Growing religious pluralism in early nineteenth-century Geneva:

new methods for revealing hidden structures and dynamics from censuses[*]

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1. Introduction. This paper has a local, a general and a methodological ambition. We deal with a specific story, that of Geneva, the «Calvinist Rome», which was obliged in the first half of the nineteenth century to open its doors to the others, especially to the secular enemies who took the form of Catholic immigrants. Most of the late Ancien Régime cities operated closed, privileged hereditary transmission, reserved charity to the natives and expelled the poor foreigners, the «heimatlos» (Lynch 2003). To some extent, Geneva's case is an extreme one, but many towns entered the modernization when their population was transformed by the permanent establishment of immigrants within a context of new forms of (national) citizenship. Learning to live together, to organize the coexistence of the 'old' rooted families and the 'newcomers', was a process marked by tensions and power relations. From that perspective, Geneva's history documents an European experience in the early nineteenth century, whereas most existing studies are about nineteenth century America or Europe cities in the second half of the twentieth century. We discuss how stories of pluralism can be addressed using population censuses as an historical data source. They document changing structures and tell us how different denominational groups entered the city labour market. Enriched by the linkage of nominal data, censuses can also be used to show how immigrants progressively settled. We introduce a new and relatively simple statistical method, that of implicative statistical analysis, which is a powerful tool that reveals hidden patterns and the variables that polarize socioeconomic structures. Using this approach, we discover that the protestant religion remained the dominant structuring principle. While relatively stable protestant socioeconomic groups competed for power, Catholics did not take part in these struggles but grew demographically, remaining as invisible as possible. It is the opposite pattern of the space segmentation (with ghettos, «Little Italy», «Chinatown», etc.) often observed in the United States or elsewhere (Rainhorn 2005). This 'strategy' of invisibility is of great interest because it has been, perhaps still is, quite common in past and contemporaneous societies experiencing inmigration. Inevitably, though it is difficult to identify since it is intrinsically hidden.

2. Geneva between 1816 and 1843. The context of this study is Geneva in the time of restoration. From the definitive adhesion to Calvin's new religion in 1536, the little city gained a great reputation as the Calvinist Rome. This refuge was an island under threat, surrounded by an essentially Catholic hinterland and dangerous neighbours. For their own protection the inhabitants of Geneva built the impressive Vauban walls. They lived closed in on themselves and simultaneously open to the Calvinist diaspora, in a «theocratic Republic» where the elite of bourgeois families was thought to have the vocation to manage and protect the town and the faith (Henry 1956; Perrenoud 1979; Perroux 2006).

After the eighteenth century revolts of the 'inhabitants' and 'natives' against the city's bourgeoisie, the French revolutionary armies destroyed the old order, obliged the Calvinist church to abandon its properties and power, and made Geneva a part of the French republic, then empire. After Napoleon's defeat, the Vienna Treaty restored the 'Ancien Régime', however with two conditions. First, Geneva joined the Swiss Confederation; second, to have a spatial continuity with the Confederation, the independent city had to form a new canton integrating seven Catholic rural municipalities conceded by France and twelve by the kingdom of Piedmont-Sardinia. Almost overnight, the old endogamous Geneva bourgeois families had recovered their power and the Calvinist church its properties and moral power. But that world was definitively transformed since the Protestant closed city also became a mixed canton, urban-rural and Calvinist-Catholic (Herrmann 2003, 259). Until the middle of the nineteenth century the battle between the forces of modernisation and reaction was inconclusive, as the governing conservative elite tried to slow down the pace of evolution. This situation eventually reached its climax in 1843-46 when the Geneva revolutions anticipated the 1848 European «Printemps des Libertés». Supported by a local protestant elite of manual workers, the watchmakers, the leaders of the Radical party, took power, organized the destruction of the Vauban walls, and opened the city to change (Perroux 2006).

Our research is situated between 1816 and 1843. The ambiguity of this time was not restricted to the political situation but was also apparent in the demographic regime, which contained elements of the traditional and the modern. Indeed, the old Malthusian brakes to population growth were still at work, with average age at first marriage of 28 for females, and a high level of permanent celibacy (circa 20% among women) (Ryczkowska 2002). In the same period, children in Geneva benefited from a low and decreasing infant mortality ($_1q_0$ 100 to 130 per thousand). Indeed, the Total Marital Fertility Rate for the couples married in the period 1800-1850 indicates 2.32 children per woman, revealing the widespread practice of birth control (Schumacher 2010).

