

## Social and Family Constructions of Marital Endogamy in 19<sup>th</sup> Century Eastern Belgium

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### Introduction

In the beginning of the nineteenth century, Eastern Belgium was at the heart of the economic transformation of continental Europe: in 1798, William Cockerill constructed the first spinning machines on the continent for two rich families of clothiers in Verviers. That marked the beginning of the industrial revolution in Belgium, which rapidly expanded to the Liège area, through the exploitation of coal mines, and the birth of iron and coal industries. The surrounding rural areas were profoundly influenced by the expanding industrial revolution, which quickly entailed the collapse of cottage industry. Job opportunities undoubtedly decreased in the countryside, but in the same time, the industrial neighbourhoods provided a way out for the proto-industrial workers coming from the nearby villages. The relationships between the urban centres and the countryside clearly intensified during the nineteenth century. This analysis will take into account the new economical and social context emerging in Eastern Belgium, by studying three different societies located in the Province of Liège. Two of them are rural: the Pays de Herve<sup>1</sup> was a wealthy cattle rearing area, Sart, in the Ardennes, was a small village with a poor subsistence agriculture. The third locality is Tilleur, a small mining, iron and steel city, next to Liège, that grew from less than 600 to more than 6.000 inhabitants between 1830 and 1900.

Working both with marriage acts and population registers (sources which have been linked together), this paper deals with a systematic comparison of endogamous marriages, exogamous unions, and out-migrations to the industrial towns. Our hypothesis starts as follows: we know that in a period of fast urbanisation and industrialisation, a strict control on the access to marriage remained the main brake within the demographic system of the countryside, while the growing industrial areas constituted a close outlet for those who wanted to escape from the family and social constraints. It would have been a way of realising

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<sup>1</sup> The Pays de Herve is a region made up of about 50 villages. But those which were at the borders were also influenced by the neighboring regions. One usually considers that 19 villages were really typical of the Pays de Herve, from a geographical, social and economical points of view. We studied three of those typical villages: Charneux, Clermont and Neufchâteau, which together were about 5,000 inhabitants in the second half of the nineteenth century.

a more sentimental union, i.e. a marriage characterised by an age homogamy rather than by a social endogamy (Blanchet, Kessler 1992, 346). It has also been argued that such a process started from the bottom of the social hierarchy within the popular classes (Oris 2000).

In such circumstances, we expect a pretty “closed” countryside, with a high level of endogamy among stayers, and/or a higher probability of out-migration for those who made exogamous marriages, reflecting a failure in the ability to set up an autonomous household as a viable micro-economic unit. Inversely, a mushroom town like Tilleur was certainly a new environment for endogamy, since it presented radically different and new structures, with new rules for social alliances in a new proletarian population rapidly forming its own culture and identity. From the massive literature about morality, free unions and illegitimacy among the 19<sup>th</sup> century working classes, we know indeed that traditional social and family controls were clearly relaxed in the industrial towns (Neven, Oris 2003; Pélissier et al. 2005, 226). As far as endogamy is concerned, we face two competing hypotheses: either we could find more open choices associated with modernisation; or we could also observe the emergence of a new endogamy, which played a role in the formation of urban-industrial classes (van Leeuwen, Maas 2005, 1).

From a methodological point of view, we will develop multivariate competing risks models in continuous time (Cox regression) to disentangle the determinants of young people destiny when they had to “decide” between endogamy, exogamy or leaving (or, otherwise, staying single). We will pay attention to the way the individual, family and community variables interacted to increase or reduce one or the other option. This approach is essentially new. Indeed, endogamy or exogamy are usually studied from the marriage acts as a binomial opposition, neglecting the crucial question of access to marriage that can deeply affect the final “choice” or result, which is a compromise between desires and opportunities. Precisely, opportunities were clearly totally different in town and countryside in 19<sup>th</sup> century Eastern Belgium, and aspirations were also certainly not the same.

## **1. Marriage patterns in eastern Belgium**

The proportion of married women ( $I_m$ ) permits to catch, at a glance, the enormous differences in the marriage patterns of the three societies (figure 1). At the extremes, we find a very low proportion of married women in the Pays de Herve during the second half of the nineteenth century (0.33), and a much better situation for women in Tilleur, with an average  $I_m$  of 0.57 for the period 1846-1880. Sart was somewhere in between, with an  $I_m$  of 0.41, though it is rather low. Not only this figure shows us the much lower rates of the rural villages, but also sheds light on somewhat different trends: in Sart and the Pays de Herve, the proportion of married women decreased slightly throughout the years, while this proportion increased in the urban sample.

