On contrastive perception and ineffability: assessing sensory experience without colour terms in an Amazonian society

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Based on ethnographic material relating to the Candoshi, an indigenous people from the Upper Amazon, this article explores how they evaluate sensory experiences pertaining to colours without one of the main descriptive tools used for this purpose: colour names. After a review of the research concerning ineffability and colour naming, the article shows that the Candoshi do not have any terms for colours in their language. It then describes how, through a range of practices referred to as ‘contrastive perception’, they manage to communicate sensory experience, including that relating to colours, with accuracy. The last section concludes by discussing some of the theoretical implications of these findings in the light of previous research into the issue.

On a regular, if not daily, basis, the Candoshi spend much of their time making different dyes and pigments, particularly red ones, for use as face paints or to dye pottery. This is not a simple task, since a number of parameters come into play – these include the ripening of the bixa fruit (Bixa orellana), from which most of the pigment comes; the time it takes to boil up the mixture; the intensity of the heat source, and so on – with the sole aim of producing a red with the greatest possible intensity and saturation. The Candoshi are also acclaimed among other neighbouring indigenous people groups for their mastery of feather art. On rainy days when they cannot go hunting or fishing, they make crowns, chest adornments, and ear-rings by combining feathers and down from different species of bird which they capture, prized for their lively, contrasting colours. Despite the fact that colour is a predilection, or even a passion, for the Candoshi, the language of this Amazonian group has no term to discuss colour in general, and no terms to designate any individual colour. This assertion may come as a surprise inasmuch as the Candoshi language was recently chosen as an example of a colour nomenclature in The world color survey, WCS (Kay, Berlin, Maffi, Merrifield & Cook 2009: 155-7). One of the purposes of this article is to put forward a counter-example to the universalistic theory underpinning the WCS, according to which the Candoshi language includes colour terms, just like any other. However, the main thrust of this article is to address the apparent paradox thrown up by the Candoshi: how can they share such a passion
for colours without having any terms to talk about them? Inasmuch as the lack of any notion of colour, or of colour terms, does not necessarily imply an inability to perceive colours or to talk about them, this article looks at the question of how colours can be discussed without one of the most useful tools for doing so: colour names.

These questions bring to bear the recently proposed analytical notion of ‘ineffability’: that is, the difficulty or even impossibility of using words to explain experiences for which the concepts required for coding are either non-existent or not self-evident (Levinson & Majid 2014). The existence of semantic gaps, particularly as regards names for percepts, is a significant problem in which there has been a growing interest in recent years, with attempts to ‘sensualize’ anthropology (see Classen 1997; Gélard 2016; Howes 2003; Howes & Classen 2014). Indeed, describing a sensory experience, for instance the smell of a flower, is a very different exercise from that of describing the shape of a geometrical figure (Hill 2011: 57; Majid & Levinson 2011). There is a dimension of this sensory experience that cannot be subsumed into any conceptualization or coding, culturally stabilized by semantic conventions. It involves a dimension of experience which is personal, indescribable, and which can only be experienced for oneself. Indeed, it would appear impossible for a person who has never seen the colour red to understand the meaning of the word ‘red’. No matter how lengthy or detailed any description is, it can never equate to the experience of seeing the colour red. That is why comparative ‘ineffability’ is an unavoidable issue in the anthropology of senses and perception (Levinson & Majid 2014: 408). In this perspective, the question arises as to whether, if the Candoshi have no terms to name colours, the latter become an ineffable or indeed unsayable phenomenon, or are subsumed into another, broader order of category, or are experienced in terms of a direct perception transmitted inter-subjectively through the sharing of the same experience. Could this simply be a matter of effective communication, with each language having the necessary resources to discuss everything, even if doing so requires a great deal of circumlocution?

In this article, after a summary of the issue as it stands, we explore how the perception (or a set of perceptions) of colour is (are) assessed and specifically described without specific terms for colours, based on the data collected in our fieldwork among the Candoshi people. The second part describes how this indigenous people of hunters, fishermen, and horticulturists from the Upper Amazon have no terms to name colours in their language. The third section offers ideas about how the Candoshi perceive objects in the world around them. Noting that they do not have an autonomous paradigm of colour, we explore the idea that rejection of colour as a means of expression in fact conceals a technique or particular way of describing objects, including their colours; a system for assessing the experience and description of things based on other describable and analysable instances, referred to here as ‘contrastive perception’. The article concludes with some reflections on the theoretical implications of the results in the light of previous research into this issue.

Colour, language, and perceptions

The notion of colour has long existed in Western intellectual tradition. Indeed, writing about colour and theorizing about its nature date back to the time of ancient Greece. For instance, in De sensus, Aristotle describes colour on bodies as an inherent, intangible form made visible by light. In the seven colours he lists (black, white, yellow, red, violet, green, and blue), he distinguishes the first two as being basic colours (Guerlac 1986: 7). Countless subsequent contributions have explored the reality of colour; notable
figures in this tradition include Descartes, Newton, and Goethe. In different places and at different times, colour has emerged as a phenomenon in its own right. Today, in contemporary consumer society, choosing between two almost identical objects on the basis of colour has become a mundane daily exercise that further confirms – if further confirmation were needed – the indisputable reality of colour.

However, the question remains as to whether the same particular notion of colour is shared by every culture and language. Anthropology and comparative linguistics have tended to answer this question in the affirmative, if one considers the two main avenues of research conducted over the past half-century at least (Young 2006: 176-9; 2011: 357). The first avenue relates to colour symbolism (which is mainly affective) in different cultures at different points in history (Biggam 2012; D’Andrade & Egan 1974; Hovers, Ilani, Bar-Yosef & Vandermeersch 2003; Johnson, Johnson & Baksh 1986; MacLaury, Paramei & Dedrick 2007: part 3; Pastoureau 2001; 2008; Sahlins 2013: 166-204; Taussig 2010; Turner 1966; 1967: 59-92).

