

The Senses in Language and Culture

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ABSTRACT Multiple social science disciplines have converged on the senses in recent years, where formerly the domain of perception was the preserve of psychology. Linguistics, or Language, however, seems to have an ambivalent role in this undertaking. On the one hand, Language with a capital L (language as a general human capacity) is part of the problem. It was the prior focus on language (text) that led to the disregard of the senses. On the other hand, it is language (with a small “l,” a particular tongue) that offers key insights into how other peoples conceptualize the senses. In this article, we argue that a systematic cross-cultural approach can reveal fundamental truths about the precise connections between language and the senses. Recurring failures to adequately describe the sensorium across specific languages reveal the intrinsic limits of

Language. But the converse does not hold. Failures of expressibility in one language need not hold any implications for the Language faculty per se, and indeed can enlighten us about the possible experiential worlds available to human experience.

KEYWORDS: language of perception, ineffability, qualia, codability, the senses

The Role of Language in the “New Sensibility”

 There has been a recent move, celebrated in these pages, to “sensualize” anthropology and the other social science disciplines (e.g. history, geography, linguistics) that study the differing nature of human experience across cultures and environments (see e.g. Classen 1997; Evans and Wilkins 2000; Feld 1990; Howes 1991, 2004). The disembodied nature of contemporary inquiry into human relations with the environment came to a head in the postmodernist treatment of ethnography, which wrote off the senses, by privileging textualization at the expense of perception and participant observation:

Perception has nothing to do with [ethnography]. An ethnography is no account of a rationalized movement from percept to concept. It begins and ends in concepts. There is no origin in perception, no priority to vision, and no data of observation... [An ethnography] is not a record of experience at all; it is the means of experience. That experience became experience only in the writing of the ethnography. Before that it was only a disconnected array of chance happenings. (Tyler 1986: 137)

Since then, there has been a healthy corrective, for example in the interest in “soundscapes” in ethnomusicology and anthropology (see e.g. Keil et al. 2002) and in the “social sciences of the senses” movement that spawned this journal. Meanwhile, in psychology, the “embodiment” movement has united a number of different lines of inquiry (e.g. the direct activation of motor cortex by perception of gesture or words, the understanding of one sensory domain by mapping on another, the association of emotion with sensory experience) that place the human body as an integrated sensorium at center stage.

Now, language seems to have a rather ambivalent role in this enterprise. On the one hand, Language with a capital L (language as a general human capacity) is part of the problem: it was obsession with language that got us into the over-concentration on text in the first place, ending up with “writing culture” writing off the senses. Moreover it was the apparent limits of Language that partly motivated the new interest in the senses: language is delivered (setting aside

Braille) only in acoustic or visual form, and it seems ill adapted to describing many of the senses that haunt our memories or excite our bodies, like taste and smell, touch and proprioception. It often seems that Language by virtue of its special relationship to consciousness is hooked primarily into the “higher senses” – psychologists have predicted for example that Language has access only to the distal senses (sight and hearing; see e.g. Schachtel 1959). For these reasons, the analysis of language may seem to lead precisely away from a proper appreciation of the senses.

But, on the other hand, it is of course language (with a small “I,” a particular tongue) that offers us key insights into how other peoples conceptualize the senses (as when a language talks about “hearing” what one feels with the fingers, or offers multiple primary verbs of smelling with nothing equivalent for other senses). Following these leads can yield rich insights into the differential importance of specific senses across cultures. Further, the crossmodal mappings that have played an important role in “embodiment” approaches are typically expressed in metaphor or other verbal confluences. These particularities of specific languages – for example, whether the pitch of sounds are distinguished on a high–low dimension as in English, or on a thick–thin dimension as in Turkish or Farsi (see Shayan et al., this issue) – these confluences in vocabulary can be shown to play an important role in our thinking (Casasanto et al. 2003). Languages are windows on the senses that we can hardly afford to ignore.

