on linguistic reasons why a vowel shift occurred because the vowels were present both in Swedish and German and exhibit very similar or identical pronunciation. One example is found on page 304 (Blackcap Sylvia atricapilla):

Example 6:
Swedish:  
schräh
German:  
schrïïh
English:  
schreh.

b) Equivalents
u vs. u and ü vs. y occur very frequently and are regarded as equivalent, since German u and ü are almost pronounced as Swedish u and y, respectively. They match the respective positions in the pitch order and the example tyh vs. tüh stated in the book’s introduction on page 10 indicates that it regards y and ü as equivalent. An example is the following bird sound on page 306 (Eastern Orphean warbler Sylvia crassirostris):

Example 7:
Swedish:  
ju-ju-ju-bry-tri-yh
German:  
ju-ju-ju-brü-TRIüh
English:  
yu-yu-yu-brü-triüh.

False friends
This refers to cases where identical vowels differ in pronunciation in the respective languages such as Swedish o [ʊ] vs. German o [o] on page 334 (Hume’s Leaf Warbler Phylloscopus humei):

Example 8:
Swedish:  
visslo
German:  
WISSlo
English:  
veeslo.

The Swedish visslo corresponds rather to the phonetic [vislʊ] while German would be [vislo]; in order to be loyal to the Swedish version, the
German version should have rather chosen u, i.e. WISSlu. However, despite the phonetic shift, there is no shift in pitch order.

Swedish vowel å
According to phonetics, Swedish å [o] corresponds to German o [o], which was adapted appropriately for example in the Scrub Warbler Scotocerca inquieta on page 303:

Example 9:
Swedish: vii-våå
German: wii-woo
English: wii-wew.

Pitch

Pitch was evaluated based on phonetics and the pitch order provided in the field guide as stated initially. With a few exceptions, the majority of the German transcriptions maintain the same pitch as the original.

Non-vowel issues

The non-vowel issues, i.e. those involving consonants, consonants and vowels mixed or other non-vowel characters were assigned to the eight categories as follows. Furthermore the criteria pace and general sound structure (e.g. if the translated sound became more explosive, harder, softer etc.) were assigned to the non-vowel categories to assess the effect of non-vowel issues.

All different
In this category a syllable, a motif or the entire song was changed from Swedish to German for example in the Chiffchaff Phylloscopus collybita on p.330:

Example 10:
Swedish: silt sylt silt sylt sylt silt silt
English: silt sült sült sült sült sült sült sült
German: zilp zalp zilp zalp zelp zilp
German transliteration from Swedish: silt sült sült sült sült sült.

The German description can be explained by looking at the bird’s onomatopoeic German name Zilpzalp, which is deduced from the bird’s song. If the German version had adopted the accurately transliterated version silt sült silt sült sült sült sült, it would have felt non-local for German-speaking ornithologists who are used to the German name. Similarly the English name Chiffchaff represents the bird’s song, however,
it is not represented in the sound description. In contrast the Swedish name is *Gransångare*, which does not mirror the song at all.

Swedish = German
This category contains predominantly cases where mostly Swedish multigraphs were transferred without any changes, even though they represent different phonemes in Swedish, German and English, such as in the Balearic Warbler *Sylvia sarda baleárca* on page 312:

Example 11:
Swedish:   kätsch
German:   kätsch
English:   catch.

The phoneme for *kä* in Swedish is \[sandbox\] and in German \[kæ\] which is similar to the phoneme in the English *catch* \[kætʃ\]. The equivalent German version for Swedish *kä* would be *schä*. Furthermore the phoneme for *tsch* \[tʃ\] is rather of German origin and would not be easy to pronounce according to Swedish rules (something like \[tʃʰ\]).

Multigraph changes
Related to the previous category, this category contains issues where Swedish multigraphs were adapted to the target language or otherwise changed as in the Olivaceous Warbler *Iduna pallida* on page 326:

Example 12:
Swedish:    tjack
German:    tschack
English:    chack

Single letter omissions
Single letter omissions included changes of syllable, as in the Iberian Chiffchaff *Phylloscopus ibericus* on page 330:

Example 13:
Swedish:    tjief tjief tjief tjief
German:    tschif tschif tschif tschif
English:    chief chief chief chief

In Swedish *ie* both letters are pronounced, i.e. \[ie\], while in German and English *ie* is pronounced \[i\] and \[iː\], respectively.

Single letter change
Cases where single letters were changed, as in the Streaked Scrub Warbler *Scotocerca inquieta* on page 303:
Example 14:
Swedish:  v-v-yu-vo
German:  šu-šu-šu-šo
English:  si-su-su-so

Both English and German use s instead of v as in Swedish. This indicates closer proximity between the English and German. There is no explanation based on phonetics or other linguistic concepts that would explain this shift as v and s do not represent letters or phonemes that are particular for any of the three languages.
In my English edition the transliteration is identical to the German; this is not a valid example.

Other

This category contained two cases with possible misspellings or errors, as in the Pallas’s Grasshopper Warbler Locustella certhiola on page 316:

Example 15:
Swedish:  tri-tri prtprt tijv-tijv-tijv ssrrrtrt sivih-sivih-sivih
German:  tri-tri prtprt tchiv-tchiv-tchiv ssrrrtrt SIWIH-SIWIH-SIWIH
English:  tri-tri prtprt chiv-chiv-chiv-chiv srrrt sivih-sivih-sivih

Pace

Pace was altered either by omitting or changing the use of punctuation marks, as in the Garden Warbler Sylvia borin on page 304:

Example 16:
Swedish:  tjeck, tjeck, tjeck
German:  tschäck-tschäck-tschäck
English:  chek, chek, chek.