Within such a low intensity demographic regime, the natural balance of deaths and births was positive, but reached only 557 from 1806 to 1850 while the city grew from 21, 237 to 31, 200 inhabitants during that period. This is a reasonable but not a very impressive growth in the nineteenth century context. However, in Geneva, almost 95% of the expansion has to be attributed to migration which was consequently much larger than is suggested by the population expansion. Moreover, with-

in those flows of newcomers came the Catholics. While their residence within the walls was strictly restricted until the late eighteenth century, they already made up 11 percent of the Geneva inhabitants in 1816, at the end of the French period and at the beginning of the Restoration. That proportion rose to 28% in 1843 and reached 46% in 1900. For a city and its inhabitants who had such a strong self-identification with Calvinism, the experience of religious cohabitation was not easy. However, the tensions did not degenerate into open and bloody conflicts as in the case of Belfast, for example. To explore that story further we use data from manuscript census returns and also introduce some new techniques of analysis

3. Geneva censuses from 1816 to 1843. From the Restoration to 1843, Geneva presents an impressive series of modern population censuses executed by the State. They are organized arrondissement by arrondissement, street by street, house by house, with each household as the basic unit of survey, and one line per individual within each household. For each person there is recorded the family and first names, matrimonial status, birth place and place of origin, the number of the residence permit for the non-Geneva citizens, age or date of birth, religion and occupation.

We collected all those data in six censuses from the dozen available. We selected censuses with usually a six years gap, i.e. 1816, 1822, 1828, 1831, 1837, 1843. An alphabetical sample strategy was used to reduce the extremely time consuming phase of manual computation while preserving the representativeness of the sample (Dupâquier 1984, 115). A data base has been constructed from all the individuals for whom the family name began with the letter B. We entered and coded the individual variables but also the household composition. The result is a sample of 12.5% of the total population, stable across time and the various sub-populations. Moreover, nominal data have been linked from census to census through a simple computer-assisted procedure. From 35,592 individual records and 10,723 household records, we reconstructed 24,718 life trajectories across Geneva. Of course, many persons have been observed only one time (38 percent of the 'trajectories' are limited to a unique spot).

While in population history census analysis relates to the first systematic use of computers and an intellectual period dominated by the structuralism of the 1970s and early 1980s, in recent times their re-exploration plays a major role in a renewed urban historical demography (see Laflamme 2007; Gruber *et al.* 2011; Ramiro Farinas, Revuelta-Eugercios 2011, among many). Our ambition is to contribute to those advances, proposing new typologies to address topics relating to siblings or solitude (Oris, Ritschard, Ryczkowska 2005; 2006).

In the Geneva data base, we also started to add the death certificates and passports for the 'B group'. Grazyna Ryczkowska (2002) collected all the marriages involving a 'B' from 1816 to 1880. Reto Schumacher (2010), using Grazyna marriage certificates, constructed his own massive family reconstitution dataset. Adrien Remund (2009; 2010) also took the 'B group' in the registers of immigration from 1837 to 1843. So the data base becomes more and more rich. In this paper, however, we will simply exploit the linked censuses.

4. Looking at Catholics in the Geneva censuses: tensions and stabilization.

While the population of their city changed because of the migration flows, Geneva natives tended to define themselves as the «old Genevans» (Herrmann 2003). The «policy of foreigners» was strictly organized in a Republic where «Geneva» remained the primary collective identity and where even the Swiss Confederates were seen as foreigners until at least the middle of the nineteenth century (Remund 2009). The registers of residence permits show at which point the newcomers were meticulously registered. They had to demonstrate their «means of existence» and they paid a tax (Remund 2010). However, Geneva authorities could not use that system to select migrants, and in the process avoid the arrival of Catholics. Indeed, they were constrained by international treaties in relation to the free establishment of their citizens, as signed by the Swiss Confederation with important neighbours like France. And moreover, they could not restrain the migration into the town of Geneva citizens coming from the Catholic countryside.

At the level of the new religiously-mixed canton, tensions were revealed by the difficulties the Geneva Republic had to face in establishing its matrimonial legislation. For the Protestant elite, following Calvinist theology, marriage was not a sacrament but a contract. Adhering to the Napoleonic Civil Code was fine in that respect. However, the Treaty of Turin of 16th March 1816 imposed a strict respect for the Catholic faith of the Sardinians who became Genevans and Swiss. So the Geneva law on marriage of March 20, 1816, proposed a compromise. A civil ceremony was always requested but had to be followed by a nuptial benediction, which was a formality for the Calvinists, and a real religious marriage for the Catholics. The government however could dispense with the nuptial benediction, a possibility that was explicitly introduced for the religiously mixed unions (Dufour 1987). A few years later, the law of December 26, 1821, reinforced the civil dimension of the marriage, producing furious reactions from the Catholics and a (modest) international incident when Piedmont-Sardinia pressed the Swiss Confederation to seriously remind the Geneva authorities about respect for the Turin Treaty. Finally, the law of 24 January 1824 created a dual matrimonial regime, one for the Protestants and another one for the Catholics, a dualism that survived until 1861 (see Oris, Perroux 2007, 206-207 for more details).

Mixed unions and the religious education of the children born from those unions were central in the debates that followed. Abbey Jean-François Vuarin (1769-1843), in particular, played an active role in these controversies, publishing many pamphlets. Vuarin had arrived in Geneva at the very end of the eighteenth century and after the 1801 Concordat between France and the Papacy, and became officially the head of the Catholic community in the city. He saw the Calvinist Rome as a land of mission, cultivated the dream of a new evangelization, continuously attacked the Protestants and their faith. He maintained this aggressive attitude until his death in 1843, including organizing a funeral procession across the old historical protestant quarters (Guichonnet 1989; Herrmann 2003, 34-35).

