

## ISONYMY AND THE STRUCTURE OF THE PROVENÇAL-ITALIAN ETHNIC MINORITY

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**Summary.** Surnames were obtained for the second half of the 20th century from civil and religious marriage registers on fifteen Provençal-Italian and five Italian villages of Cuneo Province, Italy. To insert in the analysis an outward comparison, surnames from two Italian villages of Turin Province, one parish of Turin, one village of Alessandria Province and one village of Asti Province were also collected. Ethnicity does not seem to be the main factor affecting the present genetic structure of the Provençal-Italians. They are an open community, and evidence the end of the genetic isolation of the alpine populations.

### Introduction

People who constitute an ethnic community share characteristic cultural traits that involve language, religion and patterns of social interaction; they express a feeling of unity and solidarity; and always believe they share a common origin and history, but very often this is only a myth. Following the old-fashioned opinion that language is the feature that differentiates humankind from all other animals, many scholars maintain that language is the strongest ethnic tie. Language would be the natural way of thinking, of communicating and of associating people to each other and so it would be the main social tie (Smith, 1981). The construction of ethnic identity does not need any biological contribution. However, the sociocultural features of each ethnic group may influence its genetic structure through marriage and reproduction. Anthropology is interested in the study of the genetic variation within and between populations, and in the factors that contribute to maintaining or reducing such a genetic variation. Recent anthropological discoveries have shown that human biological races do not exist, and that ethnic groups are not static entities (Lewontin, 1972, 1974; Littlefield *et al.*, 1982; Cavalli-Sforza *et al.*, 1994; Lieberman & Reynolds,

1996; Biondi & Rickards, 2002; Kaszycka & Štrkalj, 2002; Kaszycka & Strzako, 2003). Pure ethnic groups, in the sense of cultural and/or genetic homogeneous groups of people, do not exist in our species today, nor is there any evidence that they have ever existed in the past (Bogin, 1993).

The ethnic mosaic that constitutes the alpine Italian population is of great interest in elucidating the role of ethnicity in anthropological studies, and the communities of Provençal language settled in the north-western area – that were originally from southern France – may be used as a case study. The history of the populating of Italy has been characterized by the immigration of peoples originating from diverse European areas that occupied neighbouring districts to those inhabited by groups that had already lived in more ancient times on the Italian peninsula. Following the decline of the Roman Empire, peoples speaking German and Slovenian languages slowly penetrated Italy from the north and the east. Today they still represent the southernmost ramification of numerically important populations living mostly beyond the Alps. In more recent times, peoples speaking Albanian, Catalan, Croatian, German and Greek languages immigrated. Other communities of Slovenian, German, Ladin, French and Provençal languages have been included in the Italian territory by the expansion of the political borders after the First World War (Salvi, 1975). The present population of Italy is composed of a majority speaking the Italian language, or one of its many dialects, whose formation began with the Roman domination, and of groups speaking non-Italian language. The groups of non-Italian language, ethnolinguistic minorities, live in well-defined areas in some regions of the Italian peninsula. (Italy is administratively subdivided into regions; each region is subdivided in provinces; and each province is subdivided in communes.)

The formation of the Provençal language goes back to the 10th century, with the rise of an autochthonous population mainly living in southern France. At present, two small Provençal communities live in northern Spain and north-western Italy. The 80 Italian villages speaking Provençal are located in the alpine valleys of the two western Provinces of Piedmont: Cuneo and Turin (Fig. 1). They constitute an Italian ethnolinguistic minority and a culturally very homogeneous population. However, their cultural and linguistic distinctiveness does not seem to be able to prevent intermarriages with the surrounding communities of Italian language (Salvi, 1975). The Provençals of Cuneo Province live in 51 villages located in the valleys of Corsaglia, Ellero, Pesio, Vermenagna, Gesso, Stura, Grana, Maira, Varaita and Po (the valleys are listed from south to north and numbered from 1 to 10 in Fig. 1 and Table 1). Those of Turin Province live in 29 villages in the valleys of Pellice, Germanasca, Chisone and Susa (the valleys are listed from south to north and numbered from 11 to 14 in Fig. 1). The rivers of the valleys Corsaglia, Ellero, Pesio, Vermenagna, Gesso and Stura are tributaries of the Tanaro River, while the rivers of the valleys Grana, Maira, Varaita, Po, Pellice, Germanasca, Chisone and Susa are tributaries of the Po River.

