Two kinds of pink: development and difference in Germanic colour semantics

ARTICLE in LANGUAGE SCIENCES · AUGUST 2014
Impact Factor: 0.44 · DOI: 10.1016/j.langsci.2014.07.007

CITATIONS 3
READS 87

8 AUTHORS, INCLUDING:

Cornelia van Scherpenberg
Ludwig-Maximilians-University of Munich
3 PUBLICATIONS 4 CITATIONS

Pórhalla Guðmundsdóttir Beck
University of Iceland
5 PUBLICATIONS 5 CITATIONS

Linnaea Stockall
Queen Mary, University of London
18 PUBLICATIONS 137 CITATIONS

Matthew Whelpton
University of Iceland
13 PUBLICATIONS 29 CITATIONS

Available from: Linnaea Stockall
Retrieved on: 03 March 2016
Two kinds of pink: development and difference in Germanic colour semantics

Susanne Vejdemo a, *, Carsten Levisen b, Cornelia van Scherpenberg c, Þórhalla Guðmundsdóttir Beck d, Áshild Næss e, Martina Zimmermann f, Linnaea Stockall g, Matthew Whelpton h

a Stockholm University, Department of Linguistics, 10691 Stockholm, Sweden
b Linguistics and Semiotics, Department of Aesthetics and Communication, Aarhus University, Jens Chr. Skous Vej 2, Bygn ing 1485-335, 8000 Aarhus C, Denmark
c Ludwig-Maximilians-Universität München, Geschwister-Scholl-Platz 1, 80539 München, Germany
d University of Iceland, Háskóli Íslands, Sæmundargötu 2, 101 Reykjavík, Iceland
e University of Newcastle, University Drive, Callaghan, NSW 2308, Australia
f Institute of Multilingualism (University of Fribourg, University of Teacher Education), Rue de Morat 24, 1700 Fribourg, Switzerland
g Queen Mary University of London, Mile End Road, London, E1 4NS England, United Kingdom
h University of Iceland, Sæmundargötu 2, 101 Reykjavík, Iceland

ARTICLE INFO

Article history:
Available online xxx

ABSTRACT

This article traces the birth of two different pink categories in western Europe and the lexicalization strategies used for these categories in English, German, Bernese, Danish, Swedish, Norwegian and Icelandic with the cognate sets pink, rosa, bleikur, lyserød, ceris.

In the 18th century, a particular shade of light red established itself in the cultural life of people in Western Europe, earning its own independent colour term. In the middle of the 20th century, a second pink category began to spread in a subset of the languages. Contemporary experimental data from the Evolution of Semantic Systems colour project (Majid et al., 2011) is analysed in light of the extant historical data on the development of these colour terms. We find that the current pink situation arose through contact-induced lexical and conceptual change. Despite the different lexicalization strategies, the terms' denotation is remarkably similar for the oldest pink category and we investigate the impact of the advent of the younger and more restricted secondary pink category on the colour categorization and colour denotations of the languages.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

What do people call the natural colour of the petals of the Musk-mallow flower (Malva moschata)? An English speaker would probably say that they are pink. The word pink also exists in Bernese Swiss German but it would not be used for the colour of this particular flower – rosa or maybe rosarot would work far better. A German speaker would likewise not use the

* Corresponding author. Tel.: +46 8 16 23 43.
E-mail addresses: susanne@ling.su.se (S. Vejdemo), carstenlevisen@gmail.com (C. Levisen), cornelia.scherpenberg@campus.lmu.de (C. van Scherpenberg), thgbeck@gmail.com (Þ. Guðmundsdóttir Beck), aashild.naess@newcastle.edu.au (Á. Næss), martina.zimmermann@unifr.ch (M. Zimmermann), l.stockall@qmul.ac.uk (L. Stockall), whelpton@hi.is (M. Whelpton).
http://dx.doi.org/10.1016/j.langsci.2014.07.007
0388-0001/© 2014 Elsevier Ltd. All rights reserved.

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
coveries were made in colour chemistry, which “colours lexicon in English, due to technological advances that made exact nuances of colour easier to produce (Casson, 1994, p. 107). The second wave, starting in the 18th and 19th century, also saw a rapid enlargement of the colour lexicon in English, due to technological advances that made exact nuances of colour easier to produce (Casson, 1994, pp. 16–17) and to the increased availability of Indian cotton fabrics that were far easier to dye (Hannah Hodacs, pers. comm.). The second wave was less tied to dyes and pigments and more to objects of colour, and the evolution of word meanings. He says: “Culture members, responding to increases in societal complexity and diversity, reconstruct their systems of colour categorization by differentiating new concepts and innovating new vocabulary” (Casson, 1997, p. 237).

The societal complexity and diversity of colour in Europe seems to have come in two major waves. Data from English shows that in the first wave, from the 15th to the 17th century, most new colour names came from dyestuffs, pigments or fabric (Casson, 1994, pp. 14–15). The second wave, starting in the 18th and 19th century, also saw a rapid enlargement of the colour lexicon in English, due to technological advances that made exact nuances of colour easier to produce (Casson, 1994, pp. 16–17) and to the increased availability of Indian cotton fabrics that were far easier to dye (Hannah Hodacs, pers. comm.). The colour names in the second wave were less tied to dyes and pigment and more to objects of colour – such as roses (Casson, 1994, p. 18).

Jones also notes that starting in the 17th century and continuing into the 19th century, many important discoveries were made in colour chemistry, which “vastly expanded the available range, as well as improving stability and replicability. New inorganic synthetics became known internationally, in an unparalleled succession” (Jones, 2013, p. 107).

2 The term Bernese Swiss German is used for a variety of Swiss German characterized by specific dialectological features and is mostly spoken in the Swiss plateau part of the canton of Bern and in some neighbouring regions.

2 MacLaury finds a general pattern in the world’s languages where “the lightness categories undergo a development through which lightness is demoted in importance while hue is elevated” (MacLaury, 1992).
The spread of the idea of the new, independent colour denoted by terms like pink and rosa, presumably has its roots in this second wave of the “colour explosion”.

3. Methods

In our study, we use data from the Evolution of Semantic Systems (EoSS) project that investigates how meanings vary over space and change over time. The project concentrated on four different categories, namely containers (kinds of objects), body parts (parts of objects), spatial relations (how objects are related to one another) and colour (attributes of objects). Data from 50 Indo-European languages (and some non-Indo-European languages) was elicited for these categories. This large-scale project uses “phylogenetic methods to understand the evolutionary dynamics of semantic change”, with the goal of “bringing together linguistics, evolutionary anthropology and cognitive science” (Majid et al., 2011, p. 6). We will focus on a sample of the colour data set to do a critical and interpretative analysis of data from seven selected Germanic languages: English, German, Bernese Swiss German, Danish, Swedish, Norwegian and Icelandic.