By using hyphens instead of commas the German version becomes two steps faster according to the pace scale of the field guide.

Sound structure

Many of the shifts described led to a harder or sharper sound structure or generally to a different sound pattern in German which was caused by phonemes that are insufficiently equivalent to Swedish or otherwise aberrant.
**No shifts**

A minority of other examples did not exhibit any shifts or differences. They included mainly vibrating sounds such as *trrrrr* or *srrrrrrt* or other monotonous or uniform sounds such as *didididi* or *psvitt* (Swe/Eng)/*pswitt* (Ger).

**4. Discussion**

The present data provided sufficient and challenging material to study the applicability and extent of localisation in bird vocalisation. Svensson’s aim to describe the sounds as detailed as possible within the given space restrictions was definitely met by embracing various aspects of transcription (e.g. pitch, pace, emphasis). In fact, only explicit descriptions based on transcription and related theories can actually provide a serious approach to reflect complex bird sounds. However, based mainly on theory on transliteration and phonetics numerous mismatches between the different editions could be identified and in particular Swedish- and English-speaking readers are faced with foreign letters and/or letter combinations. Despite an undisputable degree of subjective conception of bird sounds, coherency and adherence regarding language-specific spelling would be expected (unless exceptions are introduced such as the use of German ü in the English version). Overall, it can be stated that the shifts observed in the transcriptions/transliterations and phonetics as well as other aspects such as omissions and additions can generally be attributed to ‘human decisions’ and are not based on ornithological factors such as bird dialects or varying species distribution across the three language regions.

Of course, in the digital era, the question arises if such written sound descriptions are still essential components of a field guide — provided printed field guides will persist at all. As a matter of fact, the entire book has recently been launched as an app with sound files and videos. Still, everyone who has ever listened to digitalised bird sounds will agree that one recorded specimen can deviate quite considerably from one heard in a particular spot outdoors, be it because of geographical and temporary variations of bird sounds (e.g. dialects, subsongs), recording quality or other. Thus recordings, despite their illusively accurate nature, are no guarantee for unequivocal reproduction and identification of bird sounds either. In addition there might be situations in the field where you do not have access to digital resources — be it that the battery of the electronic device is low or any other reason. So it seems advisable to conserve bird sound transcriptions, which are in line with rules of transcription, transliteration and phonetics, and leave the rest of the identification process up to your interpretation or consult a knowledgeable colleague.
4.1 Is localisation applicable to field guides?

To draw a conclusion about localisation in this field guide, we will recall Schäler’s (2009:157) definition of localisation as “the linguistic and cultural adaptation of digital content to the requirements and locale of a foreign market.” Despite the lack of digital content in the end product, several concepts related to localisation can be identified. First of all, the field guide is a product that is for sale in a specific market for the purposes of bird identification. Translation is involved, but it is not the main feature. Specifically for bird vocalisation, to adapt the transcriptions and other onomatopoeic or ornithological content appropriately to German went beyond a mere translational process. According to Esselink (2000) such a reduced importance of translation is one of the characteristics of localisation.

The different versions were then published as independent ‘originals’ of the respective target regions. For the German version, the impression of this being an ‘original’ version was supported by generally well-localised transcriptions of bird sounds, where only German graphemes were used, and by the absence of country-specific analogies that would reveal the Swedish origin. This neutrality probably originates from the English text, i.e. a culturally neutral intermediate sensu Pym (2001). Several examples of transcriptions show closer proximity between the English and the German texts than between Swedish and English, e.g. the English (and German) section on vocalisation does not contain any information (e.g. analogies) that is specific for Britain and Ireland (Germany). For example the rushing Swedish mountain stream jåkkbruset has lost much of its inherent dynamic image in the British/Irish version. The English term ‘brook’ is rather neutral and typically associated with a small peaceful stream that produces rather soft sounds, i.e. it babbles. A more suitable equivalent could be ‘rushing (mountain) stream.’ Thus there is no reference to mountainous areas in the German version either. Any closer description of the water body was omitted altogether and just rendered neutrally as ‘rushing water.’ Even though the water body itself remains undefined, at least the sound impression of the original is retained. This presumed neutral English basis is another typical feature of localisation which was also observed by Kristensen (2002) in tourist brochures. Interestingly the assumption of an English intermediate is confirmed when looking at the Spanish version where the sounds were copied directly from English, not Swedish, without any form of adaptation to Spanish pronunciation. Such a partial localisation represents another feature of localised products according to Pym (2001).

Lastly, all the omissions, shifts of information and shifts in pitch and sound structure would probably not be noticed in the German version if one were unaware of the Swedish original version. So the German version
feels localised, actually the most localised of the three versions, because Swedish and English exhibit some foreign linguistic features.

In conclusion it can be said that the concepts of localisation apply to this field guide. However, the gaps observed in transcriptions and transliterations of bird sounds demand more effort to standardise them. Such standardisation would help improve the degree of localisation in the vocalisation sections of field guides. As a consequence, appropriate language-specific localisation can be considered a tool to enhance the translation of bird vocalisations.

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Biography

Nadja Weisshaupt obtained her MSc degree in Biology at the University of Bern, Switzerland, in 2007. In 2013 she earned her MSc in Translation and Conference Interpreting in the School of Management and Languages at the Heriot Watt University, UK, and is currently completing a PhD at the University of the Basque Country, Spain, which is focused on radar and bird migration. She can be contacted at nw@nweisshaupt.net.