By confronting the Geneva political and religious Restoration, this Catholic fighter also helped nourish the «Réveil», a movement which wanted to wake up and

strengthen a Protestantism seen as too cold and sleeping, compared to a vibrant Catholicism (Perroux 2006, 40). The 300th anniversary of the Reform in 1835 was also a moment of reaffirmation of a collective religious identity. And finally, from 1842 until 1847 a «Union Protestante» was active, federating up to one Geneva Calvinist in seven. Since the authorization of residence in the city was conditional on employment, the Union asked the Protestant employers to refuse to engage Catholic workers or servants and to privilege the Protestant immigrants (Friedli 1984; Oris, Perroux 2007).

As we can see, in the early 1840s, Geneva did not seem that far away from Belfast. However, the censuses tell us a quite different story. In another paper (Oris, Perroux 2007), we looked at the transformations of the age, sex and matrimonial structures among the Catholics living in the Calvinist Rome, from 1816 to 1843. This is a story of progressive stabilization and group formation. From turbulent flows of teenagers and young single adults characterized by a high turn-over, progressively emerged a stable core of families who settled, and whose children were the first Catholics to be born in Geneva since 1536. Those Catholic natives formed in Geneva a modest but sufficient matrimonial market, moreover also complemented by young people selected among the Catholic migrants. Normally those migrants just went through the town, worked there for some times, and then returned home. But progressively, they also could find an opportunity for an establishment through a marriage with a Geneva resident from the same religion (Ryczkowska 2002; Remund 2009). By the 1830s and the 1840s, Catholics in Geneva formed a subpopulation with its own internal dynamics and an inclusive approach to newcomers.

We do not however define this subpopulation as a 'community', since it did not form an isolated group, rejected by the Protestant majority and constrained to close in on themselves. Constructed from our census samples, Table 1 confirms the

Tab. 1. *Religious cohabitation in Geneva households, 1816 to 1843*

Censuses	1816	1822	1828	1837	1843	1816	1822	1828	1837	1843
Types of religious cohabitation			n					%		
Households (total)	1335	1389	1331	1457	1521	100	100	100	100	100
homogeneous Protestant	1067	932	917	875	807	79.9	67.1	68.9	60.1	53.1
homogeneous Catholic	66	95	144	203	278	4.9	6.8	10.8	13.9	18.3
mixed	200	231	269	373	430	15	16.6	20.2	25.6	28.3
with protestant head	115	140	187	246	282	8.6	10.1	14	16.9	18.5
with catholic head	85	91	77	123	147	6.4	6.6	5.8	8.4	9.7
Mixed couples	68	77	83	106	141	5.1	5.5	6.2	7.3	9.3
Protestant husband	52	51	46	62	76	3.9	3.7	3.5	4.3	5
with Protestant children	36	32	29	42	47	2.7	2.3	2.2	2.9	3.1
Catholic husband	16	26	37	44	65	1.2	1.9	2.8	3	4.3
with Catholic children	1	1	3	4	1	0.1	0.1	0.2	0.3	0.1
Protes. head with Catho. lodgers	101	115	153	209	222	7.6	8.3	11.5	14.3	14.6
Catho. head with Protes. lodgers	34	36	34	59	67	2.5	2.6	2.6	4	4.4

Tab. 2. *Religious stabilities and conversions in the Geneva censuses, 1816-1843*

| Periods | 1816-22 | | 1822-28 | | 1837-43 | |
Stabilities/conversions	n	%	n	%	n	%
Protestants in *t*	700	100	943	100	1353	100
Protestants-Protestants	687	98.1	927	98.3	1331	98.4
Protestants-Catholics	13	1.9	16	1.7	22	1.6
Catholics in *t*	62	100	124	100	333	100
Catholics-Catholics	47	75.8	111	89.5	305	91.6
Catholics-Protestants	15	24.2	13	10.5	22	6.6

growth of the Catholic households, with the proportion rising from 4.9% to 18.3. But the mixed households where Calvinists and Catholics shared roof and table were always more numerous. Power relations between the natives and the new-comers are obvious since those mixed domestic units had more often a Protestant head. However, up to one household in ten in 1843 had a Catholic head and at least one Protestant member.

It seems an idyllic story of integration and coexistence and, quite obviously, this portrait calls for nuances. Indeed, we can also use the censuses to scrutinize the questions that were debated during the discussions around the matrimonial legislation: mixed unions, religious education of the children born from those unions, and religious conversions. In Table 1, we can first observe that mixed couples became less and less rare. They were present in 5% of the households in 1816, 9 percent in 1843. At the beginning, three out of four were unions between a Protestant man and a Catholic woman, but that proportion declined to 53% in 1843. Of course, we have to keep in mind that considering the respective weight of the Calvinists and the Catholics in Geneva's population, that kind of situation did not really affect the Protestant dominant position but could appear as a threat to the Catholics. Indeed, confirming the worries of Vuarin, we see that, when the wife was Protestant and the husband was Catholic, children were educated in the faith of their mother, but that the opposite was far from being true. In the mixed unions where the father was Protestant and the mother Catholic, a clear majority of the children were declared Protestant.