Here we argue that language in fact offers us relevant insight in just these two crucial ways. On the one hand we can chart the failures of Language to adequately describe the sensorium, and in so doing explore the *intrinsic limits of language*. As the literature on qualia reminds us, no amount of language makes up for the sense itself: imagine trying to teach a congenitally blind child the meaning of “red.” For both the objective and subjective world, language is a coarse map, but whereas the description of a pyramid can convey the nature of the thing, for subjective “raw feels” like color sensations language fails to delineate – I can teach you “red” only by pointing to it. The language of qualia is a realm where ostension plays a crucial role in learning the meaning, even if the corresponding qualia are subjective and ineffable (what you see and I see when we look at the same color chip may be different, but we can learn to associate them with “red”; cf. Wittgenstein 1953). If this is so, then the availability of repeated ostension is crucial for learning the labels of quale. That suggests, for example, that it might be quite difficult to learn detailed labels for smells, since the odor compounds will diffuse, and are unlikely to be the same from sniff to sniff, let alone day to day or place to place.

But caution is in order. It is easy to confuse the deficiencies of our specific language with the intrinsic limitations of Language. Just because English is poor for the description of smells, it does not follow that the odor domain lies inherently beyond the expressive

power of language. This is where the second line of linguistic insight comes into play: in another language and another place odors can be richly coded, showing that what seems like an inherent limitation of Language is a mere limitation of *our* language, and the culture that supports it. English, it turns out, is already richer than the Greek of the New Testament: translators have worried for 500 years over how to translate 2 Corinthians II:16, for example as “to the one a stench from death to death; to the other a sweet aroma from life to life” (World English Bible), even though the Greek uses just one word *osmē*, rendered here as *stench* and *aroma*. But other languages have over a dozen primary smell terms, making exquisitely fine distinctions (see the description of Jahai speakers, as described by Burenhult and Majid, this issue). Having a lot of smell terms might make a vital difference. For example, in a recent court case a man lived with the rotting corpse of his friend Denis Pring for years, despite the complaints of his neighbors in the municipal apartment block in Bristol: the council inspector walked right past the body under the sofa, and put the “stink” down to an overflowing toilet.¹ Putrescent flesh emits distinctive gases, e.g. cadaverine and putrescine, rather different than the methane of the latrine, but reporting them under a general label *stink* may literally dull our senses – impossible in a language like Samoan that makes precisely this distinction (Viberg 1983). Languages curtail or elaborate their treatment of each of the senses, and in so doing hint at the cultural landscape of the senses. We can then exploit linguistic variation as a source of insight into the cultural construction of the sensorium. That is what this special issue is all about.

Does it matter whether a percept is directly coded in language? Much theory and data suggests it does. Take color: when we view colors in normal binocular vision, the categories of our language warp color space, so that colors across lexical categories seem more distant than they really are. If we experimentally restrict the display so that only the left visual field is available, thus projecting to the right (language-less) hemisphere, the effect disappears (Gilbert et al. 2006). Color categories vary across languages, so that for example a speaker of Russian endowed with light blue (*goluboy*) and dark blue (*sinij*) categories will warp the color space in slightly different ways to a speaker of English. Consequently Russian speakers are comparatively faster to discriminate blue shades that lie across the boundary (Winawer et al. 2007), but if you occupy their language capacity with another concurrent task, the effect disappears. Or consider odor. Subjects exposed to a manufactured odor and told that it was “cheddar cheese” showed activation of a specific area of the brain that processes olfactory information; now told that it was “body odor” other areas were activated; and when presented with clean air and told it was “cheddar cheese,” again the same “cheese area” was activated, although to a lesser extent (de Araujo et al. 2005). How we integrate odors and labels clearly has an effect

right down to primary perception. In sum, the way a language cuts up the sensorium can be shown to have significant effects directly on percepts. For this reason language is a crucial interface between individual psychology and the cultural construction of the world around us. Language regiments our communication, and in so doing regiments our thinking.

For those whose main interests are in aesthetics, consider William James' theory of consciousness and its echoes in Marcel Proust. Consciousness seems to be constituted by resting places, tied by fleeting associations:

The resting-places are usually occupied by sensorial imaginations of some sort, whose peculiarity is that they can be held before the mind for an indefinite time, and contemplated without changing; the places of flight are filled with thoughts of relations, static or dynamic, that for the most part obtain between the matters contemplated in the periods of comparative rest. (James 1890: 236)

It is the fleeting relations, the involuntary memories stirred by the associations, that constitute for Proust the heart of the aesthetic experience:

The taste of our breakfast coffee brings with it that vague hope of fine weather which so often long ago, as with the day still intact and full before us, we were drinking it out of a bowl of white porcelain, creamy and fluted and itself looking almost like vitrified milk, suddenly smiled upon us in the pale uncertainty of the dawn. (Proust 1981: 924)

If language codifies the resting points of consciousness, recognizing for example light blue vs. dark blue or specific kinds of smells, while sending the aesthetic associations into the secondary relations, then language plays a crucial role in constructing the very landscape of consciousness (Epstein 2004).