This paper presents the results of the study of relationships by isonymy among the Provençal-Italian ethnolinguistic communities and the surrounding autochthonous Italian population of Cuneo Province, and their relationships with the population of other Italian villages of Piedmont Region.

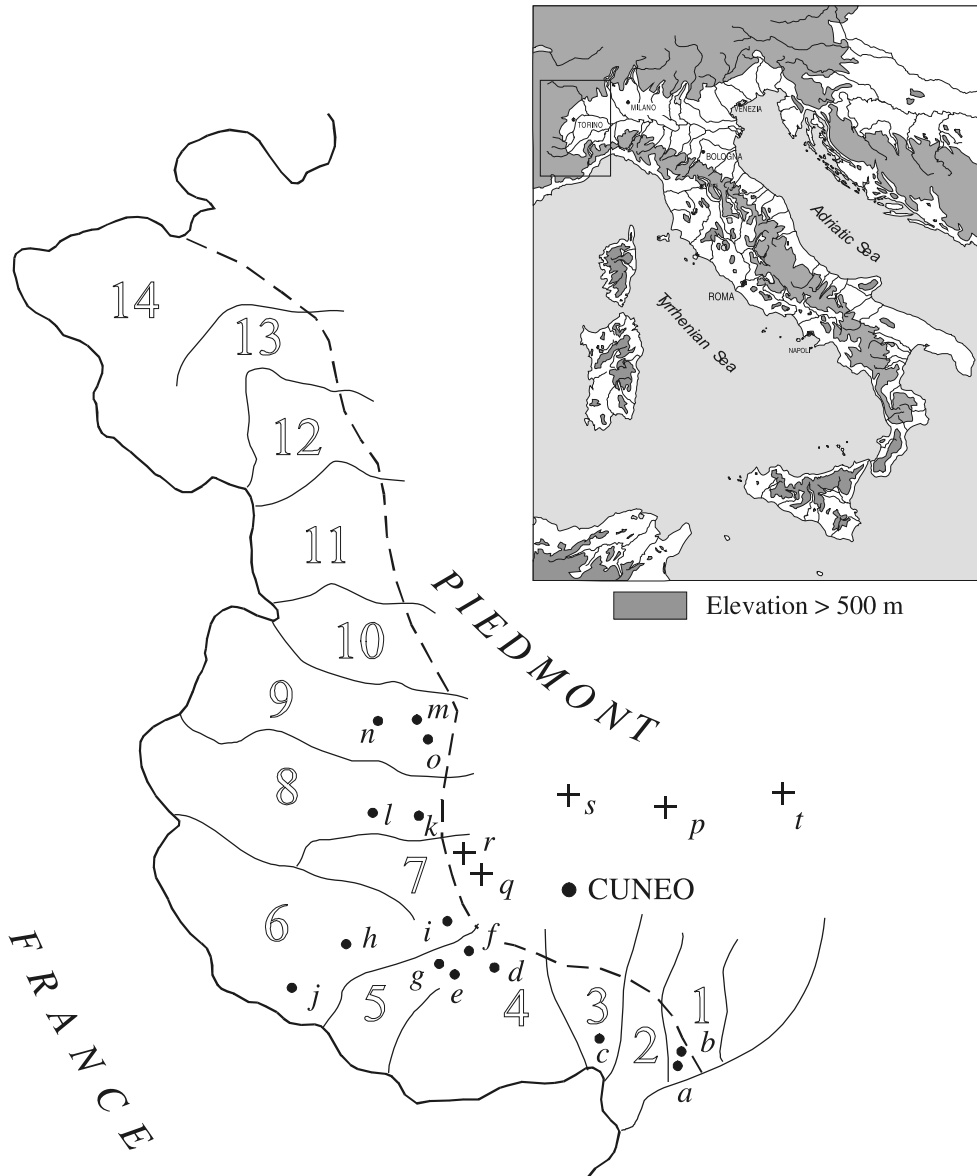


Fig. 1. Map of the examined area.

