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Color Categorization in Shuswap, Chilcotin, Kwak'wala, and Makah: A Description

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University of California, Berkeley, August 1986

Introduction

The intention here is to describe and to compare data concerning color categorization from four Pacific Northwest languages: (1) Shuswap, (2) Chilcotin, (3) Kwak'wala, and (4) Makah, which represent Salishan (1), Athapascan (2), and Wakashan (3-4).

The data were collected in August and September of 1985 according to three independent procedures of elicitation, each based on 330 Munsell colors as a direct stimulus and standard of measurement. The procedures and stimulus materials are described in a theoretically oriented account of the same data (MacLaury 1987: Note 2).

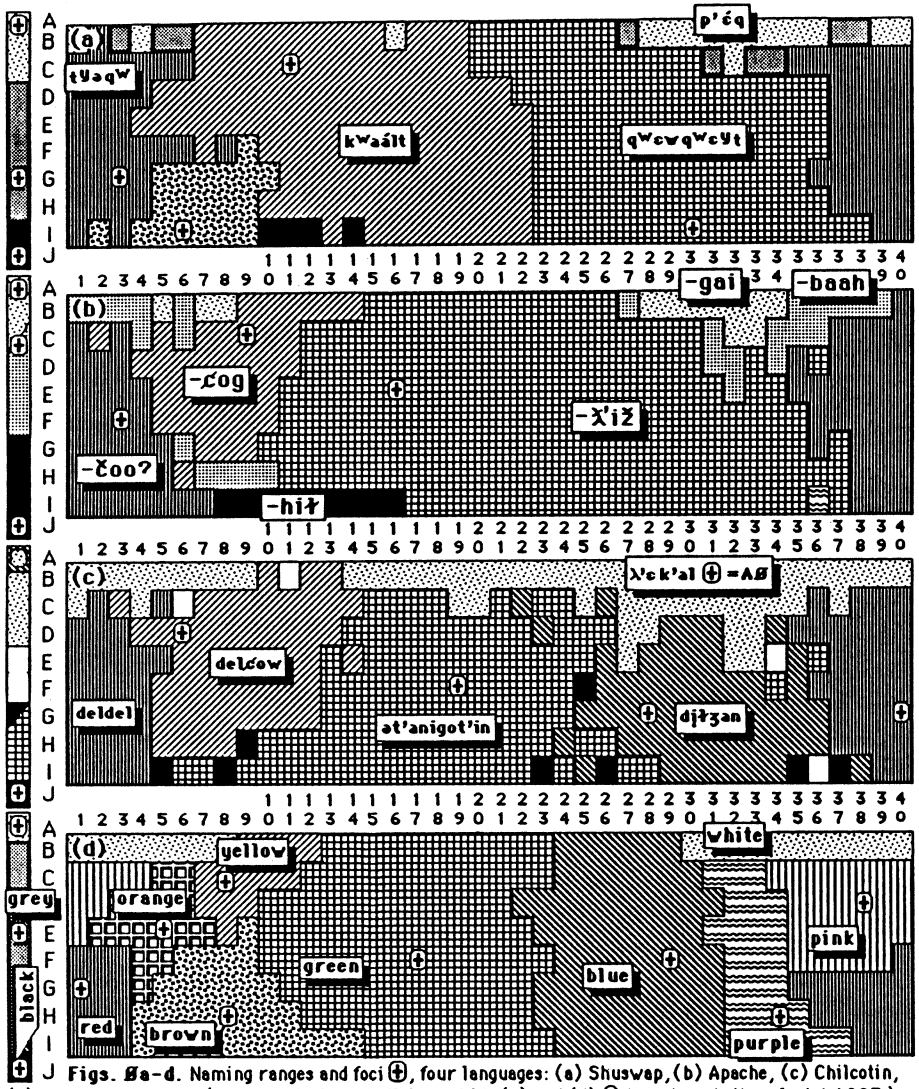
Table 1 outlines the three elicitation procedures and the order(s) of data that resulted from each:

Table 1

Procedures	***Data***
1. **Naming.** 330 separate color chips are named in a fixed random order.	1a. **Naming Ranges** of color-term roots. 1b. **Modifiers** of roots.
2. **Focus Selection.** A "best example" of each term is chosen on an array of the 330 chips.	2. **Foci.**
3. **Mapping.** Each term is mapped on the array with rice grains, usually in steps in response to repeated requests to map all of X-term.	3a. **Mapping Ranges.** 3b. **Mapping Steps** within mapping ranges.

Correspondence between different data from an individual verifies their accuracy.

Figs. Øa-d present derandomized naming ranges and foci in the format of the Munsell array. The unnumbered column at the left displays white-grey-black and columns 1-40 display prismatic hues from left to right, lightest at top and darkest at bottom. The break between columns 40 and 1 is artificial, as hue composes a circular band. Fig. Ød provides the English speaking reader with a reference by which to gauge the Munsell system and to assess how other languages have named it. Fig. Øa shows naming ranges from a Shuswap speaker, who designates yellow and green with one term. Fig. Øb shows naming ranges from a speaker of Apache, an Athapascan language of the American



Figs. ßa-d. Naming ranges and foci ⊕, four languages: (a) Shuswap, (b) Apache, (c) Chilcotin, (d) American English; (Apache data from Phil Greenfeld, (a) and (d) © American Anthroplogist 1987.)

Southwest; green and blue are named with one term. The Apache data provide a comparison with color naming of another region, but in a language related to Chilcotin. Chilcotin data appear in Fig. Øc.

In the following sections, Figure #s match speaker #s, for example, Figs. 1a-e display data from speaker #1.

Shuswap

Eight Shuswap speakers finished the interview, one from Sugar Cane Reserve (Figs. 1a-e) and seven from Alkali Lake Reserve (Figs. 2a-8c). A ninth speaker at Alkali, too infirm to be fully interviewed, volunteered a rare term, kʷlem 'green'. Major characteristics of Shuswap color categorization are:

1. One category, used by all speakers, encompasses pure yellow and pure green.
2. Three speakers encompass all of blue and pure green in a second category, which they focus in blue (Figs. 1a-b, 5a-b, 6b). Therefore, the three include pure green in two categories, one yellow-focused and one blue-focused. The five others confine the blue-focused category to blue, although four of them (Figs. 2a-4b, 8a-b) extend it into bluish green farther than English speakers extend "blue" toward green (cf. Fig. Ød). The differences among the eight speakers regarding the blue-focused category suggest that its historical range included both green and blue, but it is now retracting from green toward blue. Kuipers (1974) shows that some derivatives of qʷɛwqʷɛyt name notably green referents, such as a drake mallard.

Fig. 1a. Naming ranges and foci, Shuswap, Sugar Cane Indian Reserve, man, age 73, 1985; Speaker #1