In Table 2, we used the linked census and we considered the individuals present at two consecutive censuses, looking to see if their religious affiliation changed. Although the numbers are low at the beginning of the period and call for prudence, it is obvious that conversions did not significantly affect the Protestants while it was a significant threat for the Catholics in the 1820s. Thereafter it was relatively less common.

As a provisional conclusion, we can say that Catholics in early 19th century Geneva clearly had a minority status, and some of their worries about mixed unions and conversions were not only a matter of polemic. However, their position became better after the 1820s, with more diversified structures fulfilling the conditions for a more enduring presence. If in the 1840s some Protestants reacted to that growing

Catholic presence in the city and tried to organize a boycott, it remained a pacific opposition. While the 1843 and 1846 Radical revolutions were bloody, religion was not part of this conflict between conservatism and liberalism. Indeed, even if we keep in mind some serious reservations, looking at the religious cohabitations in the censuses tells us a story a tolerance from the majority to the minority.

A part of the explanation is for sure qualitative. Although secularisation took the whole nineteenth century to work through, and the separation of the State and the Protestant National Church was proclaimed only in the early twentieth century, the process started in the 1820s (Oris, Perroux 2007). Moreover, after some hesitation, the majority of the pastors consistory condemned the «Union Protestante», rejected the perspective of a return to religious wars, and refused to react to Vuarin attacks (Oris, Perroux 2007, 211). Sometimes, this tolerance was mixed with arrogance, with an author like Mallet (1851) contrasting civilized and reasonable Protestantism with fanatical Catholicism. Nonetheless, a majority of the protestant population followed its religious and intellectual elite and opted for a tolerant attitude (Herrmann 2003, 234-241) that is indeed reflected in the statistics of cohabitation at the household level. However, those explanations are not satisfying enough. Indeed, tensions between a minority and a majority are usually not (only) related to differences in religion or ideology; they are inscribed in discriminating socioeconomic structures that reinforce and affirm the differences. To locate Catholics within the social and economic structures of Geneva city in the first half of the nineteenth century, we make use of a relatively new technique, that of implicative statistical analysis.

5. A new method: implicative statistics. To tell us about the «Catholic question» in the first half of the nineteenth-century, we selected a statistical method, *implicative statistics*, which has been introduced by Régis Gras (1996) as an exploratory tool for data analysis. Implicative statistics is now frequently used in data mining, but rarely in the social sciences, including historical demography (see Gras *et al.* 2007; Gras *et al.* 2009). This method has a great potential for extracting from multiple variables a graphical synthesis. Moreover, its application has been made easy by Couturier, Bodin and Gras (2005) who developed the software CHIC.

More precisely, implicative statistics is about the links or associations between binary variables. So, categorical variables with more than two modalities must be coded 0-1 and continuous variables have to be transformed into discrete ones. The strength of an association between two variables is measured by the probability

$$P(N_{ma} < n_{ma} \mid independence)$$

that, in case of independence, the number N_{ma} of co-occurrences of say 'Men' (m) and 'Active' (a), is lower that the observed number n_{ma}.

The probability can be computed using a binomial or a Poisson distribution. Basically, as defined above, the association between two variables is symmetric. To obtain an orientation, Gras proposed to evaluate the intensity of the implication, 'Men implies Active' for example, using the probability

$$P(N_{m\bar{a}} < n_{m\bar{a}} \mid \text{independence})$$

that the number $N_{m\bar{a}}$ of counter-examples (number of inactive men) is, in case of independence, higher that the observed number $n_{m\bar{a}}$ of such counter-examples.

From that basis, the *implicative graph* is constructed by drawing arrows between any pair of variables when the implication intensity exceeds a threshold which is defined by the user. The direction of the arrow is the one for which we have the highest implication intensity. In the software C HIC , the user can fix one to four thresholds that will result in arrows of different color and size. For the sake of clarity, C HIC does not represent direct association when there already exists a link between two variables through other ones.

6. Catholics in Geneva: a growing but hidden minority. Our analysis is based on the censuses that are separated by six years and have all been cumulated. We consider the states at time t, i.e. in 1816, 1822, 1831, and 1837, and at time t + 6 (1822, 1828, 1837, 1843). States have been defined through a codification process.

