

A SEMANTIC ANALYSIS OF SÉLIŠ (FLATHEAD) COLOR TERMS

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INTRODUCTION.

Evolutionists of the 19th Century commonly made sweeping generalizations concerning the cognitive differences of peoples in primitive and civilized societies (von Humboldt, 1836; Brinton, 1891; Levy-Bruhl, 1910). Characteristic of the evolutionist explanation of cognitive variability was the notion that there were correlative types of mental organization along a scale of primitive to civilized sociocultural evolution, and that the mind set of pre-literate peoples represented an early stage in the evolution of human cognition.

Field research and empirical data have discounted many of the hypotheses of the early evolutionists and brought the central issues of sociocultural evolution into sharper focus. In terms of lexical evolution, there have been a number of different interpretations of the cognitive correlates of color nomenclature variation. Before

examining the Séliš color terms, it should be useful to review three of these.

INTERPRETATIONS OF COLOR NOMENCLATURE VARIATION.

Comparative evolution. There are two distinct comparative evolutionary interpretations. Gladstone (1858) and Geiger (1880) explained variation in color naming by relating increased differential categorization of the color spectrum through time in terms of the biological evolution of Homo sapiens. Allen (1879), Magnus (1880), and Rivers (1901) explained it by relating increased differential categorization of the color spectrum through time with increasing social and/or technological development. The original Berlin and Kay hypothesis (Berlin and Kay, 1969) is also an example of the latter sort of interpretation.

Linguistic relativity. This group probably includes Boas (1911), Whorf (1956), Ray (1952, 1953), and Conklin (1955). There are two basic assumptions involved. The first is that color semantics is not constrained by psychological, physiological, or anatomical factors. The second is that since all cultures are complex, no correlation of semantic organization with cultural complexity is possible. Such assumptions imply that cultural variation in color semantics is random, consisting of arbitrary divisions of the color spectrum based on the functional utility of such divisions for any society.

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Neurobiology. There are two different sorts of neurobiological interpretations. The first is typified by the work of Bornstein (1973, 1975), in which variation in color naming is considered directly related to the synchronic biological diversity of Homo sapiens. More specifically, the geographic distribution of eye pigmentation--yellow ocular pigment--is assumed to be responsible for differing color sensitivities to short wavelengths of the color spectrum, thereby influencing color naming. It is important to note that Bornstein's claim for a differential genetic basis for ocular pigmentation as the source of color naming variation involves the assumption of a correlation between pigmentation in general, e.g., of the skin, hair, iris, and pigmentation of the macular spot on the retina, an assumption which has not been empirically established. The second sort of neurobiological interpretation explains variation in color naming within the contexts of synchronic biological uniformity, the direct labelling of neural events and combinations of neural events, and the structured synchronic heterogeneity of speech communities (McDaniel, 1972, 1974; Kay and McDaniel, 1975; Berlin, et al., 1977). The essential notions associated with this theory of color naming variation are based on Hering's (1964) opponent process model of the neural encoding of color sensations, on DeValois' (1966, 1968) research on primate color neurophysiology, and on utilizing fuzzy set theory (Zadeh, 1965, 1971, 1976) for modeling a

neurophysiologically oriented theory of color naming variation.

SÉLIŠ COLOR TERMS.

The objective of this paper is to evaluate the color terms of Séliš (Flathead) within the revised framework established by Berlin, et al. (1977). We believe that the system of basic color terms in Séliš has strategic value for evaluating the revised Berlin and Kay hypothesis, and a reasonable explanation of the encoding sequence in Interior Salish will unravel some of the confusion about the color terminology of the Interior Salish languages.

The primary data for Séliš were recorded by Snow in 1969 with three native speakers representing two adjacent dialects.¹ The

Séliš color terms recorded are:

- "black" q^wáy²
- "white" soyá
- "red" k^wíł
- "yellow" k^walí?
- "green" q^wín
- "blue" q^wín
- "brown" čtk^wí
- "purple" q^wáy
- "orange" púm
- "gray" čxé

Before examining this lexical set, there are some cognate color

terms in other Interior Salish languages which appear to be at odds with the Séliš terms. Furthermore, some of these terms, the lexemes for "yellow", "green", and "blue", represent stages in the encoding sequence proposed by Berlin and Kay which are the subject of controversy.

