

HISTORICAL BASES OF NEW COSTA RICAN SIGN LANGUAGE¹

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ABSTRACT

This paper offers data related to the historical origins of New Costa Rican Sign Language (NLESCO). These data suggest that NLESCO developed as a separate language from (North) American sign Language (ASL) and from original forms of Costa Rican Sign Language (OLESCO).

The paper shows the general historical relationship of NLESCO to ASL, the historical relationship of NLESCO to OLESCO and the influences of OLESCO and ASL on the basic vocabulary of new Costa Rican Sign Language.

0.0 Introducción

This paper offers a preliminary examination of data related to the historical origins of New Costa Rican Sign Language (NLESCO)², the signing used by young deaf signers in the San Jose area of Costa Rica. The data suggest that NLESCO is a very new language that developed as a separate language from (North) American Sign Language (ASL) and from original forms of Costa Rican Sign Language (OLESCO) within the last thirty years. The data also suggest that an in-depth study of existing forms of signing in Costa Rica could reveal important insights about the nature of abrupt language change. Such information would be very useful for general historical linguistic theory. The information would also be invaluable for a specific understanding of the historical origins of other sign languages that developed abruptly in similar social situations.

This paper discusses: 1) the general historical relationship of NLESCO to ASL, 2) the general historical relationship of NLESCO to OLESCO, and 3) specific influences of OLESCO and ASL on the basic vocabulary of NLESCO.

The conclusion summarizes the findings and discusses some implications for future research.

1.0 General Historical Relationship of New Costa Rican Sign Language to (North) American Sign Language

In order to determine the possible historical relationship between NLESCO and ASL, it is necessary to compare for cognates in basic vocabulary between the two sign languages. For this paper, I am using a special vocabulary list for sign language research that I have derived from the 200 word Swadesh list. Elsewhere, I have provided extensive justification for the use of this modified list (instead of the standard Swadesh list) for sign language research (Woodward 1991).

Following classical glottochronological procedures (Gudschinsky 1956), this paper will classify language varieties as separate languages if they have less than 81% possible cognates in basic vocabulary and as dialects of the same language if they have at least 81% cognates in basic vocabulary.

Table 1 below shows the results of a comparison between ASL signs and signs elicited from a young native user of NLESCO. This native user of NLESCO is a deaf man in his mid twenties. He learned signing from his mother,

who is also deaf and a native of Costa Rica. The man was born and raised in the San Jose area of Costa Rica. Possible cognates are shaded. Items for which no sign was elicited are ~~struck out~~. Non-cognates are shown in straight print.

Table 1

NLESCO/ASL--SIGN LANGUAGE LIST 63.3% POSSIBLE COGNATES (62/98)

1. all	26. grass	51. other	76. warm
2. animal	27. green	52. person	77. water
3. bad	28. heavy	53. play	78. wet
4. because	29. how	54. rain	79. what
5. bird	30. hunt	55. red	80. when
6. black	31. husband	56. right	81. where
7. blood	32. ice	57. river	82. white
8. child	33. if	58. rope	83. who
9. count	34. kill	59. salt	84. wide
10. day	35. laugh	60. sea	85. wife
11. die	36. leaf	61. sharp	86. wind
12. dirty	37. lie	62. short	87. with
13. dog	38. live	63. sing	88. woman
14. dry	39. long	64. sit	89. wood
15. dull	40. louse	65. smooth	90. worm
16. dust	41. man	66. snake	91. year
17. earth	42. meat	67. snow	92. yellow
18. egg	43. mother	68. stand	93. full
19. fat/grease	44. mountain	69. star	94. moon
20. father	45. name	70. stone	95. brother
21. feather	46. narrow	71. sun	96. cat
22. fire	47. new	72. tail	97. dance
23. fish	48. night	73. thin	98. pig
24. flower	49. not	74. tree	99. sister
25. good	50. old	75. vomit	100. work

Table 1 shows that there is a 63.3% rate (62/98 pairs) of possible cognates between ASL and NLESCO. This percentage indicates that ASL and the variety of NLESCO used by younger signers in San Jose are distinct, but very closely related historically. This percentage is quite similar to the rate of cognates between two other closely related sign languages: American Sign Language and French Sign Language. In an earlier study using the same vocabulary list (Woodward 1978), the rate of cognates between modern French Sign Language and modern American Sign Language was 61.0% (47/77 pairs).