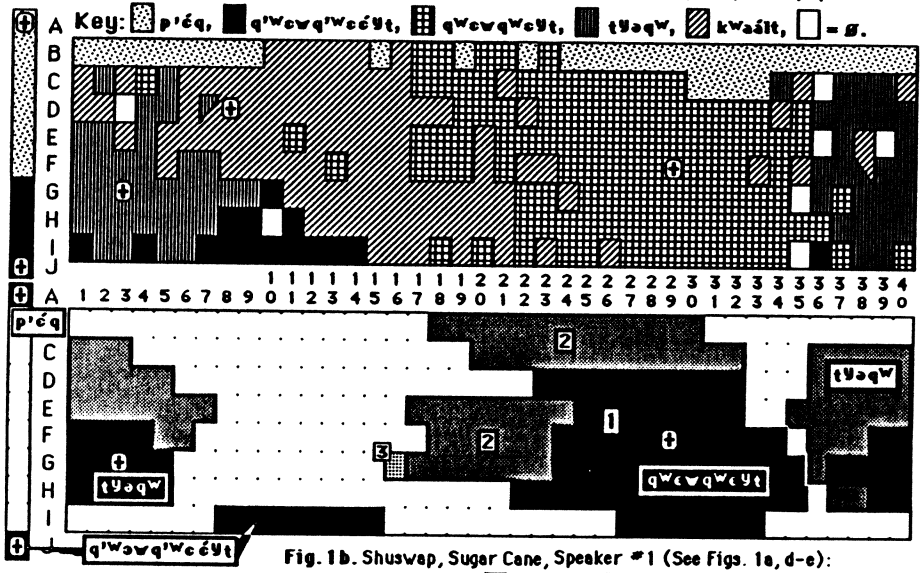
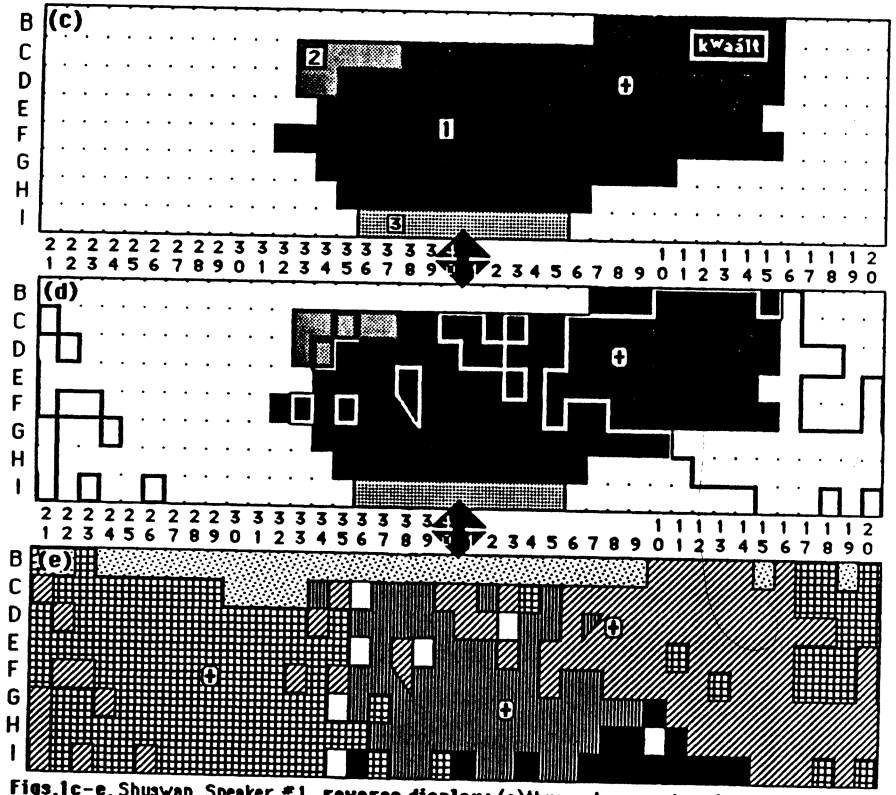


Fig. 1b. Shuswap, Sugar Cane, Speaker #1 (See Figs. 1a, d-e): Mappings of four categories in two or three steps each: ■ firts step, ■ second step, ▦ third step.



Figs.1c-e. Shuswap, Speaker #1, **reverse display**: (c)three-step mapping of kʷaálɬ, (d)same mapping with naming-range outlines superimposed, (e)naming ranges from Fig. 1a.

3. There are optional and variant uses of mamaát 'grey', təptp̓ɛʔqʷ 'brown', horse-terms for 'grey' and 'brown' (Fig. 2a), and ciíčqʷ, čičiíčqʷ 'pink'.

4. Speaker #1, the one individual from Sugar Cane, shows four conservative features: (1) he uses only five terms (2) he substantially intermixes yellow-focused and blue-focused terms throughout green, (3) he applies the yellow-focused term not only to green but also to pink and purple of columns 33-40, 1-2 where he intermixes it with the red-focused term, and (4) he mapped the yellow focused term with a first step throughout yellow and red, but not among green. He executed the same yellow-with-red mapping twice, on separate days, each time insisting that green had no Shuswap name. The mapping corresponds with the yellow-focused naming ranges scattered in pink and purple.

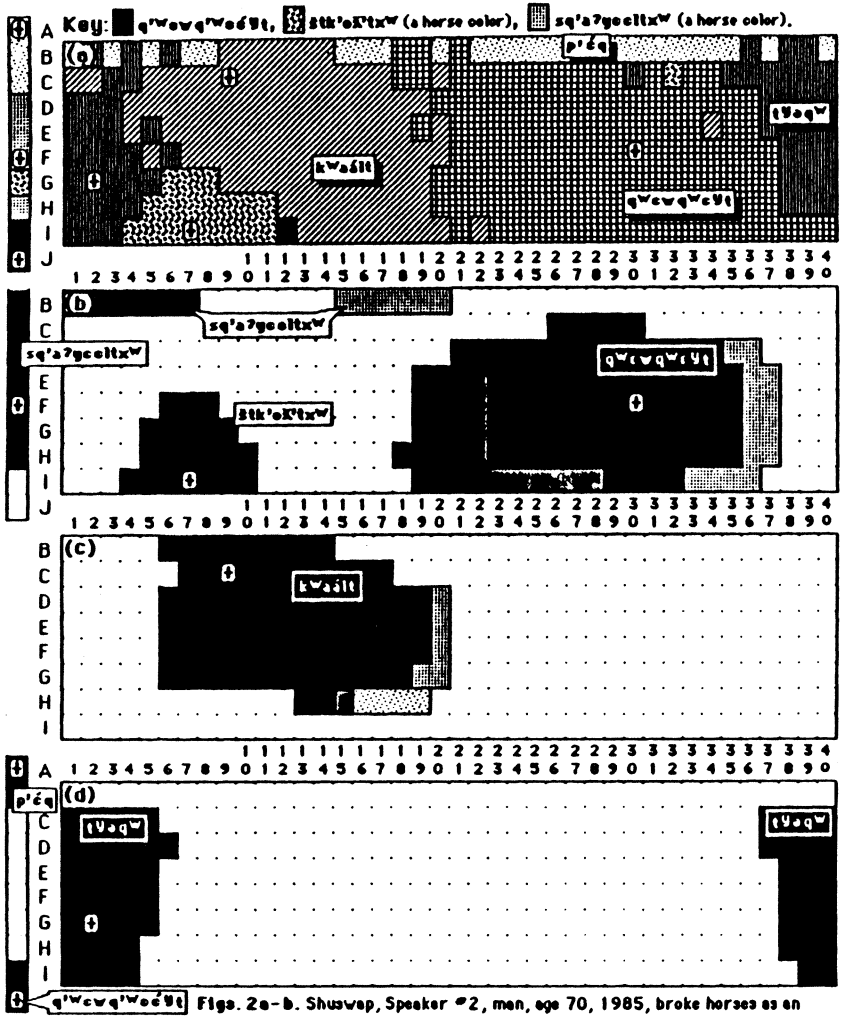
The mapping and naming range of kʷaálɬ are shown in a reverse display, Figs. 1c-e,

with columns 1-40 reversed as 21-40,1-20 so that red colors are represented continuously. Figs. 1a and 1e show the same naming ranges, obverse and reverse. Four other speakers also apply the yellow-focused term to pink, purple, magenta, and maroon (cf. Figs. 2a, 3a, 5a, 7a), but far less than the speaker from Sugar Cane. Kuipers (1974) shows that some derivatives of kʷaálɬ name reddish referents, such as a sorrel horse.

Historical Inference: Shuswap innovated the yellow-focused yellow-with-green category by transferring an earlier yellow-with-red category. The yellow-with-red category was retracted from red and extended to green while inclusion of yellow was retained. Speaker #1 has not completed the transference. He retains the old yellow-with-red category at low salience and the new yellow-with-green category at high salience, and he names them both with the same term. A similar innovation of the yellow-with-green category occurred in Halkomelem and in Bella Coola, but by transference from blue to yellow of a green-with-blue category while retaining inclusion of green. At least, such would explain the cognation of Shuswap qʷɛwqʷɛyt 'blue, green-with-blue' and Halkomelem c-qʷɛ́·y '(to be) yellow, green' (data from Brent Galloway), and it would explain variant recordings from Bella Coola of qʷli 'green, blue' and qʷli 'green, yellow' (Davis and Saunders 1980: 300; Nater and Kuipers 1973: 8).