For Shuswap, Kuipers lists the following terms: k^wal "yellow, green" (1974: 218); and q^wiy/q^wey "blue, purple" (1974: 247). Séliš does not have a term for "yellow, green" nor for "blue, purple"; but it does have a term k^wali? "yellow" and a term q^win "blue, green". For Kalispel, Vogt lists the following terms: q^win "green" (1940: 160) and q^wáy "blue, green" (1940: 159). The Séliš data appear to be at odds with these Kalispel data, illustrating why it was once a common belief that color terms were not systematic cross-linguistically. One further noteworthy point is the presence of soyá "white" in Séliš, rather than píq "white" as in Kalispel (Vogt, 1940: 157) or píq/peq "white" as in Shuswap (Kuipers, 1974: 142). We believe that if these discrepancies are resolved, we will not only gain a better understanding of Interior Salish color classification, but we will also have tested the revised Berlin and Kay hypothesis.

BERLIN AND KAY TEMPORAL-EVOLUTIONARY SEQUENCE.

The original Berlin and Kay temporal-evolutionary sequence (1969) envisioned seven diachronic stages in the lexical encoding of

color categories, as in Figure 1:

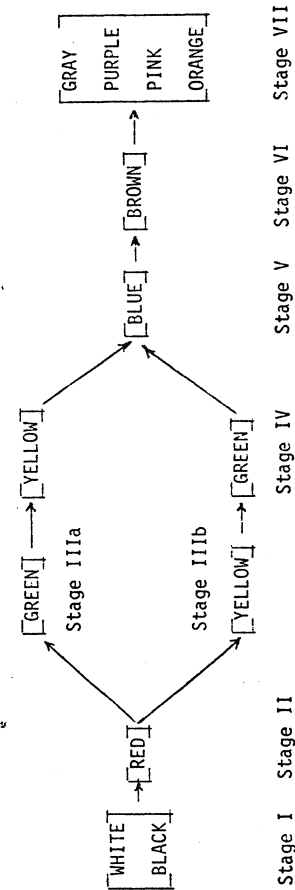


Figure 1. Original (1969) Temporal-Evolutionary Sequence

Data from subsequent controlled field experiments (Heider, 1972; Berlin and Berlin, 1975; Dougherty, 1975; Harkness, 1973), interpreted in terms of the neurobiological constraints on color perception (McDaniel, 1974; Kay and McDaniel, 1975), led to a re-conceptualization of the process of color lexicon evolution. The original notion of a temporal process involving a successive encoding of perceptual foci was replaced by that of a progressive segmentation or differentiation of continuous areas of the "color solid" in which the boundaries of color categories always pass between perceptual foci. The revised temporal-evolutionary sequence in the lexical encoding of color categories (Berlin, *et al.*, 1977) is indicated in Figure 2:

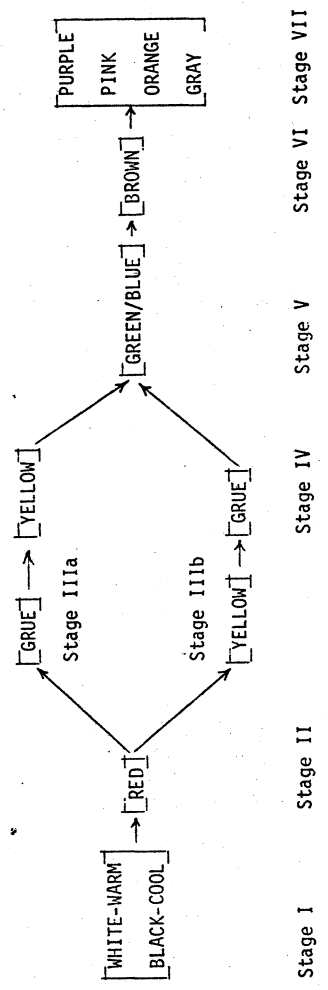


Figure 2. Revised (1977) Temporal-Evolutionary Sequence

In the revised sequence, the Stage I distinction between BLACK and WHITE is now seen as one between WHITE and WARM hues on the one hand and BLACK and COOL hues on the other. At Stage II, WARM colors such as "red", "yellow", "orange", "pink", and "brown" separate from WHITE. At Stage III, either GRUE (i.e. "green and blue") separates from the BLACK and COOL hues (Stage IIIa), or YELLOW separates from the other WARM colors (Stage IIIb). At Stage IV, whichever separation did not take place at Stage III---GRUE or YELLOW---occurs. At Stage V, GRUE separates into BLUE and GREEN. Stage VI and Stage VII remain essentially the same as in Figure 1, but with three provisos. First, there is evidence that GRAY may be a "wild card", i.e. capable of appearing at any stage of the sequence (MacLaury, 1975). The second proviso involves the interaction of social and cultural variables and neurobiological constraints. The evolutionary process can be viewed as providing simple names for the six physiologically primary categories in Stage V systems (Hering, 1964). In pre-Stage V systems, simple names appear for neurophysiologically composite categories such as WHITE-WARM, BLACK-COOL, WARM, and GRUE. Stage VI and Stage VII systems are those in which simple names are provided for derived categories, essentially the intersections of primary categories, e.g., ORANGE (Kay and McDaniel, 1975). The third proviso is that there can be a large amount of variability in the stages of color

lexicon among speakers of the same language. For the domain of color, such synchronic heterogeneity in the speech community usually is due to younger speakers having more advanced color term systems. When such variability does occur in a speech community, the temporal-evolutionary sequence is nevertheless uninterrupted. E.g., older speakers may have a Stage II system and younger speakers a Stage III but not a Stage VI or Stage VII system (Kay, 1975).

ANALYSIS OF SÉLIŠ COLOR TERMS.

Placement of Séliš within the revised encoding sequence involves determination of the status of the elicited color terms. Basic color terms are those that are monolexemic and highly salient for speakers of the language. The signification of such terms must not be included in that of any other color term, and their application must not be restricted to a narrow class of objects (Berlin and Kay, 1969: 5-7). Secondary color terms, while more abundant in any language than basic color terms, tend to be applicable to a limited class of objects in the environment and to denote both colorimetric and non-colorimetric information about such objects.

Table I is a comparative listing for the color terms from the following Interior Salish languages: Séliš/Flathead (Fl), Kalispel (Ka), Coeur d'Alene (CdA), Columbian (Cm), Spokane (Sp), Colville (Cv), Methow (Me), and Shuswap (Sh).³ A comparative analysis of the data, in conjunction with the criteria for defining a basic color

	F1	Ka	CdA	Cm	Sp	Cv	Sh
BLACK	q ^w áy	q ^w áy	q ^w éɗ q ^w íd "blacken" q ^w ál "be black from burning"	q ^w éy		q ^w áy (Me)	q ^w íy/q ^w éy
WHITE	soyá	píq paq "fade"	páq paq "be whitened" peq "be white, bleached"	píq/páyq	píq	píq	píq/péq
RED	k ^w íł	k ^w íł	k ^w áł k ^w íł "redden"				

Table 1. Interior Salish Color Terms

	F1	Ka	CdA	Cm	Sp	Cv	Sh
YELLOW	k ^w alı́?	k ^w a·lı́	k ^w ár	k ^w ár-		k ^w rí	k ^w al "yellow, green"
GRUE	q ^w ín	q ^w ín "green"	q ^w ən "be blue" q ^w ín "turn blue"	q ^w ín "green"	q ^w ín "green"	q ^w ín "green"	
BROWN	púm "orange" čłk ^w i "brown"	púm -póm- "to smoke (skins)"	púm "mouse- colored" čáł "brown"	púm "brown; buckskin color" káł- "brown"			púm/púm "to smoke; smoke- color"

Table 1. Interior Salish Color Terms

	Fl	Ka	CdA	Cih	Sp	Cv	Sh
PURPLE	q ^w áy	q ^w áy "blue, green"		q ^w áy "blue"			q ^w iy/q ^w ey "blue, purple"
GRAY	čxé		céq ^w "bright pink"	číq ^w "copper- colored"			meʃ cíq ^w /ceq ^w "red"

Table 1. Interior Salish Color Terms

term and known neurophysiological constraints on color perception, allows us to place Séliš in the revised encoding sequence and to determine the stages of the other Interior Salish languages.