2.0 The General Historical Relationship of New Costa Rican Sign Language to Original Costa Rican Sign Language

In order to determine the possible historical relationship between NLESCO and OLESCO,

this section will compare for cognates in basic vocabulary between the two sign languages, using the special vocabulary list for sign language research discussed in the previous section.

Table 2 below shows the results of a comparison between a native user of NLESCO and a native user of OLESCO. The native user of NLESCO is same person discussed in section 1, the deaf man in his mid twenties who learned signing from his mother, who is also deaf. The native user of OLESCO is the deaf man's mother, a deaf 44-year-old native of Costa Rica. Possible cognates are shaded. Items for which no sign was elicited are ~~struck out~~. Non-cognates are shown in straight print.

Table 2 shows that there is a 41.8% rate (40/98 pairs) of possible cognates between OLESCO and NLESCO. This percentage indicates that Original Costa Rican Sign Language and the variety of Costa Rican Sign

Table 2

OLESCO/NLESCO--SIGN LANGUAGE LIST
41.8% POSSIBLE COGNATES (41/98)

1. all	26. grass	51. other	76. warm
2. animal	27. green	52. person	77. water
3. bad	28. heavy	53. play	78. wet
4. because	29. how	54. rain	79. what
5. bird	30. hunt	55. red	80. when
6. black	31. husband	56. right	81. where
7. blood	32. ice	57. river	82. white
8. child	33. if	58. rope	83. who
9. count	34. kill	59. salt	84. wide
10. day	35. laugh	60. sea	85. wife
11. die	36. leaf	61. sharp	86. wind
12. dirty	37. lie	62. short	87. with
13. dog	38. live	63. sing	88. woman
14. dry	39. long	64. sit	89. wood
15. dull	40. louse	65. smooth	90. worm
16. dust	41. man	66. snake	91. year
17. earth	42. meat	67. snow	92. yellow
18. egg	43. mother	68. stand	93. full
19. fat/grease	44. mountain	69. star	94. moon
20. father	45. name	70. stone	95. brother
21. feather	46. narrow	71. sun	96. cat
22. fire	47. new	72. tail	97. dance
23. fish	48. night	73. thin	98. pig
24. flower	49. not	74. tree	99. sister
25. good	50. old	75. vomit	100. work

Language used by younger signers in San Jose are distinct, and not very closely related historically. In fact, it is clear from this comparison that New Costa Rican Sign Language is much more closely related to American Sign Language than it is to Original Costa Rican Sign Language.

The next section examines specific influences of OLESCO and ASL on the basic vocabulary of NLESCO.

3.0 Specific Influences of Original Costa Rican Sign Language and (North) American Sign Language on the Basic Vocabulary of New Costa Rican Sign Language

Close examinations of the basic sign vocabulary in NLESCO, OLESCO and ASL suggests that basic sign vocabulary in NLESCO comes from: 1) both OLESCO and ASL, 2) solely from OLESCO, 3) solely from ASL, 4) sources other than OLESCO or ASL.

3.1 NLESCO Signs That Come From Both OLESCO and ASL

Woodward (1990) found a 26.5% rate (26/98 pairs) of possible cognates between OLESCO and ASL. This percentage suggests that OLESCO and ASL are distinct languages that are only minimally related historically. The reason for the existence of the cognates between ASL and OLESCO is probably a result of indirect influences via Spanish Sign Language and French Sign Language. The influence of French Sign Language on ASL is well documented. There is some likely influence of Spanish Sign Language on Original Costa Rican Sign Language as well. Prior to the establishment of deaf education in Costa Rica in 1940, some Costa Rican deaf people received their education in Spain, where they probably picked up some Spanish Sign Language and brought it back to Costa Rica where it mixed with indigenous signing in the Hispanic segment of San Jose.