The second avenue, with which this article is more especially concerned, deals with colour naming and classification, a topic characterized by the debate between the proponents of ‘linguistic universals’ and the champions of ‘linguistic relativity’ (Kay & Regier 2006: 51). It is perhaps because colour is seen as something so natural that studies defending the universality of the concept, along with that of basic colours, enjoy such broad recognition. Arguments put forward in Berlin and Kay’s famous study (1969), together with subsequent emendations, and supportive research on the part of psychologists into colour prototypicality, such as that of Rosch Heider (1972) and her colleagues (Rosch Heider & Olivier 1972) in the 1970s, all assert the existence of a common terminology of basic colours in all languages, with levels of complexity according to an evolutionary pattern; such arguments still enjoy widespread and remarkable acceptance (cf. Hardin & Maffi 1997: 3-5; Kay et al. 2009; Kay & Regier 2006; Regier & Kay 2009; Regier, Kay & Cook 2005).

There is no doubt that since the publication of Berlin and Kay’s research, a considerable number of criticisms have been levelled against this approach, which combines universalism and evolutionism, and appears disturbingly similar to the evolutionistic approaches typical of a colonial breed of anthropology that might have been thought to be a thing of the past (Dedrick 2015: 271). Space does not suffice here to attempt a summary of one of the most extensive debates among scientists investigating the relationship between language, mind, biology, and culture. However, in the hundreds of articles published by the opponents of Berlin and Kay’s theory, it is rare to find any denial of the existence of the notion of colour, or of terms to name colours in all known languages. Indeed, this is the case even for those adopting a so-called ‘relativistic’ position and openly opposed to universalism, a view which is also flourishing today, particularly in the field of experimental psychology (Davidoff, Goldstein & Roberson 2009; Özgen & Davies 2002; Roberson, Davidoff, Davies & Shapiro 2005; Roberson, Davies & Davidoff 2000). Research along these lines, which adopts a Whorfian approach, highlights the cultural diversity apparent in how the chromatic colour scale is divided up in terms of linguistic diversity, but does not deny the existence of the notion of colour or of the universal existence of terms to designate colours. In short, to address the question raised earlier, anthropologists have been virtually unanimous in taking the view that the notions of colour and colour terms exist virtually everywhere.

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However, recent research has challenged this unanimity as regards the existence of colour terms. Without prior consultation, a whole series of research work by anthropologists and linguists from different backgrounds (De Vos 2011; Everett 2005; Hill 2011; Levinson 2000; Saunders 2000; Senft 2011; Wierzbicka 2008; Young 2011) appears to confirm the conclusion already postulated by Conklin long ago in a classic text: colour, in the technical meaning the West has given it, is not a universal concept, and in many languages does not exist as such (1955: 339). Conklin’s early intuitions, for which proponents of the ‘universality of colour’ thesis argue there is little linguistic evidence (Biggam 2012: 54), have received fresh support in rigorous linguistic research such as that proposed by Levinson (2000). His analysis of the Yéli Dnye language effectively undermines the theory according to which all languages treat colour as a unitary domain, to be exhaustively named. This case study suggests, according to Levinson, that not every language has a comprehensive colour terminology; in some cases the latter is only partial and in others it does not even exist, raising serious doubts about its universality. This conclusion is shared by Wierzbicka (2008), who takes the view that while humans may be capable of perceiving colours, it cannot be inferred from this that they recognize them at a conceptual level. Based on data relating to the Walpiri language, she notes (as Levinson has) that many languages do not have a superordinate word for ‘colour’, so the question ‘What colour is it?’ cannot therefore be formulated, not even by using a paraphrase. Our experience with the Candoshi has led to the same conclusion as this research. Before examining the issue in detail, however, first and foremost it is worth demonstrating that contrary to the assertion in the WCS, the Candoshi do not have words for colours.

**No colour terms in Candoshi**

According to the WCS report (Kay et al. 1997: 27-9; 2009: 155-7), following the universalistic approach of Berlin and Kay (1969), the colour terminology of the Candoshi language is at a transitional stage between levels III and IV. The WCS identifies the colours white (boorshi), black (kansirpi), red (chobiapi), yellow (ptsiyro-mashi), green/blue (kavabana), and an emerging term for green (kamachpa). A term for purple (tarika) as well as one for desaturated (pozani) are also timidly emerging, albeit with an as yet very weak consensus in the surveys (see Table 1, Fig. 1). It is widely known that the survey method used by the WCS, like that of Berlin and Kay (1969), both of which have been extensively criticized (cf. Saunders 1995), determines a list of terms of colours beforehand and then asks about the scope of each of the terms on the colour palette. According to that, three facts indicate that these terms do not constitute the Candoshi colour terms envisaged in the WCS.

### Table 1. Candoshi colour terms according to the WCS.

<table>
<thead>
<tr>
<th>Identification</th>
<th>Term</th>
<th>Gloss</th>
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<tbody>
<tr>
<td>a</td>
<td>kantsirpi</td>
<td>‘black’</td>
</tr>
<tr>
<td>b</td>
<td>boorshi</td>
<td>‘white’</td>
</tr>
<tr>
<td>c</td>
<td>chobiapi</td>
<td>‘red’</td>
</tr>
<tr>
<td>d</td>
<td>ptsiyaro (mashi)</td>
<td>‘yellow’</td>
</tr>
<tr>
<td>e</td>
<td>kavabana</td>
<td>‘green/blue (blue-focused)’</td>
</tr>
<tr>
<td>f</td>
<td>kamachpa</td>
<td>‘(emergent) green’</td>
</tr>
<tr>
<td>g</td>
<td>tarika</td>
<td>‘purple’</td>
</tr>
<tr>
<td>h</td>
<td>pozani</td>
<td>‘desaturated’</td>
</tr>
</tbody>
</table>
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Figure 1. Candoshi colour terms from the WCS and their translation and approximate scope in the Munsell colour chart (adapted from Kay et al. 1997: 27-8).