### Methods

Surnames were obtained for the second half of the 20th century from civil and religious marriage registers on fifteen Provençal-Italian and five Italian villages of Cuneo Province (Fig. 1). To insert in the analysis an outward comparison, surnames from two Italian villages of Turin Province, one parish of Turin, one village of

**Table 1.** The examined Provençal-Italian and Italian communities of Piedmont

| Province, ethnicity and village or parish         | Abbreviation of village or parish | Valley     | Number of the valley* | Number of couples |
|---|-----------------------------------|------------|-----------------------|-------------------|
| <b>Cuneo Province: Provençal-Italian villages</b> |                                   |            |                       |                   |
| Frabosa Soprana                                   | a                                 | Corsaglia  | 1                     | 343               |
| Frabosa Sottana                                   | b                                 | Corsaglia  | 1                     | 325               |
| Chiusa di Pesio                                   | c                                 | Pesio      | 3                     | 1121              |
| Robilante   | d                                 | Vermenagna | 4                     | 880               |
| Roaschia  | e                                 | Gesso      | 5                     | 252               |
| Roccavione  | f                                 | Gesso      | 5                     | 983               |
| Valdieri  | g                                 | Gesso      | 5                     | 452               |
| Demonte   | h                                 | Stura      | 6                     | 608               |
| Roccasparvera                                     | i                                 | Stura      | 6                     | 308               |
| Vinadio   | j                                 | Stura      | 6                     | 424               |
| Roccabruna  | k                                 | Maira      | 8                     | 393               |
| S. Damiano Macra                                  | l                                 | Maira      | 8                     | 357               |
| Brossasco   | m                                 | Varaita    | 9                     | 286               |
| Melle   | n                                 | Varaita    | 9                     | 268               |
| Venasca   | o                                 | Varaita    | 9                     | 322               |
| Total   |                                   |            |                       | 7322              |
| <b>Cuneo Province: Italian villages</b>           |                                   |            |                       |                   |
| Trinità   | p                                 | Stura      | 6                     | 322               |
| Bernezso  | q                                 | Grana      | 7                     | 363               |
| Valgrana  | r                                 | Grana      | 7                     | 212               |
| Villafalletto                                     | s                                 | Maira      | 8                     | 500               |
| Dogliani  | t                                 |            |                       | 698               |
| Total   |                                   |            |                       | 2095              |
| <b>Turin Province: Italian villages</b>           |                                   |            |                       |                   |
| Cambiano  | U                                 |            |                       | 317               |
| S. Ambrogio di Torino                             | V                                 |            |                       | 333               |
| Total   |                                   |            |                       | 650               |
| <b>Turin Province: Italian parish of Turin</b>    |                                   |            |                       |                   |
| S. Secondo  | W                                 |            |                       | 237               |
| <b>Alessandria Province: Italian village</b>      |                                   |            |                       |                   |
| Frassineto Po                                     | X                                 |            |                       | 178               |
| <b>Asti Province: Italian village</b>             |                                   |            |                       |                   |
| Rocchetta Tanaro                                  | Y                                 |            |                       | 390               |
| <b>Grand total</b>                                |                                   |            |                       | <b>10,872</b>     |

\*See Introduction and Fig. 1.

Alessandria Province and one village of Asti Province were also collected for the same period (Table 1). Piedmont Region is subdivided into six Provinces: Turin, Alessandria, Asti, Cuneo, Novara and Vercelli.

The study of between-village relationships by isonymy ( $R_i$ ) was carried out by analysing the combinations of surnames between two villages. The coefficient of relationship by isonymy was calculated following Lasker (1977) as:

$$R_i = \frac{\sum S_{i1} S_{i2}}{2N_1 N_2}$$

in which  $S_{i1}$  is the number of individuals of the  $i^{\text{th}}$  surname in the list of surnames of the first village,  $S_{i2}$  is the number of individuals of the same surname in the list of the second village, and  $N_1$  and  $N_2$  are  $\sum S_{i1}$  and  $\sum S_{i2}$  respectively (i.e. the total number of surnames in each list). The factor 2 makes the formula equivalent to a genetic relationship. To provide a graphic representation of the  $25 \times 25$  and  $20 \times 20$   $R$  kinship matrices obtained, a non-metric Multidimensional Scaling technique was applied (Kruskal & Wish, 1978; Young, 1987). Relationships were calculated using the programme 'BIODEM – A software for the analysis of biodemographic archives ( $\beta$  release, June 1999)' provided by D. Pettener (e-mail: pettener@alma.unibo.it) and A. Rinaldi (e-mail: antonio.rinaldi@unimi.it). Genetic maps were constructed from  $R$  distance matrices plotting the first two dimensions. These dimensions were then translated, scaled and rotated to provide a least-squares fit to the actual geographic locations of populations (Lalouel, 1973). The Mantel test (Mantel, 1967; Smouse & Long, 1992) was used to assess the congruence between kinship and geographic distance. This procedure generates a null distribution of correlation coefficients by randomly permuting the rows and columns of one of the compared matrices. In this way, empirical significance levels can be obtained for the correlation coefficient.