Berlin and Kay (1969; Kay and McDaniel 1978: Fig. 13) proposed a universal sequence of color-category evolution in which a yellow-with-red (warm) category always divides prior to a green-with-blue (cool) category. In the Pacific Northwest, this sequence might have influenced the innovation and diffusion of the yellow-with-green category: Languages such as Shuswap, that had not divided the warm category, transferred it from red to green while they retained the cool category; languages that had divided the warm category but that still used the cool category, transferred the latter from blue to yellow. Each language innovated yellow-with-green by transferring the category that was next in sequence to divide. It remains to be shown whether any language innovated yellow-with-green by other means, such as extending a simple yellow category to green or by naming yellow-with-green with a new term without refashioning an earlier warm or cool category. The present implications would allow an expansion of the Berlin-Kay sequence of Stage IIIa (warm, cool) → Stage IV (cool): Stage IIIa (warm, cool) → Stage IIIa' (yellow-with-green, cool); Stage IV (cool) → Stage IV' (yellow-with-green); Stage IIIa' → Stage IV'. The eight speakers of Shuswap appear to represent transitions IIIa → IIIa' → IV', those of Bella Coola IV → IV'.

Shuswap kʷaálɬ 'yellow-with-green' bears a suspicious resemblance to kʷil 'red' of Eastern Interior Salish languages, although the expected sound correspondence among cognates might be l:r rather than l:l (Kinkade and Thompson 1974; cf. Kuipers 1982). Shuswap kʷaálɬ is cognatic with 'yellow' terms of Eastern Interior Salish, as Okanagan kʷɪnʔ, Kalispel kʷalíʔ, and Coeur d'Alene kʷar-. These languages did not innovate a yellow-with-green category. They represent only the stages that Berlin and Kay originally proposed (cf. Snow and Molgaard 1978).



Figs. 2a–b. Shuswap, Speaker #2, man, age 70, 1985, broke horses as an occupation: (a) naming ranges, (b–d) mappings in one-to-four steps.

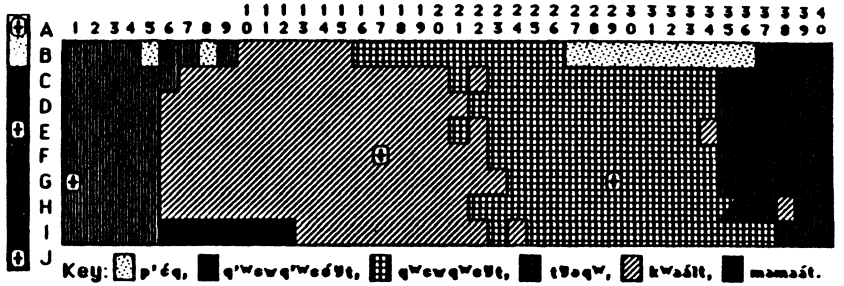


Fig. 3a. Naming ranges and foci, Shuswap, Speaker #3, Alkali Lake Indian Reserve, woman, age 65, 1985.

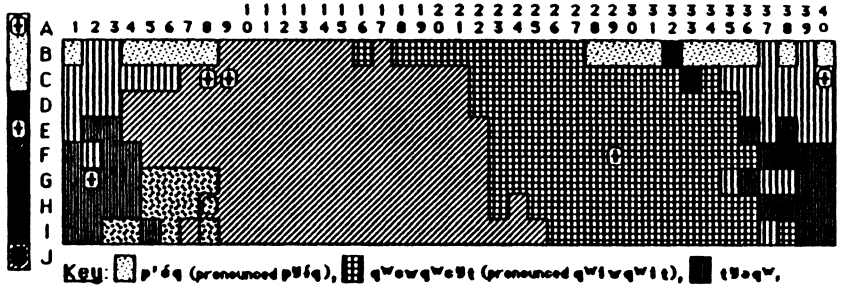


Fig. 4a. Naming ranges and foci, Shuswap, Speaker #4, Alkali, woman, age 50, 1985.

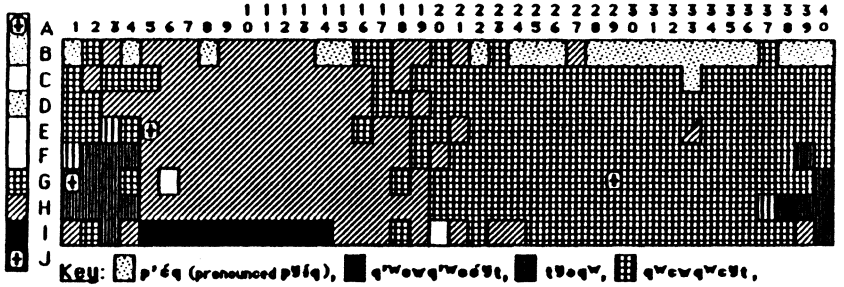
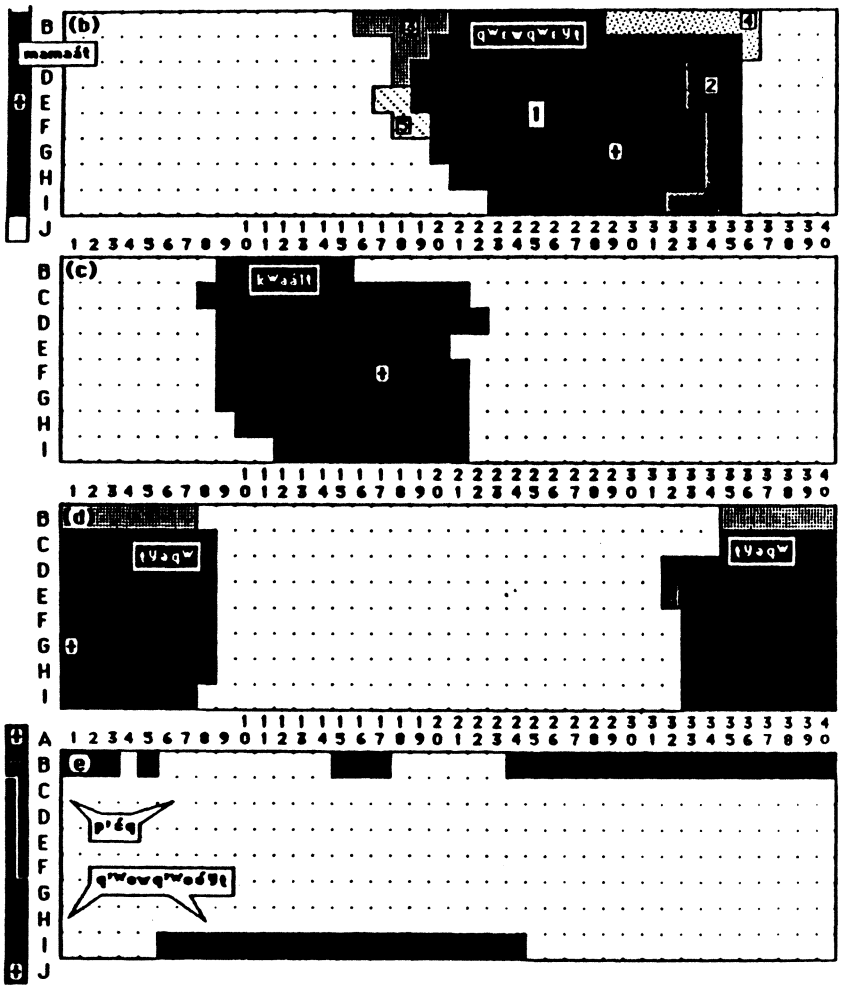
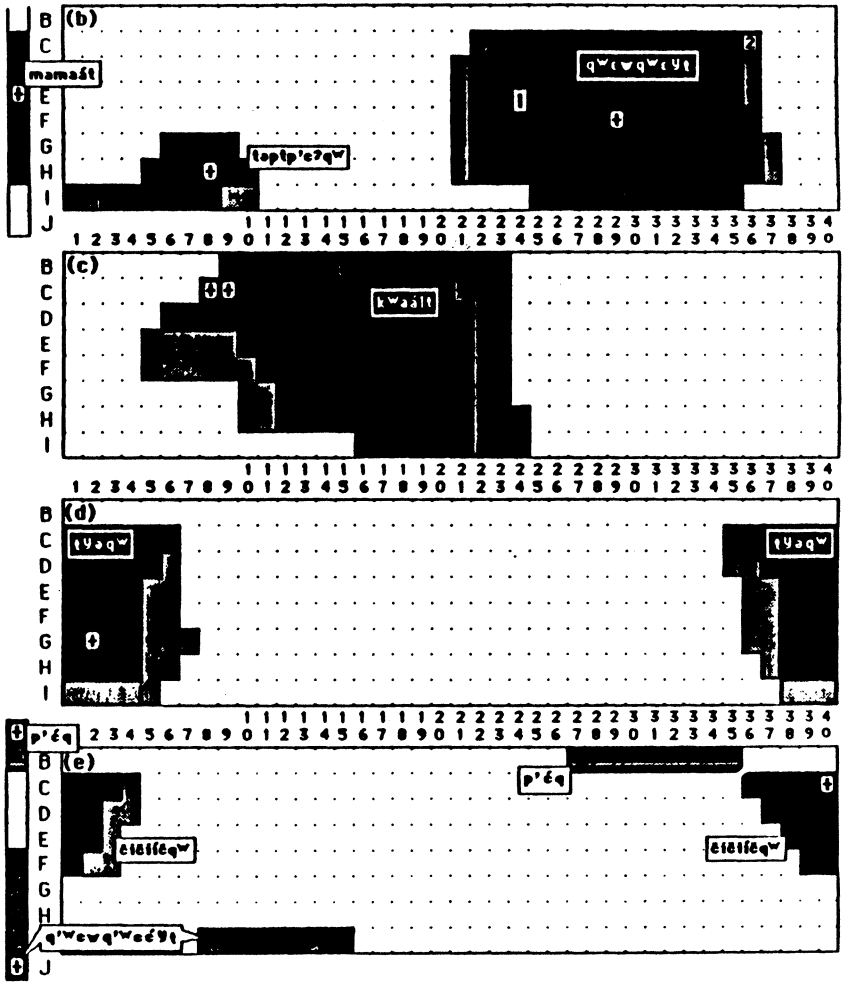


