Marital migration and distribution of surnames in Orozco Vallley (Basque Country)

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RESUMO

Estuda-se a distribuição geográfica dos apelidos nesta comunidade rural do país basco. Os apelidos bascos são característicos, claramente inconfundíveis e a sua distribuição é determinada pela migração marital. A análise factorial mostra diferenças nas listas de apelidos característicos e o padrão de migração marital.

Palavras-chave: Migração marital; Distribuição de apelidos; Análise factorial; Critério de Ward.

ABSTRACT

The geographical distribution of surnames in this rural community of the Basque Country has been studied. The basque surnames are characteristic, easy to recognize and their distribution is modified by the marital migration. The Factorial Analysis shows the differences between the surnames lists, the characteristic surnames and the pattern of marital movement.

Key-words: Marital migration; Surnames distribution; Factorial analysis; Ward's criterion.

INTRODUCTION

The lists of surnames are frequently used in the study of human biology. «The general purpose of surname studies in human biology is to measure the different probabilities of finding the same surnames in different times, places (...)» (LASKER, 1985).

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However, methods used until now to estimate relationship between populations have not always responded to the aims of the study.

The factorial Analysis of correspondences, with the X^2 distance, has been proposed by Luna *et al* (4th Congress of the Spanish Antropological Society, 1985) to study the surnames lists.

The purpose of this work is to find out the degree of similarity between places and their characteristic surnames in the Orozco Valley.

Orozco is a typical valley of the Basque Country, with four parishes: Ibarra, S. Martín Albizu, Zubiaur and Murueta. Ibarra is the most inner parish, and Murueta the most other one. Very closed to Orozco are the valleys of Arratia and Cantabrico-alavés that we have also studied (Fig. 1). The surnames lists in those last valleys are not exhaustive. We have only taken into account those of the persons married in Orozco.

The exogamy rate at the Orozco Valley has reached a high level (over the 50%) in the studied period (1880-1979) (MATEO *et al*, 1985).

MATERIAL AND METHODS

We have studied the first and second surnames of the brides and bridegrooms and also their place of birth in the 1801 marriages celebrated in each of the four parishes in Orozco (1880-1979).

The century has been divided in four periods: 1880-1904, 1905-1929, 1930-1954 and 1955-1979.

The surname frequencies matrix has been analyzed by the Factorial Analysis of correspondences (Programme S. P. A. D.: CLAPIER, 1983; LEBART *et al*). Fifty two surnames with a frequency greater or equal to 1% are considered.

From the factor matrix, a series of stable groups has been established. The Ward's criterion has been used (LEBART *et al*, 1982):

$$d\,(a,\,b) = \frac{m_a + m_b}{m_a + m_b} \partial\,[(g_a,\,g_b)]^2$$

in which d (a, b) is the distance between a, b.
        m_a and m_b are the weights.
        g_a and g_b are the centers of gravity.
and ∂ is the euclidian distance.