In the colour elicitation sessions, EoSS made use of a standardized visual toolkit. 20–25 speakers of each language took part. Only persons who considered themselves to be native speakers of the languages in question and who had spoken this language during childhood were accepted into the study. Striving for roughly comparable groups across languages, participants were recruited from undergraduate classes at universities. The experiments took place in available rooms at the universities. Information on gender distribution and average age for the participants is summarized in Table 1. Participants were screened for colour blindness using Waggoner (2002).

The elicitation tasks in the EoSS project included a free listing task to identify the basic colour terms of the language, and a focal colour identification task, to get speaker judgements of the best exemplar of each basic colour term. The results of these tasks had limited pertinence to the present analysis. Here we will mostly focus on the colour naming task, which involved showing the speakers coloured chips, one by one. The chips were displayed on a neutral grey background, under natural daylight, supplemented, when necessary, by a light bulb with a minimum temperature of 5000 K (this produces light comparable to daylight). Of the 84 chips, four were achromatic (i.e. grey scale), and the remaining 80 varied in hue, lightness and saturation – there were 20 equally spaced hues at 4 degrees of lightness. All chips were identified using the Munsell Colour chart. Saturation varied, but colours were generally at the maximal possible saturation for that point in the colour space. The colour set was developed by Majid and Levinson (2007, see also Majid, 2008). Participants were given the following instructions (in translation):

“In this task, I will show you some colours. I will show them to you one at a time and I would like you to tell me what colour it is. Just tell me the first colour that comes to your mind. You can use the same name more than once as we go through the colours. Do not give long descriptions.” (Majid et al., 2011, p. 27).

3.1. Data coding

The elicitation sessions were audio recorded, and the sessions were transcribed in full. For each chip, one or more main responses were extracted from the full response. The main response is the overall colour category (or categories) referred to in the full response. This English full response from our data: *ah, I know what that colour is, it’s like a light purple, thus led to purple recorded as the main response. If more than one response was given, as in the full response *it’s beigey-green, both

---

3 The data was provided by ANONYMIZED (English, collected in London), ANONYMIZED (German, collected in Munich), ANONYMIZED (Bernese Swiss German, collected in Bern), ANONYMIZED (Danish, collected in Aarhus), ANONYMIZED (Swedish, collected in Stockholm), ANONYMIZED (Norwegian, collected in Oslo) and ANONYMIZED and ANONYMIZED (Icelandic, collected in Reykjavik). All data providers are native speakers in the languages they worked on.

4 Berlin and Kay (1969) proposed the notation of basic color terms and put forward the hypothesis of the universality of basic color terms across languages. A color word is said to be a basic color term if it satisfies several linguistic criteria including being very frequent, salient in free listing tasks and lacking in major restrictions when it comes to which semantic domains it can refer to.

5 50% grey, R 128, B128, G128.

---

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
beige and green were noted as main responses. The full response light green or murky green would give the main response green. This simplification was necessary for comparing several languages in the time frame of the current project. Coding decisions and accuracy were double checked by the EoSS PIs and corrections were made after discussion with the local researchers. The coding was also discussed and further fine-tuned in a workshop with the Germanic languages data contributors.

4. Results and discussion

In this section, we will go through two evidence for two separate but related colour categories (PINK1 and PINK2), and discuss the various ways they have been lexicalized in the languages.

4.1. Result visualizations

We will start with a note on result visualization. Fig. 1 represents the majority responses per chip for English, displayed in a colour grid. We will refer to chips with their EoSS row-column ID (e.g. A2, C16 etc.), but have included a Munsell code and HTML Hex code conversion table in Appendix A.

The stimuli colours in this two-dimensional grid are arranged according to hue (red vs. blue vs. green etc, displayed left to right, in twenty columns) and lightness (in four rows: the top row is lightest, the bottom row is darkest) with four achromatic colours (greyscale) on the left-hand side. The chromatic colour grid is cylindrical in form, and the flattened visualizations in Fig. 1 and below have been centred on the pink-red hues for convenience.

In Fig. 1, we see that in English we find the colour terms peach, orange, maroon or red, and purple on the boundaries of pink. This figure is based on the most frequent response. In Fig. 2, we see the EoSS data for English red. Two people called B1 red; four called C2 red; two called D2 red; and six called D1 red. However, the centre for English red-usage is in C1: when shown this colour chip, 19 of the 20 participants answered red, or modifications of red, like reddish.

4.2. General results

The Icelandic speakers provided 9 modal colour terms in the EoSS experiment. Swedish, Danish, Norwegian and English speakers used 10 modal terms, and the German and Bernese Swiss German speakers gave 11 terms. The modal colour terms are displayed in Table 2. Behind these numbers, we find some small, but interesting differences. The English dataset has maroon, a colour that none of the other Germanic datasets have a cognate term for (with an exception of a single mention in Swedish). Also, the English speakers provided the modal term peach, while all the experiment participants of the other languages have an equivalent of ‘skin coloured’ (On ‘skin coloured’, see Zimmermann et al., this volume). The Icelandic dataset does not have a cognate to turquoise. The English data set does not have turquoise in the list of modal terms but it does exist as a minor colour term in the data. The Bernese Swiss German results appear to give prominence to the violett-lila distinction, which is also familiar in German and the mainland Scandinavian languages, though it is less salient there.

4.3. Defining PINK1 and PINK2

If we look at English pink and consider its potential translation equivalents (as judged by the bilingual authors of this paper), then we find a rather intriguing pattern. The most noticeable difference between English and the two German varieties (Bernese Swiss German and German German) is that English has only one term pink, whereas the German varieties have two “pinks”: pink and rosa. Icelandic has the native term bleikur (originally meaning ‘pale’); Swedish and Norwegian have rosa, not pink. Swedish, in addition, has a term cerise. Danish has pink, and while rosa exists in the language too, it did not

---

6 A term is judged to be a modal term if it is the majority response in the naming task for at least one tile.
7 Bernese Swiss German has hutfarb, a skin colour concept, which is slightly less prominent than equivalents in German and Scandinavian languages.
show up in the experiment. The most common translation for English *pink* in Danish it not the Danish loanword *pink*, however, but *lyserød* ‘light red’.

To what extent do these native speaker intuitions match the psychological reality of speakers’ responses? Are these terms equivalent?

These words represent five different cognate sets: *pink, rosa, cerise, lyserød, and bleikur*, and we will discuss these cognate sets one by one. Evidence from Munsell chart experiments suggest that these five cognate sets provide the lexical expressions representing two colour categories, which we have termed PINK1 and PINK2. More precisely, we will discuss these denotations as they can be measured by our experiments as footprints on a Munsell chart. Colour terms (like *pink* or *rosa*) are the lexical labels of abstract colour concepts, that in addition to a denotational footprint also construe other aspects of meaning, such as metaphorical, indexical and grammatical meanings. This article will only deal with the denotational footprints of such abstract colour concepts, and we readily acknowledge that this only makes up a part of the meaning of the concept. We will, follow the research tradition in this field and use the term *category* as a synonym for the denotational footprint aspect of the more general colour concept. Categories are labelled by small capitals (like PINK1 or PINK2 or RED). A *cognate set* with similar terms (like *rosa* in German and *rosa* in Swedish) can overlap to a greater or smaller degree in their colour category. Terms from different cognate sets (like Danish *pink* and Swedish *cerise*) can also have (or not have) nearly the same overlapping extension on the Munsell chart, and thus be said to denote nearly the same colour category.