Basic color terms. BLACK. The term for "black" in Séliš is q^wáy, which is also indicated for Kalispel and Methow. The form q^wáy and the forms for "black" in the other Interior Salish languages may be reflexes of the same Proto-Interior Salish parent form (Kinkade and Sloat, 1972: 32-33; Kuipers, 1969: 110).

WHITE. The Séliš term elicited for "white" is soyá. Sources from the 19th Century indicate that the Séliš term for white was píq (Mengarini, 1861: 108; Giorda, 1877-79: 440), which is also indicated for Kalispel, Columbian, Spokane, Colville, and Shuswap. It is not altogether clear whether the form píq and the other forms for "white" in Interior Salish are reflexes of the same Proto-Interior Salish form. The Séliš term soyá is apparently a loanword from Nez Percé. Krueger (1961: 52, footnote 1) says

Haruo Aoki...has advanced...the interesting thesis that Flathead /suyápi/ white man is apparently a loanword from Nez Percé, since it cannot be analyzed in terms of Salish morphemes. He surmises that the ultimate source of the Nez Percé may be French soldat...

Aoki indicates so-ya-po "white man" for Nez Percé (1970: 143). Snow recorded soyápi "white man" and soyá sãm?ém "white woman" (sãm?ém "woman") for both Séliš dialects investigated.

RED. The term for "red" in Séliš is k^wí, which is also indicated

for Kalispel. The form $k^{w}i\acute{l}$ and the forms for "red" and "redden" in Coeur d'Alene may be reflexes of the same Proto-Interior Salish parent form (Kinkade and Sloat, 1972: 42-43). There is evidence that the forms indicated for Shuswap, ciq^{w}/ceq^{w} , are secondary rather than basic color terms. Columbian ciq^{w} "copper-colored" and Coeur d'Alene ceq^{w} "be bright pink" are evidently cognate with the Shuswap forms for "red". Also, Kuipers reconstructs Proto-Salish etyma $*ciq^{w}/cac^{w}$ "red (blood)" and cites possible cognate forms signifying "bleed" (1969: 13). The inter-language variation in terms of what ciq^{w}/ceq^{w} signify, specifically their application to limited classes of objects and variability in non-colorimetric referential information, is reason to believe that they are secondary color terms.

YELLOW. The Séliš term for "yellow" is $k^{w}ali\acute{?}$, which is evidently cognate with the terms cited in Table 1 for "yellow" in Kalispel, Coeur d'Alene, Columbian, and Colville and with Shuswap $k^{w}a\acute{l}$. Kuipers glosses Shuswap $k^{w}a\acute{l}$ as "yellow, green" (1969: 16; 1974: 219), and this brings us to a crucial point in the analysis of Interior Salish color terms. There is evidence that the focus of Séliš $k^{w}ali\acute{?}$ is in the "yellow" part of the color spectrum: in the Aricee dialect of Séliš, the terms $k^{w}k^{w}a\acute{?}li\acute{?}t$ "gold (mineral)" and $\check{c}k^{w}a\acute{l}x^{w}a\acute{l}i$ "orange (fruit)"⁴ are partially reduplicated forms based on $k^{w}ali\acute{?}$ "yellow". Although $k^{w}ali\acute{?}$ and its Interior Salish cognates may be focused in the "yellow" portion of the color spectrum,

the total scope of these terms probably includes what in English are the light green hues.