Among the data collected, we counted 1,200 different mentions of occupation that have been grouped in socio-professional groups on one side, and by social statuses on the other side. Table 3 lists the modalities for the two typologies. To make a distinction between the states at the beginning of the 6 year interval and at the

Tab. 3. *List of socio-professional groups and social status*

Labels	Social status	Labels	Socioprofessional groups
ss_ukwn	Unknown	sp_inac	Inactive
ss_unsk	Unskilled manual workers	sp_uskil	Unskilled
ss_skill	Skilled workers	sp_craft	Craftsmen
ss_white	White collars	sp_watch	Watchmakers
ss_pmb	Petty bourgeoisie	sp_trad	Traders
ss_eli	Elite	sp_serv	Private and public services

Tab. 4. *Cross-frequencies of socio-professional groups with social statues (at time* t)

Status Socioprofessional groups (SPG)	Unknown	Unskilled	Skilled	White collars	Petty bourgeoisie	Elite	Total
Inactive	4467	23	0	79	1	344	4914
Unskilled	274	1672	96	118	3	0	2163
Watchmakers	0	71	1330	0	213	0	1614
Craftsmen, skilled	0	173	1527	3	80	0	1783
Traders	0	112	64	21	537	7	741
Private and public services	0	28	18	37	156	82	321
Total	4741	2079	3035	258	990	433	11536

Tab. 5. *Types of transitions*

Transition (label)	SPG in t	SPG en t + 6
stays inactive (inactive)	inactive	inactive
becomes active (new_active)	inactive	active
stable (stable) active	active SPG(t) =	SPG(t + 6)
mobile (mobile) active	active SPG(t) ≠	SPG(t + 6)
stopping activity (retired)	active	inactive
newcomers (new_comer)	non present	present
disappear	present	non present

end, we prefix with a 't_' the former. For example, 't_sp_watch' is a watchmaker at time t, and 'sp_watch' is a watchmaker at time $t + 6$. Table 4 provides the distribution of those categories at time t. Let us note the distinction between the social status 'unskilled' and the socio-professional group 'unskilled'. An 'apprentice butcher' or a 'shop maid' belongs to the social status 'unskilled' but to the socio-professional group of the craftsmen and small trades, not to the socio-professional group of the 'unskilled' where we place, for example, the daily labourers. From t to t + 6, the transitions of interest are defined in relation to the socio-professional groups and are summarised in Table 5.

Our objective is to locate the religious groups, especially the Catholics, in the main components and dynamics of the Geneva socioeconomic structure. We consequently have three modalities: Protestant (in fact Calvinist), Catholic, and Other (for the very few Jews and some Lutherans). We control for the demographic features of age, sex and matrimonial status. Since the number of divorced is very low (< 10) we only consider the states single, married and widow(er). For religion, as in the case of matrimonial status, we take the state in time t, but for the newcomers their status is known only in $t + 6$. For age, we take the one in the middle of the interval, i.e. age in $t + 3$. For the statistical implicative analysis, age has been reduced to three binary variables (minimizing the intra-group variance): age1 for the less than 16; age2 for those aged 16 to 41; age3 for those aged more than 41. Finally, since the number and proportion of Catholics are growing, we make a distinction between two periods, one covering 1816 to 1828, and the second one from 1831 to 1843.

Figures 1 and 2 show two models which are illustrated by implicative graphs. The first considers the socio-professional groups, social statuses and other structural dimensions at time t. We of course integrate religion, seen as an indicator of migration and openness of Calvinist Rome. Data are the individual records in our alphabetical samples. Figure 2 does the same for the situation in time $t + 6$.

Arrows in red portray the most statistically significant relations and those ties are often obvious. The young aged less than 16 are indeed singles, which is not a surprise, but just a demonstration of the method's efficiency. Figures 1 and 2 could form the basis of a detailed analysis about social structures and dynamics in 19th century Geneva (see Oris, Ritschard 2007; Ritschard *et al.* 2009). Here we will confine ourselves to the identification of the variables of polarization or convergence. Four arrows or more are converging on three demographic characteristics. As men-

Fig. 1. *Implicative graph, socio-professional groups and social status at* t
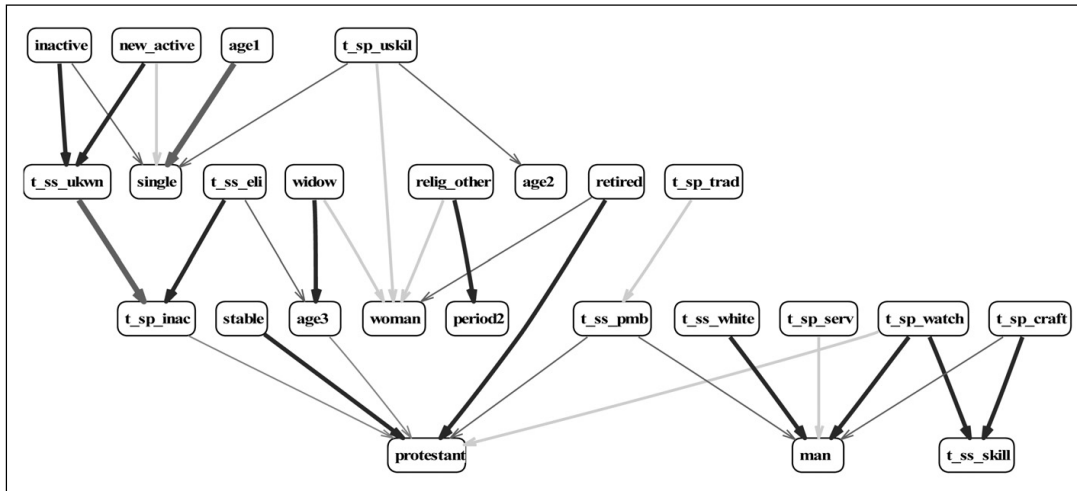
Note: in red implications > 99%, in blue > 90%, in green > 85% and in grey > 80%.