Foreshadowing our results, we believe that PINK1 and PINK2 are roughly shared across several of the languages, and that PINK1 has a larger extension on the Munsell chart than PINK2. PINK2 will be therefore discussed first, so that its effects on PINK1 will be clearer.

### 4.4. PINK2

#### 4.4.1. The pink cognate set

Fig. 3 shows the answer distribution in the EoSS experiments for the term *pink* in English, German, Bernese Swiss German and Danish (Fig. 4).

All of the twenty German consultants in the EoSS elicitation used the term *pink*, as did all the English speakers. Both Danish and Bernese Swiss German *pink* was used by 14 out of 20 EoSS participants. With 84 colour tiles and 20 speakers, there are a total of 1680 colour namings of tiles. 71 of these were *pink* in German, while 145 of them were *pink* in English.

This leads us to a first hypothesis: that we are dealing with at least two kinds of PINK colour categories. English *pink* is a very “broad” colour, clearly different from the much more “restricted” *pink* of German, Bernese Swiss German and Danish. *Pink* covers fewer cells than English *pink* but has also spread towards the darker (lower) edge and also covers C18, which English *pink* does not. German *pink* also has a stronger representation in the entire C-row, specifically in C19 and C20, than English *pink*.

Most noticeably, German *pink* was used considerably more than its Danish counterpart. We should therefore take seriously the possibility that the differences in usage patterns of Danish *pink* and German *pink* could reflect a conceptual difference. But for now the main hypothesis is clear: English *pink* differs conceptually from the other *pinks*. The usage patterns of the “Continental pinks” (i.e. German, Bernese Swiss German, and Danish) show a different and more restricted colour category than English *pink*.

We will focus on *pink* in English vis-à-vis Danish and German. *Pink* in Bernese Swiss German has a complex interaction with *rosa* and *rosarot* which will be touched on in Section 4.5.1.

The story of the cognate set *pink* in contemporary Germanic languages is a complex one but only so in recent times. From a historical perspective, it is evident that we are dealing with one old *pink* (English), and three young ones (Danish, German and Bernese Swiss German.). For a discussion of the German loan, see Frenzel-Biamonti (2011).

As we have seen, Danish *pink* and German *pink* are important to speakers in these two speech communities. Speakers of Danish and German may or may not be aware that they are using an originally English word. When words are adopted from one language into another, two scenarios are possible. The new words can adopt more or less the whole package of semantic
content associated with the borrowed word and in that way “fill a gap” in the language. Another scenario is perhaps even more probable, namely that in the process of borrowing, meaning components are added, modified, or perhaps disposed of in the process of semantic integration (on the semantic integration of loanwords, see also Levisen, 2012a, p. 255). The story of pink is an example of the latter type. The spread of pink from English to German and Danish is the result of language contact, which cannot simply be explained in terms of Anglicization (see also Furiaisi et al., 2012). The process resulted in new word meanings and category formations in these languages, categories that were only inspired by, not determined by the original English category. The story of pink is a story of hidden diversity: although the lexical items are the same, the meanings – at least the colour categories seen in these experiments – differ. The comparative overview in Section 2 gave us a first clue to how exactly the English pink colour category differs from German/Danish pink. The usage patterns of Danish pink and German pink reveal that they have a more restricted denotational footprint than the English pink.

Sociohistorically, English pink is the “mother of pinks”, the original word, which through the process of borrowing spread into a number of modern European languages, including Danish and German. Unlike its Germanic counterparts, English pink is well understood, and has been studied in a variety of frameworks (see e.g. Wierzbicka, 1996; Koller, 2008; Biggam, 2012). In the literature, English pink is – with orange, grey, and purple – sometimes analysed as a “mixed colour” (Wierzbicka, 1996, p. 326; Kaufmann, 2006, p. 37), implying that English pink encodes a combination of ‘red’ and ‘white’, in the same way as orange is a conceptual mix of ‘yellow’ and ‘red’, grey of ‘black’ and ‘white’, and purple of ‘blue’ and ‘red’. The story of the English colour pink can be dated to the era of Modern English (Casson, 1997, p. 232). Before its status as label for a colour, pink existed as the name for a species of flower, a pale reddish garden plant with the name pink (probably Dianthus, OED, pink. See also Casson, 1997, p. 232). Thus, we can reconstruct the historical meaning as based on a visual similarity. A phrase like “The thing X is pink”, must have meant “X’s colour is like the colour of pinks (the flower)” (on natural prototypes in category formation, see also Biggam, 2012, p. 178). Today’s pink, however, appears to have lost its similarity-based structure and flowers are likely no longer invoked in speakers’ minds when they say the word.

The story of Danish pink and German pink is different in the sense that the word pink was never tied to the world of flowers in these languages. Both languages borrowed the word from English, in all probability through the discourse of fashion and commerce.9 The two languages already had a word covering partly the same category: Danish rosa and German rosa. In the process of semantic integration, pink came to denote a subpart of the previous rosa colour space in German.

The German colour linguist Caroline Kaufmann explains the relationship between German pink and German rosa in the following way (Kaufmann, 2006, p. 38):

“Pink, then, is seen as a hyponym of rosa – it refers to a very specific (that is, a bold, bright, almost gaudy) shade of rosa, thus forming a subcategory of rosa.”10 [authors’ translation]

Kaufmann’s analysis shows that German pink is not directly translatable into any English term. It is a bold, bright or gaudy kind of rosa (for another discussion on pink and rosa in German see also Frenzel-Biamonti’s study from 2011).

Since Kaufmann’s work is based on a large corpus-study of German newspapers, her results focus on the use of the colour terms in written language. Her conclusion to consider pink a hyponym of rosa is largely influenced by the distribution of the two terms in the newspaper data, where in many cases pink might be used instead of rosa just to avoid redundancy. This has to be kept in mind when we compare the evaluation of Kaufmann’s data to ours. Independently of Kaufmann, we can show that German pink has all the signs of being a vital, frequent colour term, that the two colour terms denote neighbouring parts of the colour spectrum and that pink is smaller than rosa. In Section 4.5.4 we further discuss the claim that the advent of pink lead to a change in the denotation of rosa.

Danish pink does not combine as easily with other colour terms as the German word. Of the 71 times a tile was labelled pink in German, 24 included a modifier (e.g. hellpink ‘light pink’) or a compound (e.g. pinklila ‘pink purple’). Of the 38 times a tile was labelled pink in Danish, only 4 included a modifier.

---

9 In the DDO entry for Danish pink it is noted that the word is used især om teg ‘in particular about clothing’ (DDO, pink).

10 “Pink wird also als Hyponym zu rosa gesehen – es bezeichnet einen ganz bestimmten (nämlich kräftigen, leuchtenden, fast ’knalligen’) Rosaton und bildet damit eine Unterkategorie zu rosa.”

