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New methodological approaches in the anthropological demography of Romani groups. An example from the study of the evolution of the infant and child mortality of the Gitanos or *Calé* of Spain (1871-2007)

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Abstract

Probably the most important change that affected the Gitano people of Spain in its recent history has been the rapid decline in their infant and child mortality patterns. There is however an almost complete absence of studies on this process. Data is difficult to obtain, as ethnic affiliation is usually not recorded in parish or civil records, and the base population is generally unknown. In this paper we will describe the methods we followed to overcome those problems in the genealogical and family reconstitution of the Gitano population of 22 contiguous localities of Andalusia, which includes data on over 19,000 people. From this database we produced annual time series that show a differentiated model of mortality decline occurring between 1950 and 1975.

Keywords: infant and child mortality; Roma/gypsies/gitanos; historical demography.

Resumo

A recente história da mortalidade infantil e juvenil dos Ciganos e Calé de Espanha (1871-2007): Fontes de dados, problemas metodológicos e resultados preliminares

Provavelmente a mudança mais importante vivida pelo povo Gitano em Espanha na sua história recente tenha sido o rápido declínio nos padrões de mortalidade infantil, que teve lugar na segunda metade do século XX. Há, porém, uma ausência quase completa de dados, estudos e modelos sobre este processo. Os dados são difíceis de obter, como a filiação étnica que geralmente não é registrada nas paróquias ou no Registo Civil, e na maioria dos casos também é difícil apurar qual a população cigana global residente. Neste artigo descrevemos os métodos que mobilizamos para superar esses problemas através de uma reconstituição genealógica e familiar da população cigana de 22 localidades contíguas da província de Granada, o que inclui dados sobre mais de 19.000 pessoas. A partir desta base de dados produzimos séries de tempos anuais que espelham um modelo diferenciado de declínio de mortalidade ocorrido entre 1950 e 1975.

Palavras-chave: mortalidade infantil e juvenil; ciganos; demografia histórica.

Résumé

Nouvelles méthodes dans la anthropologíe demographique des populations roms. Un exemple derivé de l'etude de la mortalité infantile dans la minorité gitane or calé d'Espagne (1871-2007)

Le changement le plus important qui affecta les Gitans d'Espagne, au cours de leur histoire récente, fut, probablement, le rapide déclin de la mortalité infantile et juvénile. L'étude de l'histoire de la mortalité est délicate et ces difficultés sont aggravées, dans ce cas, par l'absence de données sur la filiation ethnique dans les registres officiels, et par la méconnaissance de la taille de la population. Dans cet article nous présentons les méthodes employées pour résoudre ces problèmes qui font appel à la reconstitution généalogique et familiale de la population gitane de 22 localités contigües d'Andalousie. Cette reconstitution, qui met en œuvre les méthodes de l'ethnographie et de la démographie historique, prend en compte plus de 19.000 personnes, et mis en évidence une declin definitive de la mortalité entre 1950 et 1975.

Mots-clés: mortalité infantile et juvénile; Roma/Gitans; démographie historique.

Resumen

Nuevos métodos en la antropología demográfica de los grupos romaníes. Un ejemplo derivado del estudio de la evolución de la mortalidad infantil y juvenil en la minoría gitana española (1871-2007)

Seguramente el más importante cambio vivido por los Gitanos españoles en su reciente historia derive de la caída de la mortalidad infantil y juvenil que ha experimentado esta minoría. Sin embargo, resalta la falta de interés y de estudio sobre este tema. La investigación histórica de la mortalidad plantea complejos problemas que se agravan aquí por la ausencia de datos desagregados por etnicidad y por el desconocimiento de la población de partida. En este artículo presentamos los métodos que hemos seguido para resolver estos problemas en una reconstrucción familiar y genealógica de la población gitana de 22 municipios andaluces que incluye a unas 19.000 personas, y que permite avanzar un modelo diferenciado de declive definitivo entre 1950 y 1975.

Palabras clave: mortalidad infantil y juvenil; Romá/Gitanos; demografía histórica.

1. Introduction[1]

Perhaps the most important change experienced by the Gitano people of Spain in its recent history has been the rapid decline in the infant (under-one) and child (under-five) mortality patterns that took place in the second half of the twentieth

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century[2]. This process induced or facilitated most of the remarkable transformations experienced by this minority in the last decades. Thus, as fertility remained high, the survival of a higher proportion of children resulted in an accelerated population growth that multiplied several times the size of Gitano population. Additionally, in the 1960s and 1970s the population expansion favored a Gitano migratory wave from rural to urban areas and from Andalusia and Extremadura to other more prosperous and industrialized regions of Spain. In this period, many *Calé*[3] also migrated to Germany, France and Switzerland, in search for better-paid jobs and a chance to improve their lives, not unlike to other Spaniards.

The rise in surviving children also generated growth in the size of Gitano households. Eventually this also brought about the expansion of kin networks that included living siblings, cousins and other collateral relatives in numbers previously unknown. This, in turn, facilitated an increase in consanguineous marriages (Martín and Gamella, 2005; Gamella and Martin, 2008), and in the generation of large viri-patrilocal groups considered to be crucial actors in the political organization and the internal conflicts of Gitano society (San Roman, 1976, 1997; Gay Blasco, 1999).

Hereafter, the fall in infant and child mortality facilitated a decline in fertility that has become generalized since the late 1980s. The intentional control and reduction of fertility completes the demographic transition of this minority, a process that has enormous consequences both for the community itself and for its social inclusion in the Spanish society. It is worth underscoring that, as the burden of reproduction falls disproportionately on women, generalized child survival has resulted in crucial long-term effects on the lives, the life-projects and the mentalities of Gitano women and on the gender arrangements within the minority (Gamella, 2011, 2000).

The death of children was a very common experience in the homes of Gitano people until recently. This is a topic that frequently emerges both in the discourse of

[2] In this paper we considered both infant mortality, the death of a child less than one year of age (Q0) and child mortality for the death of children between their first and fifth birthdays (4Q1). Their sum will produce rates of childhood mortality, that is, before the child's fifth birthday.

[3] "Gitano" is the term most Spanish Romani people use to refer to themselves both in private and public settings. In Spain it is also the term most frequently used by minority leaders. For instance, when naming public institutions such as the *Instituto de Cultura Gitana*. Here it is used to denote an ethnic minority that lives mostly in Spain. The term is partly synonymous with the English term "Gypsy". Many members of groups who were previously referred to as "Gypsies" reject today this term as derogatory and prefer to be identified by their own ethnonyms, such as *Roma*, *Sinti*, *Kalé*, etc. In Spain, *Caló* (plural *Calé* or *Calós*) is also a term that many Gitanos use to refer to themselves, although less frequently.

Gitano women and analyses of civil or parish records. Infant and child mortality was also common among the majority population, but the higher fertility rates of Gitano women resulted in higher numbers of infantile deaths even with similar mortality rates and hence a more drastic experience. Thus, in our sample there are many examples of Gitano women that experienced the loss of a very high number of children.

1.1. Lack of data and lack of interest

Child mortality is a crucial index of the health and living conditions of a population. Its decline is often considered one of the first signs of social and economic development, as well as of the advance of demographic and epidemiological transitions. The reduction of child mortality is one of the United Nations Millennium Development Goals, hence a priority for all policy interventions (Guillot, Gerland, Pelletier and Saabneh, 2012).

However, it seems that the dominant representations of Romani groups have ignored or took for granted the evolution of childhood mortality. This is especially remarkable as demographic differences are among the most salient aspects of the ethnocultural difference between Romani populations and mainstream majorities everywhere. The decline of infant and child also seems to have occurred in other countries of Central and Eastern Europe, such as Romania, Hungary, Slovakia and Bulgaria, which have large and varied Romani populations (Kohler and Preston, 2011; Burlea, 2012). But we do not know much about it or whether the processes have diverged from those occurring among neighboring majority populations.