GRUE. The Séliš term for "green" and "blue" is $q^{w}in$, which has cognates in all the other Interior Salish languages in Table 1 except Shuswap. Sources from the 19th Century also gloss Séliš $q^{w}in$ as "green, blue" (Mengarini, 1861: 110; Giorda, 1877-79: 38). In Coeur d'Alene, $q^{w}in/q^{w}an$ are glossed as "turn blue" and "be blue", respectively. In Kalispel, Columbian, Spokane, and Colville, $q^{w}in$ is glossed as "green". These apparent discrepancies are resolved if Séliš and the other Interior Salish languages are analyzed as Stage IV systems with the term $q^{w}in$ focused in blue but having a range that encompasses all blue hues, focal green, and the dark green hues, but not encompassing the light green hues, which are within the semantic field covered by "yellow".

Secondary color terms. BROWN. The Séliš term for "brown" is $\check{c}ik^{w}i$, which has no immediately apparent cognates in Table 1. The emergence of BROWN as a separately labelled color category is correlated with a constriction of the spectral scope of RED. In other words, BROWN emerges from the RED area. The phonological similarity between Séliš $k^{w}i\acute{l}$ "red" and $\check{c}ik^{w}i$ "brown" should be noted. If indeed they are cognates, then $\check{c}ik^{w}i$ is polymorphic and $*k^{w}i\acute{l} > \check{c}ik^{w}i$.

PURPLE. The Séliš term for "purple" is $q^{w}ay$, which is evidently

cognate with Kalispel q^wáy, glossed as "blue, green", with Columbian q^wéy, glossed as "blue", and with Shuswap q^wiy/q^wey, glossed as "blue, purple". Since our analysis of Interior Salish postulates that q^wín GRUE is focused in "blue", it follows that Séliš q^wáy should be focused in the restricted "color space" between GRUE and BLACK, i.e. PURPLE. The focus of Columbian q^wéy and Shuswap q^wiy/q^wey could be similar to that of Séliš q^wáy; or they could be focused in the dark "blues". Controlled elicitation should resolve this. Since these terms probably signify slightly different areas of the spectrum, it is likely that they are secondary rather than basic color terms. In terms of this analysis, it is doubtful that the range of Kalispel q^wáy includes any green hues.

As an emergent color category, PURPLE can be viewed as "coming out" of the BLACK area. It is not surprising then that Séliš q^wáy "black" and q^wáy "purple" are phonologically one feature apart, i.e. the initial segments are glottalized and non-glottalized, respectively. Thus it appears that *q^wáy > q^wáy.

ORANGE. The Séliš term for "orange" is púm, which is evidently cognate with Kalispel púm "brown", Coeur d'Alene púm "mouse-colored", Columbian púm "brown, buckskin color", and Shuswap púm/pum "to smoke; smoke-color". The scope of each of these terms differs somewhat from the other terms in the set, i.e. classes of objects applied to and non-colorimetric information referred to. Again, this could be

*derivational
deglottalized
further examples?*

clarified by using controlled stimulus materials. This may be an example of a "floating" secondary color term having somewhat different referential meaning in the different Interior Salish languages.

Coeur d'Alene čát "brown" (form uncertain) and Columbian kát "brown" are reportedly cognates (Kinkade and Sloat, 1972: 34) that are etymologically unrelated to the other Interior Salish color terms in Table 1. A proliferation of non-cognate terms that signify essentially the same color, e.g., the various Interior Salish terms for "brown" in Table 1, indicates that these terms are probably secondary color terms (MacLaury, 1975).

GRAY. The Séliš term for "gray" is čxé, also cited by Giorda in S'chgeilps "gray horse" (1877-79: 170). The only other instance of "gray" cited in the literature is Shuswap meí "grey" (Kuipers, 1974: 151). Comparative evidence would seem to indicate that the Séliš term is secondary and not basic.

CONCLUSION.