(1) Terms that the WCS has identified as Candoshi colours cannot be considered true terms, that is, monolexemic or morphologically simple terms for colours, as Berlin and Kay claim (1969: 6). They are more complex syntactic constructions. For example, *ptsiyaromashi*, the term for ‘yellow’, is constructed by using two morphemes, *ptsiyaro/mashi*, which means Milvago/like, according to the Candoshi dictionary (Tuggy 1966: 64). The translation would be ‘like or similar to the feathers of a Milvago bird’. Another example, *kantsirpi*, was the term chosen to name the colour ‘black’ and is composed of three parts, *kansi/ar/pi*, that mean tar/have/towards, something like ‘is similar to tar’, according to the dictionary (Tuggy 1966: 26).

(2) The supposed Candoshi colour terms are words or phrases that mean other things, but which have been regarded as terms only because of bias introduced by the linguist. Indeed, all the WCS Candoshi colour terms refer to something other than colour. This can be verified by means of a simple experiment: if a Candoshi-speaker is asked what *ptsiyaromashi* or *kantsirpi* means, he or she will never answer ‘yellow’ or ‘black’, but make reference, for instance, to a bird and a resin (tar) used to coat peashooters and as fuel for torches. The same applies to the other supposed colour terms. Their meanings are relatively unstable, varying depending on the speaker and the circumstances. The most frequent definitions, established on the basis of Candoshi-speakers’ answers to our questions, are as follows: *boorshi* (white) refers to the huimba flower or kapok tree (*Ceiba trichistandra*); *tarika* (purple) refers to a vine; *kavabana* (green/blue) refers to the supra-generic category of parrots and in particular to the blue and yellow macaw (*Ara araurana*); *chobiapi* (red) refers to ‘ripe fruit’; *kamachpa* (green) means ‘unripe fruit’; *pozani* (an unusual supposed colour term used to refer to desaturation of colour) is said to mean ‘dry’, synonymous with lifeless. In the next section, we will look at the exact nature of these references and show that the phenomenon at work is not the same as the use of sources such as ‘orange’ in English or ‘marron’ in French.

(3) The list of Candoshi terms proposed by Kay, Berlin, et al. has been arbitrarily put together, and other expressions and terms emerge when Candoshi-speakers are asked to name colours. In this respect, we interviewed a group of speakers, showing each of them the chips composing the Munsell chart used by Berlin and Kay, separately and randomly, and asked them to describe them to us in any way that came to mind. It should be noted that we do not see the use of decontextualized tools such as the Munsell chart to be an appropriate procedure for investigating colour ethnography. On the contrary, the sole reason for using this chart was to
Figure 2. Approximate scope on the Munsell colour chart of other Candoshi terms used to describe chips in our survey.

provide an *ad absurdum* demonstration of the extent to which a survey method of this nature can completely skew the findings.\(^5\) Indeed, the Candoshi used a different term or expression to respond to each chip that we showed them. The use of dozens of terms and expressions calls into question the selective data on the Candoshi reported in the WCS. Throughout all the fragments of recorded discourse, the terms that are considered as Candoshi colour terms by the WCS certainly appear; however, other terms also appear with similar rates of frequency. For the sake of brevity and clarity, we have selected the ten terms that appear most often, excluding the nine terms proposed by the WCS, all frequently cited during the interviews. This list includes: *kchomshi* (1), *koorashi* (2), *ktsachi* (3), *kachiva* (4), *goochi* (5), *katama* (6), *tsarona* (7), *yobsa* (8), *txobi* (9) and *aroovi* (10) (see Fig. 2, with a focus on and surrounding approximation for each term on the Munsell chart).

The fact is that, contrary to the opinion expressed by the WCS report, the so-called ‘Candoshi colour terms’ are not genuine terms, neither are they colour names, even basic ones. They are none of these because in actual fact they are more complex expressions which cannot be seen as constituting genuine terms. Indeed, if the Candoshi are asked what these expressions mean, they do not refer to colour names. Neither do these terms correspond to the four or five basic colours claimed; other terms and expressions appear with a similar frequency if the Candoshi are asked to identify colour names when chips are shown to them. It could certainly be concluded that these and other factors, described below, clearly indicate the absence of a stable semantic field for both the notion of colour and the terms for specific colours in Candoshi, according to the symptoms described by Levinson (2000: 43) and Davies et al. (1992: 1095-6).\(^6\)

Talking about colour without colour terms

A first important observation is that in the Candoshi language, there is no general term to name colour itself. The fact that the word ‘colour’ does not appear in the only existing Candoshi dictionary (Tuggy 1966) is not a mistake or omission. Similarly, Candoshi terms equivalent to such notions as ‘coloured’, ‘multicoloured’, or ‘colourful’ do not appear either. In addition, there is no attributive conceptual reference to the perception of a colour, as in ‘this clay pot is red’. Naturally, in the interview of which the results are presented in the previous section, the question was not ‘What colour is this chip? ’; the question was instead formed as: *ini tamaara?* (a deictic, *ini*, in addition to a term that translates into ‘how is it?’), which in Candoshi is the most accurate way of asking about something to do with colour. The term is similar to ‘What is it like?’ Other
expressions and paraphrases had to be used, as there was no translation for the concept
about which a question was being asked. As a result of this, the answers to questions
regarding the chips were answered with difficulty if not reluctance. Some respondents
went so far as to repeat what the people of the Bellona Solomon Islands had already told
anthropologists: ‘We don’t talk much about colour here’ (Kuschel & Monberg 1974).
Indeed, there is no term for colour; there are no terms, as we have shown above, for
the basic colours properly speaking; and neither is there any colour talk, nor colour
symbolism. This disinterest or even incomprehension when it comes to discussing
colours contrasts with a keen interest in colour itself, as illustrated in the introduction:
the Candoshi do not talk about colours, but are passionate about colour. When they talk
about animals, plants, and minerals, especially fruits and feathers (i.e. specific things
and actual situations, when handling objects and not chips), the disinterest disappears
and a way of talking about colours without colour terms seems to appear. However,
when an object is shown to a Candoshi person, for example a common potato unknown
to them because it is grown at a higher altitude, and they are asked ini tamaara?, the
respondent is not content with simply attempting to describe the surface, much less
the colour. They will instantly seize the tuber, feel it, weigh it, rotate it, and smell it, so
that the answer expresses a polysensorial experience using comparatives; they list the
properties of the potato that have most aroused their interest. It is a hesitant description,
voluntarily subjective, as well as being interactive, evolving, and relative. The colour
of objects (or, rather, the similarity of the colours of objects described in terms of
their resemblance to other things) appears to be intertwined with other categories of
sight, touch, taste, and smell, mobilized in the context of an intentional action in a given
environment. In summary, it would appear that colour as a feature of an object, isolated
from other properties, is not relevant when it comes to describing it, its identification,
or its classification. This is perhaps because colour, isolated from the object onto which
it is projected, is not relevant in a world in which objects, animals, and plants are
inextricably associated with their colour. What is of interest to a hunter, horticulturist,
gatherer, or fisherman seeking to describe a species is a set of perceptual properties that
the species in question transmits, accompanied by a description of its behaviour and
the specific ecological environment it prefers to inhabit.