In the large and rapidly increasing literature on Rom/Sinti/Gitanos very few publications are devoted to child mortality, much less from a historical perspective. References to infant and child mortality are scattered throughout publications concerning health status and access to health care or surveys on living conditions (Cook *et al*., 2013; Ringold, Orenstein and Wilkens, 2005; Kalibová, 2000; Costarelli, 1993). It is rarely treated as the monograph at the core of other epidemiological, social and economic transformations. Even in important papers on the anthropological demography of Romani groups there are no references to infant mortality (Durst, 2002, 2011). Moreover, in the best ethnographic monographs available there is little attention to the issue of the death of children and its history, even if the experience, remembrance and celebration of death is a crucial topic in most of them (Okely, 1983;

Sutherland, 1975, 1986; Williams, 1993; Stewart, 1997).

There may be several reasons for this neglect. To begin with, the study of the history of mortality presents substantive complexities and severe data problems, even for larger and better-known populations (Corsini and Viazzo, 1997: xvii). Moreover, to assess the long-term structural dynamics of mortality shifts during childhood is a difficult task in itself. Still in 1991, an important review of the topic concluded that the understanding of the patterns of historical mortality in Europe, their causes and consequences was still in "its infancy" (Schofield, Reher and Bideau, 1991).

Besides, concerning Romani peoples, these problems are aggravated since in most of the countries where they live demographic data is not usually coded for ethnicity and cannot be easily disaggregated according to ethnic affiliation. Where such information is collected, there are serious problems of under-registration and coverage (Kohler and Preston, 2011). Hence, there is a paucity of reliable demographic data concerning Romani groups.

Despite all these difficulties, the neglect of this and other critical demographic topics cannot be justified. Studies might have used ethnographic or micro-demographic methods, considered selected families or groups, or at least described the mayor outlines of the process of demographic transition. Moreover, these topics need to be considered in ethnographic, sociological and even political descriptions; yet, child mortality has been almost uniformly ignored, even despite the prominence of death in ceremonial and ritual accounts.

The scholarly representation of Romani people appears to have suffered from considerable exoticization, orientalism and androcentrism. Anthropologists and "Gypsyologists" have contributed considerably to this practice. Bloch stressed decades ago the "professional malpractice of anthropologists" and the ingrained tendency "to exaggerate the exotic character of other cultures" (Bloch, 1977: 285). In few cases has this been more prevalent than in the study of Romani peoples. On the other hand, most ethnographies emphasize permanence, continuity and unity. Social, ideological and even demographic change, variation and heterogeneity are rarely at the core of anthropological descriptions of Romani groups, even when they are studied in the midst of profound transformations and divisions.

In sum, as Masseria and her collaborators concluded recently in their review of the health literature on Romani peoples, the literature on demographic processes and

demographic history "is very limited in content and scale" (Masseria, Mladovsky and Hernández-Quevedo, 2010: 549). The use of demographic ideas or models in the cultural and historical analyses of Romani groups arguably is ignored or even resented by scholars in the field. Our goal is to apply this insight to the study of the Gitanos or *Calé* of Spain.

In this paper we will review the methods and techniques we have applied to the study of the childhood mortality among Spanish Gitanos or *Calé* in a region of Andalusia where they have been living for centuries, constitute the main ethnic minority and their presence is very notable. We will describe the main problems of this research and the strategies attempted to overcome them. Thus, the research questions addressed in this paper are primarily methodological. They consider how it is possible to study the demographic history of Roma populations of Europe and what are the main obstacles to this study. However, these questions are approached in an applied form, by analyzing a complex case study. Hence, the preliminary results offered here try to show the potential and the limitations of the methods and techniques used when ethnographic methods are combined with those of historical demography in the study of Romani populations. This kind of synthesis has been designed as "anthropological demography" (Kertzer and Fricke, 1997) and we find it extremely relevant for the study of ethnic or cultural minorities. The example analyzed deals with the structural dynamics of long-term changes in mortality patterns of Gitano children through a micro-demographic study of a relatively large area. We have tried to generate reliable time-series data on infant and child mortality based on local civil registration and parish data for a 22 contiguous localities in a region where Gitanos have lived permanently for over four centuries.

1.2. The Gitanos of Spain

The Gitanos or *Calé* of Spain are an ethnic minority related to other Romani groups in Europe and America, such as the *Roma*, *Sinti*, Finnish *Kale*, Portuguese *Ciganos*, etc. All these groups, notwithstanding a common remote origin, have adapted to the surrounding cultures and yet show some resemblance within a gamut of sociocultural variation (Piasere, 2004; Fraser, 1992; Acton, 1979). The Gitanos come from the first migratory waves of Romani groups into Western Europe, which are documented in the fifteenth century. Their customs are the product of a long

coexistence with local Spanish populations. The history of *Calé* has been marked by persecution, stigmatization and discrimination, but also cooperation, hybridization and the appropriation of conceptions by the minority and their transformation and *detournement* (Pym, 2007; Gómez Alfaro, 1999; Leblon, 1985; Gamella, Gómez Alfaro and Pérez, 2014).

Today most Gitanos are proud of their ethnic identity, although they consider themselves autochthonous Spaniards. Gitanos speak the languages and dialects of the regions where they live. Most have Spanish as their mother tongue. The original Hispanoromani dialect they may have spoken would have been lost in most regions by the eighteenth century. However, they developed a mixed language known as *caló* or *romanó*, by inserting a Romani lexicon into Spanish morphosyntax (Gamella, Fernández, Nieto and Adiego, 2011).

Throughout the twentieth century, Gitanos lost or transformed most of their traditional trades and occupations. They also practiced the majority religion, Catholicism, although in their own ways. In sum, there is no coherent religious, linguistic or "racial" (based on the socially constructed use of real or putative phenotypical differences) difference between the Gitano minority and the majority population. Gitanos, however, have developed other differences that reaffirm their collective identity (San Román, 1997; Gay Blasco, 1999; Lagunas, 2005; Gamella, 2000, 2011, 2013). For instance, the recent proliferation of a Gitano Pentecostal religious denomination has offered new opportunities for feeling, interpreting and constructing ethnic difference through the experience of conversion (Cantón, 2004).

The *Calé* have contributed considerably to Spanish culture and folklore. Perhaps in no other part of Europe has such cultural fusion occurred as in Spain and especially Andalusia, where many of the symbols and practices that identify the region to the world (such as flamenco singing and dancing) have a crucial Gitano component (Leblon, 2003; Pasqualino, 1998).

The Spanish Romani are sedentary; they have lived in the same towns and counties for generations and often have a strong attachment to their places of birth or residence, defining themselves as Andalusians, Catalans or even *sevillanos* and *granadinos*, that is, as coming from specific provinces or cities. In the last century, Gitanos followed migration patterns similar to those of other Spaniards. Thus, we find Gitanos from Extremadura and western Andalusia in Madrid, those from Old Castile

in the Basque Country and Gitanos from eastern Andalusia in Catalonia, the Levant and the Balearic Islands. Many Gitanos migrated in the 1960s and 1970s to Germany, Switzerland and France as guest workers. Some of them returned later to the Spanish towns and cities of their ancestors.

The best estimates place the size of the Spanish *Calé* population in the range of 450 thousand to 600 thousand, around 1.5% of the total Spanish population (FSG, 2008). A large proportion of Gitanos currently is concentrated in the urban peripheries. But there are important groups of Gitanos living in localities of different sizes and geographical structures, from industrial towns of the Basque Country to tourist resorts of the Mediterranean, as well as rural areas of Andalusia, Extremadura or Murcia. The varied geographic distribution is often linked to a varied sociocultural and economic integration. The Spanish Gitanos have often been discriminated against, segregated and prosecuted (Leblon, 1985; Gómez Alfaro, 1993). But there are also many cases in which Gitanos have contributed greatly to local communities and received acceptance by their neighbors. Integration of Gitano families in local communities and economies has a secular history mostly in Andalusia, but also in other regions (Lagunas, 2005; Pasqualino, 1998; Gamella, 2006).