Language, then, plays a fundamental intermediary role between the subjective, individual nature of sensation and the cultural world that constructs the perceptual field. The cultural world provides the sensory environment – the smells, the tastes, the colors, the shapes, the spaces, the sounds that we perceive. Biology provides the individual's sense organs and the cortical processing of sensations that process the sensory information. But without language our sharing of perceptual experience would be confined to shared environments and shared biology: a mechanical sharing without intersubjectivity. What language adds is the projection outwards from the individual psyche of private sensations now clothed in public representations, and conversely, the introjection of public representations into private psychology – with all the effects

already noted in the color and odor domains. Language gives us intersubjective sensory experience, without which there could not be a social science of the senses.

The Articles in This Special Issue

The articles that make up this special issue share a common basis. All the authors are participants in a large cross-cultural, cross-linguistic study of the Language of Perception (LoP) hosted at the Max Planck Institute for Psycholinguistics. To try and bring some precision into this enterprise, we equipped them each with the identical kit of systematic stimuli. The stimuli covered the traditional five senses, with sets exploring visual properties (Munsell color chips, distinct geometric shapes), auditory properties (pitch, amplitude, rhythm), olfactory properties (a set of commercially available scratch-and-sniff cards), gustatory properties (stimuli corresponding to the basic taste receptors), and tactile properties (a set of surfaces, to be explored haptically while blindfolded) (Majid 2007).² The application of these materials in over twenty languages has yielded a mountain of interesting data, which we are still in the process of sifting.

The application of standardized stimuli has some obvious advantages: we have controlled perceptual events across individuals, so that we can interpret individuals' corresponding linguistic responses; we can replicate those events in myriad settings, facilitating cross-cultural comparison and we can target specific ranges of perceptual experience that we may never happen upon as bystanders. But to fully understand the results of these controlled elicitations, we need much more: namely, a comprehensive understanding of the linguistic system and a rich grounding in ethnography. This kind of depth of cultural understanding across multiple communities cannot be achieved by a single researcher but requires concerted collaboration. The combination of field experiment and naturalistic observation across multiple settings allows us to establish what is universally accessible to Language and what is language-specific. This special issue presents first results of such an endeavor.

Here we have asked a dozen of the researchers in the LoP project to report on some of the highlights of their investigations. Many of these reports concern languages of small-scale speech communities, which may have a special interest as giving some indication of the sensual worlds we too inhabited before the industrial age, but which we have now lost. There is another reason for interest in small-scale speech communities: the languages of complex societies with evolved divisions of labor are internally refracted, offering the specialist registers of perfumers, wine tasters, and gourmets. Although interesting enough, these specialist vocabularies play little role in our general cultural life. It could be argued that one of the advantages of examining small-scale, face-to-face cultures, with minimalist divisions of labor and without literary traditions is that what we find in the language directly reflects the acuties of the

general population: the presence of a word expressing a distinctive sensation presupposes the corresponding mental category. As the articles in this special issue demonstrate, a cross-cultural perspective demonstrates myriad categories unknown to Western social science.

Variation and Stability of Perceptual Categories

Burenhult and Majid describe the exquisite elaboration of olfactory categories amongst Jahai speakers, a group of hunter-gatherers roaming the Malay Peninsula. Olfaction, they argue, also plays a critical role in the religious belief system of the Jahai. But the appearance of these olfactory terms is not limited to religious contexts – they appear in everyday discourse across multiple genres. Looking beyond the Jahai, it turns out that olfactory categories show remarkable stability, transcending major present-day cultural and environmental boundaries. Abstract olfactory terms appear in many parts of Southeast Asia: “from the Jahai foragers in the Malayan rainforests to Kammu swiddeners in Laotian uplands to Khmer nation-builders in Mekong floodplains” (Burenhult and Majid, this issue). The languages of all these groups belong to the Austroasiatic family, suggesting that these categories have a deep time-depth (a view reinforced by historical reconstruction of vocabularies), demonstrating a long-standing preoccupation with odor in this language family and this part of the world. This is an intriguing finding, since much contemporary cognitive- and neuroscience presupposes that olfaction is merely vestigial in humans, and so could not provide a robust sensory palette on which to build a detailed and stable vocabulary.