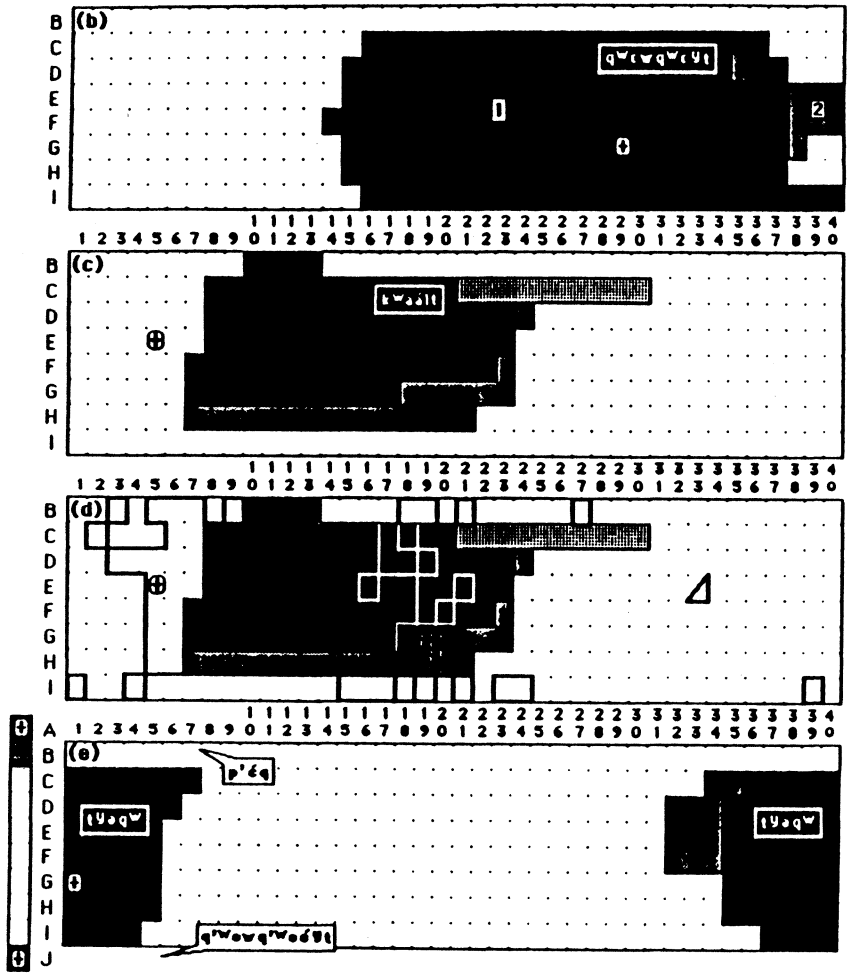
Fig. 5a. Naming ranges and foci, Shuswap, Speaker #5, Alkali Lake Indian Reserve, man, age 63, 1985.



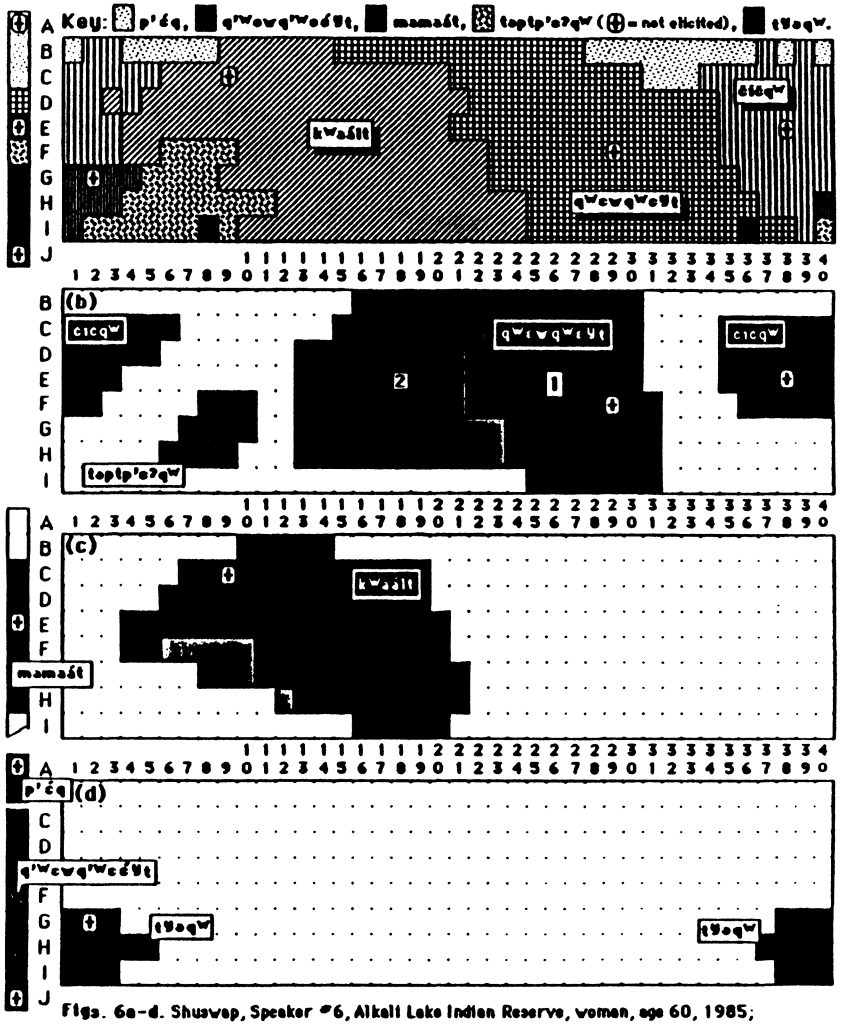
Figs. 3.b–e. Shuswap, Speaker #3; (b) mapping in five steps, (c) mapping in one step, (d) mapping in three steps, (e) two mappings in two steps each, intersecting at C–F 8.



