

# A Cognitive Linguistic Usage Perspective: What is Italian *blu*, *azzurro*, *celeste*? Do English agree on BLUE semantics?

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## 1. INTRODUCTION

The objective of this paper is to ascertain contemporary Italian linguistic categorization of the macro-color concept BLUE, and compare the results to English interpretation of the same tasks. Native Italian speakers affirm that they habitually use three blue color terms: *blu*, *azzurro*, and *celeste*; often idealizing *azzurro* over *blu*, as being “more Italian”. I propose that according to the task results contemporary *blu* [blue] is the more primary and deeply entrenched basic color term (henceforth BCT); *azzurro* [azure - light blue] could also be a BCT, but should be considered a secondary BCT; and *celeste* [sky blue - pale blue] is a subordinate color term. English interpretation of the same color object/concept associations used in this questionnaire is different due to the lack of a second English monolexemic basic BLUE color term and to the difference in culturally specific BLUE color term collocations. What are the Italian blue term semantic relations? Do *azzurro* and *celeste* violate the criterion that a BCT not be a hyponym of another color word, i.e., *blu* [1]? Does the semantic relation between the terms *blu* and *azzurro* respond to the cognitive need to differentiate between the colors of the sky and the water? Is the principal task color term object/concept association, based on the cognitive linguistic approach to linguistic entrenchment, an original valid method to measure basicness? Various verification measures of basicness are employed to answer these queries.

## 2. BACKGROUND

The spectrum may be partitioned into different color terms according to language and the corresponding culture. Color lexemes evolve dividing the color space into more specific semantic concepts. Current research, since Berlin and Kay, generally considers BLUE to be the last primary BCT to emerge in language. Some languages present a variation of BLUE lexicon; often displaying two distinct blue terms; one for a generic BLUE -primary BCT- and one for a more specific BLUE -secondary BCT- in English recognized as a tonal variation of “blue”. The possibility of there being a twelfth BCT has been theorized by [1][2], among others. Researchers have proposed a twelfth BCT as being another “tone of blue” — also referred to as dual

lexicalization of BLUE — in different languages e.g., Italian, Maltese, Greek, Polish, Russian, and Turkish, [3][4][5][6][7][8]. BCT criteria are listed as: i. it is monolexemic, ii. its signification is not be included in that of any other BCT, iii. it must not be restricted to a narrow class of objects, iv. it must be psychologically salient, i.e., occur at the beginning of elicited lists of color terms, and have stability of reference across informants and occasion of use, v. if doubtful it should have the same distributional potential [1]. The specific BCT criteria of interest this study are: iii, it not be restricted to a narrow class of objects, (the occurrence in a large number of domains reveals the degree of entrenchment), and the problematic ii. its meaning must not be hyponymic (see Glossary for a definition of several terms).

The definition of each color term provides an initial idea of what they are understood to mean, and in what contexts the meaning can vary. In some dictionaries [9] [10] *blu* is defined as a dark *azzurro*, and is used with the expressions: *cielo blu* [blue sky], *mare blu* [blue sea] | *avere sangue blu* [have blue blood]; though *blu* is translated as blue, dark blue, and navy blue. *Blu* is more productive, BLUE compounds in Italian are currently constructed with *blu* + another term, e.g.; *blu marina* [navy blue], which of course do not appear separately in dictionary entries<sup>1</sup>. There are only three entries of *blu* lexemes in the Italian dictionary [11]. *Azzurro* is defined as the color of a clear sky, somewhere in between *celeste* and *turchino*; translated with blue, light blue, azure, sky blue; with expressions such as *occhi azzurri* [blue eyes] | *principe azzurro* [the ideal groom, a prince in shining armor] | *gli azzurri* the Italian national sport team color, | *azzurro del cielo* [the blue of the sky]. *Azzurro* is sited as synonymous with *blu* [blue], *celeste* [sky blue], *turchese* and *turchino* [turquoise], and *pervinca* [periwinkle]. It entered Italian before *blu* and is listed with over fourteen entries in the dictionary, including a verb form: *azzurrare* [9][10]. *Celeste*, translated as sky blue, light blue, baby blue, azure, is defined as analogous to *azzurro*, specifications of which are *celestino* [pale blue], and *acquamarina* [7] [8]. There are only two dictionary entries with the color root *celest-* [11]. *Turchino*, with direct reference to the stone turquoise *turchese*, is described as of *azzurro cupo* [deep or dark], and *blu* [12].