It follows that when a Candoshi uses any of the terms the WCS has identified as
Candoshi colour terms, they are actually referring to those properties of the object that
are relevant within the context of the description. Since there are as many items that
can be used for comparison as there are objects in existence in the world, the descriptive
possibilities are endless and thus accurate. The interest of the Candoshi in not having
terms for colours resides in the fact that doing so would restrict the broad expressive
possibilities offered by the possibility of describing objects by comparing them with
other objects; of course, such communication is only possible if the speakers share a
common understanding of the entities and processes that constitute the environment.

We first understood that the Candoshi do not look for a category but for a
resemblance when we were showing them one of the Munsell chart chips. A lively
side-discussion erupted between two Candoshi who were involved in conversations
about the chips arranged on the table. We paid attention to the terms used in the
discussion and, since we were unable to understand properly, one of the speakers took
some ginger and peeled the skin to reveal its inner colour and compare it to the chips.
The discussion revolved around whether the colour of the chip looked more like a
type of ginger, or a substance of a similar colour secreted by a fish (probably from the
Loricariidae family) during spawning. We thus realized that there was a major cultural misunderstanding: in response to the questions seeking colour names corresponding to the chips, interviewees were in fact finding objects in the environment whose colour was as similar as possible to the chip. 

In summary, from the point of view of the Candoshi, the colour of objects is subsumed in other perceptual dimensions, and therefore appears only when intertwined with these. Colours appear, without being named, among other sensory features of the object being described, in an act of perception or technique which we may refer to as ‘contrastive perception’. This has three main features, which will be referred to here as comparison, context, and instability.

Comparison
The colours of objects, combined with other relevant sensory features in a certain limited context, always appear as part of a comparison with anything that the object resembles. Any single object (species of animal, plant, or mineral) may be referred to when attempting to determine the characteristic of something else. In actual fact, terms that are considered colours by the WCS, and the other terms that appear in our critical survey, denote this mechanism of attempting to define and explain an identification by means of comparisons. Moreover, we have observed that exact matches between the colour specified in the Munsell table for a supposed colour term and the colour of the thing to which it refers occur not only for the terms the WCS has identified, but also with the false colour terms collected for our own survey:

- kchopshi (1): refers to the 4-5 cm-diameter globose fruit that has a yellow to orange pericarp (fibrous mesocarp) from the chambira palm (Astrocaryum chambira), known for its tough fibre, with which the Candoshi and other peoples from the Upper Amazon region make bags and baskets;
- koorashi (2): refers to blood;
- ktsachi (3): refers to the blackish Yasina (Nea parviflora) fruits on which fish, particularly halibut (Myllossoma duriventre), feed;
- kachiva (4): refers to the aguaje palm nut (Mauritia flexuosa);
- goochi (5): refers to fruit from the ungarahui palm (Oenocarpus bataua);
- katama (6): refers to the name of the tinamou bird (Tinamus major), whose eggs are a blue-green colour;
- tsarona (7): refers to the colour ‘dirty’, from tsapo ‘earth’;
- yobsa (8): refers to the bixa (Bixa orellana), and the red pigment it produces, used, for example, for face paints;
- txobi (9): refers to the bark of the palo sangre tree (Brosimum rubescens) or bloodwood, also called granadillo and chimico in the regional Spanish, which, as the names indicate, is reddish-pinkish in colour; the tree is well known as a base material for handmade carvings; and
- aroovi (10): refers to a familiar bird from the region that is known as pino pishco (Dacnis lineata), whose feathers are bright blue.

The similarity between the two objects is not always absolute. As a result, multiple comparisons may be used, such as ‘his skin resembles x but his eyes resemble y’. It is also very common to use comparative suffixes to make further adjustments depending on the example and the degree of resemblance. The most common suffixes, by order

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of proximity to the feature that is being described, are as follows, accompanied by a suggested translation: māashi (like), tare (similar), and tama (near, a little). The prefixes pakshi (little) and kizpori (strong) were found to be among the most frequent adjectives.

**Context**
Speaking about colours without using colour words always takes place in a context. An object is evaluated and contrasted, and the resulting description will depend on the circumstances of this context. One example is the description of a red chip (Go3), whose description changed according to where it was located. If located on red ceramic, the colour was chombiati (like a ripe fruit); when it was shown on the floor, it became koraasi (like blood). In other words, since there is no term for red, the description of the red chip will depend on where it is placed. A similar experiment using red toucan feathers superimposed on different backgrounds under different lighting conditions, such as the direction and intensity of the lamp, confirms the contingent nature of the qualities that can be associated with colour. In this the Candoshi resemble the Epicureans, or at least the latter’s legacy as recorded in another classic text on colour, De coloribus, sometimes attributed to Aristotle (Guerlac 1986: 8). For the Epicureans, objects do not have assigned intrinsic properties, let alone previously assigned colours.

