

# The Spectrum of Red Colour Names in Portuguese

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**Abstract.** Colour names behave quite differently in different languages. In fact, each language, or language group, sets its own colour naming system. Romance languages (along with some Germanic languages) inherited the central name for *red* from an Indo-European root *h<sub>1</sub>reud<sup>h</sup>* (see *ruber* / *rubeus* (Latin) and *rosso* (Italian), *rouge* (French), *rojo* (Spanish), *roig* (Catalan), *red* (English), *rot* (German), *rood* (Dutch) or *rod* (Danish)). The cognate noun both in Galician and in Portuguese (i.e. *roxoxo*), even though it may have been used as a name for red, it is now the colour name that can be translated into English by the noun *purple*. These two eastern peripheral romance languages, along with Catalan, favoured the Latin noun *vermiculus* (cf. *vermello* (Galician), *vermelho* (Portuguese) and *vermell* (Catalan)) as the unmarked designation for *red*. Counter wise, it is also possible to find cognate words in the above-mentioned first set of languages, but these words refer less central red hues (cf. *vermiglione* (Italian), *bermejo* (Spanish), *vermilion* (English), *vermiljoen* (Dutch), *vermilion* (Danish)) or even a non-colour term, like the French *vermeil*.

In this paper, we discuss the variation that the spectrum of red colour names exhibits in a small set of languages, somehow related to Portuguese, which is set at the centre stage. This discussion takes their etymological relationships, their chronological nexus and their contemporary reinterpretations in numeric encodings, such as RGB or CMY into consideration. The analysis of these data allows inferring that the large array of colour and hues, shades and tints, as described, for instance by the Munsell colour system, has no linguistic equivalence: colour names reflect a limited amount of colour distinctions, fulfilled by an unstable set of nouns. Colour names change within and across languages, they frequently change in time and their meaning also often changes. Probably, all this instability is set for independent linguistic reasons, related to the effects of language contact situations and to strict lexical principles, such as economy. Portuguese will again be invoked to demonstrate that derived or compound names used to refer to those chromatic narrow distinctions may keep their stylistic or literary pertinence, but are unable to maintain any unambiguous meaning.

## 1 INTRODUCTION

Goethe's doctrine of colours, published in 1810 [1], can be seen as a midway landmark in the study of colours, which, if nothing else, had the merit to demonstrate the need to shift attention from the strict physical side of the spectrum of light into some more human perspectives. Alongside with artists, philosophers or psychologists, linguists also shared an increasing interest in colours and particularly in colour names.

Berlin & Kay (1969) [2] set a good example for multi-layered approaches. Though some of their initial hypotheses were since quite disputed, their findings are still discussed and an update and further developments can be found in the *World Color Survey*, that is the basis for Kay and Maffi (2013) participation in the World Atlas of Language Structures [3,4]. Figure 1 concerns the number of basic colour categories that range from 3-4 to 11, which is the number attested in most European languages:

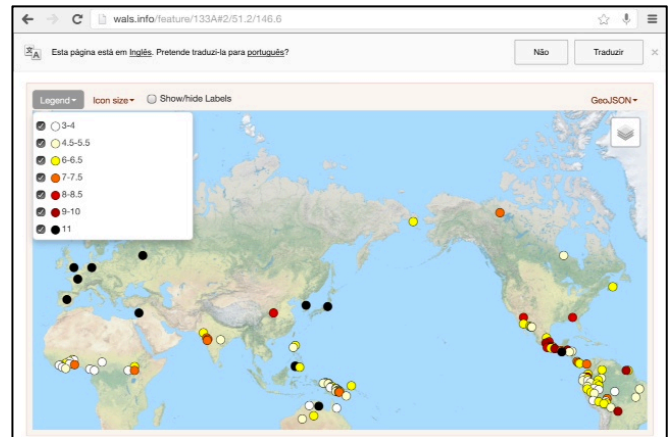


Figure 1

According to these authors, three kinds of universal colour names categories must be considered. The list is generally presented in English - other languages will display the same or a different number of its own colour words. The table below also registers the Portuguese equivalents:

primary opposed colours	
<i>black; preto</i>	white; branco
<i>red; vermelho</i>	green; verde
<i>yellow; amarelo</i>	blue; azul
composite colours (fuzzy unions of primary colours)	derived colours (mixtures of primary colours)
<i>green-blue; verde azulado or azul esverdeado</i>	<i>gray; cinzento</i>
<i>white-red-yellow; branco-vermelho-amarelo</i>	<i>pink; (cor de) rosa</i>
	<i>orange; (cor de) laranja</i>
	<i>purple; roxo</i>
	<i>brown; castanho</i>

Figure 2

This categorization raises a number of questions. We will just consider some of the lexical issues. In the strict domain of linguistics, the focus of colour name studies has been mostly set on philological/etymological, dialectal and terminological approaches.

More recently, some interdisciplinary interfaces allowed studies on the acquisition of colour systems and the use of colour names in a large number of languages.

There is a considerable amount of research on the origin of the colour names and on names that have a terminological acknowledged usage, usually associated to a given human activity [see, for example, 5]. Information and knowledge is much scarcer when we try to understand non-specialized usages of colour names, particularly whenever speakers try to talk about the synesthetic response that colours may trigger.

## 2 Core red names in Italian, French, Spanish, and English

The first issue that deserves discussion concerns the fact that colour names may present many options. To illustrate this point, consider the case of *red*, in English: *amaranth*, *auburn*, *burgundy*, *cardinal*, *carmine*, *crimson*, *rosewood*, *ruby*, *scarlet*, *vermilion*, or *ruby* could also have been the name for the core name of the colour, yet they are names for hues of *red*, from the *yellow* to the *blue* boundaries, and we could still add more.

If we compare these data with the Portuguese set of the red spectrum colour names, we find out that the word for one of the red hues in English (i.e. *vermilion*), is actually close to the unmarked name for *red* in Portuguese, that is *vermelho*. Then, if we compare the Portuguese name for red, i.e. *vermelho*, with the Spanish *rojo*, we find out that this one is very similar to the Portuguese *roxo*, which is a different colour (*morado*, in Spanish, *violet* or *purple*, in English). Curiously, the Portuguese cognate of *purple*, i.e. *púrpura*, is the name for another hue of *red*, along with *carmim* or *escarlata*. Furthermore, the Portuguese *vermelho* competes with *encarnado* to designate the same base red colour [see 6, 7].

In this section we will present the outcome of a lexical research that is meant to understand the basis for the apparently chaotic mismatch of colour names and their *signata*, taking the spectrum of red colour names in Portuguese as a case study. In order to better unveil this network of words, we compared them with equivalent sets in other languages, namely Italian, French, Spanish and English. We also searched their numeric equivalents in some recent categorization models. Furthermore, we traced the semantic history of the Portuguese words in old texts and dictionaries.

Romance languages have inherited words from Latin etymons that were the name of a colour and from etymons that mentioned the process for obtaining a colour, and could thus, metonymically, represent the colour.

The set of words available in Late Latin were *rubeus* and *russus*. These words were apparently those that had a richer polysemic meaning, although it is impossible to know which particular colour they really represented. What we do know, though, is that they mentioned hard to captured realities such as the colour of the hair [8]. Figure 3 displays five words inherited from the Proto-Indo-European root *h<sub>1</sub>reud<sup>h</sup>*, and the chromatic equivalent that each language has set for them in RGB and CMY classifications.

Notice that the Portuguese word *roxo* refers to a colour significantly different from the French *roux*, the Spanish *rojo*, or the Italian *rosso*: *roxo* and *roux* are colour names, but they are not names for red; *rosso* and *rojo*, which are the core names for red in Italian and in Spanish, respectively, but they refer different hues of red.