The principal test of this study was developed to apply a cognitive linguistic approach to verify the level of entrenchment of the color term object/concept association. The multiple senses of color terms create a network that is accessed and elaborated online for the speaker to identify the meaning of the color term in use. The identification of color term entrenchment and distributional criterion of occurrence in a large number of domains should give us a sense and level of basicness and lexical status. This approach was developed following Langacker [13] and other cognitive linguists who sustain a functional approach to linguistic investigation. They acknowledge the grounding of language in embodied experience and social interaction, insisting that this interaction is critically dependent on conceptualization. Conceptualization is once again constrained by four aspects: human cognitive capacities, the nature of reality, convention, and context [14]. Therefore, meanings experienced more often, will be encountered more frequently in specific contexts or associations, and will in turn become more entrenched on an individual level and conventionalized in the speech community.

### 3. METHODOLOGY

This study was carried out in five different phases. Each phase had a specific objective and served to initially confirm or contradict the various results. The first, and most pertinent, phase was the BLUE color association test; constructed to verify color term entrenchment and occurrence in a number of domains. The second phase was the same BLUE color association test translated and presented to a pilot group of native American English speakers, to verify the cross linguistic saliency of the color object/concept associations. The third phase comprised a color-list task to confirm the three BLUE color terms' cognitive saliency in Italian. The fourth phase was a color-patch naming task in Italian; and the fifth phase was a "kind of" survey to verify informant signification and stability of reference in Italian. The Italian informants were students at

the University of Perugia. They were from mixed regional backgrounds across Italy. The American English informants were a variegated group of native speakers.

The first and second phase tasks asked informants to associate 10 BLUE color terms to 38 different Italian prototypical object/concepts. This task was carried out by two groups of Italian university students (49 and 48) for a total of 97 informants (mean age 23). A comparison group of 15 native American English speakers carried out the same task translated into English [9-10] (mean age 45). *Azzurro* has numerous possibilities, medium blue, sea blue, bright blue, heraldry blue, sapphire; I opted toward the phonetically more similar term azure. A paper questionnaire was handed out to the class of students. One page contained the instructions and one page the list of items with a blank box next to it, where the informant wrote one of the 10 color terms provided. There was no time limit. Informants took no more than 15 minutes. The prototypical object/concepts used as stimuli in this task were selected from online dictionaries, databases, and idiomatic expressions, which were double checked through Google and confirmed as being the most frequent. The 10 colors selected to associate with the stimuli were the three most frequent terms blu, azzurro, and celeste, with the four possible inflected color terms: blu-astro, azzurr-ognolo, azzurr-ino, and celest-ino (see endnote), with three other salient BLUE color terms, turchino, oltremarino, and indaco. All of these terms except azzurr-ognolo appeared later in the listing task, see Table 1.

The third phase, the color-list task, was carried out by 65 university students (mean age 22). It aimed to verify the cognitive saliency of the three BLUE terms. This task was based on Davies and Corbett [15]; informants were asked to write down as many color terms as they could in five minutes. The data were then analyzed following the cognitive saliency index elaborated by Sutrop [16], taking into account two important aspects of BCT criteria: term frequency and mean position. The cognitive saliency index is calculated:  $S = F/(N \times mp)$ , where S is saliency,







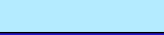
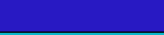


English translation of	Italian BLUE	Color	RGB color coordinates
blue	<i>blu</i>		red=20, green=15, blue=180
bluish, grey-blue	<i>bluastro</i>		red=50, green=65, blue=120
azure	<i>azzurro</i>		red=60, green=155, blue=240
light blue	<i>azzurriino</i>		red=115, green=175, blue=245
light bluish	<i>azzurrognolo</i>		red=120, green=145, blue=205
sky blue	<i>celeste</i>		red=129, green=225, blue=255
pale blue	<i>celestino</i>		red=180, green=235, blue=255
ultramarine	<i>oltremarino</i>		red=40, green=25, blue=195
turquoise	<i>turchino</i>		red=10, green=185, blue=205
indigo	<i>indaco</i>		red=20, green=15, blue=120

Table 1 - The 10 BLUE names in Italian and English, color patches set to RGB coordinates indicated by Moroney in the Italian section of The Color Thesaurus, Hewlett Packard Laboratories.