## Results

As shown in Table 2 and Fig. 2, the Italian communities located in the Piedmontese Provinces of Turin, Alessandria and Asti (Cambiano, S. Ambrogio di Torino, the Catholic parish of S. Secondo in Turin, Frassineto Po and Rocchetta Tanaro) compress in a unique cluster both Provençal-Italian and Italian villages of Cuneo Province. Nevertheless, the first dimension exhibits a clinal distribution of these villages according to their geographical location, and does not consider ethnic identity. To evaluate better the influence of geography on the genetic structure of the Provençal-Italian population, only the Provençal-Italian and Italian communities of Cuneo Province have been considered in a subsequent step, and the results of this analysis are reported in Table 3 and Fig. 3. The Provençal-Italian communities of the two southern valleys of Corsaglia and Pesio (Frabosa Soprana, Frabosa Sottana and Chiusa di Pesio) group together with the Italian villages of Dogliani, located along the Tanaro River, and Trinità, which is located in the Stura Valley but far away from the Provençal area and close to the confluence of the Stura and Tanaro Rivers. A second cluster puts together the Provençal-Italian and Italian communities located in the central valleys of Vermenagna, Gesso, Stura and Grana (the Provençal-Italian villages of Robilante, Roaschia, Roccavione, Valdieri, Demonte, Roccasparvera and Vinadio, and the Italian villages of Bernezzo and Valgrana). And finally, the last cluster

**Table 2.** Matrix of values of  $R$  kinship ( $\times 10^5$ ) calculated for all pairs of 25 communities

|   | a    | b   | c   | d    | e    | f    | g    | h   | i    | j   | k    | l   | m    | n    | o   | p   | q    | r   | s   | t  | U  | V  | W  | X  | Y |
|---|------|-----|-----|------|------|------|------|-----|------|-----|------|-----|------|------|-----|-----|------|-----|-----|----|----|----|----|----|---|
| a | —    |     |     |      |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| b | 2125 | —   |     |      |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| c | 256  | 474 | —   |      |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| d | 121  | 101 | 984 | —    |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| e | 57   | 79  | 435 | 1808 | —    |      |      |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| f | 111  | 146 | 531 | 2365 | 6781 | —    |      |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| g | 180  | 140 | 411 | 1028 | 4169 | 2011 | —    |     |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| h | 83   | 246 | 215 | 447  | 668  | 385  | 466  | —   |      |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| i | 108  | 337 | 320 | 755  | 4352 | 1616 | 1371 | 671 | —    |     |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| j | 109  | 116 | 167 | 897  | 713  | 519  | 501  | 871 | 529  | —   |      |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| k | 52   | 49  | 124 | 184  | 354  | 274  | 217  | 264 | 312  | 223 | —    |     |      |      |     |     |      |     |     |    |    |    |    |    |   |
| l | 47   | 103 | 142 | 203  | 178  | 207  | 205  | 164 | 272  | 208 | 1027 | —   |      |      |     |     |      |     |     |    |    |    |    |    |   |
| m | 74   | 81  | 82  | 223  | 123  | 154  | 142  | 355 | 249  | 76  | 717  | 529 | —    |      |     |     |      |     |     |    |    |    |    |    |   |
| n | 50   | 67  | 167 | 231  | 405  | 270  | 290  | 132 | 219  | 99  | 312  | 260 | 1641 | —    |     |     |      |     |     |    |    |    |    |    |   |
| o | 68   | 194 | 205 | 543  | 337  | 291  | 141  | 273 | 396  | 122 | 448  | 347 | 1447 | 1003 | —   |     |      |     |     |    |    |    |    |    |   |
| p | 116  | 201 | 344 | 216  | 211  | 195  | 265  | 174 | 166  | 93  | 75   | 155 | 31   | 104  | 92  | —   |      |     |     |    |    |    |    |    |   |
| q | 45   | 231 | 262 | 443  | 492  | 489  | 452  | 449 | 1030 | 256 | 446  | 291 | 129  | 166  | 148 | 120 | —    |     |     |    |    |    |    |    |   |
| r | 105  | 238 | 269 | 757  | 505  | 514  | 360  | 419 | 626  | 323 | 486  | 486 | 89   | 128  | 200 | 277 | 1251 | —   |     |    |    |    |    |    |   |
| s | 64   | 157 | 299 | 431  | 547  | 355  | 517  | 192 | 279  | 168 | 289  | 364 | 260  | 337  | 239 | 330 | 231  | 369 | —   |    |    |    |    |    |   |
| t | 64   | 118 | 106 | 165  | 47   | 88   | 171  | 123 | 232  | 80  | 67   | 189 | 46   | 67   | 91  | 277 | 97   | 127 | 129 | —  |    |    |    |    |   |
| U | 30   | 57  | 117 | 84   | 9    | 48   | 84   | 76  | 45   | 74  | 53   | 125 | 9    | 38   | 23  | 154 | 22   | 83  | 110 | 70 | —  |    |    |    |   |
| V | 14   | 78  | 48  | 94   | 273  | 126  | 84   | 78  | 88   | 41  | 63   | 82  | 153  | 145  | 73  | 67  | 70   | 88  | 41  | 40 | 67 | —  |    |    |   |
| W | 16   | 26  | 67  | 32   | 66   | 58   | 112  | 35  | 27   | 26  | 75   | 77  | 41   | 57   | 32  | 104 | 62   | 43  | 108 | 60 | 71 | 35 | —  |    |   |
| X | 7    | 52  | 31  | 8    | 11   | 14   | 39   | 21  | 16   | 17  | 16   | 22  | 15   | 74   | 35  | 30  | 28   | 25  | 46  | 36 | 23 | 16 | 49 | —  |   |
| Y | 21   | 24  | 36  | 42   | 14   | 27   | 73   | 39  | 17   | 24  | 44   | 31  | 23   | 33   | 29  | 73  | 20   | 129 | 71  | 58 | 74 | 43 | 61 | 56 | — |