---

Table 2
Modal colour terms in English, German, Bernese Swiss German, Danish, Swedish, Norwegian and Icelandic.

<table>
<thead>
<tr>
<th>Language</th>
<th>Major colour terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>red, maroon, peach, orange, brown, yellow, green, blue, purple, pink</td>
</tr>
<tr>
<td>German</td>
<td>rot, hautfarben, orange, braun, gelb, grün, lila, rosa</td>
</tr>
<tr>
<td>Bernese</td>
<td>rot, orangsch, grün, braun, gelb, lila, rosa, pink</td>
</tr>
<tr>
<td>Danish</td>
<td>rød, højfarvet, orange, brun, gelb, grøn, lilla, rosa</td>
</tr>
<tr>
<td>Swedish</td>
<td>röd, huvfrörg, orange, brun, grön, blå, rosa, pink</td>
</tr>
<tr>
<td>Norwegian</td>
<td>rød, hovfrørg, orang, brun, grøn, blå, rosa, pink</td>
</tr>
<tr>
<td>Icelandic</td>
<td>rauður, húslíttur, appelsímugulur, brínur, grúnn, blára, fíjálablár, bleikur</td>
</tr>
</tbody>
</table>
This could indicate that Danish pink is a more recent loan than German pink. We do not know exactly when the term pink was introduced into Danish. ODS, a historical dictionary of the Danish language, describes the word as a loan from English, citing a text source from 1952. Based on semantic consultations with Danish speakers, pink is skrigende ‘screaming’, a colour calling for attention (Levisen, 2012b). The latter aspect is very similar to Kaufmann’s description of German pink as a knallig ‘loud’ colour. Visual conspicuousness appears to be a central and defining feature of Danish pink, not simply “hue”.

The English colour term shocking pink could refer to a category that could be a potential semantic match for the “missing” PINK2 in the English system. From an EoSS viewpoint we cannot determine whether shocking pink does the same referential job as PINK2 in the other Germanic languages, since none of the English-speaking participants used shocking pink. The sheer lack of examples suggests to us that shocking pink is a dispensable colour category in English, unlike say, pink in the German system.11

To sum up the analysis, pink is not pink. Behind the shared name, we find at least two different colour categories. English pink, the oldest pink, stands out from “Continental” pink which conceptualizes a different and much smaller visual category than English pink. The semantics of Danish and German pink is reflective of a profoundly modern, almost unnatural colour, which has wandered off denotationally from those English flowers in which the term pink had its origin.

---

11 Interestingly, English is not the only Germanic language, which allows for the co-conceptualization of hue (pink) and emotion (shock). Norwegian sjøkkrosa and Swedish chockrosa, provide similar options. Sjøkkrosa is not attested in EoSS, but there is one instance of Swedish chockrosa in our sample, and this example does not fall into the core PINK2 area. From a conceptual viewpoint, it is worth noting that PINK2 concepts are described as skrigende in Danish and knallig in German, i.e. as inherent properties of “what this colour does”, whereas shocking captures the emotional and relational response of “what this colour does to you”. Based on these initial observations, we do not think that the English phraseme shocking pink is identical to PINK2, neither in conceptualization nor the associated extensional range.

---

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
4.4.2. The ceris cognate set

We have now seen that German and Bernese Swiss German have two modal colour terms in the “pink” area, pink and rosa, and that the denotation of pink in these languages is also appropriate for the Danish term pink, a screaming, almost unnatural colour. English, Norwegian and Icelandic have no term specialized to this particular area. Swedish, however, does have a term which emerges in the EoSS data for this particular space: ceris (see Fig. 4).

Swedish ceris resembles Danish pink, which is also centred on C20. Sociohistorically, we can ascertain that the two words have taken very different paths to their current meanings. Danish pink is a fairly recent loanword from English, where it came to be used as the “unnatural” cousin of lysterød, a visually conspicuous, “screaming” colour. Ceris is a much older colour term, with an origin in nature, deriving from the French cerise ‘cherry’.12 Ceris-rød ‘ceris-red’ is known from 1855 (SAOB, Ceris). However, the typical Swedish speaker does not link the term ceris to cherries: the Swedish word for ‘cherry’ is körsbär and most speakers are neither experts in etymology nor fluent in French. In 1889, cerise is identified as a kind of brown; in 1904 it is called a kind of red or a kind of brown (SAOB). In contemporary Swedish, the colour denoted by ceris is most definitely not a kind of brown. Compared to the Danish and German pink, which speakers feel are very much their own colours, Swedish ceris is still often talked about as a kind of rosa (Vejdemo, ms.).

It is also worth noting that the term cerise exists in Danish, though it did not emerge in the EoSS data. For instance it appears in DDO (DDO, Cerise) where it is described as having a French origin, first introduced in kirsebær ‘cherry’ and with the meaning en klar rød farve ‘a clear red colour’. This definition would be odd for Danish pink and it is clear that, whatever the overlap in extension between Danish pink and Swedish ceris, the Danish term has a history of “unnaturalness” which is not shared by the Swedish term.

The term cerise also appears once in the English data and twice in the Norwegian data, for C20 and for C19, C20 respectively. In the Norwegian data, it occurs only in the compound form ceriserød and only from a single speaker. While the term is clearly in use in Norwegian, and is attested back to the early 20th century in newspaper clothing adverts and fashion reports (www.bokhylla.no), it is interesting that its use is so much less frequent than in Swedish despite the closeness of the two language communities. The path of borrowing that we discuss in 4.5.1, with the Scandinavian elite borrowing words from abroad which then gradually spread to the rural or lower class speakers, may go some way towards explaining this: historically, “rural/lower class speakers” describes almost the entire Norwegian population, as for several centuries Norway was under either Danish or Swedish administration, had no nobility, and was essentially an outpost populated by poor farmers and fishermen. That a French colour term should be better established in Swedish than in Norwegian is, given this background, probably not surprising.

4.4.3. Defining PINK2

We shall call the part of the colour space denoted by Danish pink, Bernese Swiss German pink, German pink and Swedish ceris PINK2. As most labelled parts of the colour spectrum, it has fuzzy edges, but is centred on B19, C19 and C20. The PINK2 colour space is shown in Fig. 5.

4.5. PINK1

4.5.1. The rosa-cognate set

The term rosa functions as a modal colour term in contemporary Swedish, Norwegian, German and Bernese Swiss German.13

The distributions of rosa are very similar in these languages, as can be seen in Fig. 6.

The main difference between Swedish/Norwegian and German/Bernese Swiss German are the tiles C19–C20. These are frequently called rosa by speakers of Swedish and Norwegian, but pink by German/Bernese Swiss German speakers. Recall that German and Bernese Swiss German operate with two colour categories in this area, and that pink is preferred for the C19–C20 spaces. If the compound cerisrosa is removed from the Swedish distribution of rosa, Swedish also shows a weaker presence in the C19–C20 slides (see Fig. 7).