Since 1978, within the new political context brought about by democracy and decentralization of the Spanish state, Gitanos have improved their status considerably: they have gained access to free and universal health care, public education, public subsidies and pensions, as well as public housing and housing aids. However, they remain overrepresented in the poorer and most needy sectors of Spanish society. In the last decades, large sectors of the *Calé* minority have been marginalized and re-segregated through shantytowns and slums, some of recent construction. New and old social problems, such as alcoholism, imprisonment, illegal drug dealing and dependence, have taken a great toll among some groups. Even if these problems affect a limited number of Gitanos, their impact may be disproportionate when adequate comparisons are established (MSPS, 2009).

Today the Gitano population is increasingly heterogeneous in terms of income, education and sociocultural orientation. The demographic structure of the Gitano population differs significantly from that of the Spanish population at large. Gitanos are generally younger and their groups include more children and young people, while having a smaller proportion of elderly people. This is due to the different demographic

history of the Gitano minority, which started their demographic transition some decades later than the dominant population (Gamella, 2011; MSPS, 2009). According to our data, fertility decline among Gitanos started in the mid 1980s and was very rapid. From 1985 to 1999, the Total Fertility Rate (TFR) dropped from around 5,5 to around 2,5 children per woman. These and other developments are transforming the cultural and social life of the Gitano community, for instance, in terms of the widespread access to pensions in old age, the almost universal schooling of Gitano children, and an increase in mixed marriages, especially among the more prosperous and educated sectors (Gamella, 2011).

Still, a large sector of the Gitano population has health problems associated with poor and excluded minorities. These include a greater vulnerability to accidents, infectious diseases and degenerative illnesses such as diabetes, hypertension and cardiovascular disorders, resulting in a shorter life expectancy. When controlled comparisons can be applied, Gitanos – particularly women – report worse health and a higher rate of chronic diseases. Although health care is free and universal in Spain, barriers to equal access still remain and Gitanos tend to make less use of preventive programs and resources in exchange for a higher use of emergency facilities (MSPS, 2009). Moreover there is a lack of epidemiological and clinical studies of the health status and problems of the Gitano minority, as well as culturally informed programs tailored to their needs.

2. Methods and sources of data

As mentioned previously, even for larger and better-documented populations, the study of mortality decline is difficult. When reviewing the available data on the decline of infant and child mortality in Spain, Reher and his collaborators concluded that most available data "are woefully inadequate for unravelling the dynamics of change" and "Spain is not alone on this count" (Reher, Pérez-Moreda and Bernabeu-Mestre, 1997: 36). Considerable progress, however, has been made in the last two decades thanks to the work of Gómez Redondo (2005, 1992), Dopico and Reher (1998), Ramiro-Fariñas and Sanz-Gimeno (2000) and others.

In the case of Gitanos there are several reasons for these difficulties. First, since 1783 the mention of ethnic identity has been prohibited in Spanish public

records. Although this prohibition has been followed irregularly[4], official data does not allow for direct demographic studies of this minority or comparisons with other groups.

Moreover, most experts have worked from the premise that Gitanos have never registered births, deaths or marriages until recently (San Román, 1997). This would make demographic research unfeasible or worthless. This assumption has often coincided with the characterization of Gitanos as nomads, itinerants or at least a group that has low and uncertain territorial and local links. Our research in Andalusia contradicts both assumptions. In the parish and civil registries of this region, Gitano families have inscribed the births and deaths of their relatives by the eighteenth century and, in some cases, long before. This trend was accentuated with the establishment of the Civil Registry in 1871 and became more extensive in the twentieth century, especially since the 1920s.

Besides, there is a continuity of residence among most Gitano families in the same towns and counties, which often extends across generations. Thus it is possible to link many Gitano individuals living today with people born in the eighteenth and nineteenth centuries in the same area. In our genealogical research we have been able to verify this in thousands of cases.

2.1. The area of study

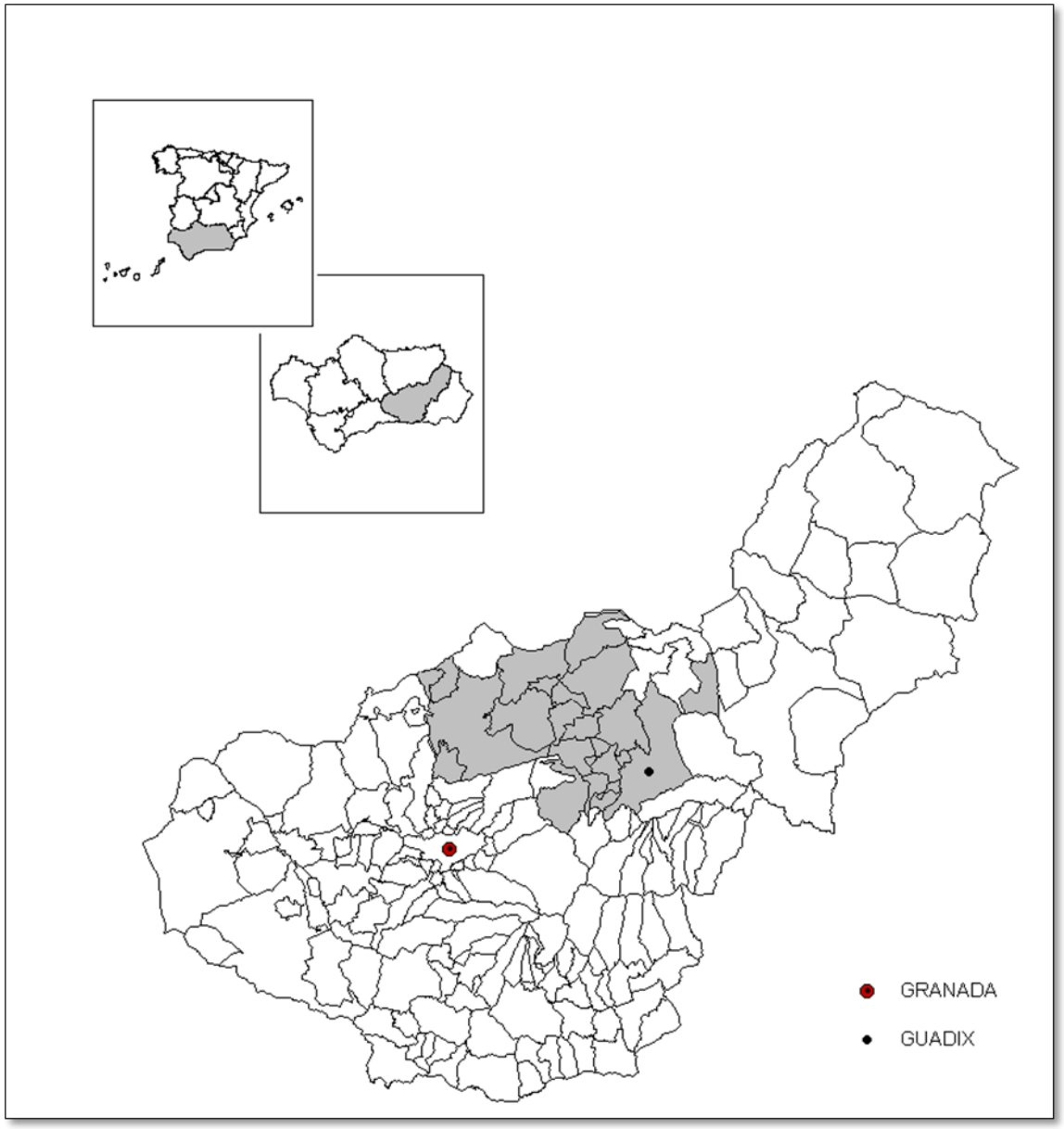
This research was carried out in 22 contiguous localities of the province of Granada in Southern Spain (see Map 1). These localities range in population from about 400 to 22 thousand, including the city of Guadix, the largest of the localities studied.