Provençal-Italian villages in Cuneo Province: Frabosa Soprana (a), Frabosa Sottana (b), Chiusa di Pesto (c), Robilante (d), Roaschia (e), Roccavione (f), Valdieri (g), Demonte (h), Roccasparvera (i), Vinadio (j), Roccabruna (k), S. Damiano Macra (l), Brossasco (m), Melle (n) and Venasca (o).

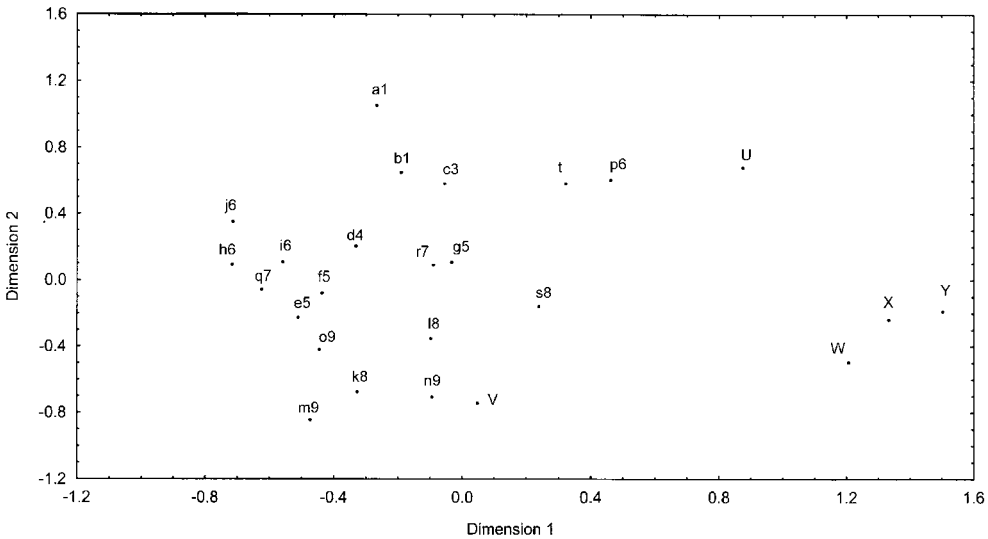
Italian villages in Cuneo Province: Trinità (p), Bernezzo (q), Valgrana (r), Villafalletto (s) and Dogliani (t).

Italian villages in Turin Province: Cambiano (U) and S. Ambrogio di Torino (V).

Italian parish in Turin: S. Secondo (W).