In the domain of taste and flavor, we also see elaborate categories in this same geographical area. Enfield presents a case study of two languages in contact – Lao and Kri – that appear to have converged on their categories for taste. Alongside the elaboration of the semantic categories in the culinary domain, there is evidence that speakers of these two languages may also have superior discrimination abilities for taste sensations. In contrast to olfactory categories, however, these parallel systems are not likely to be from a common inherited set of distinctions of a parent language, since the two languages under consideration are not related. Instead, Enfield argues that the convergence has been brought about by long-term social interaction between members of these language groups.

Of course language communities have always been in contact, but globalization has meant language contact of a very different kind. Senft and de Sousa both consider the results of Western contact on indigenous perceptual categories, contrasting what happens to domains valued by the West (such as color) to those that are relatively neglected in Western culture (such as taste). de Sousa finds dramatic changes in the language of perception in Cantonese within just two generations. In essence, the distal experiences of color and shape have been elaborated while the proximal experiences of

smell and taste have deteriorated. Many of these changes can be linked directly to the implementation of Western-style schooling that the younger generation undergoes. Within this education system knowledge gained through the visual modality is valued, trained, and honed, at the expense of traditional categories. But there may also be environmental contingencies that change the types of perceptual experiences people enjoy. de Sousa argues that the changing olfactory environment – a result of changes in sanitation and notions of cleanliness – has meant a new generation is simply not exposed to the same kinds of olfactory experiences of previous generations.

Senft, on the other hand, finds remarkably few changes in a period of nearly twenty-five years in which he has conducted field work on the Trobriand Islands in Papua New Guinea. The indigenous color terms are still strongly evident in use, especially in the context of traditional material culture (canoes, chiefly yam houses, domestic houses, body painting), but the terms are now supplemented by English borrowings, since the younger generation is being taught English color words in school. Taste terms likewise show remarkable consistency over this long period of time, with little evident borrowing. In both the Kilivila and Cantonese cases we see a new proliferation of categories for the visual domain but the two communities differ in how the proximal senses have fared under contact with the West. While Cantonese speakers show a loss of traditional categories in the taste domain, Kilivila speakers show no such decline. As Senft describes, this is probably because the Kilivila have never shown much preoccupation or elaboration of culinary activities. Thus the minimally differentiated lexical system of Kilivila survives; the elaborated distinctions of Cantonese taste are slowly eroded.

Limits of Expressibility

How do speakers cope when their language does not have a fully developed system for expressing a perceptual category? In the articles by Hill, Senft, and de Vos, the languages under consideration lack an exhaustive color-naming system. Umpila (spoken in Cape York Peninsula, Australia), Kilivila (in the Trobriand Islands of Papua New Guinea), and Kata Kolok (a village sign language, in Northern Bali) all have abstract descriptive color terms but these terms do not exhaustively partition the color space, counter to what has been claimed in earlier work (Berlin and Kay 1969; although see Kay and Maffi 1999; Levinson 2000). Umpila and Kilivila both have an indigenous three-term color system (black–white–red),³ while Kata Kolok has a four-term one, (black–white–red–“grue,” i.e. green–blue). These color terms have restricted ranges over the color spectrum so speakers have to resort to other devices in order to put into language a particular color experience.

Some recurring strategies for dealing with these gaps emerge in all three languages, irrespective of speech modality (signed or spoken). Speakers, for example, resort to object descriptions: it's like

a banana, leaf, or flower. In Kata Kolok these descriptions are iconic-indexical (speakers point or otherwise indicate the objects that are exemplars of the color they intend to convey). This iconicity is also clearly evident in three of the four lexicalized color terms – black: indicating hair, white: indicating teeth, red: indicating lips. The most abstract term – contrary to the Berlin–Kay evolutionary sequence of color term elaboration – is the *grue* term, which possibly derives from the act of putting colored rice on the forehead at traditional Hindu ceremonies. But these lexicalized signs (as opposed to the ad-hoc source descriptors) are integrated into the linguistic system such that they can take morphological marking. The fascinating thing about the Kata Kolok system is its restricted color-naming system, despite a significant cultural preoccupation with color in both religious and everyday contexts, and a correspondingly elaborate color terminology in the surrounding spoken Balinese.