**Instability**
The importance of comparison and context when moving from perception to identification contributes to what might be termed a certain instability in the relationship between content and referent. This allows for the use of the same term to denote different things, connected because they share a sensory characteristic, without this connection always being the same throughout the associative chain. For example (again using the terms considered to be colours by the WCS), boorshi, the supposed term for the colour white, refers to the huimba flower (Ceiba trischistranda), also known as ceiba or kapok, a wild cotton whose texture is fine and silky, contained in the fruit of the Bombacoideae tree species. This cotton is used as a yarn for weaving and as a cover, also called boorshi, for the Candoshi’s poisoned blowgun darts. In addition, boorshi is also used to denote a microclimate period during the month of August, coinciding with the end of the flowering period of the ceiba, when the fruit that it contains opens; the fibre of this species spreads like snowflakes over the surface of lakes and rivers throughout the Candoshi territory. Depending on local dialect traditions and the moment in time, and more especially on the creativity and improvisation of the speaker, the use of boorshi for different things can be expanded further – and not always in relation to any of the above.

Another example, also taken from among the terms the WCS considers to be colour names, is the open and unstable use of the term tarika, the supposed colour term for purple. Tarika, presented in the previous section, refers to a paniflora vine with flowers that have many purple-, violet-, and mauve-coloured threads, hence its comparative use to talk about objects that are purple in colour. This term, coupled with a suffix tarika-mashi, is used to name the fish Satanoperca jurupari from the Cichlidae family, called kadashi in Candoshi. The fish is thus named because of its purple scales, which form a horizontal longitudinal band running from its head and its dark vertical bands, a characteristic that serves to camouflage the continuum of its body-shape in the shadows and reflections of water. However, Candoshi often refer to this species as
the yellow kadashi because its cheeks have small yellow spots. These yellow patches on the cheeks resemble similar patches on the large turtle *Podocnemis unifilis*, which is why they are called tarikaya, according to the Candoshi, although that name is possibly a loanword from Tupi. This river turtle is also called charap in Candoshi. By analogy with the concavity of its shell, the back, knee, and wound scabs are likewise called both charap and tarikaya. These terms are also used to refer to the microclimate period from July to September because during this period the turtle lays eggs on the beaches left by the rivers as the water level drops. This happens in the dry season, during which, owing to the low humidity, the Milky Way can be seen in the sky; it, too, is named after this turtle. (It is said that the stars of the galaxy look like the eggs on the beaches.) A flat-shaped toad (*Pipa snethlageae*) is also known as charap or tarika. These examples suffice to show how speakers can improvise new references with the same name, as shown in the previous example.

It may, moreover, be noted that there is no need to speak Candoshi or any other indigenous language from the region to verify the systematic use of this practice. The Spanish spoken as a lingua franca by many Candoshi with other indigenous peoples, and additionally as a first language by the riverside populations (who sometimes also have indigenous origins), provides many examples that are more readily accessible. For example, *aguaje* refers to a palm tree and its orange fruit – and is used as well to name a colubrid (*Chironius scurrulus*) that has a similar colour. *Carachupa* is both a mosquito (*Lutzomyia sp.*) and the common name for several species of *Dasypodidae*, also known in Spanish as *armadillos*, because they share the ecological niche of wet cavities and perhaps because the first is food for the second, an insectivore. *Chambira* refers to a prized fish (*Rhaphiodon vulpinus*), a bird (*Nyctibius grandis*), a palm (*Astrocayum chambira*) mentioned previously, the fibre that is extracted from this palm for all types of cordage, and so on. *Huangana* refers to a peccary (*Tayassu peccary*) and a bird (*Mancus manacus*); their association is due to the fact that the noise the males make during courtship is similar to the way the peccary grinds its teeth when irritated. *Lagarto* is the name generally given to all alligators – but also to an *atree* (*Calophyllum brasiliense*), a medium-sized parrot (*Graydascalus brachyurus*) which likes the fruit of this tree, and a medicinal plant (*Ficus insipida*), among other associations.

Two conclusions appear to emerge from these examples. The first is that in the Candoshi language, it is impossible to tell which referent from the list was the first reference or source, even if the presentation of the information or the familiarity with a term may sometimes imply otherwise. Consequently, it cannot be asserted that there was an original, unique, and stable meaning, and that the other meanings are polysemous concessions of a metaphorical or metonymic nature. If these examples exhibit neither polysemy nor metonymy, the second conclusion is that the structure they manifest is that of an associative chain in which one signifier is used to describe different things which share a relevant perceptual property, without this property being common to all. It appears to be a form of polysemy by transitive metonymic association. The word, or, if preferred, the sign, is not so much a form with a specific content (as per the classical theory of semiosis) as a means of relating properties perceived as similar with other properties perceived as similar, in a chain shaped by other properties also perceived as similar. Categorization – that is, the stabilization of specific cases into categories – is rejected to make room for additional empirical information referring to the perceptions denoted.
Re-categorization, de-conceptualization, and inexpressibility

With regard to research into the ‘ineffability’ of colour, a number of linguistic options have been described that allow colours to be discussed without having terms to name them. Three may be mentioned here: re-categorization, de-conceptualization, and inexpressibility. These strategies will be analysed in the following comments. The analysis of these three strategies seeks to demonstrate two distinct aspects. Firstly, each of these strategies will be taken as alternatives that are actually used to discuss colours in the absence of colour terms. This shows that a categorical perception of colours is not the only means available to discuss colours. Secondly, we will consider, for each of the strategies, whether there is any value in adopting what we refer to as ‘contrastive perception’ to arrive at a better total or partial explanation of the cases under consideration.