Insert Figure 1 – Proportion of married women ( $I_m$ ) in nineteenth century eastern Belgium

Actually, replaced in the Belgian or regional context, both the rural and the urban results appear to be specific. On one hand, several observers have noted that the early decades of the industrial revolution went hand in hand with a decrease in the proportion of married women at fertile ages (15-49). In the Province of Liège, the lowest level of  $I_m$  was reached in 1856 (0.390), and then, it rose continuously until 1900, and even well beyond. “There was an overall movement toward a more restrictive nuptiality pattern. The tendency to marry late

increased to a greater extent amongst textile workers – and servants - than in other occupations and illustrates the depression of rural industry during the 1840s” (Devos 1999: 107, 126). From this respect, the decrease observed in Sart in the first half of the nineteenth century was not at all unexpected, but the persistence of this pattern in the Herve and Ardenne rural villages after 1850 really reflects a specific situation.<sup>2</sup> On the other hand, if Tilleur’s trend seems more “in the norm”, yet this small industrial center distinguished itself by the high level of Im. In 1846, Lesthaeghe estimated Im at .375 for Belgium, and at 0.404 for the Province of Liège (Lesthaeghe 1977: 55). In Tilleur, it was already 0.500, and it would continue to increase in the following decade!

The low rates observed in the eastern Belgium countryside resulted from the survival of the traditional European system of marriage, which combined a late age at first marriage and a high definitive celibacy. Indeed, in Sart, between 1812 and 1900, the average age at the first marriage was about 26.5 for females and 29 for males (figures 2 and 3). The family system in the Pays de Herve was even more strained. Among men, the average age at first marriage was 29 around 1850, then rose to 30-31 between 1855 and 1885. In the last fifteen years of the nineteenth century, it again fell to under 30. The average age at first marriage for females was also very high, remaining between 27 and 29 all through the second half of the nineteenth century (Neven 2002: 42).

Insert Figure 2 – The average age at first marriage for women: Pays de Herve, Sart and Tilleur  
Insert Figure 3 – The average age at first marriage for men: Pays de Herve, Sart and Tilleur

In the same time, people who never married were numerous: more than a fifth of the Hervian people were not yet married at age 50 and never would be.<sup>3</sup> Clearly, this attests to an extreme situation since the figures proposed by the different population censuses of the rural localities of the Province of Liège were much lower: 12.2 percent of men and 15.5 percent of women were still unmarried at 50 in 1846. In 1890, those proportions were respectively 17.3 and 15.6 percent, far below those in Pays de Herve. In Sart, 15 percent of people could be defined as definite singles.<sup>4</sup> In this way, Sart corresponded much more to the rural Liège pattern, and was even below the proportions observed at the same period in Belgium as a whole (Devos 1999: 128).

The obvious question is: why did the demographic systems remained so strained in the countryside, and especially in the Pays de Herve, though it was surely the wealthier of the two rural areas? Indeed, if the situation around 1850 was more or less representative of the Belgian values, the specific evolution, i.e. the stagnation/or worsening of the second half of the nineteenth century, is much more debatable. Explanations are both economic and demographic. From an economic point of view, the proto-industrial activities, which were vital for the economy of Herve and helpful for that of Sart, did not survive the industrial revolution of the nearby towns of Verviers and Liège. The decrease in job opportunities, especially in the Pays de Herve, entailed a quick depopulation in the beginning of the nineteenth century. But in spite of it, opportunities were so restricted for the stayers that it was not easy to settle a new household. The disappearance of pluri-activity, as well as the rapid

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<sup>2</sup> Indeed, Devos (1999: 108) noted that in Belgium “From the middle of the 19<sup>th</sup> century, a gradual decline in definitive celibacy and age at marriage was evident and continued for more than a century”: Sart and the Pays de Herve were exceptions!

<sup>3</sup> I.e. the ratio between the number of unmarried people aged 45 - 54 and the total number of people aged 45-54.

<sup>4</sup> Through a survival analysis, G. Alter and M. Oris proposed proportions of 19.6 percent for females and 22.8 percent for males for the whole nineteenth century (Alter and Oris, 1999: 136).

replacement of small plots owned by peasants by larger farms rented by their urban owners, reduced the number of economic niches. This was all the more difficult given the real demographic pressure: in both societies, where marital fertility and life expectancies were especially high (Neven 2002).<sup>5</sup> The Herve population answered through both a very strict access to marriage and an important out-migration. In east Ardennes, mobility hardly existed until the middle of the nineteenth century, which resulted in an increase of Sart population from 1791 inhabitants to 2380 within 40 years (1806-1846). At this moment, the ratio between resources and population was not sustainable anymore, and without giving up the European pattern of late marriage, the Sart inhabitants finally reconciled themselves to out-migrating.