F is frequency in the lists, N is number of informants, and mp is mean position rank in the lists provided by the informants.

The fourth phase, the BLUE color-patch naming task, was carried out in a darkened room with a projection of numbered color patches presented on a screen. The stimuli were presented one at a time. They remained on the screen for 10 seconds. 30 informants (mean age 26) wrote the color names in the box next to the slide number. The 30 color patches were set to color RGB parameters distinguished by Moroney for the Italian color terms [17]. The randomized 10 BLUE color patches corresponded to the 10 color words tested in the first phase, which had also emerged in the third phase (see Table 1). The informants were tested twice on different occasions to verify the consistency of naming. The fifth phase of this study, the “Kind of BLUE” was carried out by a group of 30 informants (mean age 26). They were asked which BLUE was a kind of BLUE, combining the three terms, blu, azzurro and celeste, in couples, e.g., Is azzurro a kind of blu? The informants answered yes or no.

#### 4. RESULTS

“Color association” task result data are presented in percentages in Figures 1 and 2. The total 3686 responses given by 97 Italian informants resulted in 30% of the objects associated with blu (blue), 7% bluastro (blue-grey), 19% azzurro (azure), 4% azzurrognolo (dull bluish), 4% azzurrino (light bluish), 11% celeste (sky blue), 5% celestino (pale blue), 5% oltremarino (ultramarine), 7% turchino (turquoise), 6% indaco (indigo), and 3% no answer. If we group the terms according to tone (dark, medium, light) the division becomes 48% blu, 34% azzurro, and 16% celeste. The spread between the three predominant BLUE color terms does not vary significantly, and the rank remains unchanged. Fig. 2 shows marked differences in English association percentages with the corresponding terms *blu*, *bluastro*, *azzurro*, *celeste*, and no answer. The color/object associations in English actually seem more evenly distributed, demonstrating the subordinate value of most of the BLUE color

terms, and the saliency of blue with a higher percentage of associations. A predominance of *blu*, *azzurro*, and *celeste*, in that order emerges in these results.

Figure 3 presents the total Italian results, each color term and the 38 associated items. Each item is presented in Table 2 with the color term with the highest percentage of associated object/concepts agreement.

The object/concepts associations with the highest percentage of agreement are: 85% sangue blu, 84% fata turchina, 82% principe azzurro, 78% caschi blu, 70% jeans blu, 64% Madonna celeste, 63% bollino blu, 63% tute blu, 59% fifa blu, 57% telefono azzurro, 55% cielo azzurro, 55% fiocco azzurro, 54% strisce blu, 52% camicia celeste, 51% machine blu, 50% mare blu, 51% pesce azzurro. Of the 38 object/concepts, the number that were mostly associated with a specific color are 19 with blu; 10 with azzurro; 2 with celeste; 2 with celestino; 2 with turchino; 1 with azzurrino, 1 with bluastro, and 1 with oltremarino. The most prototypical object for blu is sangue (85%); for bluastro is fumo (38%); for azzurro is principe (82%), for azzurrognolo is fumo (21%); for azzurrino is airone (23%); for celeste is Madonna (64%); for celestino is nuvole (23%); for oltremarino is sale (39%); for turchino is fata (84%) and for indaco is tute (12%). The English translation of the object/concepts may be found in Table 2.

A significant result was also the consensus between the two Italian groups, even though within the group there were significant differences in color/object association. 59% (169 of 380 responses) of possible color-object/concept associations were made by the same number or  $\pm 1$  of informants in each group separately, e.g., caschi and blu were associated by 38 people in the first group and 38 in the second group; cielo azzurro was associated by 26 and 27. And only 4% (17 of 380) of the associations made by the two groups were different by  $>5$  of the number of informants. That is to say that the correlation coefficient was statistically relevant between the two Italian groups for *blu*, *azzurro*, *azzurrognolo*, *celeste*, *celestino*, *turchino*, and *indaco* (all between 0.956 and 0.720).