Re-categorization: in search of semantic atoms

‘Re-categorization’ takes the view that colour naming appears to be subsumed into a broader paradigm. This is the case in research by Conklin and Wierzbicka. In the classic article cited previously, ‘Hanunóo colour categories’, Conklin recalls that when he initiated his survey on the classification of colour in the Hanunóo language with cards, chips, and pre-prepared items, a proliferation of confusing and inconsistent terms resulted. He also notes that the absence of a term for colour in general in this language made asking questions difficult, and he had to use circumlocutions such as: ‘How is it to look at?’ If the respondent mistook the ‘it’ for the arrangement of the object or its shape, he needed to specify that he was not referring to those characteristics (1955: 340-1). In view of these difficulties, he abandoned the chips and began working with plants and flowers, that is, in contrastive situations, as he himself states (1955: 340); the confusion and inconsistency then disappeared. An order emerged, and the apparent complexity of the Hanunóo colour system could be reduced to a more general level, featuring four basic terms associated with lightness, darkness, wetness, and dryness. Conklin concludes from this experience that what appears to be a confused perception of colour may be the result of an inadequate understanding of the local colour system structure and of the error of not distinguishing between sensory input and perceptual categorization (1955: 343). This point appears to us to be fundamental, and this article seeks to explore some of its consequences. However, the conclusions Conklin reaches on the existence of four terms (lightness, darkness, wetness, and dryness) as a result of the case analysis appear unconvincing, especially because of the very general nature of the four proposed terms and the lack of evidence he provides to prove the existence of the polysensorial paradigm said to be reflected in the combinations of light and moisture. It appears to be especially unconvincing because it does not seem to deal with the crux of the experience that Conklin describes; rather, it appears to contradict it. Conklin’s experience illustrates how Hanunóo-speakers do not seek to fix a sensory experience to a category (a colour category or any other) that corresponds to a single word. As the author says, it is the ‘contrastive’ situation that allowed him to eliminate confusion and inconsistency. Analysing chips and other items prepared for the survey hampers the exercise of using comparison between objects to describe a sensory experience in real life, as made possible by real-life objects such as plants and flowers. On the other hand, the multisensory perception of flowers and plants, themselves a combination of multiple sensory qualities, allows for a range of contrastive perception such as that described for the Candoshi. Talking in terms of wetness and dryness as
colour categories appears to translate a need to establish categories and categorical thinking in the context of colour perception – a need the Hanunoo themselves would not acknowledge.

In attempting to maintain a need for categorial perception, Conklin’s text resembles the aforementioned text by Wierzbicka (2008), although the latter article explicitly assumes this need. Despite many inspired insights, this contribution appears somewhat contradictory: after demonstrating the difficulties of considering colour as a universal category, it proposes a methodology based on the supposedly proven universal lexicon: sixty semantic ‘atoms’, as Wierzbicka refers to them (2008: 407-9), constituting an appropriate metalanguage for semantic comparison between languages. For Wierzbicka, ‘colour’ is not a semantic atom but a molecule, that is, a notion whose semantics are composed of several atoms. According to her, the concept of ‘colour’ emerges in language when its speakers are interested (probably because a new technology is being used) in distinguishing purely chromatic aspects of the appearance of objects from other aspects such as brightness, shininess, vividness, and so on. It is no coincidence that languages which do not have a term for colour also have no words for specific colours. Yet Wierzbicka states (2008: 409-19) that ‘see’ is a valid atom, acting as a theoretical ‘conceptual anchor point’ for semantic comparison, because it is universal.

However, as in Conklin’s text, the arguments used to prove this position appear in fact to show that contrast is the preferred tool for assessing sensory experience. This at any rate appears to be the case in Warlpiri, a language that does not use colour and which has been used as an example. Wierzbicka notes that in everyday contexts, no term for colour exists in this language, nor are there any derivatives such as ‘multicoloured’; the Warlpiri do not talk about colour, and there are no practices associated with it. By contrast, what seems to interest the Warlpiri is ‘not colour but high visibility’. While a concern with colour is reflected in the semantics of languages such as English, the semantics of Warlpiri suggest a concern with shining objects, ‘somewhere in the speaker’s environment’.9 In fact, insists Wierzbicka, the concepts associated with shining suggest an interest in ‘something shining somewhere’, which the author believes to be associated with the experience of seeing a supply of water far off in the dessert (2008: 410-14). Such findings, which in the author’s mind allow us to approach an indigenous people’s point of view, suggest a tendency to draw contrasts and therefore to deviate from conceptualization as a method of identification. In this respect, the author states that the Warlpiri are more interested in striking elements in the surrounding areas (and possibly alerting others to them) than in identifying objects based on some of their visual characteristics. This is relevant, insists Wierzbicka, to the significance of shininess, which refers not so much to an object being shiny, but to the fact that ‘something is shining somewhere in the environment, especially in the distance’. So, she adds, doubling up visual describers such as yalyu-yalyu (blood-blood), a common practice in this language, refers not to ‘an objective and potentially distinguishing permanent characteristic’ of the referent, but to the intensity of the contrast with its surroundings (2008: 417).

We agree on the importance of taking into account native semantic definitions of terms (even with all the difficulty that entails), as proposed by Wierzbicka. However, we could go further still and consider whether or not, effectively and from the native point of view, a category or synthesis of individual and specific experiential cases is sought. If categorization is rejected, the question arises as to whether contrast is preferred. In other words, whether there is a preference for describing the qualities of an object not in terms...
of the abstract qualities it shares with a number of objects, but in terms of similarities with and significant differences from another object. It follows that the simplicity of the universal semantic method used to provide accurate translation (which attempts to minimize the risk of introducing distortions and projecting cognitive universals that exist only for English-speakers) potentially entails the very problem it is attempting to avoid: projecting biased views on the categorization (or not) of experience (Wierzbicka 2008: 419). In this sense, the question of whether the category of colour could appear in languages that do not have a term for colour, assuming it is a covert category, should also include the question of determining whether the field of experience interpreted by means of a categorical statement by an English-speaker is categorized in the same way by speakers of other languages. We do not believe this is necessarily the case; a Candoshi-speaker or a Walpiri-speaker may prefer to avoid the categorization of an experience in order to optimize transmission of the empirical knowledge associated with it through contrast: that is, the search for similarities and differences with other associated experiences.