---

12 One English speaker used the term cerise, for C20.
13 Moreover, the word rosa exists as a marginal, and seemingly different concept in Danish, but the term did not surface in the EoSS data.

---

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
The historical evolution of rosa in Germanic languages is tied to conceptual innovation in German Romanticism in the second half of the 18th century. Modifications of rot ‘red’, like rosarot, had been known for some time. The innovation occurred when compounded rosa- lost its dependence on rot and stood on its own as a separate colour term, rosa. The term roserot did not cease to exist in German but came to be reanalysed as a combination of two colours, rather than simply conceptualizing a specific rose-anchored kind of rot ‘red’. In the EoSS data, we find that a considerable number of Bernese Swiss German speakers still use the term roserot, whereas rosarot does not appear in the modern German data (for discussion, see also Kaufmann, 2006, p. 35).

The DWDS dictionary (DWDS, Rosa) gives us the following history of the adjective (authors’ translation from German): “[…] As the evolved New High German expressions such as rosenfarb, rosenfarbig, rosenrot, rosig no longer denoted the zartrot (‘subtly red’) colour, the flower name (from Latin) rosa was introduced into German in the second half of the 18th century. It first appeared, probably nounlike, in compounds such as Rosaband – ‘rosa ribbon’, later predicative uses evolved, and in vernaculars attributive uses also.”

It is well known that the German linguistic–conceptual influence on mainland Scandinavian semantics and vocabulary has been enormous. Innovations in semantic systems are most likely unidirectional: the elite in Scandinavian cities brought in new German categories, and rural/lower class speakers of Scandinavian languages adopted new meanings and conceptualizations of colours. The DWDS dictionary gives us the following history of the adjective (authors’ translation from German):

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Swedish rosa responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Norwegian rosa responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>German rosa responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Bernese rosa responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 6. The number of speakers who answered rosa when shown particular chips.

The linguistic journey from rosen-rött ‘red like roses’ to rosan-rött ‘rosa red’ to rosa ‘rosa’ in Swedish can be traced in botanical lexicons from the 19th century (at which time they started including colour descriptions) to the present day. Looking at native flowers that do not change colour depending on the quality of the soil, we find that the flowers termed rosa in Modern Swedish (including ljusrosa ‘light rosa’ and mörkrosa ‘dark rosa’) were once described as röd ‘red’. The flowers (such as Malva moschata), which are now described as ljusrosa ‘light rosa’ were once believed to be ljusröda ‘light red’, rödlätta

---

14 Another source language for many Scandinavian loanwords is French. According to the CNRTL etymological dictionary, the second earliest recorded sentence with rose as an adjective dates from 1853 (http://www.cnrtl.fr/etymologie/rose). The earliest example is from as early as 1165, but it is unclear what colour this rose refers to: the explanation “qui a la couleur rouge clair” (that is of bright red colour; [our translation]) refers to the line “Rose ot la chiere e lentillose” (red was the face and freckled; [our tentative translation]) (Benoit de Ste-Maure, Troie, ed. L. Constans, 5531). In Ort’s study of colours in Old French (1899) and in Gingras’ study of witch narratives (2001) from the 17th and the 18th century the above sentence is also referred to when speaking of freckles or red hair.
Icelandic colour system is full of internal lexical innovations. and in English, where the words *rosenröd* or *rot* indicate prototypicality. Flowers described as *rosa* (no modification) e.g. *Geranium lucidum*, were described in the 19th century as *rosenröd* 'red like roses' or *röd* 'red'. Modern *mörkrosa* 'dark rosa' flowers (e.g. *Rosa dumalis*) were described as *purpurröda* 'purple red' or *rosenröda* 'red like roses' or just *röd* 'red' (Vejdemo, ms).

*Rosa* is also a Bernese Swiss German term, as is, as mentioned above, *rosarot*. The term *rosarot* is both of German and English-based words. The Icelandic antipathy to loanwords is well described in the sociolinguistic study. Contemporary cognate terms to *rosa* and *rosarot* existed earlier in German, Swedish, Danish and Norwegian, but the term is now archaic or highly specialized. On the face of it, Bernese Swiss German is the most complicated of all contemporary systems, in that it operates with four terms *rot*, *rosarot*, *rosa*, and *pink*. When we take a closer look at the usage patterns, what we find is that speakers who rely on *rosarot* tend not to use *rosa*, and vice versa. This means that, in all probability, we are dealing with a dialectal or sociolectal difference, rather than a semantic and conceptual one. A few speakers do, however, use both *rosa* and *rosarot*. Perhaps, then, there are three different systems (see Fig. 8) for talking and thinking about colour in varieties of Bernese Swiss German.

<table>
<thead>
<tr>
<th>Variety 1: <em>rot</em>, <em>rosarot</em>, <em>pink</em> (the traditional system, exemplified by speaker 3).</th>
<th>Variety 2: <em>rosa</em>, <em>rosarot</em>, <em>pink</em> (the German system, exemplified by speaker 2).</th>
<th>Variety 3: <em>rot</em>, <em>rosarot</em>, <em>rosa</em>, <em>pink</em> (the combined system, exemplified by speaker 11).</th>
</tr>
</thead>
<tbody>
<tr>
<td>'slightly red' or <em>rödaktiga</em> ‘reddish’ in the middle of the 19th century. The -lätt and -aktiga morphemes imply non-protypicality. Flowers described as <em>rosa</em> (no modification) e.g. <em>Geranium lucidum</em>, were described in the 19th century as <em>rosenröd</em> ‘red like roses’ or <em>röd</em> ‘red’ – never only <em>röd</em> ‘red’. Modern <em>mörkrosa</em> ‘dark rosa’ flowers (e.g. <em>Rosa dumalis</em>) were described as <em>purpurröda</em> ‘purple red’ or <em>rosenröda</em> ‘red like roses’ or just <em>röd</em> ‘red’ (Vejdemo, ms).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The term <em>rosarot</em> is both of German and English-based words. The Icelandic antipathy to loanwords is well described in the sociolinguistic study. Contemporary cognate terms to <em>rosa</em> and <em>rosarot</em> existed earlier in German, Swedish, Danish and Norwegian, but the term is now archaic or highly specialized. On the face of it, Bernese Swiss German is the most complicated of all contemporary systems, in that it operates with four terms <em>rot</em>, <em>rosarot</em>, <em>rosa</em>, and <em>pink</em>. When we take a closer look at the usage patterns, what we find is that speakers who rely on <em>rosarot</em> tend not to use <em>rosa</em>, and vice versa. This means that, in all probability, we are dealing with a dialectal or sociolectal difference, rather than a semantic and conceptual one. A few speakers do, however, use both <em>rosa</em> and <em>rosarot</em>. Perhaps, then, there are three different systems (see Fig. 8) for talking and thinking about colour in varieties of Bernese Swiss German.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variety 1: <em>rot</em>, <em>rosarot</em>, <em>pink</em> (the traditional system, exemplified by speaker 3). Variety 2: <em>rosa</em>, <em>rosarot</em>, <em>pink</em> (the German system, exemplified by speaker 2). Variety 3: <em>rot</em>, <em>rosarot</em>, <em>rosa</em>, <em>pink</em> (the combined system, exemplified by speaker 11).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For speakers who distinguish between <em>rosa</em> and <em>rosarot</em>, the <em>rosa</em> term is used for the lighter colours, and <em>rosarot</em> for darker ones. More studies are needed to ascertain the usage-patterns of Bernese Swiss German colours terms and their meanings. As a side note, two instances of the cognate form occurred in the English responses as well: one speaker used <em>rose</em> for A19 and A20, and another used <em>rose red</em> for B18. Steinwall (2002, 65 pp., 2006, p. 113) investigated the competition between *rose/*rosa and <em>pink</em> and <em>rosarot</em> in the 19th century. In modern times, many fossilized expressions can still be found in corpora with <em>rosa</em> and <em>pink</em> clearly the more salient words.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In our analysis, *pink*, *German rosa*, Bernese Swiss German (variety 1) *rosarot*, Bernese Swiss German (variety 2) *rosa*, Swedish *rosa*, Danish *lyserød* and Icelandic *bleikur* make up a shared colour category. If, however, future studies establish a systematic distinction between the denotational footprints of *rosa* and *rosarot*, then Bernese Swiss German would indeed seem to “do pink” differently from other Germanic variants.