Fig. 2. *Implicative graph, socio-professional groups and social status at* t + 6
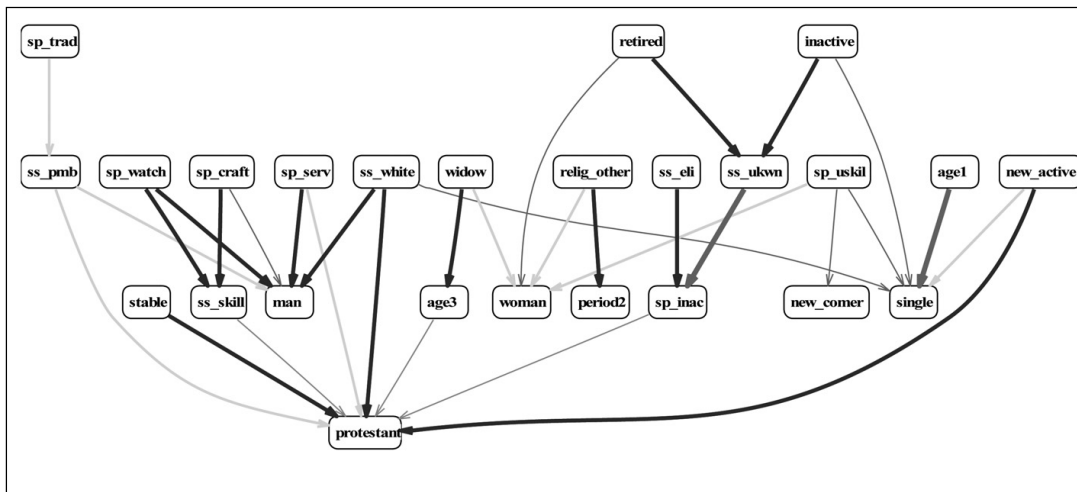
Note: in red implications > 99%, in blue > 90%, in green > 85% and in grey > 80%.

tioned above, young age is associated with being single, but also to inactivity and absence of skills, as well as to the dynamic of «becoming active». The two sexes attract ties that document the gender construction of the Geneva labour market. Men are directly associated with statuses that suggest a male dominated world: petty bourgeoisie, white collar workers, watchmakers and other craftsmen, and valued services. On the female side, the overrepresented socio-professional group is significantly that of the unskilled manual workers. Being a widow is also more frequent that being a widower, which is well known, and many more women than men women are associated with the dynamic «stopping working», a cessation of formal activity which is here not only explained by old age but mainly by marriage.

Fig. 3. *Implicative graph. Catholics in Geneva, a hidden minority*
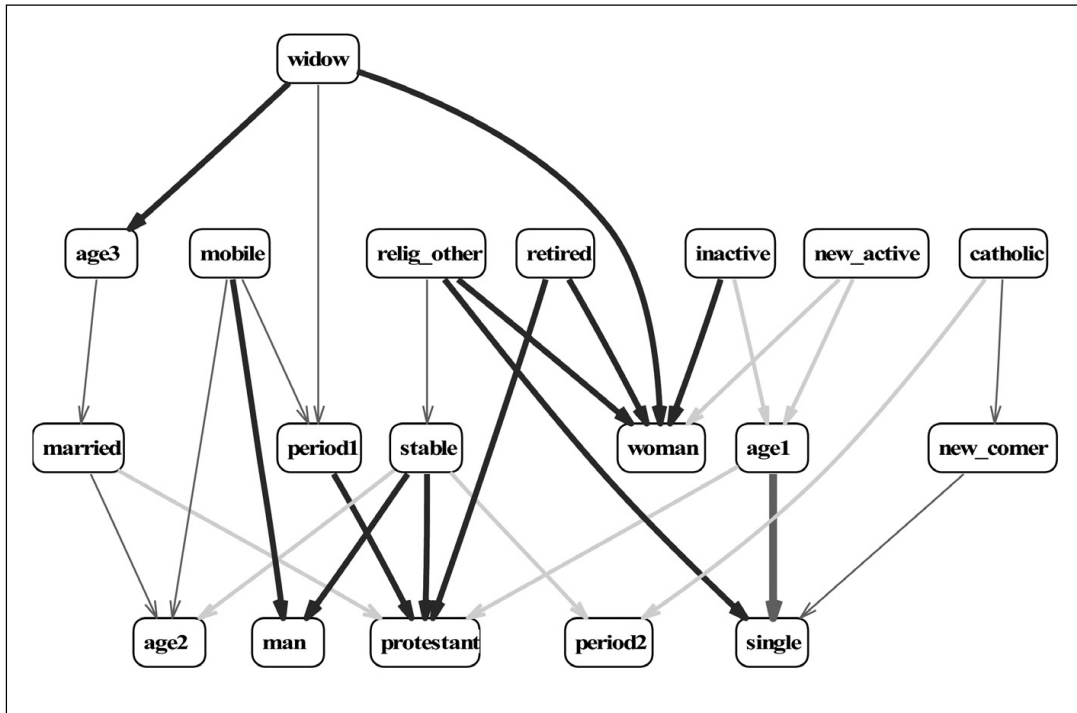
Note: in red implications > 99%, in blue > 75%, in green > 65% and in grey > 55%.