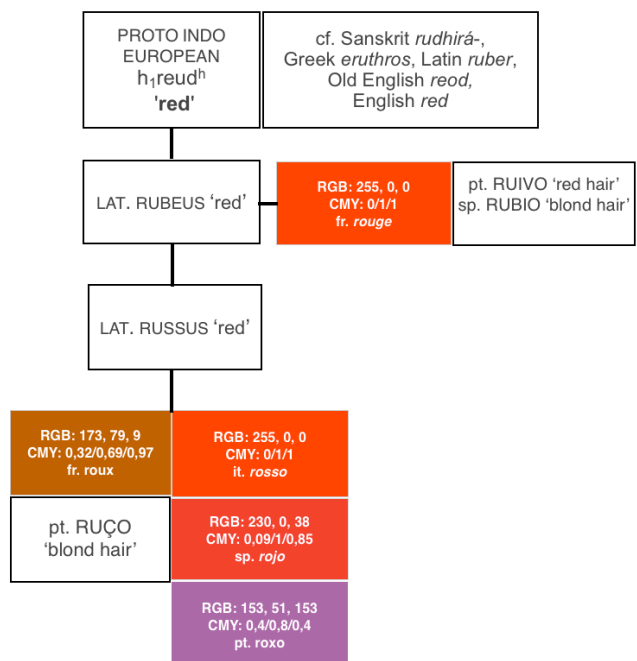


Figure 3

In fact, each romance language has selected one of the possibilities to mention a given colour, according to the period that brought it to contact with Latin and to the degree of innovation and variety in that contact. In the case of Portuguese (and Galician and Catalan), the preference for *vermelho* finds an explanation in the late conservative character of the northeast Iberian Latin [9], which is clearly depicted in Figure 4. In contemporary Portuguese, the word *vermelho*, is the central name for the colour red and it is much more frequent than its equivalents in Italian, French or Spanish.

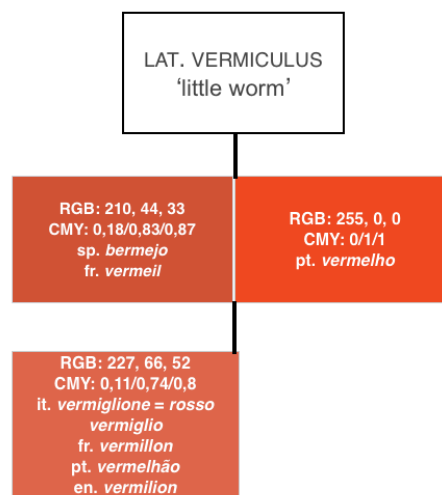


Figure 4

These processes of loan and lexical innovation have already been thoroughly studied, as far as the relationship between Latin and each of the romance languages is concerned [10]. Their study as a whole, though, is still an immense field for research: if neighbour languages do share cognate colour names, the truth is that we don't

really know if they always refer to same colour or to a slightly different one. The explanation should be sought for in diachrony and in interlinguistic contacts.

Colour names that dictionaries register are but a small part of the solutions that linguistic communities know and share. Thus, it is also important to consider data from dialectal variation, unused and low-frequency words. They are culturally as significant as core names.

### 3 New names for red: *carmine*, *scarlet* e *carnation*

Each romance language has added new colour words, whenever it felt the need to name new processes for making pigments, thus repeating the cycle that occurred in the mother language. This is the case of *carminium*<sup>1</sup>, which was used to prepare a pigment, and *scarlata*, which identified a specific kind of red dyed fabric:

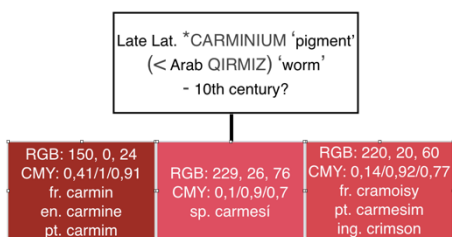


Figure 5

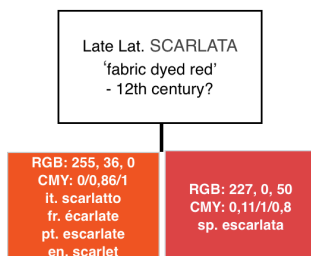


Figure 6

Colour descriptions, obtained by comparison to familiar elements that exhibit that colour, can gain autonomy and, by ellipsis, new colour names are established. The word *encarnado* seems to be the result of an interlinguistic contact that can be traced back to the 14<sup>th</sup> century.