Figs. 4b–e. Shuswap, Speaker #4; (b–e) mapping in one or two steps.



Figs. 5b–e. Shuswap, Speaker #5; (b–e) mappings in one, two, or three steps, (d)=(c) with naming range outlines superimposed from Fig. 5a.



Figs. 6a–d. Shuswap, Speaker #6, Alkali Lake Indian Reserve, women, age 60, 1985; (a) naming ranges, (b–d) mappings in one and two steps.

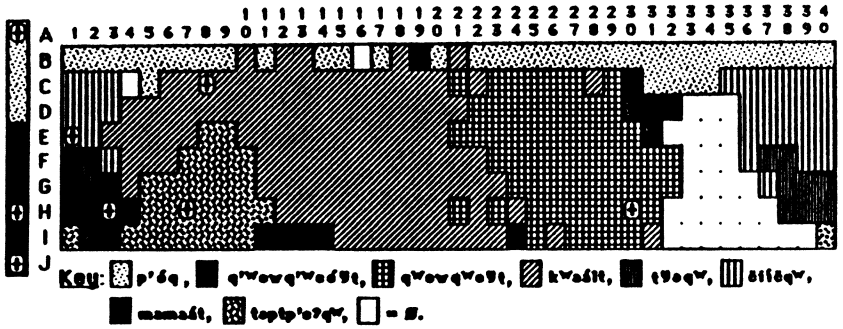
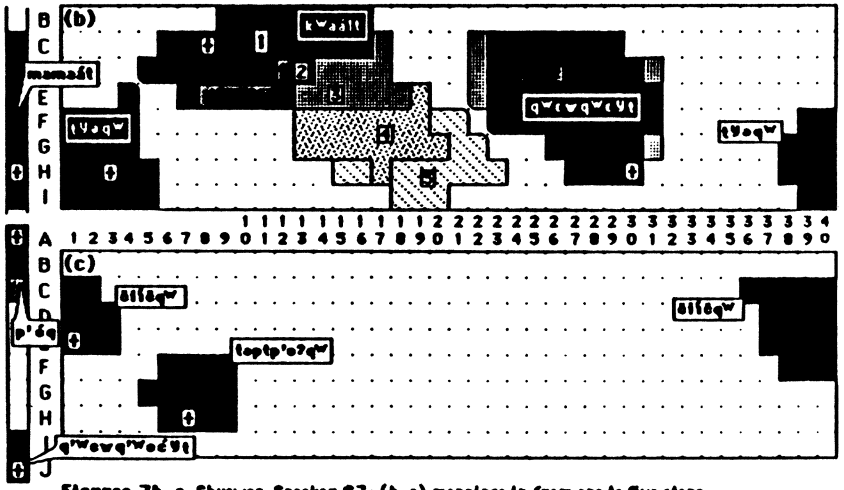
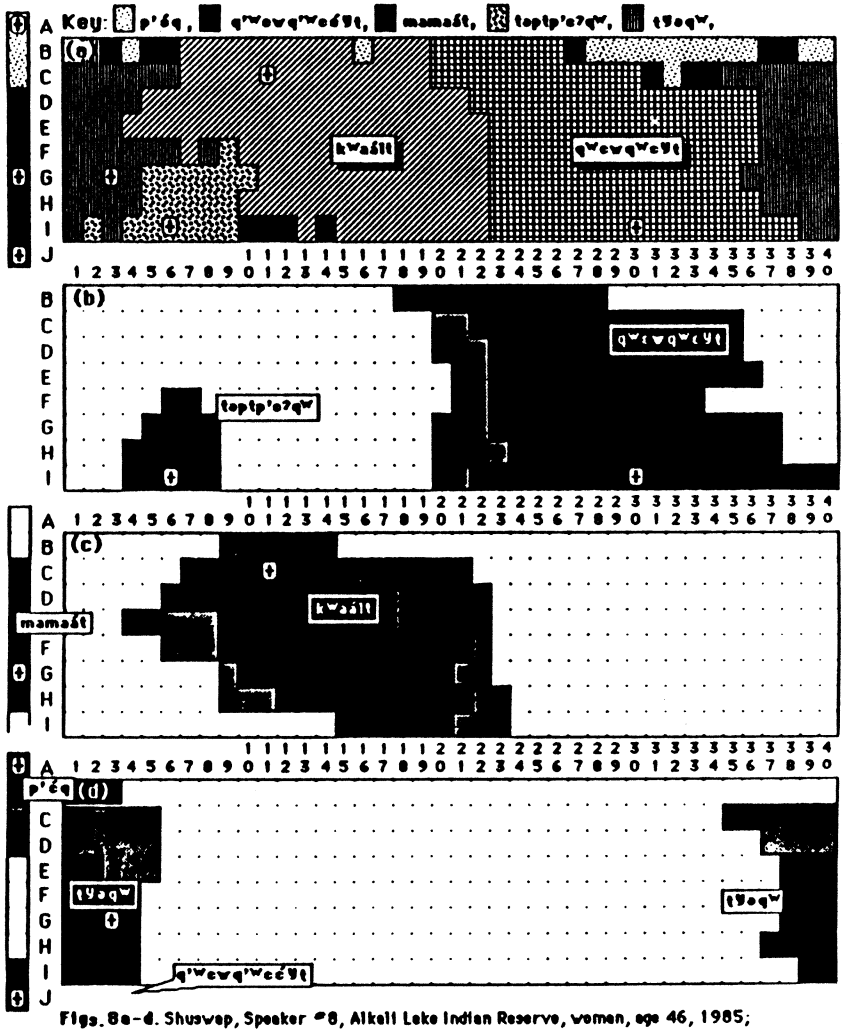


Fig.7a. Shuswap, Speaker #7, Naming ranges and foci, Alkali Lake Indian Reserve, men, age 65, 1985.



Figures 7b-c. Shuswap, Speaker #7; (b-c) mappings in from one to five steps.

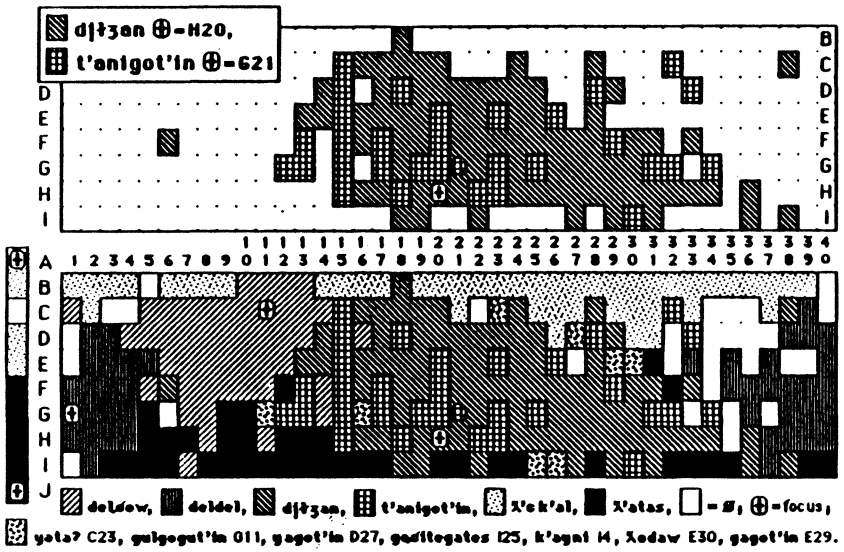


Figs. 8a-d. Shuswap, Speaker #8, Alkali Lake Indian Reserve, women, age 46, 1985; (a) naming ranges, (b-d) mappings in one and two steps.