The great majority of signs that are cognate between OLESCO and ASL were retained by

NLESCO. Table 3 lists the NLESCO basic vocabulary signs that come from shared vocabulary in OLESCO and ASL.

Table 3

NLESCO SIGNS THAT COME FROM BOTH OLESCO &
ASL
SIGN LANGUAGE LIST

1. bird	14. other
2. blood	15. rain
3. child	16. smooth
4. earth	17. snow
5. egg	18. sun
6. fat/grease	19. thin
7. fire	20. vomit
8. good	21. water
9. heavy	22. wide
10. hunt	23. wife
11. husband	24. wind
12. laugh	25. worm
13. old	

3.2 NLESCO Signs That Come Solely From OLESCO

In addition to the signs that come from both OLESCO and ASL, NLESCO has some signs that are cognate with OLESCO but are not cognate with ASL. Table 4 lists the NLESCO basic vocabulary signs that come solely from OLESCO.

Table 4

NLESCO SIGNS THAT COME SOLELY FROM OLESCO
SIGN LANGUAGE LIST.

1. count	9. sharp
2. dog	10. sing
3. leaf	11. stone
4. louse	12. warm
5. mother	13. what
6. night	14. when
7. river	15. yellow
8. sea	16. moon

3.3 NLESCO Signs That Come Solely From ASL

In addition to the signs that come from both OLESCO and ASL and that come solely from OLESCO, NLESCO has a number of signs that

are cognate with ASL but are not cognate with OLESCO. Table 5 lists the NLESCO basic vocabulary signs that come solely from ASL.

Table 5

NLESCO SIGNS THAT COME SOLELY FROM ASL
SIGN LANGUAGE LIST

1. all	11. how	20. play	29. who
2. animal	12. live	21. red	30. with
3. bad	13. long	22. right	31. year
4. because	14. meat	23. rope	32. full
5. day	15. name	24. short	33. brother
6. die	16. narrow	25. sit	34. cat
7. dirty	17. new	26. stand	35. dance
8. dry	18. not	27. where	36. sister
9. dust	19. person	28. white	37. work
10. fish			

3.4 NLESCO Signs That Appear to be Unique to NLESCO

Thus far, this paper has indicated that basic sign vocabulary in NLESCO comes from OLESCO, from ASL, and from both OLESCO and ASL. These sources do not account for all the NLESCO signs in the basic vocabulary list used for this study. There are some signs in the vocabulary list that do not appear to be related to either OLESCO or ASL. These signs appear to be unique to NLESCO. Table 6 lists these NLESCO basic vocabulary signs that appear to be unique to NLESCO.

Table 6

NLESCO SIGNS THAT APPEAR TO BE UNIQUE TO
NLESCO
SIGN LANGUAGE LIST

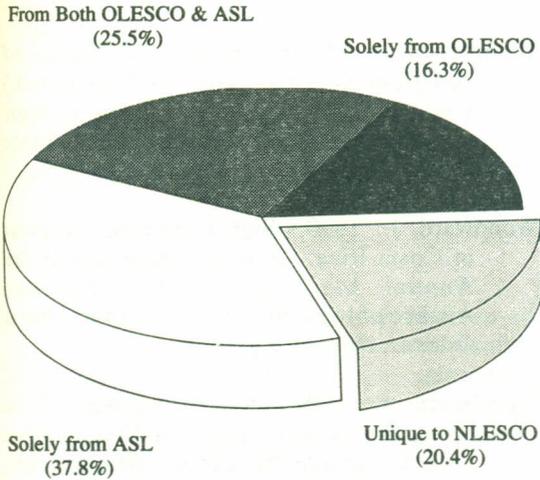
1. black	6. green	11. man	16. tail
2. father	7. ice	12. mountain	17. wet
3. feather	8. if	13. salt	18. woman
4. flower	9. kill	14. snake	19. wood
5. grass	10. lie	15. star	20. pig

4.0 Conclusión

This paper has demonstrated that NLESCO, the signing used by young deaf signers in the San

Jose area of Costa Rica, is a distinct language from ASL and from OLESCO. The paper has also demonstrated that basic sign vocabulary in NLESCO comes from several sources. The pie-chart figure³ below graphically represents the origins of basic vocabulary signs in NLESCO.