It may have had origin in a description of colour ('skin colour'), witnessed in 14<sup>th</sup> century Italian texts<sup>2</sup>. In French, we find an occurrence of *incarnat* as a colour name since the 16<sup>th</sup> century<sup>3</sup>.

<sup>1</sup> The Latin noun *carminium* has an Arabic origin (i.e. *quirmiz*) that is probably related to the Latin word *vermes* (that will occur in *vermelho*). They refer the same colorant insect.

<sup>2</sup> See *Tesoro della lingua Italiana delle Origini*, s.v. *carnato*: «il quale hae bianco carnato» < <http://tlio.ovi.cnr.it/TLIO/> > [2014.03.01].

<sup>3</sup> See *Le Trésor de la Langue Française Informatisé*, s.v. *incarnat*: « Ces nimphes habillees de toile d'argent et de crespes d'argent varié d'incarnat et

European Portuguese has a less frequent word, i.e. *encarnado*, which is a synonym of *vermelho* (in most contexts).

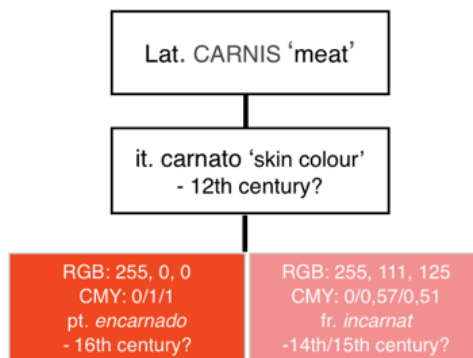


Figure 7

Its absence in Brazilian Portuguese cannot be ignored, since we know that this is generally a good evidence for locating new words in the Portuguese lexicon after the 15<sup>th</sup> century. The first notice of *encarnado* as a colour name is registered in a poetic text from the mid 16<sup>th</sup> century – this is the only occurrence of the word in all the known texts by Camões<sup>4</sup>. Another testimony comes from Gil Vicente in the play *Floresta de Enganos*, in 1536<sup>5</sup>.

The well-succeeded introduction of new colour names can cause a rearrangement of the colour name system. This is probably what happened with *roxo* that shifted its reference from red to purple.

### 4 Ephemeral colour names

Portuguese will now be invoked to demonstrate that derived or compound names used to refer to chromatic narrow distinctions may keep their stylistic or literary pertinence, but they may be unable to survive with any unambiguous meaning.

If we broaden the search, in order to include old dictionaries, we can find evidence that the names that colours have now are not always the same that they had before.

In the entry for *vermelho*, an early 18<sup>th</sup> century dictionary mentions *vermelhão*, *almagra*, *azarcão*, *lacra*, *sinopla*, *roxo-terra*, *cochonilha* as names for red hues [11]. Some of these names are lost; some other are not colour names; and the remaining, those that are still colour names, such as *roxo-terra*, are not easily decoded. Incidentally, this is frequently the case whenever we read old lists of colour names, like in the following excerpt, also from the early 18<sup>th</sup> century [12]:

- Cor de Aurora. Aurorae color. Roseus color.  
'dawn colour'
- Cor de pomba. Columbinus color.  
'dove colour'
- Cor de cidra. Citrius color.

de bleu » < <http://atilf.atilf.fr/> > [2014.03.01].

<sup>4</sup> «fita de cor d' encarnado, tão linda que o mundo espanta» (L. de Camões, Redondilhas, 52) in *Corpus do Português: 45 million words, 1300s-1900s*. < <http://www.corpusdoportugues.org> > [2014.03.01].

<sup>5</sup> «Que o costume é tam acendido lume depois que está encarnado que até nam ser acabado nenhua cousa o consume » (G. Vicente, *Floresta de Enganos*) in *Corpus do Português: 45 million words, 1300s-1900s*. < <http://www.corpusdoportugues.org> > [2014.03.01].