RESULTS AND DISCUSSION

The Factorial Analysis shows that the variance is widely distributed in a great number of factors; for instance, the first ten factors explain the 80% of the variance. However we only study the first three factors because they are
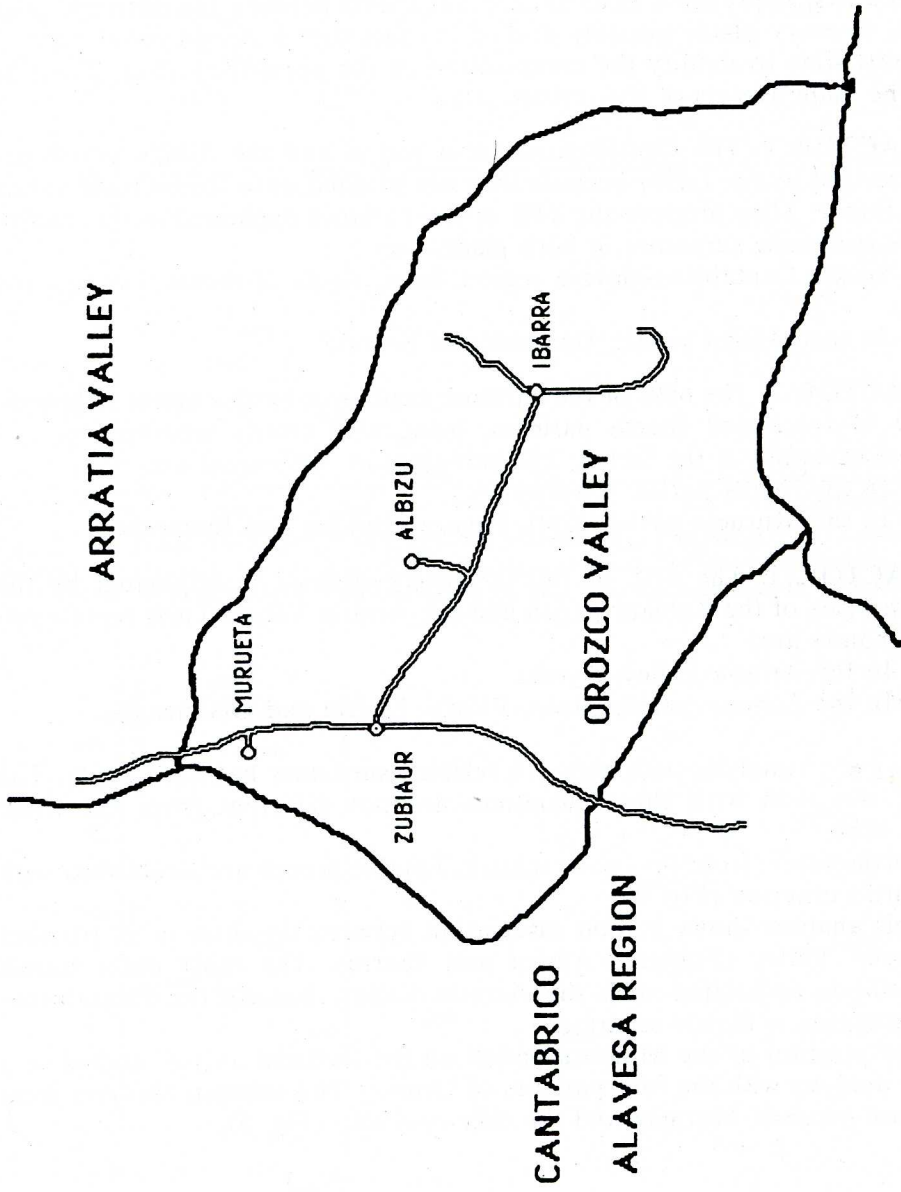
Fig. 1 — The parishes of Orozco Valley (Murueta, Zubiaur, Albizu amd Ibarra), the Arratia Valley and the Cantábrico alavesa region

the ones which show the variance between populations. They explain 41% of variance.

The criterion for the surname selection is based on the minimal euclidian distance between surname and place considering the three factors altogether.

In a first approach a clear association apears between the different generations in every place, possibly due to the fact that a period of 25 years is too short time to modify the composition of the population (Fig. 2 and 3).

The main aspects of the factors are:

FACTOR 1. The Cantábrico-alavesa region and the Albizu parish are characterized by the factor because they are situated onto the extreme values of the factor. They produce the 84% of the variance explained in this factor. The characteristic surnames in both places are:
— In the Cantábrico-alavesa region: Isasi, Eguía, Zubiaur, Urquijo and López.
— In ther Albizu parish: Ugarriza and Salvide.

FACTOR 2. The 66% of the variance explained by this factor is generated by Murueta and Ibarra parishes, being also clearly separeted on the opposite extremes of the factor. The surnames in these areas are:
— In the Ibarra parish: Olivares.
— In the Murueta parish: Goti, Pagazaurtundua and Ibarreche.

FACTOR 3. The 67% of the variance explained is originated by the surnames lists of the Zubiaur parish and the Arratia Valley. Their representative surnames are:
— In the Arratia Valley. Ayesta.
— In the Zubiaur parish: Goiri, Picaza, Ugarte and Olabuenaga.

A further analysis with these 16 selected surnames has been made. The factors obtained with these surnames are not different from the three former ones.

Furthermore, from the factor matrix, 7 stable groups are established with the Ward's criterion (Fig. 4).

This analysis shows a good association between the three inner parishes of Orozco Valley (Zubiaur, Albizu and Ibarra). The most outer parish (Murueta) is associated with the Arratia Valley. Finally the Cantábrico--alavesa region is clearly separated.

The position of the Murueta parish on the factorial axis is studied in a further analysis with the four parishes of Orozco. This analysis shows a great difference between Murueta and the other parishes (Fig. 5).