Italian village in Alessandria Province: Frassineto Po (X).

Italian village in Asti Province: Rocchetta Tanaro (Y).



**Fig. 2.** Configuration of the first two dimensions of the multidimensional scaling representation for 25 populations living in Piedmont Region, Italy. The small letters indicate the fifteen Provençal-Italian and the five Italian communities living in Cuneo Province; the numbers indicate the valleys; and the capital letters indicate the five Italian communities living in other provinces of Piedmont Region.

collects the villages of the northern valleys of Maira and Varaita (the Provençal-Italian villages of Roccabruna, S. Damiano Macra, Brossasco, Melle and Venasca, and the Italian village of Villafalletto). The observed stress values of 0.1089 for 25 populations and 0.0894 for 20 populations (four dimensions) denote sufficiently adequate configuration for data exploration (Kruskal, 1964).

The Mantel correlation between kinship and geographic distance matrices for 20 populations is highly significant ( $R^2=0.243$ ,  $p<0.0001$ ), showing a great influence of geography on the genetic structure of this area. The relationship between geographic and genetic topologies is showed in Fig. 4. Here, is possible to see the high degree of kinship that exists between the Provençal-Italian and their neighbouring Italian villages. The three clusters are clearly displayed. The cluster with the central position probably originated from its proximity to the chief town of the province, Cuneo, while the other two clusters probably originated from their closeness to the wine region of the Langhe (south) and to the town of Saluzzo (north). Great and economically weighty localities are generally the cause of migratory movements within their geographical regions, and this is the cause of genetic homogenization.

### Discussion

A prominent topic in human biology is concerned with population structure as produced by deviations from panmixia, and the preference for certain patterns of marriages that are mainly determined by cultural rules, such as those influenced by

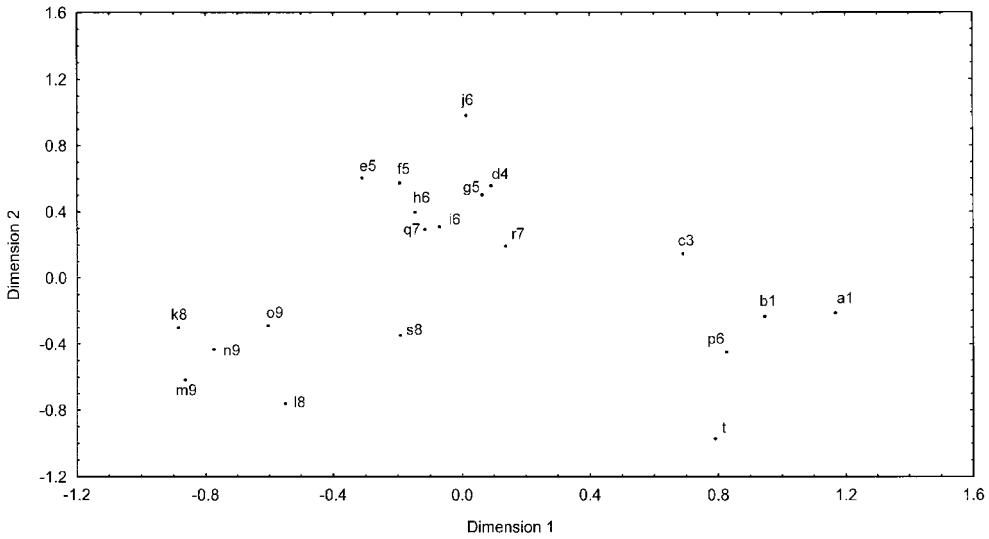
**Table 3.** Matrix of values of  $R$  kinship ( $\times 10^5$ ) calculated for all pairs of 20 communities