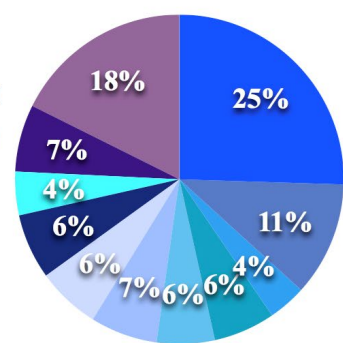
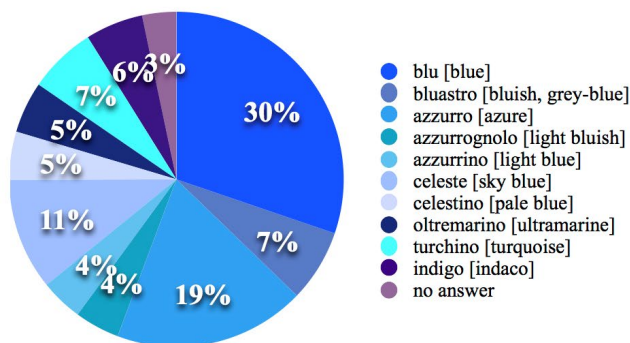


Figure 1 (left) - Percentage of Italian BLUE color association of 38 objects by 97 informants.

Figure 2 (right) - Percentage of English BLUE color association of 38 objects by 15 informants.

Table 2 also shows the percentage of association results for English. The results are significantly different. The highest agreement was 80% for blue flag, 73% for sky-blue sky, blue team, grey-blue heron, and grey-blue smoke. Only 29% (11 of 38) color object/concept associations were the same in both languages, and the percentages varied notably; the number of “no answers” is relevant in color association saliency. Table 2 lists the change of the color term associated next to the item and the percentage of agreement. The difficulty in responding by the English informants clearly indicates the lack of cultural entrenchment of the Italian prototypes.

“Color-listing” task results reveal two cognitively important aspects: the term frequency and position in the list. Following Sutrop [16] color term basicness is estimated independent of the length of any particular list; see results in Table 2. The color term is given followed by frequency

in the lists of the 65 informants, and the corresponding rank; the mean position in each list and the corresponding rank within the total list of 134 different colors listed; the cognitive salience index and the final cognitive salience rank. The cognitive salience ranking of blu in fourth position, azzurro in ninth, and celeste in thirteenth, corresponds in essence to the results acquired through the cognitive linguistic association task.

“Color-patch naming” results show that the majority of the informants called blu 6 of 10 BLUE color patches (not azzurrino, celeste – celestino, nor turchino), see Table 4. The patch considered blu was named blu by 94%, azzurro was named blu by 74%, azzurrino was named azzurro by 60%, celeste was named celeste by 80%. The half tone azzurrognolo was named blu by 80%, bluastro was named blu by 65%, oltremarino and indaco were named blu by 67%. Color

Figure 3 - Italian BLUE color term 38 object/concept associations by 97 informants (English translation of the items is indicated in Tab.2).