‘De-conceptualization’ and immediate experience

Everett (2005), a linguist who has studied the Pirahã language for many years, denies the existence of a colour terminology in this language, albeit by taking a position that is at the other extreme from that of Wierzbicka. Everett believes that the Pirahã, an indigenous people located in west central Brazil, refuse to name colours because they reject abstraction (or quantification, in Everett’s terms). While for Wierzbicka the absence of colour as a concept is replaced by a more encompassing category (such as ‘see’), for Everett, in the case of Pirahã, there is no conceptualization at all. However, while Everett’s article emphasizes the deficiencies of the Pirahã language – including the absence of colour terms – it tells us little about how the native speakers of this language communicate. If Everett believes that the Pirahã have a good level of communication despite the simplicity of their language, he should offer evidence of how they communicate. He gives us a clue when he asserts that the Pirahã ‘restrict communication to the immediate experience of the interlocutors’ (2005: 622), but says nothing about how this happens or how they communicate, as indeed they do. If Everett believes that the Pirahã perceive the world and communicate about it without category tools such as colours, he should show how they use grammatical language, the meaning they give it, and how they include it within other forms of communication such as body language, emotional expressions, and other sensory, multisensory, or synaesthetic non-verbal communication. We will not dwell on the criticisms that this article draws, and on which we have already commented (Surrallés 2005). We would simply like to note here that unlike Everett, we do not believe that the only thing that can be deduced from this analysis is the primitivist argument that the Pirahã or the Candoshi do not have abstract thought or quantification, as Everett suggests. To progress further, we should perhaps look not so much at naming and semantics, but at how a sensation of the appearance of things is experienced, and how this is transmitted without related colour names.

Inexpressibility and iconicity: the ratio difficilis

Another approach consists in taking the view that language has limits of expressibility and that a strategy to fill this semantic gap is required. In articles by Senft (2011) and de Vos (2011), the languages under consideration lack an exhaustive colour-naming system.
Kilivila (in the Trobriand Islands of Papua New Guinea) and Kata Kolok (a single-village sign language in northern Bali) both have abstract descriptive colour terms. However, since these colours do not cover the entire colour spectrum, speakers look for other ways to talk about these experiences of colour for which they have no words. In particular, they express what cannot be expressed otherwise by referring to the colour of other objects, using an iconic approach along the lines of ‘it’s like a banana’ or ‘like a flower’. In the Kata Kolok sign language, these descriptions are iconic-indexical (Majid & Levinson 2011: 12-14): speakers designate the objects representing the colour to be expressed. This iconicity is also clearly evident in three of the four lexicalized colour terms: black, indicating hair; white, indicating teeth; and red, indicating lips. The recourse to ‘source terms’, as they are designated in these articles, to fill a gap in expressing a perceptual category touches on a key point in our argument: a technique akin to contrastive perception does indeed exist, because, apparently, the Candoshi also apply the same iconic strategy. However, the explanation put forward by these articles based on the recourse to iconicity brings to mind the ratio difficilis discussed by Eco (1979: 183-4), in which an ad hoc system is created to communicate as circumstances require, if the means of expression do not allow a phenomenon to be related by simple decoding (the ratio facilis). The use of analogy, as reported in these articles, appears to be one of the favoured avenues for this. But as its name implies, the ratio difficilis is a laborious mode of expression which attempts to fill a gap, and is therefore an approximate means of communication. However, the ‘contrastive perception’ put forward here is anything but approximate. It is resorted to not for lack of a viable alternative, but as a first option, with a view to effectiveness and accuracy.

Concluding remarks
Using only few words, combined with the flexible possibilities offered by comparison, context, and the semantic instability of terms naming sensory experiences, colours of objects in their environment can be described in great detail without terms to designate them. If there is shared knowledge of entities and processes making up a given environment, it is also easy to express a series of multisensory and synaesthetic relations that a limited categorical perception does not allow for, simply because when something is compared, the sensory experience is incorporated into what is being described.

Meaning in context, comparing and using the relationship between words and objects in a non-stable and creative manner, as appears to be the case in the mode of perception that we have termed ‘contrastive’, could express a particular way of treating sensory experience or percepts. Whereas conventional wisdom considers perception as a vertical relationship between the treatment of sensory data and the semantic identification of the category, in an ascending or descending direction, contrastive perception seeks to establish a horizontal relationship between labelled packages of sensory experience, as we have described. Each entity of the world can thus be described by a context-dependent criterion that, by the very dynamic nature of these criteria, will change its nature while described in relation to others. This anti-substantalist approach of the object during description shows that there is no origin: these references are circular, working in a network, without a first definition. The context of this case study is not an appropriate forum in which to develop adventurous hypotheses on semiotic theory, or to extrapolate these findings beyond the context in which these considerations occur. Nevertheless, it may be that in all languages, there are areas in which categorical perception develops.
and others in which contrastive perception develops, even if only partially: one example is the realm of odours in European languages, the description of which uses some of the processes of contrastive perception. The development of the recently renewed interest in the senses in anthropology could enable a better grasp of these similarities and differences between languages and cultures as regards the relevance of senses. However, it cannot adequately make comparisons without analysing the various ways of dealing with the relationship between perception and language. Examining a list of the terms produced by simply decoding percepts into categories is not enough to determine the boundary between what is describable and what is ineffable. The alternative ways in which language deals with percepts must be explored; it may be that they are as diverse as other social institutions. This would indicate that cultural bias is already at work in how various forms of perception are established. If so, culture is involved in the treatment of sensory stimuli, a realm that is traditionally held to be the preserve of nature in the physiology of perception. This in turn would mean that the threshold between sensation and cognition is not where it is generally thought to be, at the border between nature and culture, with all the consequences for the anthropology that implies.