4.5.2. *The bleikur cognate set*

Referring to *bleikur* as a cognate set may seem strange, since so far we have only seen a single term in the set in the present study. Contemporary cognate terms to *bleikur* exist in Swedish, Norwegian and Danish where the word *bleik/bleg* means ‘pale’, and in English, where the words ‘bleachy’ and ‘bleachy’ refer to removing the colour from something, or making it lighter. In Middle English, *bleak* meant ‘pale’ (OED, bleak).

The term *bleikur* appears to be semantically similar to English *pink*, and Germano-Scandinavian *rosa*, but the history of lexicalization differs. The Icelandic colour lexicon stands out from those of mainland Scandinavia in its active avoidance of German-based (and English-based) words. The Icelandic antipathy to loanwords is well described in the sociolinguistic literature (see e.g. Trudgill, 2011, p. 4; Kristiansen and Sandøy, 2010, p. 3; Svavarsdóttir et al., 2010; Vikør, 2001, p. 216), and the Icelandic colour system is full of internal lexical innovations.

---

15 The original meaning was based on *lätt*, an old Swedish concept of “visual appearance”.
16 http://dictionary.cambridge.org/dictionary/british/bleach_1
17 The concept of ‘colour’ itself is a good example. It was brought to English (colour) and Dutch (*kleur*) from French *couleur*, and to Danish (*farve*), Norwegian (*farge*) and Swedish (*färg*) via German *Farbe*.

---

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
and Vigfusson, in Klein, 1999, p. 156). In the second phase, a polysemous pattern was established in which a point in time, leaving only, say M2, as the meaning of that word. Translated into the Icelandic case, the story goes like this: In the first phase, bleikr was an Old Norse visual descriptor, meaning ‘pale, light, intense’ (Klein, 1999, p. 156). The visual semantics of the category denoted by bleikr described certain things, typically gold, ripe barley fields, and locks of hair (Cleasby and Vigfusson, in Klein, 1999, p. 156). In the second phase, a polysemous pattern was established in which bleikur remained a visual descriptor for ‘pale’, and at the same time bleikur2 emerged as a genuine colour term, meaning ‘pink’. In the final phase, bleikur2 came to be the most common meaning.

In our data, bleikur (see Fig. 9) has the same centre and main extension as the other cognate sets we have discussed in this section, but it is more widespread, noticeably having a presence in C18 (5 mentions) and A3 (4 mentions).

Fig. 8. Data from three Bernese Swiss German speakers.

Fig. 9. The number of Icelandic speakers who answered bleikur when shown particular chips.

4.5.3. The lyserød cognate set

From a cross-Germanic perspective, Danish lyserød is lexically speaking quite odd and the term poses several significant questions for colour theory. Lyserød is a composite term which means ‘light-red’, and in that sense it is a formal equivalent of Swedish ljusröd ‘light-rød’ and Norwegian lyserød ‘light-red’. At least superficially and formally, its denotation seems clearly to be included in rød ‘red’. Yet we will argue that lyserød is, or at the very least is on its way to becoming, an independent colour term.

The first argument for this is its distribution. If we look at the lyserød-use, it resembles English pink, Swedish and Norwegian rosa and Icelandic bleikur. It is unlikely that this is a coincidence – rather, all these terms represent different lexicalization strategies for the same colour (Figs. 7–10).

If we take a closer look at tile B20, it reveals that 19 of 20 consultants said that the tile was lyserød, and only 1 of 20 called it en slags rød ‘a kind of red’. Generally, the usage-patterns of lyserød and rød are relatively complementary to each other, though not in cells C19, C20 and B1. This pattern of distribution can be compared to the patterns of lilla and lyselilla (Fig. 11) where there is far more overlap between the modified and unmodified term – there is only one chip, A15, that is only ever called lyselilla (by two people) and never lilla (Fig. 12).

Further, lyserød takes modifiers in a way that lysegran or lyselilla do not. A Google search on Danish language web pages returned 4325 hits for “mørk lyserød” ‘dark light-red’, but only 2 for “mørk lysegran” and 79 for “mørk lyseblå”.

Lyserød is also a far more frequent term than the other ‘light’ + ‘red’ terms, as can be seen in (Table 3).

Finally, we can look at historical data. The first dictionary example of the term is from the 1920’s (ODS). Here it says:
Blandet med det Hvide, som lyserødt, er (den røde farve) munter.

“When mixed with white, as lyserød, (the red colour) is cheerful.”

This quote is extremely revealing: first it clearly states that lyserød is at this point in time is believed to be a kind of rød; further, the quote states that lyserød is believed to be a mix of rød and hvid. In general, this sets lyserød apart from other colour compounds based on the lyse-prefix. Generally, the prefix lyse- adds ‘lightness’, not ‘whiteness’. For instance, the cultural association of lysegrøn is linked with the colours of a sunlit beech forest in summertime, and lyseblå to a sunlit scenery of the sky and the sea. Lyserød does not have a similar “sunlit” natural prototype. Its origin is more likely to be in the mixing of paints, that is, in a cultural colour practice, rather than in an idealized cognitive model of “sun” and “nature” (Levisen, pc, semantic consultations with Danish speakers. Also see DDO for more on these terms).

Initial fieldwork with Danish speakers also indicates that they refrain from calling lyserød “a kind of rød”. They prefer to explain the meaning of lyserød as ‘like something rød, with some hvid in it’.