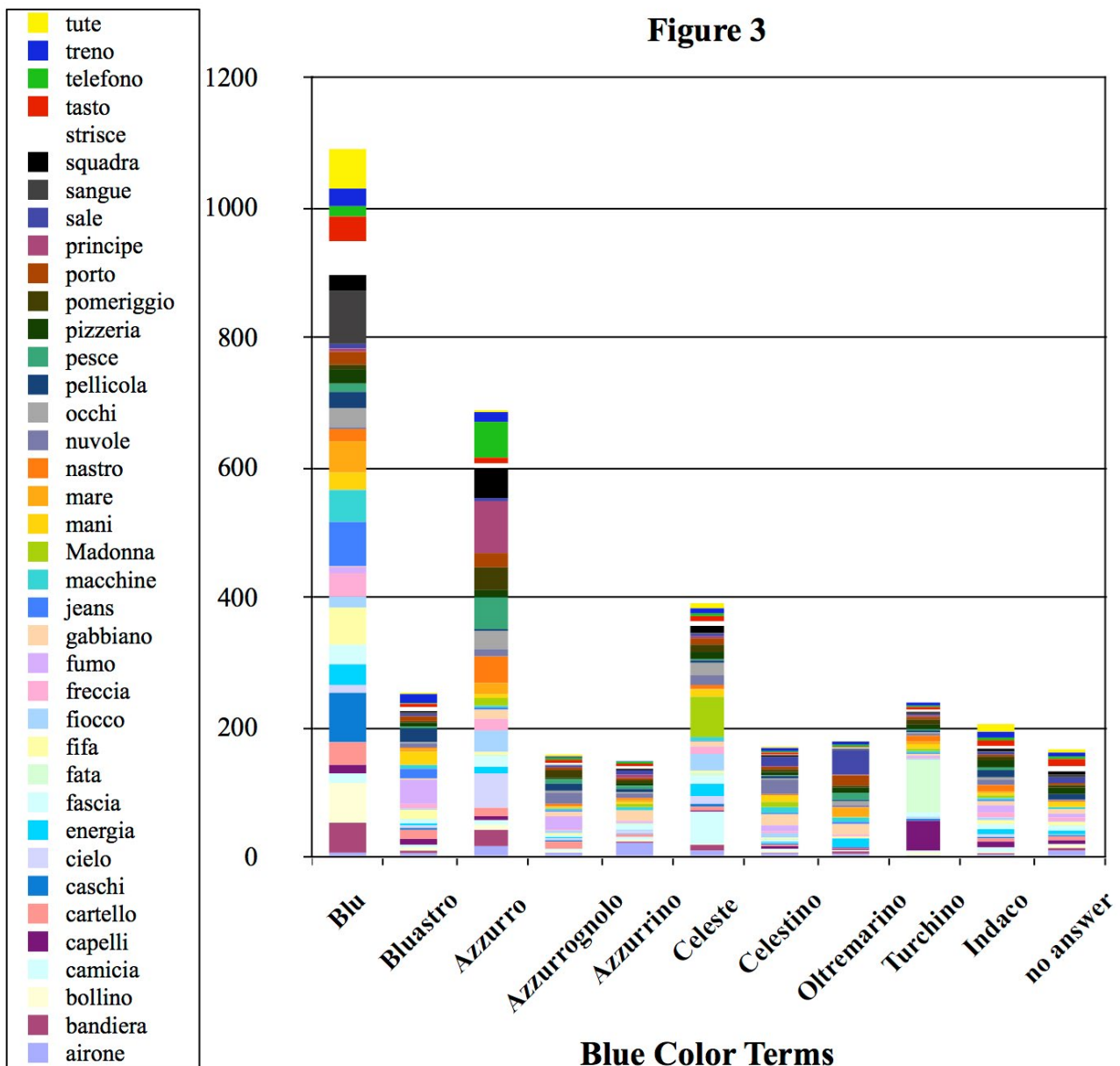


Table 2 - The maximum percentage of informant agreement on the color associated with each of the 38 object/concepts; grey background for same color-object/concept association in both language groups; bold print for majority agreement.

Rank Ital. Ass. 38 obj/conc.	Object/concept in Italian	Color max. agreement	% Agreement Italian	% Agreement English	Object/concept in English
1	sangue	Blu	85%	47% blue	blood
2	caschi	Blu	78%	27% blue	helmets
3	jeans	Blu	70%	47% indigo	jeans
4	bollino	Blu	63%	47% blue	sticker
5	tute	Blu	63%	53% blue	collar
6	fifa	Blu	59%	33% no answer	fear
7	strisce	Blu	54%	40% blue	lines
8	macchine	Blu	51%	40% blue	cars
9	mare	Blu	50%	33% azure	sea
10	bandiera	Blu	47%	80% blue	flag
11	tasto	Blu	39%	27% no answer	button
12	freccia	Blu	37%	33% no answer	arrow
13	cartello	Blu	36%	53% blue	sign
14	energia	Blu	33%	27% ultramarine	energy
15	fascia	Blu	31%	60% no answer	band
16	occhi	Blu	30%	40% pale blue	eyes
17	treno	Blu	28%	47% no answer	train
18	mani	Blu	27%	27% blue	hands
19	pellicola	Blu	26%	33% no answer	film
1	principe	Azzurro	82%	33% blue	prince
2	telefono	Azzurro	57%	27% blue	phone
3	cielo	Azzurro	55%	73% sky blue	sky
4	fiocco	Azzurro	55%	33% blue	bow
5	pesce	Azzurro	51%	40% ultramarine	fish
6	squadra	Azzurro	47%	73% blue	team
7	nastro	Azzurro	42%	20% sky blue	ribbon
8	pomeriggio	Azzurro	36%	27% sky blue	afternoon
9	pizzeria	Azzurro	23%	47% no answer	pizzeria
10	porto	Azzurro	23%	27% ultramarine	port
1	Madonna	Celeste	64%	27% no answer	Madonna
2	camicia	Celeste	52%	40% blue	shirt
1	nuvole	Celestino	23%	33% pale blue	clouds
2	gabbiano	Celestino	18%	60% grey-blue	seagull
1	fata	Turchina	84%	20% light blue	fairy
2	capelli	Turchini	47%	20% blue	hair
1	airone	Azzurrino	23%	73% grey-blue	heron
1	fumo	Bluastro	38%	73% grey-blue	smoke
1	sale	Oltremarino	39%	27% pale blue	salt