Gitano families have lived in this area continuously at least since the seventeenth century, when they were identified in parish records as *castellanos nuevos,* the euphemistic phrase use to denote Calé used as early as the sixteenth century and, more rarely, as *jitanos*. Around 6 500 Gitanos live today in these 22 towns and villages, out of a total population of about fifty thousand. Thus, they comprise about 13% of the local population. The proportion of Calé in the different localities has been usually high. By the end of the twentieth century, it ranged around

[4] We found the euphemistic expression "*castellano nuevo*" and the name "*jitano*" itself both in parish and civil registry entries well until the 1920s.

between 4% and 30% in different towns and villages (Gamella, 1996, 2011).

Map 1
Area of study: 22 contiguous municipalities of the province of Granada in Southern Spain



2.2. Gitano identity: who is who

We have considered Gitanos those persons who defined themselves as such; they were also recognized as Gitanos by their relatives and neighbors. Self-ascription has been the primary criterion for ethnic identification in our study. However, Gitano use filiation and descent (Scheffler, 2000) as the crucial emic criteria for identification and membership. These criteria are mostly expressed through the symbol of the

common blood, and thus, they are inherited through consanguinity. According to this ideology, one becomes Gitano by birth from Gitano parents. It is an ideology that uses kinship or relatedness based on shared common biogenetic substance as the key identity and membership trait. A similar ideology of shared substance is also central to the understanding of kinship relations by non-Gitanos or "Payos" as by other modern populations (Schneider, 1968). But it is not used as a key categorial principle of descent and ethnic identity as in the case of Gitanos.

The main contradiction to this ideology, however, derives from intermarriages, unions that produce persons of mixed ancestry whose ethnic identity may be in doubt. Until recently many descendents of mixed marriages married Gitano spouses and their descendents became fully integrated in the minority. Others, however, became incorporated into the majority population and their ethnic difference disappeared in following generations. We have included mixed marriages in our genealogies and their descendents are counted based on whether they continued to live in the area and married within the Gitano population. In the cases we have known personally, they tend to identify with the minority group, but this is obviously open to personal variation.

Gitanos generally are aware of the multiple forms in which Gitano customs and values are converging with those of their fellow citizens. This relative convergence has made the criteria of filiation and descent even more decisive. As some of our informants repeated in what clearly was a shared common representation: "Customs change, but blood remains" (Gamella, 2013).

2.3. Gathering and processing archival data

A central problem in this project, therefore, has been to discern who can be considered Gitano in the historical records reviewed. Today Gitano persons often do not differ in appearance, dress, language or religion from their neighbors. However, locally, Gitano identity is a public, salient and conspicuous phenomenon, part of the shared local knowledge. There is little confusion or hesitation concerning Gitano identity in the localities studied. This applies both to Gitano and non-Gitano people.[5]

[5] Gitano identity in Spain is perhaps less contested than in other European countries. For instance, the confusion so often reported concerning "travellers" and "Gypsies" in the UK (Okely, 1983; Matras, 2003) is not so relevant in Spain.

The meanings of these identification processes vary according to personal, family and even contextual circumstances. Thus, the experience of ethnic differentiation is here, as elsewhere, relational, contextual and heterogeneous, even when viewed as unchanging, univocal and fixed by the actors themselves.

In each locality we gained the help and cooperation of Gitano neighbors in a prolonged ethnographic study that was initiated in 1994 and has become more regular since 2001. In our ethnographic fieldwork we established rapport with many Gitano residents and, in this way, were able to generate a detailed knowledge base of the local Gitano populations, the major family lines and the personal and family names of the present individuals and their ancestors.[6]

We then systematically reviewed the civil registries of births, marriages and deaths of the 22 localities of the research area and used the findings to establish complete genealogies that were codified for anonymity. Old local censuses and parish records were also consulted when available.

The Spanish naming system is especially well fitted to this task. According to the custom of Spanish speaking countries (Gamella, Gómez Alfaro and Pérez, 2014), every entry includes the personal name and two surnames (the father's and the mother's first surnames) not only of the persons whose birth, death of marriage is recorded, but also their parents and, often, of their four grandparents as well. Thus, each entry provides information about seven or eight people from two or three generations. In addition to three-part names, also places and dates of birth (or ages) are generally included. All this information allowed us to locate people in the genealogical grid and to clarify mistakes related to people with similar names and ages.

It also allowed us to create a dense genealogical grid that goes back from nine to even fourteen generations in the best-known cases. We introduced the data in a *gedcom* program, which permitted us to keep track of all the bonds established. The genealogical grid was very useful in confirming descent and thus ethnic identity and the correct attribution of demographic data. Many relatives from one village or town can be traced in the registries of neighboring towns and villages.

We connected ascendants and descendants in growing genealogies, which

[6] Moreover, one of the authors was born, has lived and worked in the area for decades. We also received assistance from Gitano and non-Gitano undergraduate and graduate students who were born and lived in the selected villages and towns.

sometimes included thousands of individuals. The genealogical reconstruction also helped to confirm data about each person in every kin network. The triangulation process confirmed that data about the local Gitano population from the civil registries was usually accurate. Our reconstruction includes over nineteen thousand persons born between 1720 and 2007. Most of them were found in Civil Records, although Parish Records were useful for triangulation and confirmation, and to extend some genealogies to the early eighteenth century. Our analysis here considers only births occurred after the Civil Register was in place, that is, after 1871.

When family lines are followed backwards to the turn of the twentieth century and earlier, references to ethnic identity start to appear in the records themselves. Thus, most genealogies began with references to persons who were identified as "*castellanos nuevos*" or even as "*jitanos*". This allowed us to verify the identities of whole lines of descendants and offered a complementary means of identity verification within our project.

To limit the problems associated with the use of genealogies (Bideau and Poulain, 1984; Hollingsworth, 1976; Jette and Charbonneau, 1984), we also checked the civil and parish registries forward, beginning in some cases in the early eighteenth century, and searched for references or clues that might confirm the affiliation of our subjects. Very often in these early records, ancestors of present Gitanos were referred to as "*castellanos nuevos*".

Records also included references to trades and occupations associated with Gitanos, such as *esquilador* (shearer), *chalán* (horse dealer), *canastero* (basket maker) or *herrero* (blacksmith), as well as streets and neighborhoods where *Calé* were known to live almost exclusively at the time (such as the *Cañada de los Gitanos*). Spatial segregation of Gitanos in particular neighborhoods or areas was the norm until the 1980s and 1990s, when they began to spread out and have access to broader housing opportunities.

Thus, we were able to create ascendant and descendant genealogies, most of which merge at some point, and some of which have a depth of up to fourteen generations. Thus, we were able to collect information about individuals who disappeared from a particular locality long ago either due to death or migration. We traced genealogical connections from the available sources by using birth, marriage and death records for the entire local *Calé* population, not just specific families.

Therefore, we successfully produced a demographic reconstruction of a population that resided in one region during a specific period. It includes patrilineal and matrilineal links of equal depth, since both mothers' and fathers' names appear equally in Spanish records.

Under-registration of unimportant people (Post, Van Poppel, Van Imhoff and Kruse, 1997) was not a problem, since the recorded genealogies include every individual. Children who died at an early age were also recorded, as well as unmarried males and females. By including the entire local population extracted from registry records, some of the problems of using genealogies were avoided (Henry, 1956: 16).