The fact that a compound like Danish lyserød has developed into a separate colour category, is not unique in the Scandinavian context. For instance, in Icelandic we find two modal compound terms (appelsínugulur ‘orange’, ‘yellow like an orange’ and fjólublár ‘blue like a violet’) that seem to have established their own coherent denotations independent of the roots gulur ‘yellow’ and blár ‘blue’. An even clearer, parallel example comes from the Finnish term vaaleanpunainen (vaalea ‘light’ and punainen ‘red’), which Uusküla (2007, p. 389) establishes as a basic, and young, colour term. Uusküla notes that vaaleanpunainen can take further light and dark modifiers, which is what we have found for lyserød as well.

4.5.4. Defining PINK1

In the EOSS data there is a colour category (PINK1) which is denoted by a colour term in all the languages in this study. The area has slightly fuzzy edges (see Fig. 12) but the edge of the denotational footprint is almost always found in the same place in the languages. The languages that have the borrowed term pink (German, Bernese Swiss German, Danish) and Swedish, which has the secondary term ceris, all show a slight difference in one particular border however – at the centre of the pink and ceris distribution (C19, C20), they have a noticeably smaller presence of their PINK1 terms than Norwegian or Icelandic do. Interestingly, English does not quite fit this pattern – without a clear secondary colour term denoting C19 and C20 it still has a weak PINK1 distribution for these cells. In other words, in languages where the PINK2 colour area is recognized as a separate colour, the PINK1 area is slightly smaller to accommodate it, than the PINK1 area is for (most) languages with no PINK2 colour area.

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
4.6. Minority responses – detailing the complexity of the area

From a German, Swedish and Danish perspective, the English, Norwegian and Icelandic languages seem to be lacking a category. The two-way English red–pink system, for example, vis-à-vis the three-way systems rot–rosa–pink, and rød–lyserød–pink, are reflective of two basically different ways of conceptualizing the “pink space”. While this is true, English speakers have other lexical resources, and in fact, the stock of marginal colour terms is huge in English, including terms such as magenta, fuchsia, rose, cerise, puce, mauve and coral, most of which are what Alvarado and colleagues (Alvarado and Jameson, 2002; Jameson and Alvarado, 2003) call ‘object glosses’, due to their origins as the names of objects with a salient prototypical colour. Swedish has the marginal term skär whose few uses indicate a very bright kind of PINK1 and which is generally seen as an archaic term. Most of the languages have a range of minor terms covering the PINK1 and PINK2 area – the investigations of which unfortunately lie outside the scope of this paper.

4.7. Possible L2 interference

Table 4 represents the number of speakers of each language that rated themselves as fluent or near fluent (4 or 5 on a 5 point scale) in each given language. Many non-English speakers stated that they were very proficient in English as an L2. German and French Speakers secondary languages coming close, and then only within the group of speakers of Bernese in Switzerland. Danish is taught along with English in Icelandic schools, but speakers rate themselves far less fluent in Danish than English in general. Other languages mentioned are Dutch, Russian, Spanish, Danish Sign Language, Catalan, Portuguese, Mandarin, Cantonese and Indonesian, but most of these are only within the grasp of one to three speakers.

We have detected no clear L2 interference effects in the data – the referential range of English pink is not more similar to the pink of Danish than German or Bernese pink, despite the Danish participants stating that they were more proficient in English.

Table 4
Language proficiency of participants rating themselves as fluent or near fluent in different languages. The number in parentheses are the number of speakers who had lived where the rated language was spoken or listed it as a childhood language.

<table>
<thead>
<tr>
<th>Speakers</th>
<th>Secondary languages</th>
<th>English</th>
<th>Swedish</th>
<th>Danish</th>
<th>Norwegian</th>
<th>German</th>
<th>Dutch</th>
<th>French</th>
<th>Russian</th>
<th>Spanish</th>
<th>Danish sign language</th>
<th>Catalan</th>
<th>Portuguese</th>
<th>Mandarin</th>
<th>Cantonese</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td></td>
<td>19 (7)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Swedish</td>
<td></td>
<td>16</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Danish</td>
<td></td>
<td>15 (4)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Norwegian</td>
<td></td>
<td>14 (1)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>German</td>
<td></td>
<td>10 (1)</td>
<td>6 (3)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Bernese</td>
<td></td>
<td>10 (1)</td>
<td>6 (3)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Icelandic</td>
<td></td>
<td>19 (3)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

The * marks one and the same individual who has lived in many different places.

Please cite this article in press as: Vejdemo, S., et al., Two kinds of pink: development and difference in Germanic colour semantics, Language Sciences (2014), http://dx.doi.org/10.1016/j.langsci.2014.07.007
5. Concluding remarks

In this paper we have made several claims. First, we claim that there were hardly any lexicalised pinks before the 17th and 18th century in Germanic languages. However, all contemporary Germanic languages have at least one pink colour category (PINK1), and some have two (PINK1, PINK2). PINK1 exists in all the studied languages, and PINK2 in some.

The current pink situation arose through contact-induced lexical and conceptual change:

The colour category PINK1 has been lexicalised through different lexicalization strategies: Swedish rosa, Norwegian rosa, German rosa, Bernese Swiss German rosa, English pink, Icelandic bleikur, Danish lyserød. Throughout, the PINK1 area remains remarkably stable.

The colour category PINK2 is lexicalised as German pink, Bernese Swiss German pink, Danish pink and Swedish ceris. This colour category is not lexicalised with a salient colour term in English, Norwegian and Icelandic. Further, in the languages where PINK2 is lexicalised, the extension of PINK1 is restricted. PINK2 is less stable than PINK1 in its cross-linguistic distribution, but nonetheless has a clear consistent centre.

In this study we reported on findings from experimental settings. This approach gives an overview of the way speakers in contemporary Germanic languages named and categorized colour. Many of our participants also speak other languages (see Table 4). We have not taken influence from these other languages into account for this article, but would welcome that form of scrutiny from others. A careful analysis of multilingual participants’ data might shed light on the way they categorize colour (see Ameel et al. (2005) and Athanasopoulos (2009) for detailed discussions on bilinguals in colour studies.). Furthermore, it is important for future studies to relate our experimental findings to real-world language usage meanings and to add perspectives from corpus research, sociolinguistic interviews and semantic consultations with native speakers.

Visual semantic category formation and social history should go hand in hand in further analyses. The value of an interdisciplinary approach is immediately apparent when we turn to the question of why the PINK1 and PINK2 colour categories arose at a particular time, in a particular place, within a particular speech community. The answer to this cannot be found in categorization experiments – instead we must turn to historical research. In our case, the precursor to the elaboration and differentiation of Germanic colour vocabularies is a series of technological and social developments, such as the emergence of Venice and Florence as major centres for dye manufacturing and the importation of new fabrics from India.