|   | a    | b   | c   | d    | e    | f    | g    | h   | i    | j   | k    | l   | m    | n    | o   | p   | q    | r   | s   | t |
|---|------|-----|-----|------|------|------|------|-----|------|-----|------|-----|------|------|-----|-----|------|-----|-----|---|
| a | —    |     |     |      |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |   |
| b | 2125 | —   |     |      |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |   |
| c | 256  | 474 | —   |      |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |   |
| d | 121  | 101 | 984 | —    |      |      |      |     |      |     |      |     |      |      |     |     |      |     |     |   |
| e | 57   | 79  | 435 | 1808 | —    |      |      |     |      |     |      |     |      |      |     |     |      |     |     |   |
| f | 111  | 146 | 531 | 2365 | 6781 | —    |      |     |      |     |      |     |      |      |     |     |      |     |     |   |
| g | 180  | 140 | 411 | 1028 | 4169 | 2011 | —    |     |      |     |      |     |      |      |     |     |      |     |     |   |
| h | 83   | 246 | 215 | 447  | 668  | 385  | 466  | —   |      |     |      |     |      |      |     |     |      |     |     |   |
| i | 108  | 337 | 320 | 755  | 4352 | 1616 | 1371 | 671 | —    |     |      |     |      |      |     |     |      |     |     |   |
| j | 109  | 116 | 167 | 897  | 713  | 519  | 501  | 871 | 529  | —   |      |     |      |      |     |     |      |     |     |   |
| k | 52   | 49  | 124 | 184  | 354  | 274  | 217  | 264 | 312  | 223 | —    |     |      |      |     |     |      |     |     |   |
| l | 47   | 103 | 142 | 203  | 178  | 207  | 205  | 164 | 272  | 208 | 1027 | —   |      |      |     |     |      |     |     |   |
| m | 74   | 81  | 82  | 223  | 123  | 154  | 142  | 355 | 249  | 76  | 717  | 529 | —    |      |     |     |      |     |     |   |
| n | 50   | 67  | 167 | 231  | 405  | 270  | 290  | 132 | 219  | 99  | 312  | 260 | 1641 | —    |     |     |      |     |     |   |
| o | 68   | 194 | 205 | 543  | 337  | 291  | 141  | 273 | 396  | 122 | 448  | 347 | 1447 | 1003 | —   |     |      |     |     |   |
| p | 116  | 201 | 344 | 216  | 211  | 195  | 265  | 174 | 166  | 93  | 75   | 155 | 31   | 104  | 92  | —   |      |     |     |   |
| q | 45   | 231 | 262 | 443  | 492  | 489  | 452  | 449 | 1030 | 256 | 446  | 291 | 129  | 166  | 148 | 120 | —    |     |     |   |
| r | 105  | 238 | 269 | 757  | 505  | 514  | 360  | 419 | 626  | 323 | 486  | 486 | 89   | 128  | 200 | 277 | 1251 | —   |     |   |
| s | 64   | 157 | 299 | 431  | 547  | 355  | 517  | 192 | 279  | 168 | 289  | 364 | 260  | 337  | 239 | 330 | 231  | 369 | —   |   |
| t | 64   | 118 | 106 | 165  | 47   | 88   | 171  | 123 | 232  | 80  | 67   | 189 | 46   | 67   | 91  | 277 | 97   | 127 | 129 | — |

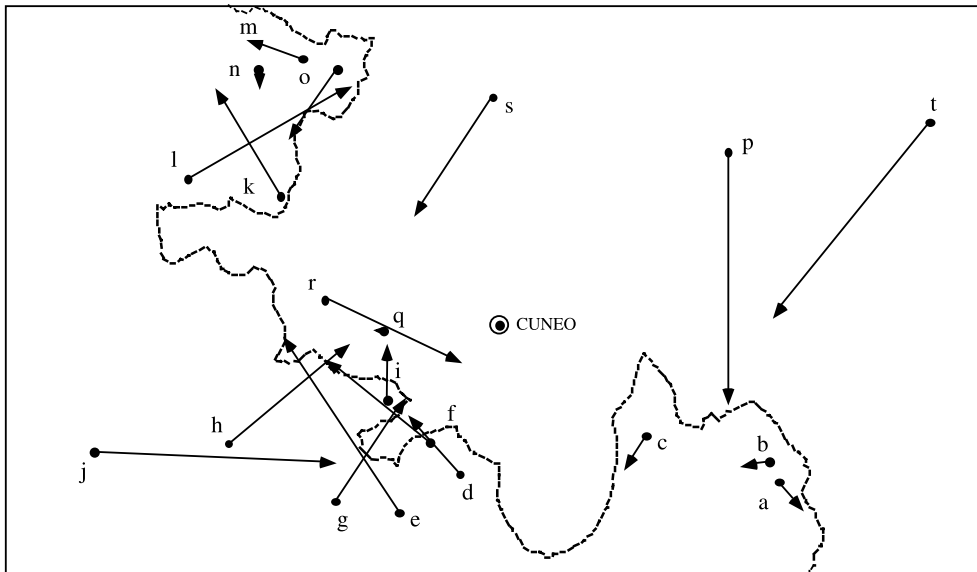
Provençal-Italian villages in Cuneo Province: Frabosa Soprana (a), Frabosa Sottana (b), Chiusa di Pestò (c), Robilante (d), Roaschia (e), Roccavione (f), Valdieri (g), Demonte (h), Roccasparvera (i), Vinadio (j), Roccabruna (k), S. Damiano Macra (l), Brossasco (m), Melle (n) and Venasca (o).