Our data was codified to maintain anonymity and all given and family names were eliminated (Gamella, 2000; Gamella and Martin, 2008). All data we use and cite, especially concerning people born after 1900, is anonymous. In illustrations we use pseudonyms for the names of people born after that period.

The cross-references of entries were very frequent and provided many opportunities for checking the reliability of the data. This has been a lengthy and laborious task and some of our graduate students assisted with the collection of archival data. However, the authors did most of the archival research themselves (working in all 22 localities) and situated all the cases one by one in the genealogical and family reconstitution, and triangulated and cross-checked information for all of the entries (over forty thousand).

During ethnographic fieldwork in the Gitano homes and communities, we conversed with many of the people whose ancestors were included in the genealogies. We verified the validity and reliability of our data and also the situation of many of those who had migrated out of the region to the city of Granada and other provinces of Spain. We developed a deepened understanding of the meanings that these links have for Gitano persons themselves.

2.4. Data problems

Our data presents three main concerns in relation to infant and child mortality. The first obstacle concerns the relatively small size of the population studied. It took us over a decade to gather this data and organize it into a genealogical and family reconstitution. Despite this, we have reliable data concerning only 12,409 births of Gitano children in the study area, of which we confirmed the death of 805 infants

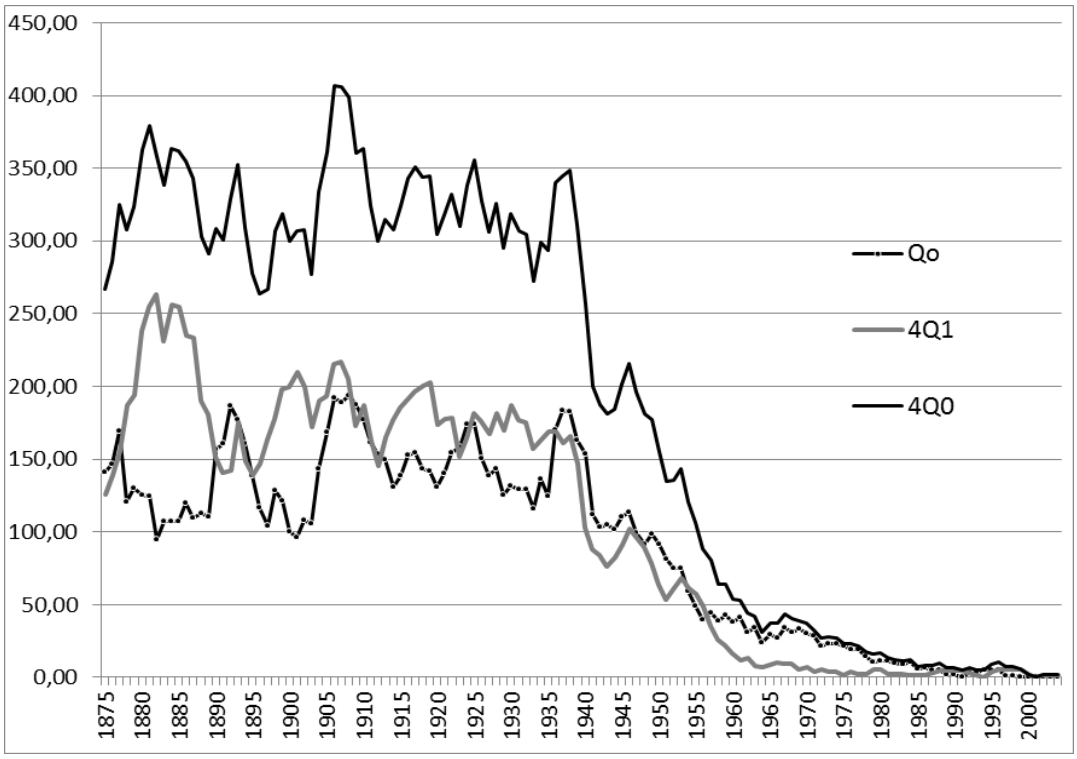
before their first birthdays. The low number of deaths recorded has meant a considerable fluctuation of annual rates. This fluctuation is somehow corrected when 3- or 5- year averages are used (see Figures 2 to 5).

Table 1
Adjusted Infant and Child Mortality rate of the Gitano population of 22 contiguous Andalusian localities. 5-year averages of annual rates, 5-year periods (1871-2007)

	Births	Deaths<1	Deaths 1-4	Q0B	4Q1B	4Q0B
1871 to 1874	128	11	16	90.79	150.50	241.29
1875 to 1879	146	23	17	140.71	125.88	266.59
1880 to 1884	163	21	31	125.08	237.88	362.96
1885 to 1889	163	18	34	107.56	254.47	362.03
1890 to 1894	160	26	20	156.73	151.73	308.46
1895 to 1899	180	25	19	138.71	138.79	277.50
1900 to 1904	209	21	32	99.92	199.68	299.60
1905 to 1909	217	36	32	168.39	193.12	361.51
1910 to 1914	252	43	34	176.98	193.65	370.63
1915 to 1919	276	39	42	138.47	185.51	323.98
1920 to 1924	313	40	43	131.04	173.55	304.59
1925 to 1929	378	64	50	174.17	181.15	355.32
1930 to 1934	437	58	64	131.43	187.15	318.58
1935 to 1939	475	60	66	124.48	169.13	293.61
1940 to 1944	389	62	33	153.59	103.03	256.62
1945 to 1949	509	54	38	110.40	90.83	201.23
1950 to 1954	610	55	31	91.38	63.78	155.15
1955 to 1959	746	36	37	48.72	57.69	106.41
1960 to 1964	826	31	12	37.94	16.22	54.16
1965 to 1969	852	25	7	29.08	8.28	37.37
1970 to 1974	785	24	6	30.23	7.28	37.51
1975 to 1979	729	16	1	21.77	1.44	23.21
1980 to 1984	782	9	4	11.48	5.21	16.69
1985 to 1989	649	4	1	6.11	1.27	7.38
1990 to 1994	567	1	3	1.65	5.03	6.68
1995 to 1999	595	3	2	5.08	3.82	8.91
2000 to 2004	557	0	1	0.00	1.92	1.92
2005 to 2007	316	0	1	0.00	1.82	1.82
Total	12,409	805	677			

Deaths<1: Children who died before 1 year of age in the year considered
Deaths 1-4: Children who died at 1 to 4 years in the corresponding year
Q0B: Adjusted infant mortality rate calculated by formula B, Shryock and Siegel (1976: 237)
4Q1B: Adjusted child (1 to 4 years of age) mortality rate, calculated by formula B, (Shryock and Siegel, 1976: 238)
4Q0B: Adjusted mortality rate, less-than-five years of age

Figure 1
Adjusted Infant (Q0B), Child (4Q1B) and under-five (4Q0B) mortality rates of the Gitano population of 22 contiguous Andalusian localities. 5-year averages of annual rates per year (1875-2004)



Sources: Time series developed form the database of the genealogical reconstitution (see Table 1).

The second important problem is the under-registration of Gitano births, marriages and deaths. This trend clearly decreased in the twentieth century, especially since the 1920s (Martín, 1999; Martín and Gamella, 2005). Besides, the death of infants was less likely to be registered than the death of older children and adults. Birth records, however, may also suffer from some under-registration as a result of pertaining to a poor and often discriminated minority. But there were many opportunities for the registration of surviving persons, such as marriage, the birth of their children and even their deaths as adults. Therefore births had a higher likelihood of being recorded, especially those of persons surviving childhood. Thus, all our calculations most likely underestimate child mortality. In this sense, ethnographic fieldwork and interviews with elderly Gitano men and women confirmed that there are cases in which some of the children whose births were inscribed died in childhood, even if their deaths were not recorded in the registries we studied.