The Renaissance colour explosion (Casson, 1994) resulted in several waves of colour terms spreading across Europe. In the second wave, the chemistry of dye experimentation and the availability of more easily dyed fabric led to the presence of stable colours (reproduced in the same way more or less every time) in the lives of Europeans. One of these colours was a lighter kind of red, which was used often enough to start meriting its own colour term. The colour category PINK1 became more and more salient and spread across Europe, from France, Germany and Britain to Denmark, Sweden, Norway and Iceland. Different lexicalization tools were used in the different languages (and language varieties like Bernese Swiss German) but the colour category stayed more or less the same. Later, a second colour category started becoming present enough in the lives of speakers of some of these languages in Western Europe to merit its own term: PINK2. Where PINK2 had to co-exist with PINK1, the colour area of PINK1 was slightly altered.

There are many more diachronic and synchronic stories to be told about the historical dynamics of colour semantics in European languages. We hope that the present study can inspire more research into the intricacies of contact-induced lexical and conceptual change in the domain of colours.

Acknowledgement

This work stems from the Evolution of Semantic Systems project and received financial support from the Max Planck Gesellschaft. The authors would like to thank the School of Humanities at the University of Iceland, the Department of Linguistics and the Centre for the Study of Cultural Evolution at Stockholm University, the Institute of Multilingualism in Fribourg (University of Fribourg, University of Teacher Education) and the Department of Linguistics and Scandinavian Studies at the University of Oslo for hosting this research. We have greatly benefited from discussions with many people while preparing this article. Particular thanks to Michael Dunn, Fiona Jordan and Asifa Majid, the principle investigators of the project ‘Evolution of Semantic Systems’ hosted at the Max Planck Institute for Psycholinguistics in Nijmegen (see Majid et al., 2011). We also wish to thank all the contributors of the Germanic workshop held at the Institute of Multilingualism in Fribourg in March 2012 where the idea for this article was born; and to all the participants who patiently answered our questions. It goes without saying that no one except the authors of this article are responsible for the errors or misinterpretations present in this work.
### Appendix A. EoSS codes, Munsell codes, Hex codes conversion table.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Munsell code</td>
<td>N9.5</td>
<td>5R 8/6</td>
<td>10R 8/6</td>
<td>5YR 8/8</td>
<td>10YR 8/14</td>
<td>5GY 8/10</td>
<td>10GY 8/8</td>
<td>5G 8/6</td>
<td>10G 8/6</td>
<td>5BG 8/4</td>
<td>10BG 8/4</td>
<td>5B 8/6</td>
<td>10B 8/6</td>
<td>5PB 8/6</td>
<td>10PB 8/4</td>
<td>5P 8/6</td>
<td>10P 8/6</td>
<td>5RP 8/6</td>
<td>10RP 8/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HTML code</td>
<td>#FF2F2F</td>
<td>#FFB4AD</td>
<td>#EEBBAA</td>
<td>#F9B98A</td>
<td>#F7BC60</td>
<td>#E7C530</td>
<td>#D2CC2A</td>
<td>#B2D43D</td>
<td>#8CD981</td>
<td>#80D8AC</td>
<td>#77D9B8</td>
<td>#91D3C8</td>
<td>#90D2D3</td>
<td>#97CFDC</td>
<td>#8ECFF2</td>
<td>#A7C3F6</td>
<td>#C43CE1</td>
<td>#E8B7DA</td>
<td>#F5B5C9</td>
<td>#FBB4BB</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell</th>
<th>B0</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
<th>B7</th>
<th>B8</th>
<th>B9</th>
<th>B10</th>
<th>B11</th>
<th>B12</th>
<th>B13</th>
<th>B14</th>
<th>B15</th>
<th>B16</th>
<th>B17</th>
<th>B18</th>
<th>B19</th>
<th>B20</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTML code</td>
<td>#B3B3B3</td>
<td>#ED6362</td>
<td>#F66028</td>
<td>#DA7511</td>
<td>#A98C1D</td>
<td>#979218</td>
<td>#7D99B8</td>
<td>#28A62E</td>
<td>#2BA273</td>
<td>#0AA284</td>
<td>#389E95</td>
<td>#359CA4</td>
<td>#199980</td>
<td>#0690D7</td>
<td>#8D84D2</td>
<td>#A4B0DA</td>
<td>#C74B1</td>
<td>#E06698</td>
<td>#E9637D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell</th>
<th>C0</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
<th>C10</th>
<th>C11</th>
<th>C12</th>
<th>C13</th>
<th>C14</th>
<th>C15</th>
<th>C16</th>
<th>C17</th>
<th>C18</th>
<th>C19</th>
<th>C20</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTML code</td>
<td>#737373</td>
<td>#B9142C</td>
<td>#A9300D</td>
<td>#8B4815</td>
<td>#7E4F00</td>
<td>#6C5710</td>
<td>#5F80BD</td>
<td>#4C601A</td>
<td>#1C6823</td>
<td>#126647</td>
<td>#2D6255</td>
<td>#28625E</td>
<td>#276168</td>
<td>#2D5F6F</td>
<td>#235E80</td>
<td>#1A59F</td>
<td>#5D4AA5</td>
<td>#7C3F96</td>
<td>#913583</td>
<td>#A22A67</td>
<td>#B6114D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell</th>
<th>D0</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
<th>D7</th>
<th>D8</th>
<th>D9</th>
<th>D10</th>
<th>D11</th>
<th>D12</th>
<th>D13</th>
<th>D14</th>
<th>D15</th>
<th>D16</th>
<th>D17</th>
<th>D18</th>
<th>D19</th>
<th>D20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Munsell code</td>
<td>N2</td>
<td>5R 2/8</td>
<td>10R 2/6</td>
<td>5YR 2/4</td>
<td>10YR 2/2</td>
<td>5GY 2/2</td>
<td>10GY 2/4</td>
<td>5G 2/6</td>
<td>10G 2/6</td>
<td>5BG 2/6</td>
<td>10BG 2/6</td>
<td>5B 2/6</td>
<td>10B 2/6</td>
<td>5PB 2/10</td>
<td>10PB 2/8</td>
<td>5P 2/8</td>
<td>10P 2/8</td>
<td>5RP 2/8</td>
<td>10RP 2/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HTML code</td>
<td>#333333</td>
<td>#5A091F</td>
<td>#4F1814</td>
<td>#422111</td>
<td>#34271B</td>
<td>#302919</td>
<td>#2B2A1B</td>
<td>#272C1F</td>
<td>#15301A</td>
<td>#0C3022</td>
<td>#083028</td>
<td>#1B2D2C</td>
<td>#1A2D30</td>
<td>#1B2C33</td>
<td>#0A2D42</td>
<td>#0C2A51</td>
<td>#321B62</td>
<td>#40194E</td>
<td>#421C3E</td>
<td>#520E39</td>
<td>#570B2E</td>
</tr>
</tbody>
</table>
References


Saunders, B., 1992. The Invention of Basic Colour Terms. ISOR, Utrecht.


Svenonius, Per, 1974. The cultural semantics of colour in the spoken language — with a special focus on its social, semantic and functional conditioning. Int. J. Sociol. Lang. 204, 43–58.


Zimmermann, M., Levisen, C., van Scherpenberg, C., Beck, Th.G. Please pass me the skin coloured crayon. The cultural semantics of colour socialization (this volume).