NOTES

This is a revised version of the article presented at ‘The Reasons of the Practice Seminar’, Collège de France, Paris, 2 December 2004, and Trujillo’s Seminar, ‘The rhetoric of the sentiments’, Convento de la Coria, Trujillo, 10-12 April 2013. Thanks to Juan Alonso, David Buick, Philippe Descola, Manuel Gutierrez-Estevéz, Pedro Pitarch, the five JRAI referees, and especially Hélène Artaud for invaluable insights.

1 This indigenous group in the Peruvian Amazon of about 2,000 people is located mainly in the tributaries of the lower Pastaza river. Our fieldwork was carried out largely in the early 1990s (Surrallés 2003a; 2003b), but continues to this day with shorter and more sporadic visits. The Candoshi language, which most people speak as their only language, may be related to the Shuar jivaro languages spoken by neighbouring towns north and west of the territory (Payne 1981).

2 For a recent, exhaustive review of the research by Berlin, Kay, and Rosch Heider, and related developments and criticisms, see Dedrick (2015) and Young (2006). Suffice it to say here that the criticisms of Berlin, Kay, and Rosch’s research into colours point out not only the tautological nature of the methods used, but also the ethnocentrism of certain assumptions, such as the idea of progress in the development of evolutionary stages, or the denotative notion of language, highly characteristic of English but not necessarily of other languages. They also criticize the supposed neurobiological origins of the theory, which has never been proved, and which, more generally, denies the importance of ‘culture’ in determining colours. Compared to the critical arguments raised shortly after publication of Berlin and Kay’s book (see, among dozens of others, Eco 1985; Lucy 1997; Sahlin 1976), subsequent critical research has been much more sophisticated (e.g. that of Saunders 1995; 2000), engaging in meticulous epistemological criticism of the entire theoretical structure of Berlin and Kay’s hypothesis and its subsequent revisions. This concludes that ‘colour’ is not a natural fact or positive notion that can be empirically verified or accessed innately. Colour emerges only within a social and cultural fabric, which must be re-created in order for it to be identified (Saunders 2000: 93). (For a collection dealing with all the issues pertaining to the anthropology of colours, see MacLaury et al. 2007.)

3 Some of this research, discussed in depth in the last section of this article, asserts that some languages do not possess the notion of colour or terms to name colours, and that others possess them only partially, for instance following the influence of colonization, through linguistic borrowing from the colonial language in order to name them.

4 These first two points connect with the procedures used by the linguist Everett (2005) to criticize, in similar manner, the existence of colour terms in the Pirahã language.

5 Our results are based first and foremost on several years’ worth of ethnographic observation of linguistic and cultural practices since 1991, and on analysis of discursive and narrative materials. However, more formal tasks (performed during three stays in 2002, 2007, and 2012), including questions about Munsell chips, may also provide worthwhile data and avenues of investigation if they are apprehended critically and as sources of qualitative information. Regarding this, we have conducted interviews with the Candoshi where, instead of asking them to associate predetermined supposed colour terms with a section of the colour spectrum, we showed a group of five native Candoshi-speakers the 328 chips in the Munsell chart used by Berlin and Kay,
separately and randomly, and asked them to describe them to us in any way that came to mind. The result is a set of a few hundred more examples of speech each associated with a colour of the chart.

6 The most significant symptoms indicating a lack of a stable semantic field according to these authors (Davies et al. 1992: 1095–6) can be summarized in the statement that colour is not clearly distinguished from other objects’ perceptual properties, so answers to questions on different colours cannot be given, which in turn means that there is no word for colour. Furthermore, many expressions derive from terms that refer to objects or states with a canonical chromaticism and do not meet the criteria for being considered ‘terms’. Finally, there is inter- and intra-individual variability in the naming of colours in addition to a low frequency of expressions referring to colours, as well as doubts and latencies when referring to them.

7 The statement made in the previous section bears repeating at this point: using chips as a survey tool is a highly questionable method. They were used here to demonstrate the extent to which doing so is problematic.

8 These terms for the Podocnemis unifilis turtle may be confused by those who know the names for the two species of aquatic turtle in regional Spanish. In regional Spanish, Podocnemis unifilis is referred to by the original Tupi term taricaya, also used as a loanword by the Candoshi to name this species, even though the Candoshi name for it is charap (cf. Tuggy 1966: 221). This confusion may emerge when a term derived from the latter one, charapa, is used in Spanish to designate a different species of turtle, the larger Podocnemis expansa, referred to in Candoshi as pova (cf. Tuggy 1966: 149). Many of the names for species of animal in the Spanish of this region of the Amazon derive from the Tupi, Candoshi, and Quechua languages, but inversions and transpositions often make it difficult to establish the correct correspondence.

9 The dictionary has many terms associated with shining, demonstrating the importance of shining in Australian languages (Jones & Meehan 1978).

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De la perception contrastive et l’ineffabilité : l’évaluation de l’expérience sensorielle en l’absence de noms de couleurs dans une société amazonienne

Résumé
A partir d’une analyse des données recueillies chez les Candoshi, un peuple autochtone de la Haute Amazonie, cet article explore la façon dont ils évaluent les expériences sensorielles relatives aux couleurs sans l’un des principaux outils descriptifs utilisés à cet effet: les noms de couleurs. Après un état de la question concernant l’ineffabilité et la nomination de couleurs, il montre que les Candoshi ne disposent pas de termes pour les couleurs dans leur langue. On décrit ensuite comment ils trouvent, dans un ensemble de pratiques que je nomme « perception contrastive », une façon de communiquer avec précision l’expérience sensorielle, y compris celle des couleurs. La dernière partie développe pour terminer quelques réflexions sur les implications théoriques des résultats à la lumière des travaux antérieurs sur le sujet.

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