CONCLUSIONS

The Factorial Analysis of correspondences allows to differenciate populations using surnames lists. This study realized in longer periods of time
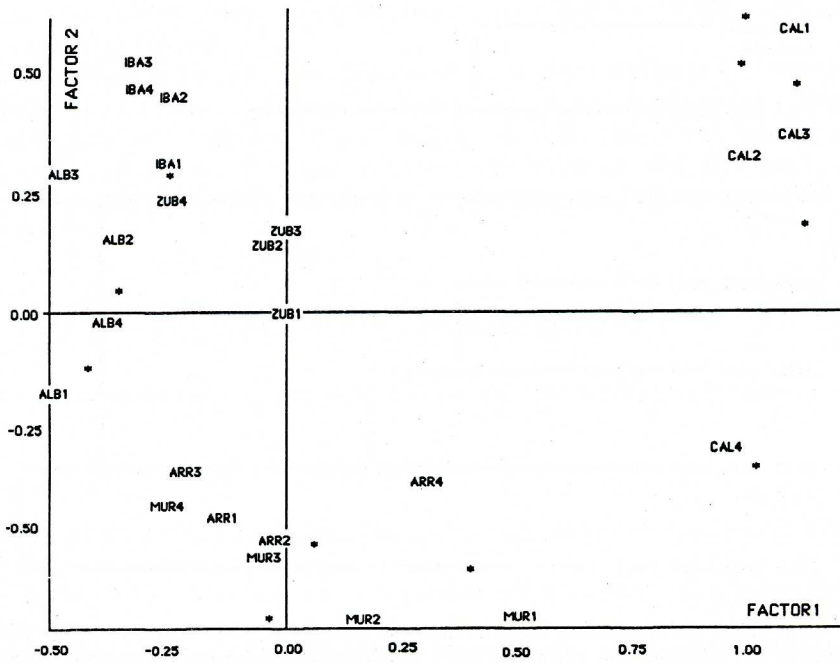
Fig. 2 — Factorial Analysis (factors 1 and 2). Localities: Mur (Murueta), Zub (Zubiaur), Alb (Albizu), Iba (Ibarra), Arr (Arratia), Cal (Cantábrico alavesa). Periods: 1 (1880-1904), 2 (1905-1929), 3 (1930-1954), 4 (1955-1979) The simbols * are the characteristic surnames
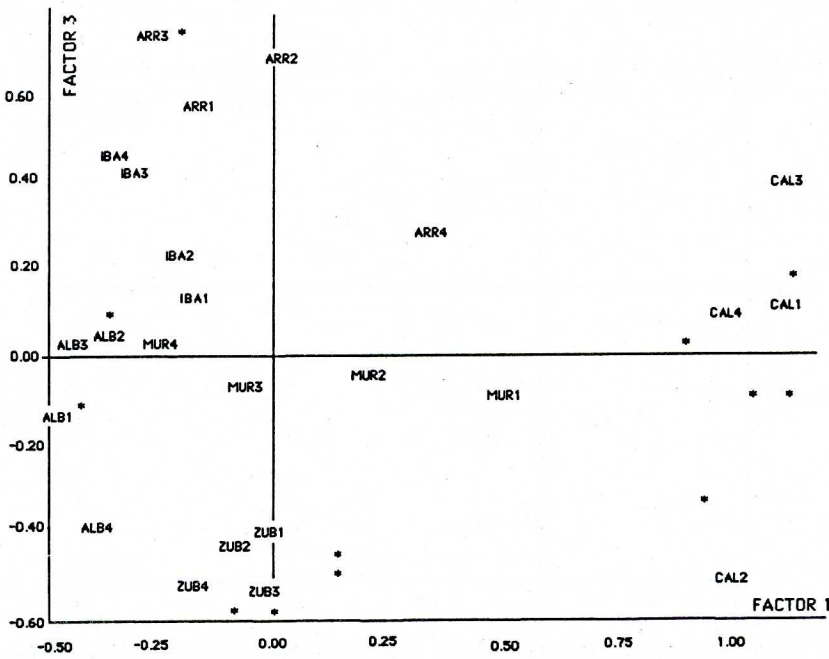

Fig. 3 — Factor Analysis (factors 1 and 3)