Chilcotin

Four Chilcotin speakers completed the interview, speakers #s 9-12. Each originated from a different place, Alexis Creek (#9), Nemiah (#10), Stone Creek (#11), Anaham (#12), although some had moved as adults. Speakers #s 10-11 are mother and daughter, one monolingual and the other college-educated. The data show two major characteristics:

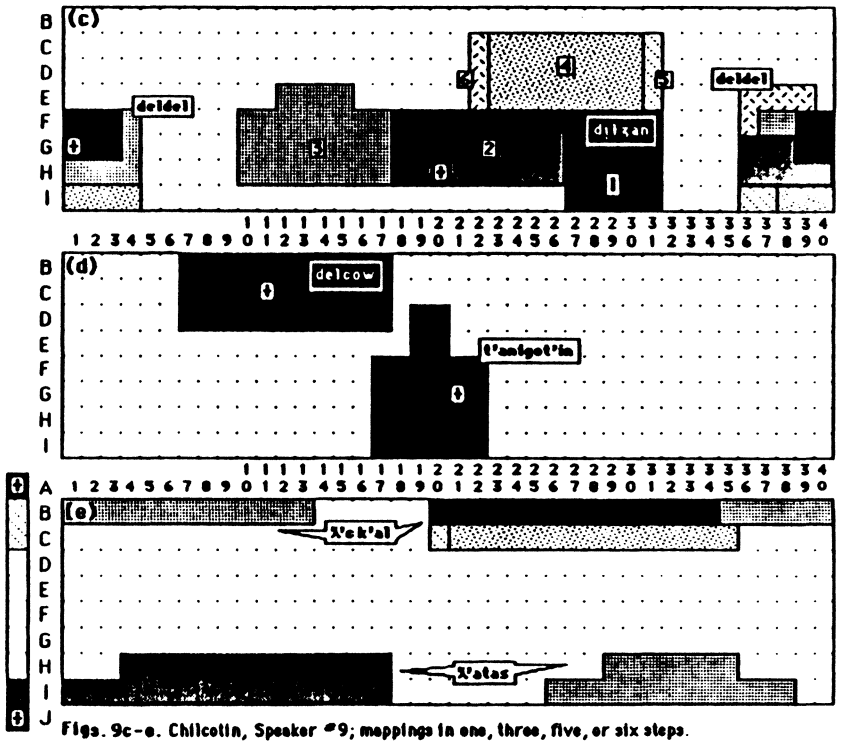
1. Speaker #9 named and mapped a green-with-blue category, but with two terms (Fig. 9a) which she focused at close proximity in green. Yet her mappings suggest that each term is strongly associated with an opposite color, green or blue (Fig. 9c-d). The coextensive semantic relationship differs from simple synonymy, and it has been observed in languages of other regions (cf. MacLaury 1986). Speaker #9 probably represents an earlier stage of color-category evolution in Chilcotin. Words that are now commonly used to name just 'green' or just 'blue' once designated a green-with-blue category, like that of Apache (cf. Fig. Øb). Speaker #10 used the green focused term to name purple at F34 and E36 (Fig. 10a). All four speakers focused the 'green' and 'blue' terms closer together than did the English speaker (Fig. Ød), which suggests that they might place greater importance on the similarity of the two colors.



Figs. 9a-b. Naming ranges and foci, Chilcotin, Speaker #9, Alexis Creek, woman, age 75±, 1985.

2. The Chilcotin speakers showed little evidence of a yellow-with-green category. However, Ray (1953), who used a purportedly replicable spectogram measurement, plotted

the Chilcotin yellow-focused term, delɬow, over "yellow-orange, orange-yellow, yellow, yellow-green, green-yellow, and green." But the present data meet Berlin and Kay's original predictions.



Figs. 9c-e. Chilcotin, Speaker #9; mappings in one, three, five, or six steps.

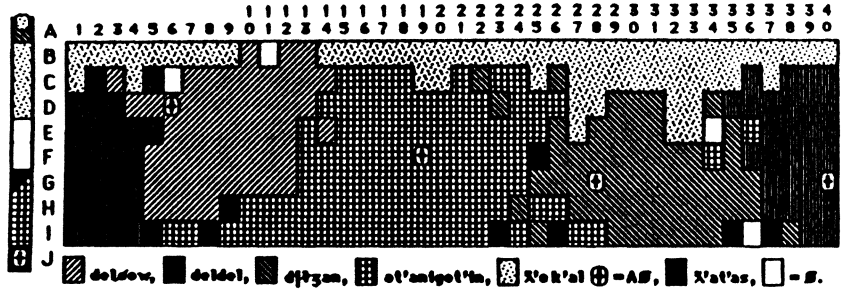


Fig. 10a. Naming ranges and foci, Chilcotin, Speaker #10, Nemiah, women, age 64, 1985.

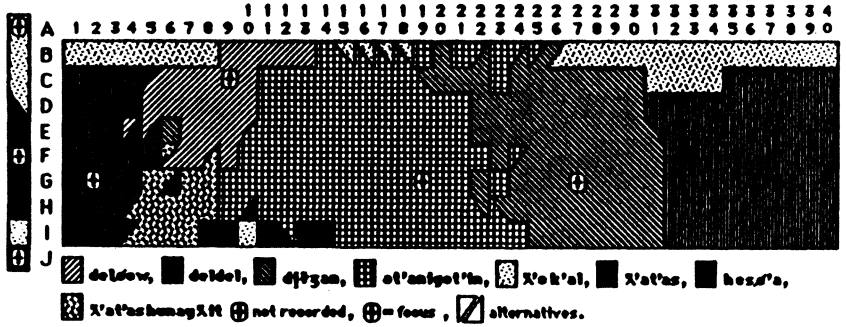


Fig. 11a. Naming ranges and foci, Chilcotin, Speaker #11, Stone Creek, women, age 31, 1985.