This contrasts with the Umpila situation: color appears not to be a culturally significant organizing factor and so the limited color terminology evidenced in the language is unsurprising. But to appreciate how speakers deal with the gaps in their color-naming system, an understanding of the cultural interest and preoccupation of the Umpila is required. Hill beautifully illustrates the rich and intricate systems of knowledge, which are so delicately interwoven that a single part is not fully grasped without glimpsing the whole. Gaps in the color-naming system are linguistically expressed by drawing on the kinship system, which is in turn critically related to the environment – an area of cultural and linguistic salience for the Umpila. Further exploration of these domains shows linguistic attunement to luminance and reflectance, rather than brightness and hue, the classical foci in color research.⁴ Umpila speakers are attuned to an altogether different aspect of their visual environment. By trying to understand the gaps in the lexical system in one place (hue), Hill is able to reveal the Umpila sensitivity to other aspects of the visual world.

Lack of expressibility of perceptual fields is not limited to the visual realm. Shayan, Ozturk, and Sicoli describe how speakers of three unrelated languages – Turkish, Farsi, and Zapotec – express experiences of simple sounds. Their point of departure is auditory signals that vary in pitch, loudness, and tempo. It turns out that there is little dedicated vocabulary for these sorts of sound differences across languages; in effect, there are “gaps” in the system. But, unlike the color domain, where ad-hoc analogies are drawn, in the sound domain there are often conventionalized metaphors that speakers draw upon, suggesting perhaps natural analogies across different sensory domains. For example, in English, pitch differences are aligned to differences in vertical space as in the *high–low* opposition. A concomitant distinction can be made for amplitude differences: as well as everyday vocabulary, *loud–quiet*, amplitude differences can also be referred to as being *high* or *low*. Thus, there appears to be a

natural analogy between high pitch and loud sounds (high amplitude), suggesting a universal non-linguistic crossmodal mapping between sound and space available to all. However, a different mapping is observed in Turkish, Farsi, and Zapotec speakers. Speakers of these languages refer to differences in pitch using a *thick–thin* opposition. The same terms are also used for loudness differences. But, when used for loudness the mapping is not parallel to that found in English. A thin sound is one that is high in pitch but *low* in amplitude (i.e. quiet) – the two dimensions of sound are inverted from the English point of view. The different available mappings are a caution against quick generalizations of “natural” or primary crossmodal mappings on the basis of English and other Indo-European languages – indeed retrospectively the Turkish–Farsi–Zapotec system may seem more “natural” than our own analogy, since small sound sources emit high pitches at low amplitude.

Exquisite Expressibility

Words by their very nature abstract over individual instances – the precise shade of red, or the smell of damask rose, is lost in the descriptions *red* or *rose-scented*. But in the articles by Dingemane, Tufvesson, Brown, and Le Guen, the authors explore the special resources that some languages have developed for narrowing in on a precise referent, the flip side of inexpressibility.

Dingemane and Tufvesson discuss ideophones, also known as expressives or mimetics. These are a special form class of words – neither nouns, verbs, nor adjectives. Ideophones stand out from other words in many ways: they have unusual phonotactics (combinations of sounds), special morphosyntactic features (usually displaying restricted combinatorial possibilities), and convey distinctive meaning in special ways. While English (and other Indo-European languages) lack this class of words, similar word classes are found in diverse language families in most parts of the world, including South America, Africa, and Asia, suggesting they have been invented over and over again in different speech situations.

Their appearance around the world is most likely a result of their special ability to depict and invoke sensorial experiences. Ideophones are often iconic (their form resembles their meaning) and imagistic (conveying rich multimodal experiences). These characteristics lend to unparalleled expressibility of private experiences. Speakers are able to recount highly specific properties of experiences – the precise texture of an object felt, the specific shade of the color of an object, the exact sound in the air, and even the multimodal combination of properties, a bit like our sound-symbolic words *ping*, *boing*, *wham*, and so on.

Dingemane explores how ideophones are both “precision tools” for zooming in on exact perception and “playthings” for enlivening discourse. Siwu speakers “illuminate” their discourse with frequent recourse to ideophones – nearly one in twelve utterances contain

one. In the words of one of Dingemans's teachers: "Without these words, speech is *buà* (bland). You need to pepper it." But ideophones do not merely function as "dramatic embellishments." They are precise depictive devices too. Using a formal elicitation task Dingemans is able to show high consistency amongst speakers' choice of ideophones for conveying specific sensory experiences.