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ALB3, ALB2  ***********************
I = 0.109                         *
                                  *
                                  *
IBA4, IBA3, IBA2, IBA1  *********************************
I = 0.907                                              *
                                                       *
                                                       *
ZUB4, ZUB3, ZUB2, ZUB1, ALB4, ALB1  ***********************************
I = 1.770                                                              *
                                                                       *
                                                                       *
MUR3, MUR2, MUR1  *****************  *****                              *
I = 0.139                               *                               *
                                        *                               *
ARR4, MUR4  ***********************************                         *
I = 0.465                             *                                 *
                                      *                                 *
                                      *                                 *
ARR3, ARR2, ARR1  ************************************************************
I = 2.157                                                                    *
                                                                             *
                                                                             *
CAL4, CAL3, CAL2, CAL1  ******************************************************
I = -----
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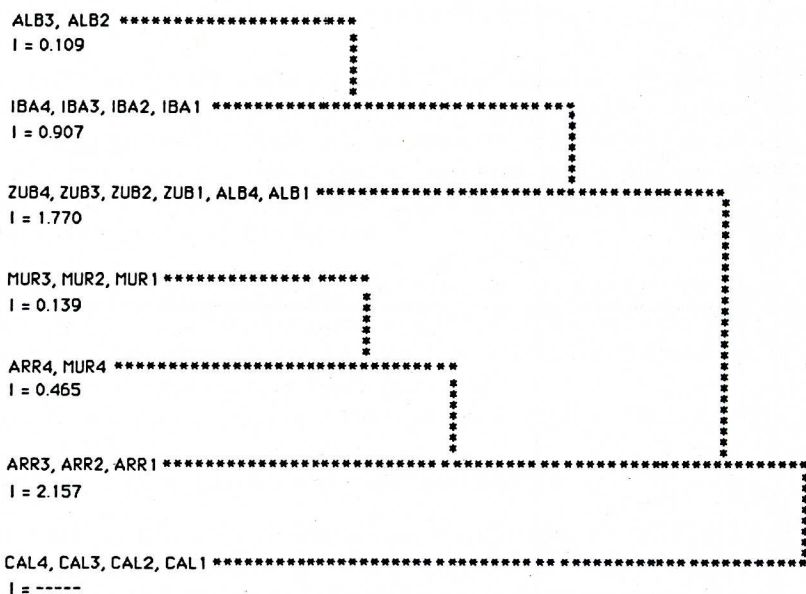
Fig. 4 — The seven stable groups (Ward's criterion). Localities: Mur (Murueta), Zub (Zubiaur), Alb (Albizu), Iba (Ibarra), Arr (Arratia) and Cal (Cantábrico alavesa). Periods: 1 (1880-1904), 2 (1905-1929), 3 (1930-1954), 4 (1955-1979)
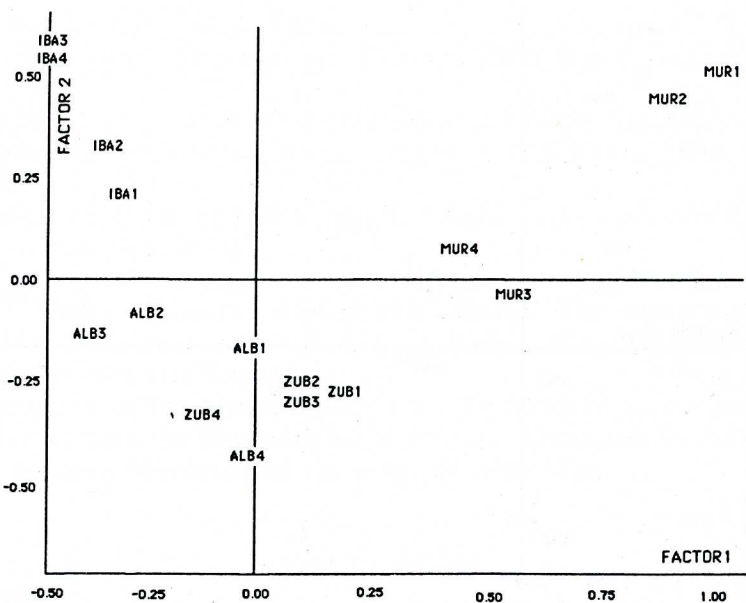

Fig. 5 — Factorial Analysis (factors 1 and 2). Localities: Mur (Murueta), Zub (Zubiaur), Alb (Albizu), Iba (Ibarra). Periods: 1 (1880-1904), 2 (1905-1929), 3 (1930-1954), 4 (1955-1979)

could facilitate the knowledge of the degree of variation in the homogeneity between the populations.

The analysis of the Orozco Valley shows a great uniformity between the inner parishes: Zubiaur, Albizu and Ibarra. The most outer parish (Murueta) is influenced in its structure by the migration with the Arratia Valley. The Ward's criterion shows a closed relationship between the Orozco and the Arratia Valleys. The Cantábrico-alavesa region appears clearly separated using this method.

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