Table 3 - First 20 colors in color listing - cognitive salience rank of 65 informants; grey background for BLUE terms

Color Name	Frequency	Frequency Rank	Mean position (mp)	Mp Rank	Cognitive Salience Index	Cognitive Salience Rank
rosso	63	3	3.71	11	0.2612	1
giallo	62	4	4.70	13	0.2029	2
verde	61	5.5	5.42	14	0.1731	3
blu	60	7.5	6.03	18	0.1531	4
nero	64	1.5	7.89	22	0.1248	5
bianco	64	1.5	8.28	24	0.1189	6
arancione	58	9.5	8.48	25	0.1052	7
viola	61	5.5	9.61	30	0.0977	8
azzurro	54	11.5	9.59	29	0.0866	9
rosa	54	11.5	9.66	31	0.0860	10
marrone	60	7.5	11.16	37	0.0827	11
grigio	58	9.5	11.34	38	0.0787	12
celeste	44	13	10.63	34	0.0637	13
lilla	34	15	13.38	50	0.0391	14
fucsia	37	14	15.10	63	0.0377	15
indaco	29	18	12.96	48	0.0344	16
beige	30	16.5	15.20	64	0.0304	17
oro	30	16.5	15.93	71	0.0290	18
porpora	20	21.5	13.70	51	0.0225	19
rosso bordeaux	20	21.5	14.20	55	0.0217	20

	blu	named	blu	by 94%
	azzurro	named	blu	by 74%
	azzurino	named	azzurro	by 60%
	celeste	named	celeste	by 80%
	azzurrognolo	named	blu	by 80%
	bluastro	named	blu	by 65%
	oltremarino	named	blu	by 67%
	indaco	named	blu	by 67%
	turchese	named	verde-acqua	by 55%
	celestino	named	celeste-chiaro	by 50%

Table 4 - Fourth phase color patch naming in Italian.

referents for the color patches used in this task also correspond to the legend in Figures 1 and 2. “Kind of BLUE” task responses show 93% of Italian informants responded affirmatively to azzurro as a kind of blu, and 100% affirmed that celeste is a type of blu, but blu is not a type of azzurro, nor celeste. Only 10% of informants claimed that celeste was a type of azzurro.

## 5. CONCLUSIONS

As expected BCT’s can be distinguished from non-BCTs by the high scores on the first phase task entrenchment and occurrence and the third phase task cognitive saliency, and the fourth and fifth phase task significations and stability of reference results. The use of a specific set of the 10 most common BLUE terms in Italian and the lack of restrictions between BCT and non-BCT provided a mode of testing the relationship between the three most common BLUE terms: blu, azzurro, and celeste. The subordinate terms were associated less often than the BCT term(s). Moreover, the use of all the terms determined a decrease at the expense of the more specific terms. This provided a further check on robustness and stability of the BCT terms.

In the past azzurro has been used as the prototypical basic blue, Grossman [18] identifies it as the BLUE arcillesema and translates blue with it. Diagrams and color systems published in the past translated labels and indications of blue with azzurro; contemporary texts translate blue with blu, e.g., there is no change in the use of the abbreviation RGB (Red-Rosso, Green-Verde, Blue-Blu), and the respective diagrams of color spaces; identification of receptor cells R-G (Rosso-Verde), B-Y (Blu-Giallo), and primary colors (Red-Rosso, Blue-Blu, Yello-Giallo). Moreover, many recent videos and books for children teach blu as the basic color not azzurro. Quantification of a corpus analysis in this sense may be of interest for future investigation.