The third major problem of our sample relates to the role of residential mobility and migration, especially in the central decades of mortality decline, that is,

the 1960s and 1970s. Some of those who left may have died elsewhere. Even in many cases in which deaths that occurred in other localities were annotated on the margins of the birth certificates, there are gaps and discontinuities in the death records of those who died outside of the study area. Hence, one cause of under-registration derives from the mobility and migration patterns of this population. Many of the Gitanos of the Guadix region spent several months of each year away from their homes and many migrated permanently after the 1960s. Intense seasonal or definitive migration patterns can affect the data records and, in our case, infant and child mortality records. All estimations and results must be considered in the light of these limitations.

2.5. Variables considered and methods of calculation

We have calculated conventional and adjusted infant mortality rates. The conventional infant mortality rate, Q0A (see Figures 2 and 3) measures the death of children in one year divided by the number of children born that year (Shryock and Siegel, 1976: 236, formula A). Generally only conventional rates can be calculated with the data available. And they offer an approximation to the probability of dying between birth and attainment of the first birthday for the year on which the deaths are considered. Hence, conventional infant mortality has been "widely used as an indicator of the health conditions of a community and, hence, of its level of living" (Shryock and Siegel, 1976: 235). However, adjusted rates are "more akin to true probabilities" (Shryock and Siegel, 1976: 235) and thus they should be preferred. The adjusted infant mortality rate (Q0B) considers how many of the children who died before their first birthday in one year were born in that same year and how many were born in the previous year. Hence calculations of adjusted rates a bit more complicated, as annual deaths of infants or children have to be distributed in two groups according to their year of birth. For this paper the adjusted rate of infant mortality was calculated by the formula B proposed by Shryock and Siegel (Shryock and Siegel, 1976: 237):

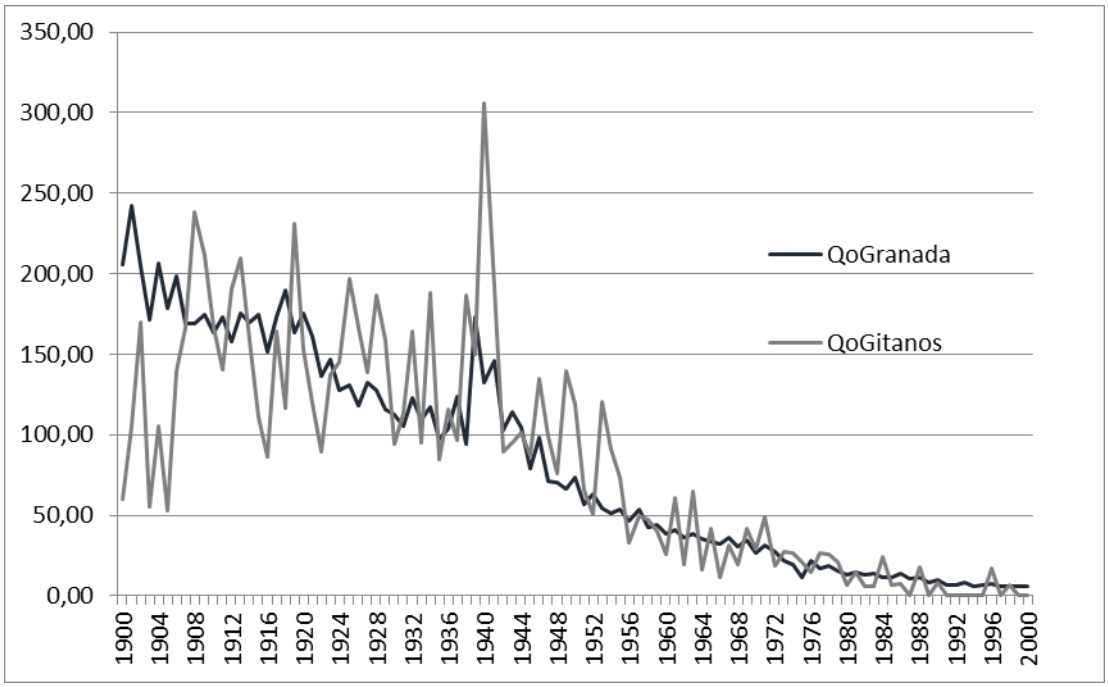
$$Q_oB = \frac{D'_y}{B_y} + \frac{D''_y}{B_{y-1}}$$

We then applied the same method to the calculation of adjusted rates of mortality for children dying at one, two, three and four years of age, to calculate

adjusted child mortality rates (4Q1B) considering both the year of birth and the year of death of children at these different ages. To calculate under-five mortality rates (4Q0B) we added both infant and child adjusted rates, as they were calculated in a homogeneous form. All mortality rates were calculated for a one-year period. We then calculated simple moving averages for 3- and 5- year periods. In table 1 and figure 1 we present the 5-year moving averages of adjusted rates calculated in this form for the Gitano population studied.

However, in order to compare the results about the Gitano population with those that obtain among the Spanish population at large or the population of the province of Granada we had to use conventional rates of infant mortality, as these are the only ones that can be calculated with the available data.[7] In figures 2 and 3 the results are based on conventional rates both for the Gitano population of the area studied and the total population of the province of Granada.

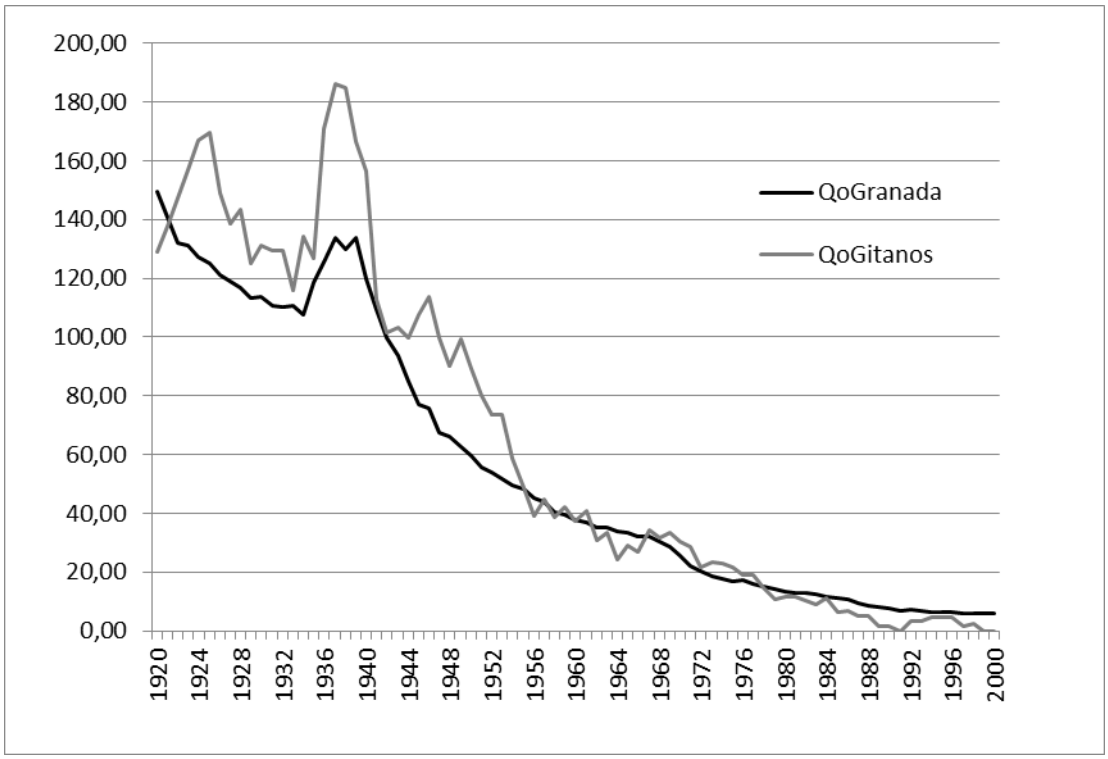
Figure 2
Conventional infant mortality rate (Q0A) of the population of the province of Granada (Q0Granada) and the Gitano population of 22 contiguous localities of this province (Q0Gitanos), 1920-2000. Annual rates.