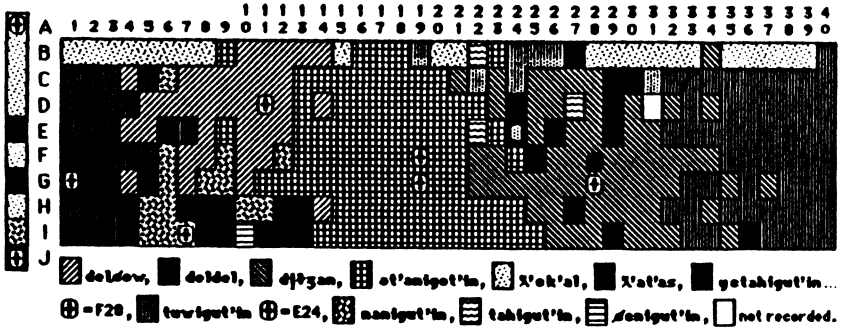
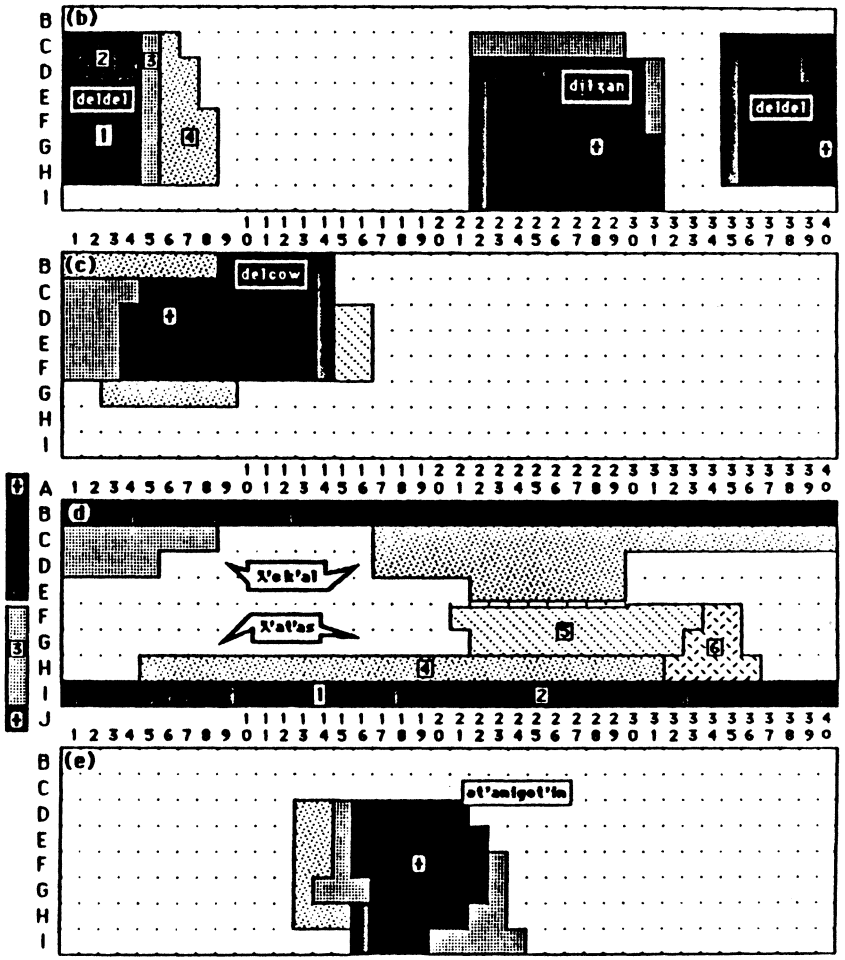
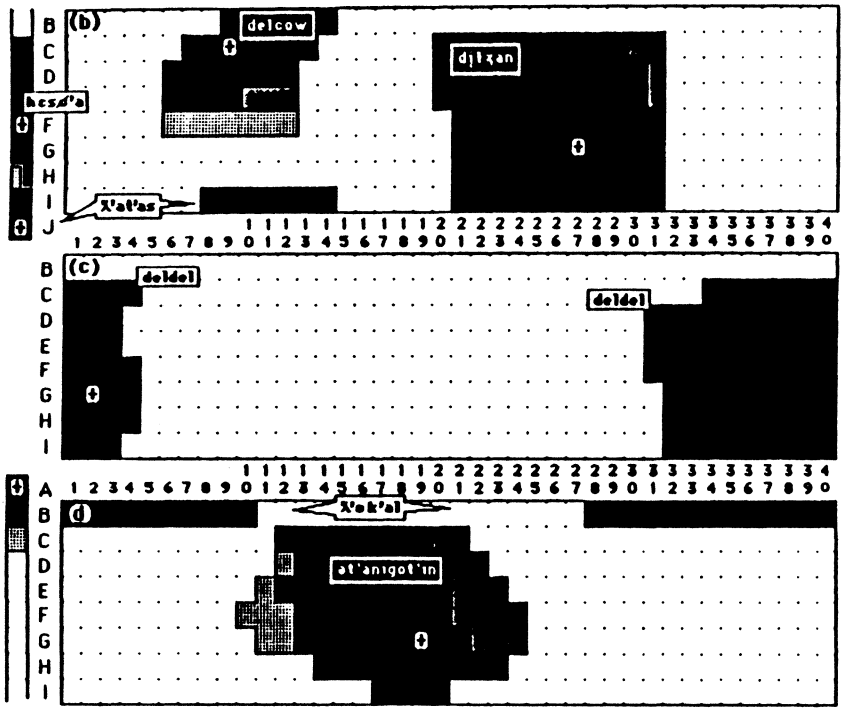


Fig. 12a. Naming ranges and foci, Chilcotin, Speaker #12, Anaham, women, age 55, 1985.

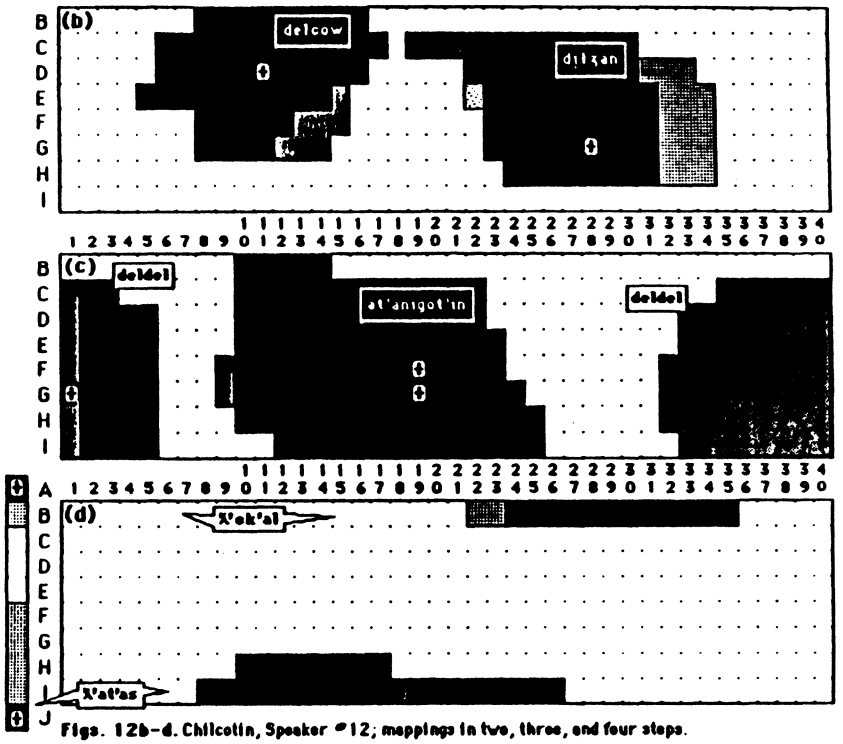


Figs. 10b-c. Chilcotin, Speaker #10; mappings, three-to-six steps.



Figs. 11b–d. Chilcotin, Speaker #11; mappings in one, two, or three steps.

Speakers #9 and #12 spoke minimal English, and speaker #10 was completely monolingual. Speaker, #11, the daughter of speaker #10, was completely bilingual, professionally trained, and had resided off of the Reserve for years. Speaker #12 was highly skilled at sewing crafts of hide and colored cloth, and her color vocabulary is commensurately embellished with secondary terms. She used her green-focused term to name two yellows at B9 and E9 (Fig. 12a), and she mapped the green-focused category to column 10, just short of the purest yellow at C9 (Fig. 12c).