This study lends support to the claim that there has been a semantic shift in BLUE lexicalization. I argue that azzurro was previously the Italian BLUE primary BCT. It has been present in Italian for longer and has diachronically developed a more elaborate grammaticalization (see

endnote). It no longer demonstrates the same saliency, however, as it did in the near past. Summarizing, the study informants identified azzurro as a type of blu, and but not celeste as a type of azzurro. Though they may be considered synonyms, there is a different degree of inclusion in contemporary Italian; the hypernym is now shifted to blu and the hyponyms are azzurro and celeste. In this sense, according to the “non hyponym” BCT criteria azzurro would not be a secondary BCT.

Considering, the first phase task, however, a more dynamic analysis of color term entrenchment, and an apparently valid measure of basicness and “application to a broad range of objects”, azzurro still has robust associations and collocations in both conceptual metaphoric and metonymic extensions. For example, the informants associated the sea with blu, the sky with azzurro, blood with blu, eyes with both blu and azzurro, and the prince with azzurro. The results of the four phases of this study converge to suggest that contemporary Italian use of BLUE color terms reveals a twelfth BCT, a tone of BLUE. Azzurro has not yet been pushed out of basicness, but may be on its way. It still has a high cognitive salience rank. Although it is evident that the number and age of the Italian and English informants differ notably in this study, the general tendency of lack of entrenchment of these color associations for the English pilot group is convincing. Furthermore, all the tasks verify current Italian conceptualization and dual lexicalization of BLUE as language specific and not corresponding to English.

## AFTERWORD2015

In this revised version of my 2011 paper I have added two tables to give more visual support to the text. I have also supplemented it with some explanation of the results in Table 3, and included a brief glossary. The principle aim however is to acknowledge recent publications that have continued to address the linguistic and cognitive entrenchment and conventions for *blu*, *azzurro*, and *celeste* for Italian speakers [19] [20] [21] [22] [23] [24] [25]. Valdegamberi, Paggetti, Menegaz sustain that there is evidence in favor

of the hypothesis of the existence of the twelfth basic color category in the Italian language [24]. Ronga, Banzanella, Struddsholm, Salvati include *azzurro* in the group of BCTs analyzed in their study, and find *blu* rating over *azzurro* both in the type to token ratio and in the *hapax legomena* (i.e., types mentioned by a single speaker) with little variation [25]. Ronga's earlier findings vary from these others, in that she stated

*"In Italian, in fact, azzurro (light-blue) is considered a basic colour term and not part of the realm of blue" [3].*

Her paper gives an excellent overview of the history of *azzurro*, revealing, I believe, the previous primary basicness of the term. Paramei, D'Orsi, Menegaz affirm,

*"Our results provide additional psycholinguistic evidence that for Italian speakers at least two colour terms are necessary to name the BLUE area, blu 'dark blue' and azzurro 'light-and-medium blue'. Both were shown to behave as basic colour terms, in linguistic and previous psycholinguistics studies" [22].*

Nonetheless, a predominance of current research confirms the semantic shift of *blu* into a more salient role and *azzurro* into a more secondary position. Some researchers advance the possibility of regional influences, and/or generational differences. Thierry et al. findings [26] uncover an effect of native language on implicit color discrimination, and how language learning seems to modify the location and extent of categorial perception, which may reorganize the representation of perceptual color space. It is conceivable that the second language acquisition, which is now required in Italian elementary schools, and is usually English, may be speeding up a shift in the perception and the semantics of BLUE. The Italian informants were university students from mixed regional backgrounds across all of Italy, but all had studied scholastic English for 4-8 years.

Clearly the general presence of English BLUE in Italian daily life, through computers, internet, advertisements, etc., can in itself contribute to a shift in linguistic convention. These factors may be an explanation of the displacement of a cognitive reference point, of the perceptual and conceptual variations introduced by different languages that use variations of *blue*. As Desgrippes states,

*"the cognitive representation of a color is dynamic: it can evolve with diachronic language variation or with language shift, and both older and newer representations*

*remain retrievable depending on the task at hand" [27],*

which seems pertinent to this case, that is, the present findings may differ from past studies.