Sources: Data for QoGranada: Instituto Nacional de Estadística (www.INE. es), consulted June 30, 2013.
Data for QoGitanos: Time series developed form the database of the genealogical reconstitution.

[7] www.INE.es.

Figure 3
Conventional infant mortality rate of the population of the province of Granada (QoGranada) and the Gitano population of 22 contiguous localities of this province (QoGitanos), 1920-2000. Five year moving averages of annual rates.



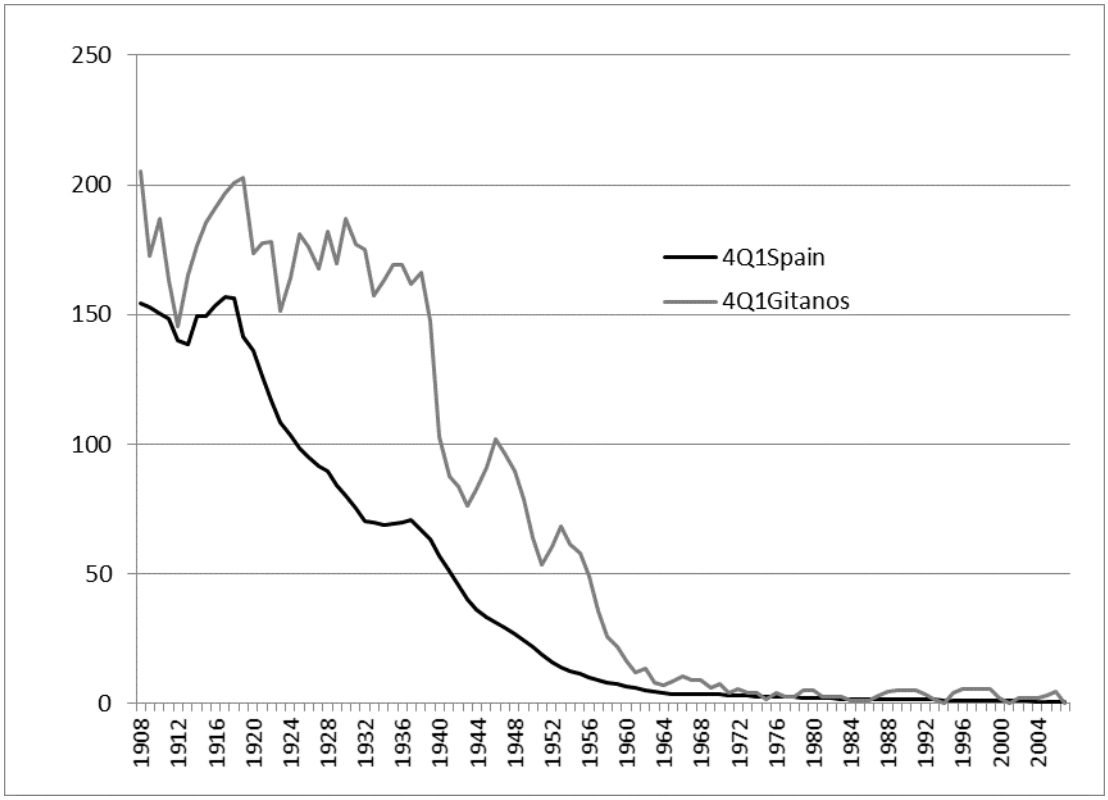
Sources: Data for QoGranada: Instituto Nacional de Estadística (www.INE.es).
Data for QoGitanos: Time series developed form the database of the genealogical reconstitution.

As can be seen in figure 3, there is considerable annual oscillation in infant mortality rates. This figure offers a view of the methodological problems and shortcomings of our sample and the registers themselves. However, these problems are reduced when using moving averages and concentrating on the period after 1920 (Figure 4). It is important to consider that, when establishing chances of dying in infancy, "the accuracy of the approximation varies from one situation to another but depends in general on the annual fluctuations in the number of births" (Shryock and Siegel, 1976: 235). In this same sense, "the relative error from this formula is small unless there are extremely sharp changes in the annual numbers of births" (Shryock and Siegel, 1976: 237). In our final sample of births and deaths, the number of births oscillates much less than the number of deaths. Therefore, the results we obtain seem to offer a valid and reliable picture of the decline of infant mortality in the minority

population studied, although some understimation may apply.

Concerning child mortality rates, the situation is a bit more complicated. For the Gitano population studied we used adjusted rates with a similar calculation to the one explained before. But we could not find comparable data for the general population of Granada. So we have used data for the whole of Spain (see figure 4), obtained from the Human Mortality Database, which uses life tables for its calculations.[8] Thus, the comparison between the child mortality of Gitanos and the majority of the population (see figure 4) is more approximate and has to be honed with further research.

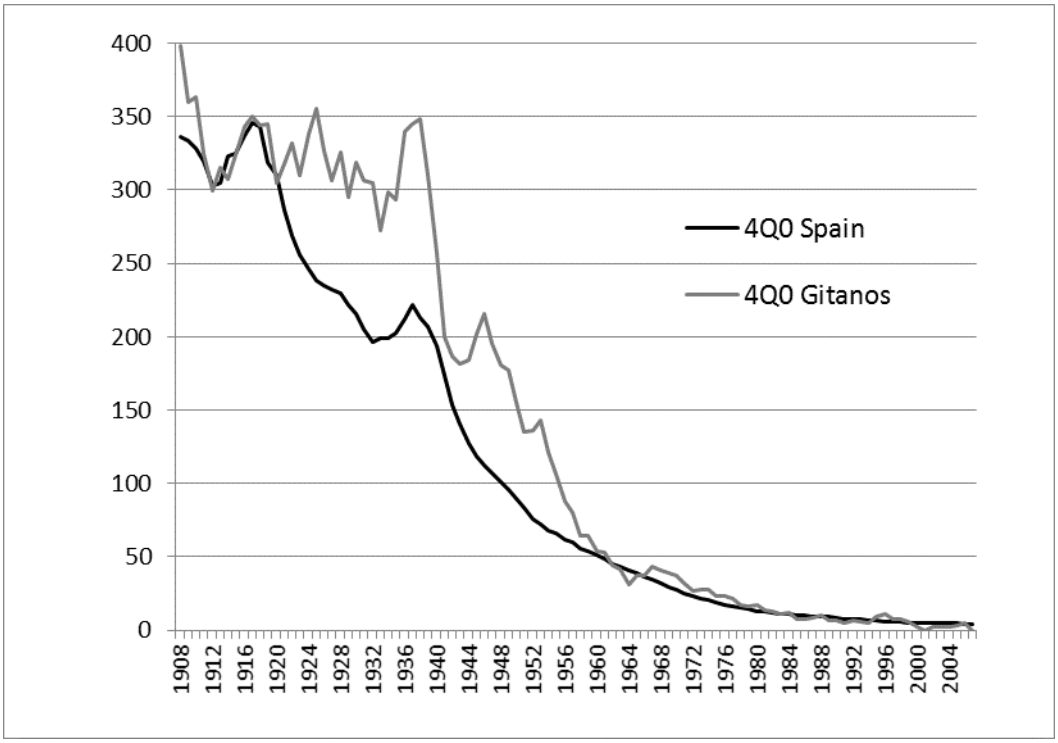
Figure 4
Adjusted Child (1 to 4 years of age) mortality rates of the Spanish population (4Q1 Spain) and the Gitano population (4Q1 Gitanos) of 22 contiguous localities of the province of Granada (1916-2007). Five-year moving averages



Sources: Data for 4Q1Spain: Human Mortality Database (www.mortality.org), consulted Dec. 1, 2013.
Data for 4Q1Gitanos: Time series developed form the database of the genealogical reconstitution. Calculations of adjusted child mortality rate by formula B (see Methods).