Séliš would seem to be an example of a Stage IV color system in terms of the revised Berlin and Kay encoding sequence. Our argument is that historically the Séliš basic color terms were q^wáy "black", píq "white", k^wíl "red", k^walí? "yellow", and q^wín "green and blue". This position is supported by the grammar and dictionary of Mengarini (1861) and Giorda (1877-79), respectively, indicating that prior to the 1850s, this system was widespread for Séliš speakers. Some time

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after that era, Séliš speakers replaced their basic color term for "white" with soyá, a borrowing from Nez Percé and originally from French. The replacement of a basic color term within a still functioning system is empirically rare, the only other example we know of being from Chorti, a Mayan language of Guatemala and Honduras (Brent Berlin: personal communication). In Chorti, the native term for "black" was replaced by a loanword from Spanish.

Our analysis indicates that Kalispel, Coeur d'Alene, Columbian, Spokane, Colville, and Shuswap were also historically Stage IV languages. We hypothesize that a similar analysis would hold for Lillooet and Thompson, the remaining Interior Salish languages.

In general, interpretation of elicited field data in terms of a neurophysiologically based theory of color naming variation and comparative word lists has value in solving problems associated with historical lexicography. Specifically, the integrity of the GRUE ("green and blue") category for Séliš speakers and the lack of a reported term signifying "yellow and green" in Interior Salish languages, with the exception of Shuswap (Kuipers, 1974), casts doubt on a posited Proto-Salish form *k^wur/k^war meaning "yellow and green" (Kuipers, 1969). Although it is difficult to solve such problems without controlled field experiments using adequate stimulus materials, a plausible explanation involves the nature of the GRUE category, which may be focused in either "blue" or "green" (Berlin,

et al., 1977). A Stage IV language may easily have a term which is focused in "blue" and has a range covering all blue hues, focal green, and all dark greens. At the same time, such a language could have a term which is focused in "yellow" and has a range extending into the lighter green hues (Paul Kay: personal communication). The former category would be GRUE, the latter, YELLOW. This problem in the interpretation of field data does not come about if the GRUE category of a language is focused in "green".

Aside from benefits to historical lexicography, we have tried in this paper to illustrate the strategic nature of the Salishan languages in the study of color perception and classification. We have adduced evidence supporting several arguments. These include the notion that Séliš is historically a Stage IV language, that the other Interior Salish languages are also Stage IV, that languages can replace if not lose basic color terms, and that a posited form for Proto-Salish may be incorrect. Such arguments can only be suggestive in the absence of controlled field experiments with Salishan speakers.

NOTES

¹Mrs. Christene Woodcock and Mrs. Louise McDonald of St. Ignatius, Montana and Mrs. Lucy Parker of Arlee, Montana provided the color terms. The latter individual speaks the Arlee dialect, and the former two speak the Sqélix^w dialect of Séliš, as does Mr. Pete Beaverhead of Ronan, Montana, who provided other information. We are grateful to them for their patience and assistance. We are also indebted to Dr. M. Dale Kinkade and to Dr. Laurence C. Thompson for their assistance.

²Except for soyá "white", which is discussed below, all Séliš color lexemes were recorded with the prefix i-, e.g., ic^way, ik^wil, etc. English color words cited in quotation marks are glosses of Interior Salish color terms. English color words that are capitalized refer to color categories.

³Sources of the data in Table 1 are: Vogt, 1940 (Ka); Kinkade and Sloat, 1972 (CdA, Cm, Sp, Cv, Me); and Kuipers, 1969, 1974 (Sh).

⁴The Séliš term for "orange (fruit)" describes the external color of the ripened fruit prior to the practice of using chemical additives to give it a more "orange" color.

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MOK Tlingit all derived
but yellow

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Sandhi in a Salishan Language: Skanagen (Nicola Lake) ¹

by

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This paper will discuss four points: (1) liaison, with special reference to the \bar{x} notation (Chomsky 1970; Jackendoff 1974), supported by Standard French liaison in elevated speech (Selkirk 1976), and to the hypothesis (Kinkade 1977; Kuipers 1968) that there is no noun/verb distinction in Salishan languages; (2) the realization of labialization, i.e., of a single feature as a separate sequential surface element, occurring in liaison contexts and elsewhere; (3) the manifestation, in a sandhi context, of a sound (X) which happens to be precisely what is missing in the affricate series of the phonemic component inventory of this language; and (4) sandhi and syllabification.

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