Origins of Basic Vocabulary Signs in Nlesco



The above chart illustrates some interesting information. Some of the information would be expected in normal language change, and some would not. As expected, the great majority of signs that are cognate between OLESCO and ASL were retained by NLESCO. Since ASL and OLESCO are only slightly related, only one-fourth of the basic sign vocabulary in NLESCO comes from both OLESCO and ASL.

There are a number of facts that would not be expected in normal language change. Glottochronological studies (Gudschinsky 1956) posit an 80.5% average rate of retention of in basic vocabulary per thousand years as a result of normal language change. Yet, within one generation (between parent and child), NLESCO shows only a 41.8% rate of retention of OLESCO vocabulary. In addition, when we subtract the 25.5% of NLESCO vocabulary that is cognate to both OLESCO and ASL from the 41.8% figure above, we see that only 16.3% of the basic vocabulary in NLESCO comes solely from OLESCO. More than twice that percentage (37.8%) of basic vocabulary was "borrowed" from ASL in less than thirty years. While

borrowing in general vocabulary might reach this rate (although probably not in thirty years), it is very unusual to find such a high rate of borrowing in basic vocabulary. Gudschinsky (1956) points out that in 2,000 years of accumulated borrowing, English has perhaps 50% borrowed correspondences in general vocabulary, but only 6% in basic vocabulary.

In addition to the information discussed above, the 20.4% percent of the basic vocabulary in NLESCO that does not appear to come from OLESCO or ASL also creates an interesting problem. Where does this vocabulary come from? It may come from other varieties of Costa Rican Sign Languages that have not been investigated. It may also be true that many older Costa Rican Sign Language compounds were simplified in different ways by different generations. It may be that these signs were created out of a process of creolization of ASL with various forms of OLESCO.

An in-depth sociolinguistic study of Costa Rican Sign Language varieties is needed before explanations can be provided for the abrupt change between OLESCO and NLESCO. This sociolinguistic study must look not only at a number of different age groups but also at a number of different regional dialects of Costa Rican Sign Language, including Limon and Guanacaste (Woodward 1990). Such an in-depth sociolinguistic study of Costa Rican Sign Language varieties could reveal important information not only about the historical bases of NLESCO but also about the historical bases of other sign languages that also developed out of abrupt historical contact and change.

For example, there are a number of striking similarities between the development of modern ASL from older forms of indigenous sign languages in the United States and from French Sign Language and the development of modern Costa Rican Sign Language from older forms of indigenous sign languages in Costa Rica and from ASL. In 1978, modern ASL was found to have a 61.0% rate of cognates in basic vocabulary with modern FSL, 161 years from initial contact (Woodward 1978). The present study shows that NLESCO was found to have a 63.3% rate of cognates with modern ASL, approximately 30 years after initial contact. It is particularly interesting to note that the earlier comparative study of ASL and FSL (Woodward 1978) pointed

out that most of the differences in basic vocabulary between ASL and FSL occurred within 18 to 52 years after FSL was brought to the United States.

While it is clearly too late to recover any more data on the exact historical bases and the exact historical development of ASL, there still is time to empirically document the historical bases and the historical development of NLESCO. This documentation is important not only for a specific understanding of NLESCO but also for an understanding of the historical bases and the historical development of ASL and other sign languages that developed out of abrupt language change.

In closing, it should be noted that this documentation should begin as soon as possible. It is quite likely that varieties of OLESCO will be extinct within another generation.

Notes

1. The production of this paper was supported in part by PROGRESO and by Sign Language Research, Inc.
2. Many people from Costa Rica refer to this type of signing as LESCO (*Lenguaje de Señas de Costa Rica*). This paper distinguishes between NLESCO (New Costa Rican Sign Language) and OLESCO (Original Costa Rican Sign Language). This paper will demonstrate that NLESCO and OLESCO are distinct languages.

3. I wish to thank Sue Hotto of the Gallaudet Research Institute's Center for Assessment and Demographic Studies for her help in constructing this pie-chart.

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