[8] See www.mortality.org.

Figure 5
Under-five (4Q0) mortality rates of the total Spanish population and the Gitano population of 22 contiguous localities of the province of Granada. Five-year averages of annual rates (1908-2007)



Sources: Data for 4Q0 Spain: Human Mortality Database (www.mortality.org), consulted Dec.1. 2013.
Data for 4Q0 Gitanos: Time series developed form the database of the genealogical reconstitution. Calculations of adjusted child mortality rate by formula B (see Methods).

3. Preliminary results and discussion

The main result that emerges from our analysis is the confirmation that it is possible to study the crucial processes of demographic and family change of the Romani populations of Europe using a multidisciplinary approach. In this approach, an ethnographic and ethno historical perspective is required as local, situated knowledge about the historical and actual communities is indispensible. Therefore, although these results are preliminary, the decline of both infant and child mortality among the Gitano population studied is well supported by the data collected from archival and ethnographic research. The main contours of the process seem well profiled in the time series of infant and child mortality that our reconstitution has produced.

The results offered here must be seen as an illustration of the feasibility of our methodological approach. The detailed analysis of these results, including the onset of the definitive fall of infant and child mortality, the phases of these processes and the

epidemiological and sociopolitical context in which they happened will be the subject of further publications.

Table 1 and the associated Figure 1 show the evolution of the annual series of infant, child and under-five mortality rates. They are aggregated using 5-year averages to facilitate their presentation and understanding. These data show that for about the 75 first years of the period studied, since 1871 to the mid 1940s, the childhood (under-five) mortality rate of Gitanos almost always surpassed the mark of three hundred deaths per thousand, with periods in which it exceeded the mark of four hundred deaths per thousand. Moreover, these results should be considered conservative, as the under-registration of deaths was significant for the minority population in the early decades of the Civil Registry. Some of the peaks found in this period may be related to local or national epidemics or even to larger pandemics. For instance, the epidemic of cholera in 1885 affected dramatically the province of Granada (Montero, 1885) and the population under study. In other cases, the fluctuations visible in the figures are more difficult to explain and may be due partially to the limitations of the data. In this sense, Figure 2 confirms the important annual oscillation of rates that can be attributed to the small population studied. In the decades before 1920, there are also clear signs of under-registration. As was stated in the methods and sources section, only during that decade and thereafter we found an increasingly complete registration of the deaths of local Gitano people, including infants and children.

Nevertheless, when the analysis focuses on the period 1920-1999 and the data for Gitanos is compared with data for the whole population of Granada's Province (Figures 3, 4 and 5), the divergences and convergences seem to be significant. Concerning infant mortality (Figure 3) and more clearly child mortality (Figure 4), the mortality crisis caused by the Flu Pandemic (1918-1919) and its aftermath, as well as the terrible traumas of the Civil War (1936-39) and the postwar years seem to have affected more severely the minority population. There are also bulges and peaks in the 4Q1 rates of the Gitano population in the 1940s and early 1950s that indicate a higher mortality among Gitano children. These higher rates cohere with ethnographic and ethno-historical data on the special poverty and exclusion suffered by Gitanos in the period.

In sum, the late 1940s and early 1950s seem to be crucial years for the definitive decline of childhood mortality in the *Calé* minority. Setbacks, however, are

not completely ruled out until the period of 1953-57, especially in the case of child mortality (see Figure 4 and Figure 5). Ethnographic and ethno-historical data on the social and familiy history of the minority population under study could help explain these differences in such vital indicators (Gamella, 2000; Gamella and Martín, 2008).

Since the mid 1950s, coinciding with the general "modernization" and internalization of the Spanish economy, a "more effective" system of reproductive health seems to have gained ground among the Gitano population. By this we simply mean that less pregnancies and young lives ended prematurely, and the huge effort of Gitano mothers and fathers was accompanied by success as more children survived childhood.

In sum, childhood (under-five years of age) mortality among Gitano children seems to have experienced a period of gradual decline since the beginning of the twentieth century in parallel with the Spanish population at large, with important trend reversals in the 1918-1921 period and, especially, during the Civil War and the immediate postwar period. In the late 1940s, a sharper decline began that has not had significant interruptions. The decade of the 1950s was crucial for this downward transition. The most relevant difference seems to be the higher levels of Gitano infant, especially child mortality, and the time lag of the onset of the definitive downward trend.

The context of the onset of the definitive decline in childhood mortality was the improvement of local conditions after the post-war years. Some of these improvements were generalized and reached all the lower levels of the population, including Gitanos. The time series in this period cohere with data from ethnographic interviews. The post-war period was very hard for most of the poor, and Gitanos have largely been overrepresented among Spain's most needy people. Elderly Gitano men and women in the area of study remember the 1940s as terrible "years of hunger", while the 1950s – especially the second half – are described as "years of need, but at least you could eat".

In structural terms this was not very different to what has been described for the Spanish population at large. In Spain, the decline of childhood mortality started in several regions before the turn of the twentieth century, but experienced recurrent reversals. In the 1920s, however, "the pace of mortality reduction increased substantially, and trend reversals were no longer significant until the influenza

epidemic of 1918-1919 and the Civil War and its aftermath (1936-1940)" (Reher, Pérez-Moreda and Bernabeu-Mestre, 1997: 43). However, concerning Gitano people there seems to be an important time lag of five to ten years – both in infant and child mortality – that requires further study, including the systematic review of the recorded causes of death. Additionally, further attention needs to be paid to the differences between infant and child mortality, as there is evidence that their relationship may differ from that found in the majority populations.

It is important to note, however, that similar or convergent rates of child mortality meant something very different for this minority, due to their higher fertility rates. Basically it meant that individual Gitano families tended to experience the loss of children more frequently and repeatedly. These losses are very prominent in the discourses of elder Romani women and may have been neglected or ignored in most ethnographic and historical representations.

Nevertheless, crucial aspects of the decline of the mortality of Gitano children remain to be explored. First, the process of decline has to be delineated carefully; then the socioeconomic and epidemiological circumstances in which it took place have to be identified, analyzed and integrated in a causal model. Among the main motives for change, we find a betterment of living conditions for Gitanos and other disadvantaged Spanish populations since the early 1950s. These entailed better nutrition and housing, increasing access to safer drinking water, sanitation and to modern health care, including the spread of vaccination and of antibiotics that slowly permeated to all sectors of population. We also see new sources of income and the chance better jobs in the cities and in other areas of Spain and Europe that alleviated the local labor market; and so forth. We must also learn about the household and community conditions surrounding the mother and the children in their first years of life. In this sense, we must explore the agency of Gitano people themselves, especially Gitano women, in their efforts to increase child survival. In these sets of factors, the comparison has to be, first, between Gitano communities themselves and then with their non-Gitano neighbors who shared similar living conditions. Then, an international comparison of different Romani groups should be undertaken. Therefore, there is still much to do in this project and we plan to deal with these issues and others concerning the demographic transition of Spanish Romani in further publications.

In sum, this paper shows that the main contours of a complex historical

transformation can be ascertained by micro-demographic research that uses local knowledge obtained through ethnography. This is a promising form of collaboration that may offer important insights about ignored dimensions of social change. Even if limited in its results, our case can be useful in the necessary comparison with the demographic history of other Romani groups. The main problems encountered in this case seem common throughout the different European countries, but in diverse forms that require careful comparison. We hope this paper may contribute a bit to this larger endeavor.

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