To summarize I return to the initial questions posed: What are the Italian BLUE term semantic relations? My results point to *blu* as the primary BCT, *azzurro* as a secondary BCT, and *celeste* as a subordinate color term. Do *azzurro* and *celeste* violate the criterion that a BCT not be a hyponym of another color word, i.e., *blu*? I would say that *azzurro* does, though it ranks high in saliency for the informants of these questionnaires, and hence, should still be considered a BCT nonetheless. Does the semantic relation respond to the cognitive need to differentiate between the colors of the sky and the water? This differentiation seems to still be pertinent in the use of *blu* and *azzurro* in Italian. In English the sky is blue or sky blue, but the water, referring more often to the ocean than the sea, may be *blue*, *grey*, or *green*. The sea is azure. Is the principal task color term object/concept association, based on the cognitive linguistic approach to linguistic entrenchment, an original valid method to measure basicness? Yes, it has demonstrated to be an effective method to measure basicness. This type of functional or usage-based approach to linguistic investigation is a practical means to verify use of language. Cognitive linguistics sees language as grounded in embodied experience and social interaction, which is critically dependent on conceptualization that is based on linguistic entrenchment; i.e., *"the strength of conventional constraints to aspects of word meaning that have attained some sort of default status"* [12]. Therefore, meanings experienced and attributed more often will be encountered more frequently in specific contexts or associations, and will become more entrenched in the individual's conceptualization and conventionalized in the community of speakers. This paper suggests that *blu*, though still different than English *blue*, is undergoing a semantic shift that is detracting some of *azzurro*'s and *celeste*'s vigor.

## GLOSSARY

*Entrenchment:* A color term may be associated with numerous objects, the greater the number of associations and the greater the distribution of occurrence in a large number of domain matrices, the higher the level of entrenchment of the color term object/concept association; the progressive entrenchment of configurations that recur in a sufficient number of events are then established as cognitive routines [11, 28].

*Saliency:* A color term is salient if it is readily elicitable, occurs in the idiolects of most speakers, and is used consistently by individuals and with a high degree of consensus among individuals [29].

*Consistency*: consistency of color usage relates to the probability that a color name, if used by a given subject on the first presentation, will be used again on the second one [30].

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## NOTES

<sup>1</sup> The Italian dictionary online "Grande Dizionario Hoepli Italiano di Aldo Gabrielli, Hoepli, 2011" and "Il Nuovo Zingarelli – Vocabolario della lingua italiana" (10th edition Nicola Zanichelli Sp.A. Bologna, 1990, show only the following entries as derivatives, with my translations of the definitions: blu: blastro [adj. type of blue], blucerchiato [adj. circled in blue], blue-jeans [Engl. n. blue colored cotton pants], blues [Engl. n. a type of music or dance], bluesman [Engl. n. singer or executor of blues], bluette [Fran. adj. type of blue, light turquoise, n. that color blue]; azzurro: azzurrabile [adj. being able to get on the national soccer team referred to as the "Azzurri"], azzurraggio [n. being able to make a yellowish substance white by adding that color (azzurro)], azzurramento [n. treatment of lenses, which takes on a bluish cast, to diminish reflection, making more transparent], azzurrare [v. tr. to dye that color (azzurro)], azzurrastro [adj. a color that reminds you of that color azzurro], azzurrato [v. past participle of azzurrare; adj. lenses that have been treated to diminish reflection], azzurreggiare [v. intr. that which tends to or to be that color (azzurro)], azzurrenza [n. that which tends to that color (azzurro)], azzurriccio [adj. tending toward that color (azzurro)], azzurrigno [adj. a dull version of that color (azzurro) tending towards grey], azzurrino [adj. tending toward a light delicate version of that color (azzurro), n. the color], azzurrità [n. the quality of being that color (azzurro)], azzurrite [n. a mineral, used as a dye], azzurrognolo [a pale, greyish, or faded version of that color (azzurro)]; celeste: adj. --the first definitions regard first the sky and the heavens in reference to the supernatural, only the later entry refers to "the color of the sky free from clouds", etc.-- the only derivative that includes its root is celestino, the first entry, [adj. a light form of that color (sky blue)]. N.B. The Nuovo Zingarelli dictionary includes a color Atlantis that lists 11 compounds with the color blu: blu notte, blu di Prussia, blu di Parigi, blu oltremare scuro, blu oltremare chiaro, blu cobalto, blu azzurro manganese, blu d'orient, blu pavone, blu ceruleo, blu turchese, blu zaffiro; and only one term with azzurro: blu azzurro manganese, and only once celeste.

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