But with six arrows converging, to which we can add seven indirect ties, the most polarizing variable, offering an extremely clear demonstration of the power distribution subsisting in the Calvinist Rome, is the affiliation to the Protestant religion. Being Protestant is directly associated with inactivity (in fact because several elite members were designated as *rentiers*), the petty bourgeoisie, and the watchmakers. Protestants are also more stable and mature (in terms of age). In Figure 2, this convergence on the historical religion of the place is even more obvious with eight direct ties and eight indirect ones. Protestants clearly were the hard core of the city population and the 'owners' of their city.

But another crucial result from Figures 1 and 2 is a negative one, the absence of the Catholics. They have a strong relationship with simply none of the main characteristics, none of the main dynamics of Geneva society in the first half of the 19th century. This finding was so unexpected that we ran a third model, illustrated by Figure 3. We decreased the threshold of statistical significance to 65 and even 55 percent. With this excessive (statistical) tolerance, Catholics finally appear on the top right of the graph. They are related only to the dynamic 'newcomer' and to the second period, and indirectly to the matrimonial status 'single'. These are fairly obvious results and slight associations only. Catholics we know were a growing but hidden minority.

7. Concluding discussion. The main interest of the implicative statistical analysis resides in its capacity to extract from the data a graphical synthesis. Without *a priori* hypotheses, this method offers a global vision, easy to understand, from a set of

associations. It is a very helpful approach to highlighting the dimension that polarizes individual characteristics.

Here specifically, our exploration of the Geneva society in the first half of the 19th century confirmed both positively and negatively the importance of religious affiliation. All the main structural characteristics remained associated with Calvinism. First of all, Geneva Protestants were much more stable that the Catholics. Emmanuel Le Roy Ladurie (1998, 301) discussed the dualism of urban populations divided into what he called «moles of stability» on the one side, and on the other side immigrants who were aspiring but found themselves rejected, with very few being integrated by the former. From 1816 to 1843 Geneva still illustrates this pattern with, moreover, a religious divide. Secondly, stability is associated with various forms of social capital offering advantages on the housing, labor and matrimonial markets, and with access to political life through citizenship. The latter was debated in early 19th century Geneva as it was in many European countries at that time. In 1816, the bourgeois elite based the restoration of its power on the installation of a system of voting reserved for the wealthy (males). A Radical party emerged from the fight for extending the right of vote. This party found its supporters among a large and significant segment of the Geneva society, among a stable group of families historically rooted in the City from the eve of the Calvinism: the watchmakers. These had sufficient legitimacy to contest traditional bourgeois power. Significantly, like the elite and petty bourgeoisie, this group appears as associated with the Protestant religious affiliations on figures 1 to 3.

From the sixteenth century Geneva found an economic solution that was adapted to its very peculiar situation, i.e. the absence of hinterland and its status as a Calvinist island surrounded by Catholic enemies. Genevan inhabitants developed a sector they called «la Fabrique» which was «l'ensemble des arts et des artistes qui concourent à la création des montres et des bijoux. Le travail en est réparti en une multitude de petits ateliers» (Babel 1937, 13). Geneva specialized in luxury production with a high added value, requiring silver and gold on one side, and on the other side extensive international markets that were serviced by a «Calvinist diaspora». The «Fabrique» consequently lived in symbiosis with the other major sectors of the local economy, trade and finance (Babel 1953, 93). After a phase of prosperity between 1750 and 1792, the city suffered during the French period and until 1819 or 1822 (Guichonnet 1974, 273). The textile factories were unable to resist the return of the English products from 1816, so that the «Fabrique» became more that ever the dominant economic activity. Some 5,000 people were employed in 1828 (Guichonnet 1974, 287); more than 35 percent of the men who contracted a marriage in Geneva between 1822 and 1845 worked in that sector (Ryczkowska 2002). This domination was dangerous since as an industry of exportation, watch-making was vulnerable to international political tensions which affected its external markets, and the first half of the nineteenth century was not a peaceful period. However, the time from 1830 to 1845 was pretty good for the «Fabrique» and the whole urban economy (Guichonnet 1974, 28). The continental crisis of 1845-47 was even more of a shock.

William Sewell (1985) brilliantly analyzed the paradoxical history of elite manual workers who developed their own social capital and a group identity based on shared values of excellence and liberty rooted in the memory of medieval and early modern corporations. Like the Geneva watchmakers a few years earlier, those traditional craftsmen often formed the troops of the 1848 revolutions across the continent. Defeated or victorious, they constrained a modernization that made archaic those skilled workers attached to their traditions.