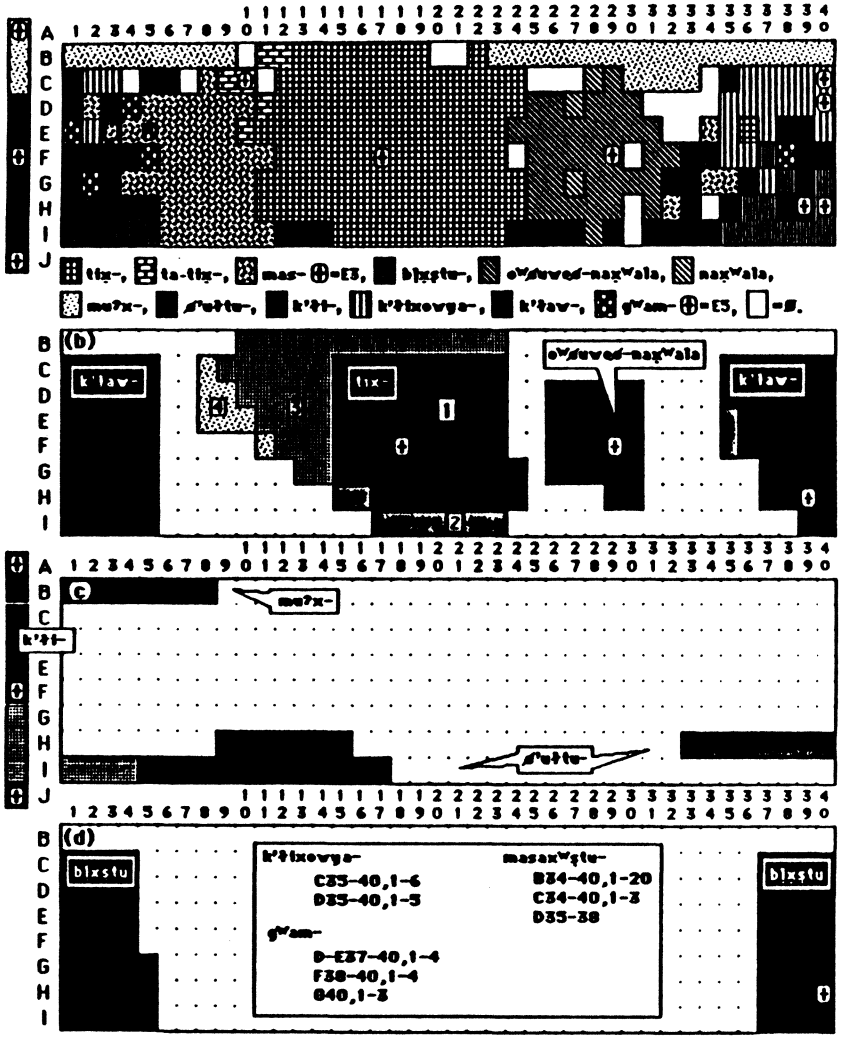


Figs. 12b–d. Chilcotin, Speaker #12; mappings in two, three, and four steps.

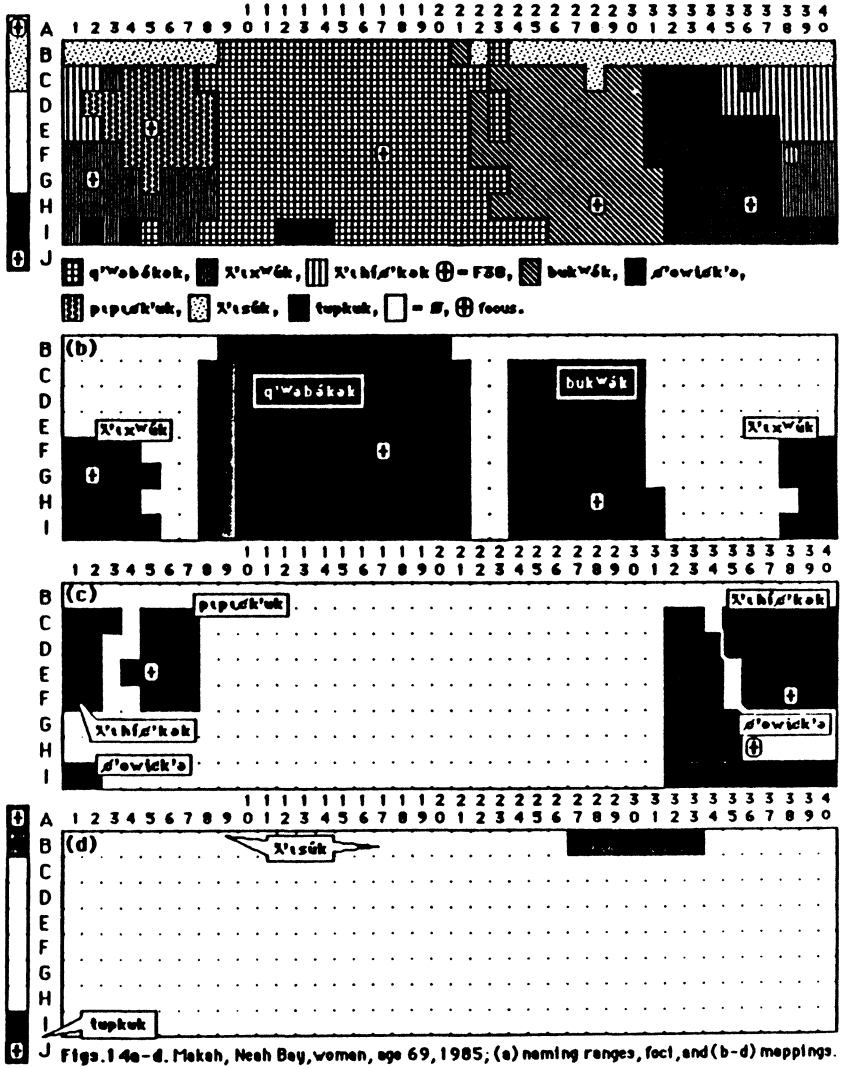
Kwak'wala and Makah

One speaker each of Kwak'wala and Makah were interviewed. They used few if any cognates to name color, although both languages are Wakashan. Both systems include a yellow-with-green category that differs from that of Shuswap in two ways:

1. The Kwak'wala and Makah yellow-with-green categories are both focused on pure green at F17. In Shuswap, only one speaker (Fig. 3a) focused the category in green; the others focused it in yellow (Figs. 1a, 2a, 4a, 6a-8a) or orange (Fig. 5a). The difference might be a result of distinct ways in which the category was innovated on the Coast and in the Interior, Stage IV → IV' versus Stage IIIa → IIIa'. Some Coast languages might have transferred a cool category from blue to yellow on the pivot of a green focus, starting at Stage IV (cool); some Interior languages might have transferred a warm category from red to green on the pivot of a yellow focus, starting at Stage IIIa (warm, cool). Such would be



Figs. 13a-d. Kwak'wala, Kemano, man, age 81, 1985; (a) naming ranges, foci, and (b-d) mappings.



Figs. 14a-d. Makah, Neah Bay, woman, age 69, 1985; (a) naming ranges, foci, and (b-d) mappings.

the case if the Coast languages were at a later stage of color-category evolution, Stage IV, when the innovation occurred. Coast languages would have been likely to have been at a later stage of color-category evolution than Interior languages, because Coast culture was wealthier and more complex.

2. Both the Kwak'wala speaker and the Makah speaker were reluctant to extend the green-focused category to yellow during the interview. Probably, both exhibit the demise of the yellow-and-green category as it retracts from yellow toward its focus. The Kwak'wala speaker always qualified the 'yellow' use of the root as ta-tix, mapped the yellowest colors with a fourth and final step, and named one of the two yellowest colors at C8-9 as mas- 'brown'. The Makah speaker extended the 'yellow-with-green' naming range just to C8-9 but no farther, and she mapped these pure yellows with her second and final "step." After mapping her first step, she asserted that C8-9 could only be called pipiɬkuk 'orange'. But as she mapped the 'orange' category, she asserted that C8-9 could only be called ƛ̓ʷəbə́kək 'yellow-with-green'; she immediately executed a second mapping of the latter category over B9-20, C-I 8-20. The difference between this mapping and the first provides the yellow second step of Fig. 14b. She could include the pure yellows in either the green-focused or orange-focused category, but she showed doubt about both.

Final Remarks

The foregoing might be useful to those who record, preserve, or communicate aboriginal culture, or to anyone who attempts to reconstruct cultural diffusion or particular proto-systems of color categorization.

Different speakers of some languages use one color term in two ways. For example, Bella Coola speakers use qʷlɬ to name 'green-with-blue' and 'yellow-with-green'. Such cases involve two categories, one old and disappearing and the other new. Findings from visual physiology suggest that such words would not name just one category of three diverse colors, as yellow-green-blue or as red-yellow-green (cf. MacLaury 1987).

Investigators who wish to use Munsell materials to describe color categorization in a particular language should write the author c/o Brent Berlin, Anthropology, UCB, 94720.

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