The specificity of expression made possible by ideophones is further elaborated by Tufvesson. She describes a remarkable analogic device in the ideophones or expressives of Semai where graded perceptual experience can be encoded by graded linguistic representation. In Semai ideophones, a basic template consisting of a consonant cluster expresses a general notion: of redness, acrid-smelling, or the fall of water. By changing the vowel within the consonant cluster, speakers can pinpoint a specific quale: the specific hue of red, the intensity level of the odor, or the size of the waterfall. The diagrammatic iconic structure that Tufvesson describes is a powerful resource for expressing private sensory experiences.

Brown and Le Guen likewise consider specialized linguistic resources – in this case morphological devices – that allow speakers of two Mayan languages to express complex gestalts with multimodal characteristics. In both Tzeltal and Yucatec, speakers can succinctly package multifaceted perceptual experiences in compressed linguistic form. In Tzeltal, for example, a productive word-formation process allows speakers to take a basic color term, such as *yax* 'grue (blue and green)' and by applying a compounding and reduplication process produce a complex expression *yax-boj-boj* 'grue-cut-cut' that specifies the particular shade of green, used by a speaker to describe the color of someone's mouth after eating green vegetables. Likewise in Yucatec simple roots, such as *k'ix* 'thorn,' can participate in a number of different word formation templates to express nuances of perceptual experience: *k'ik'ixkil* 'stinging' (of three-day old stubble on a man), *k'ixlemak* 'stinging (tactile experience)' (of having a small piece of wood in the eye), *k'ixik'ix* 'thorns closely spatially distributed' (of thorns on the bark of a tree close to one another), *k'ixunk'ix* 'thorns sparsely spatially distributed' (of widely spaced thorns on the bark of a tree), etc. Compounds like these elegantly package crossmodal sensations expressing a whole gestalt with economic precision. Yucatec speakers convey the visual or tactile nature of the experience, the precise spatial distribution of a pattern; Tzeltal speakers pithily combine concepts of color and taste with notions of reflectance, intensity, vitality, shape, texture, and consistency. This affordance of the language allows speakers certain advantages. Tzeltal speakers, for example, are able to express the non-focal nature of the perceptual experience that otherwise is lost if the basic term alone is applied.

In everyday discourse, Yucatec and Tzeltal speakers draw on the productive resources of their languages. Unlike the frequent use of ideophones that Dingemans describes for Siwu speakers, Le Guen

finds that sensory vocabulary is rare in Yucatec discourse. Where it is found, Le Guen argues it has little to do with the material culture of the speakers but rather is used to lend liveliness to dialogue. In contrast, Brown finds that the Tzeltal morphological expressivity can be linked to cultural practices and environmental contingencies. By examining the situations in which speakers call on color words (for example, when making distinctions in natural kinds, patterns of chicken coloring, leaf coloring, etc.) and exploring the role of tastes in indigenous medicine, Brown illustrates the connectedness between cultural practice, individual percept, and community language.

Final Words

We hope these articles will collectively go some way to rehabilitate the contribution of linguistic analysis to the study of the senses in culture and society. Language is an extraordinary system of public representations for private sensations, but with its digital form and relatively coarse finite vocabularies, it is never able to capture all the rich, particularistic essence or qualia of sensory experience. Nevertheless, the differential elaboration of sensory fields across languages offers a wonderful acoustic map of each culture's rich sensorial landscapes. Viewing these different sense-scapes around the world we can detect domains where one culture sings and another is silent. Where we find domains in which the voice is always hushed, we may suspect that we are approaching the intrinsic limitations of language, where perhaps the structure of the mind strangles conscious access to those aspects of experience. This too may be what the cultural aesthetics of the senses plays on, invoking the liminal presence of felt experience.

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Notes

1. Available online: http://news.bbc.co.uk/2/hi/uk_news/england/gloucestershire/8633012.stm.
2. Available online: <http://fieldmanuals.mpi.nl/>.
3. Kilivila also has or had a traditional extended "yellow" term (see Senft 1987).

4. This emphasis on reflectance and a consequent downplaying of hue is equally found in Homeric Greek, as Gladstone (1858: 397–499) pointed out, prompting the cross-linguistic study of color terminology 150 years ago.

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