And indeed, if we abandon the European continent during its 1848 «Spring of Liberties» to come back to little Geneva in the first half of the 19th century, while an elite of old bourgeois families fought with an elite of rooted skilled manual workers for power, Catholic immigrants grew in numbers, different but invisible. They avoided entering into competition with the natives in the dominant and most prestigious economic sectors and also avoided any concentration within the social structures. From the implicative statistics, we know that their proportion never significantly exceeded what the independence hypothesis would predict, whatever the structural dimensions considered. A recent spatial analysis also confirmed the absence of spatial segregation (Remund 2010). No Catholic job, no Catholic neighborhood, not even a Catholic street. The higher percentage of religiously mixed households, compared to the homogeneous Catholic ones, is another demonstration of a clear pattern of dissemination. Catholics who settled in Geneva between 1816 and 1843 were originally selected among many migrants; they were the residuals of an intense migratory turn-over. Threatened at the beginning by conversions and mixed unions, they did not follow at all the aggressive approach of their religious leader, Abbey Vuarin. In fact, they systematically avoided appearing as a menace to Protestants who were pre-occupied by their own internal fights.

It is of course difficult to assess if this had been a conscious strategy. It remains the case that Geneva has been quite different from some other cities divided between ethnic and/or religious communities. While many books and papers have been devoted to oppositions and conflicts that marked urban spaces and memories, histories of (relative) tolerance and the mechanisms behind them remain hidden, as in the case of Catholics in 19th century Geneva. However, the labour-intensive approach of collecting census data and processing these statistically gave us a chance to highlight some invisible dynamics. The European Historical Population Samples Network (EHPS-Net) and the «Mosaich» projects from the Max Planck Institute in Rostock recently initiated collective efforts to make available to the scientific community census materials scattered across Europe. These could provide the building blocks for a collective interpretative effort where historians could analyze more fully how minorities and majorities dealt with each other in past times.

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Summary

Growing religious pluralism in early nineteenth-century Geneva: new methods for revealing hidden structures and dynamics from censuses

This paper has a local, a general and a methodological ambition. We deal with a specific story, that of Geneva, the 'Calvinist Rome', which was obliged in the first half of the nineteenth century to open its doors to immigrants, including large numbers of Catholics. Learning to live together, to organize the coexistence of the 'old' rooted families and the 'newcomers', was a process marked by tensions and power relations. From that perspective, Geneva's history documents an European experience in the early nineteenth century, whereas most existing studies are about nineteenth century America or European cities in the second half of the twentieth century. We discuss how stories of pluralism can be addressed using population censuses as an historical source. We use statistical implicative analysis, a powerful tool that reveals hidden patterns and the variables that polarize socioeconomic structures. Using this approach, we discover that the protestant religion remained the dominant structuring principle. While relatively stable protestant socioeconomic groups competed for power, Catholics did not take part in these struggles but grew demographically, remaining as invisible as possible. It is the opposite pattern of the space segmentation (with ghettos, «Little Italy», «Chinatown», etc.). This 'strategy' of invisibility is of great interest because it has been, and perhaps still is, quite common in past and contemporaneous societies experiencing inmigration.

Riassunto

La crescita del pluralismo religioso a Ginevra all'inizio del XIX secolo. Un nuovo approccio metodologico per identificare aspetti strutturali e dinamiche nascoste attraverso l'uso dei censimenti

Questo articolo si propone di documentare una tematica storica di grande interesse e, allo stesso tempo, di affrontare una questione metodologica. Al centro della nostra attenzione vi è la storia di Ginevra, nota come la 'Roma calvinista', costretta nella prima metà del XIX secolo ad aprire le porte della città agli immigranti cattolici che per secoli erano stati considerati veri e propri nemici. Imparare a vivere insieme, a organizzare la coesistenza di famiglie di antico insediamento con quelle dei 'nuovi arrivati' costituì un processo segnato da tensioni e rapporti di potere.

La storia di Ginevra documenta la storia di una esperienza europea che si colloca all'inizio dell'Ottocento, mentre esperienze simili sono state documentate per l'America nel corso del XIX secolo, ma solo per la seconda metà del XX per le città europee.

Nello specifico ci proponiamo di verificare come questa esperienza di pluralismo religioso può essere studiata grazie all'uso di censimenti storici. A tal fine, utilizziamo una metodologia statistica nuova e relativamente semplice, la cosiddetta «analisi statistica implicativa», che costituisce uno strumento efficace per svelare tendenze nascoste e identificare le variabili che polarizzano le strutture socio-economiche dominanti. Grazie a questo approccio, siamo in grado di mostrare come la religione protestante rimase dominante dal punto di vista sociale. Mentre i gruppi socio-economici appartenenti, in maniera relativamente stabile, alla religione protestante competevano per il potere, la componente cattolica non prendeva parte a questi scontri, ma cresceva demograficamente, rimanendo il più possibile nascosta. Questa 'strategia' di invisibilità rappresenta una tendenza opposta a quella della segmentazione dello spazio urbano (ghetti, «Little Italy», «Chinatown», ecc.) e risulta di estremo interesse perché è stata, e forse ancora è, piuttosto frequente nelle società del passato e in quelle contemporanee.