‘cider colour’  
 Cor de cabra sylvestre. Rupricaprinus color.  
 ‘wild goat colour’  
 Cor de folha morta. Color frondis emortuae.  
 ‘dead leaf colour’  
 Cor varia. Color varius, a, um.  
 ‘various colour’

Except for *encarnado* (which, as we have seen, has become ‘viral’), Latin colour names accumulate several translating possibilities, that were probably adequate to mutually exclusive contexts of usage, as we see in the following 17<sup>th</sup> century Portuguese definitions of latin names [13]:

Incarnatus, color. Cór encarnada.  
 Punicus, a, um. Cór morada; cór avivada, roxo claro, cór da purpura: Alii vermelha, encarnada.  
 Rubeus, a, um. Cousa vermelha, ruiva, roxa, encarnada, loura, de escarlata, graã, carmezim, purpura.  
 Russatus, a, um. Cousa encarnada, vermelha, clara, ou roxa.

The relationship between Latin etymology and modern nouns is a modern reconstruction (especially in the case of *rubeus* / *ruivo*; *russus* / *ruço*).

## 5 Closing remarks

By nature, the lexicon of a language is a cumulative entity: words enter the lexicon whenever there is a (semantic) free place. Then, they may be more or less used, or even not used at all. If their memory is preserved, in written documents for instance, words can become eternal. The meaning of such words, however, is hardly that resilient. In order to understand what *cor de cabra sylvestre* ‘wild goat colour’ might meant, we need to find enough information in written documents, especially in painting handbooks and in early monolingual and bilingual dictionaries.

The analysis of the data presented above allows to infer that the array of colour and hues, shades and tints has no linguistic equivalent. Although Munsell [14] designed a colour system by taking measurements of human visual responses, we know that colour names reflect no more than a limited number of these colour distinctions:

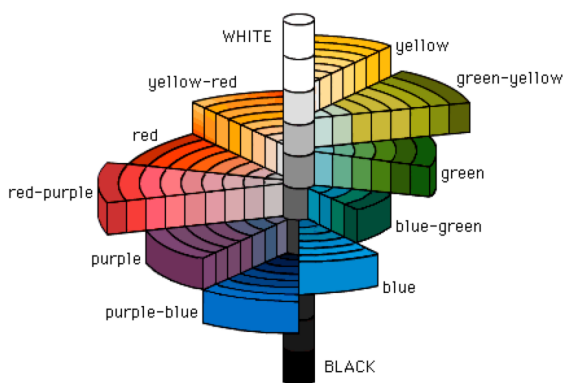


Figure 9 [15]

The red spectrum colour names that we have considered in this paper, combining all the languages, are chromatically represented

in Figure 10. No language is able to assign colour names to any and each of these colour samples.

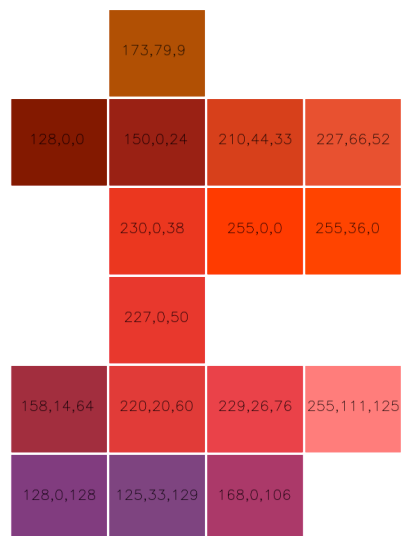


Figure 10

Portuguese was invoked earlier to demonstrate that derived or compound names used to refer to chromatic narrow distinctions may keep their stylistic or literary pertinence, but are unable to maintain any unambiguous meaning.

The set of nouns that languages dispose in a lexical network, are not always the same, probably due to independent linguistic reasons, eventually related to the effects of language contacts and to strict lexical principles, such as economy.

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