Italian villages in Cuneo Province: Trinità (p), Bernezzo (q), Valgrana (r), Villafalletto (s) and Dogliani (t).





**Fig. 3.** Configuration of the first two dimensions of the multidimensional scaling representation for 20 populations living in Cuneo Province, Italy. The small letters indicate the fifteen Provençal-Italian and the five Italian communities living in Cuneo Province, and the numbers indicate the valleys.



**Fig. 4.** Relationship between geographic and genetic patterns for 20 populations living in Cuneo Province. The circles show the geographic location and arrows show the location predicted by kinship. The dashed line represents the boundary between Provençal-Italian and Italian areas. The small letters indicate the fifteen Provençal-Italian and the five Italian communities.

language and ethnicity. Surnames tend to show sharp discontinuities at linguistic and ethnic boundaries, and their distribution among communities may be important to claim similarity or dissimilarity of groups. The geographic and social distribution of surnames is not homogeneous, and the probability of finding the same surnames in different populations measures their relationships (Gottlieb, 1983; Lasker, 1985; Biondi & Mascie-Taylor, 1996).

As already observed in the ethnic minorities of southern Italy and Sicily, i.e. Albanian-Italian, Croat-Italian and Greek-Italian groups (Biondi *et al.*, 1990; Biondi & Vienna, 2001; Vienna & Biondi, 2001; Vienna *et al.*, 2001), geography and not ethnicity seems to be the main factor affecting the present genetic structure of the Provençal-Italian ethnolinguistic minority living in Cuneo Province. In fact, the Provençal-Italian villages do not cluster separately from the autochthonous Italian populations of the same province. The Provençal-Italian and Italian communities group together according to the valleys in which their villages are located. Using surname analysis, the alpine valleys of Cuneo Province appear to be combined to form three geographic systems (southern, central and northern) that condition the social and genetic relations of the people living in the area. The Provençal-Italian ethnolinguistic community of Cuneo Province shows a low degree of genetic isolation towards Italians that mirrors the lack of cultural and social barriers between the two populations. Provençal-Italians and Italians seem to follow the same behaviour with respect to mate selection. They do not consider ethnicity as a useful tool to select a sexual partner. Undoubtedly, the ethnic consciousness of the Provençal-Italians is very deep. They maintain their own language and folklore, and study their own history and literature, but their ethnic consciousness is unable to prevent mixed marriages.

The observations reported on other ethnic minorities settled along the Italian alpine arch – French, Ladin, Cimro-Mocheno, Slovenian and German communities – all are suggestive that these populations experienced changes in their marriage attitudes and behaviours through time. Economic change and improved transportation after World War II altered the social mobility and life style of these communities, and this in turn could explain the gradual decrease in inbreeding and the breakdown of genetic isolation due to ethnicity (Kaplan *et al.*, 1978; Crawford, 1980; Caravello *et al.*, 1999, 2002, in press).

Such behaviour is in line with the idea that ethnicity is an open network of connections between people, and the so-called 'ethnic boundaries' seem to acquire some interest only when they are used to explain the social and cultural meaning that different groups of people decide to assign to a set of features. These features include historical events, spoken language, social interactions, religion and alimentary habits, and sometimes biological characters too. Ethnic identification does not constitute a kind of hereditary title that people receive at birth. On the contrary, people are immediately affected in the decision to establish their own ethnicity (Crews & Bindon, 1991). Ethnicity as a cage to preserve the cultural and biological 'purity' of a community is nothing but pure abstraction, though consequences of such an illusion may be dreadfully real. A way of thinking about ethnic boundaries that is far more consistent with the real lives of human beings should be to imagine them as patterns of biosocial interactions among communities rather than as tools to isolate people.

Provençal-Italians, like the other ethnolinguistic minorities living in the Italian alpine area and southern Italy and Sicily, are now an open and biologically mixed society, and this indicates the common and recent breaking off of the genetic isolation of the alpine populations.

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