Out-migration appeared in both rural cases as a complement rather than a substitute to a restricted access to marriage. Tilleur was typically a town to which the rural inhabitants could migrate, in order to find job opportunities (especially for men), but also, probably, a better marriage market (especially for women), as the proportion of married among women of childbearing age has tended to prove. Yet, when analyzing figures 2 and 3, the gap between the rural and the urban world does not appear as striking as it was for Im. Indeed, for men at least, the average age at first marriage was as high in Tilleur (29) as in Sart, and only one year younger than in the Pays de Herve. Actually, this was rather close to the Belgian average, though a little bit younger (Devos 1999: 124). Women, as for them, were on average two years younger when they got married in Tilleur than in the Pays de Herve. Yet, values of Sart and Tilleur were almost the same. From this point of view, the remarkable result is thus less the level than the trend itself: indeed, the average age at marriage in the 1830's – which corresponded to its real development as an industrial centre (Oris 1996) – was 31 for men and 27.9 for women. Less than half a century later, its population had increased seven times, and the ages at marriage were then 28.5 for men and 25.2 for women, which means a two years and a half decrease for both sexes. Obviously, this decline was precocious and, in the regional context, appears as completely opposed to the Hervian and even Ardennes models. Even at the Belgian level, Tilleur – and in fact all the coal and iron and steel basins of northwestern Europe (Haines 1979) – appears as pioneers, since the age at marriage declined much earlier than elsewhere, especially for women. The average age at marriage observed in Tilleur at the end of the 1870's has only been observed for Belgium as a whole a quarter of a century later (Devos 1999: 124).

Insert Table 1 – Proportion of never married. Pays de Herve, Sart and Tilleur in the second half of the nineteenth century

At the same time, as it appears in table 1, the proportion of never married people in Tilleur remained relatively low (10.9 percent in average in 1846-1880), which was twice lower than in the Pays de Herve (21.2%), and even much below the Sart rates (15.4%). Once more, women benefited from a favorable sex ratio, especially between 1867 and 1880, when only 6.1 percent of them remained single. Sex ratio is indeed an important issue when dealing with the marriage market: women were particularly advantaged in the little industrial centre of Tilleur, which, as most of the iron and steel cities, mainly attracted a male labor force (Oris 1995a: 31-35). Within 36 years, the gender inequality not only reversed, but also increased deeply: the sex ratio grew from 93 men for 100 women to 119 between 1830 and 1866. This imbalance undoubtedly explained the early break of Malthusian brake, as well as an

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<sup>5</sup> The total marital fertility rate at age 20 (TMFR20+) was 9.2 in Sart and 8.7 in the Pays de Herve, while life expectancy was respectively 46 and 49 in the second half of the nineteenth century (Neven 2002: 43).

impressive growth of industrial real wages between 1850 and 1872: it was the first sign of modern behavior in Tilleur.

In Sart, also, the marriage market was unbalanced, due to gender differences in opportunities to escape from the Malthusian trap by out-migration: “the sex ratio of the never married aged 20 to 39 sheds light on the strong deterioration of the male position, almost continuously from 1812 to 1851. In the middle of the nineteenth century, a value of 175 never-married men for 100 women describes a completely unbalanced marriage market” (Alter and Oris 1999: 139). Indeed, when this village discovered out-migration in the second half of the nineteenth century, it mainly concerned young women, who could easily find a job as servants in the nearby town of Verviers (Alter, Capron 2004: 138). On the contrary, in the Pays de Herve, sex ratio for the young unmarried people (20-35) was exactly 100, which perfectly symbolizes the balance of the sex structure. Though the industrial suburbs of Verviers attracted the Hervian inhabitants, the industrial suburbs of Liège also played an increasing role and at the end of the nineteenth century, out-migrants went to Liège as often as to Verviers (Neven 2003: 124). Together, Liège and Verviers areas provided job opportunities to both sexes, either in domesticity or textile industry for females, or in textile, coal, iron and steel industry for males. Furthermore, contrary to what was observed in Sart, women were as useful as men in cattle rearing and farm management: they did not leave more than their male counterparts. Out of our three societies, the Pays de Herve was surely the one whose marriage market was the more balanced; it was also the one whose age at marriage of women was and remained the highest.

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The evolutions of the marriage pattern in rural and urban societies in eastern Belgium were radically different. As a result, we also expect to find common points between the Pays de Herve and Sart in our endogamous/exogamous analyses, while Tilleur’s position would be different. The determinants of marriage have already been analyzed elsewhere for the rural samples (Neven 2003; Alter, Oris 1999; Neven, Alter, Capron, Oris 2005). Those works have shown the importance of the economic conditions, especially in Sart, the role of the occupation of the household head in both areas, and the decisive role of parents and siblings: as a general rule, living with them reduced chances to marry (at least on location). It is thus not the purpose of this paper to directly handle those questions. As said in the introduction, we rather aim at distinguishing between endogamous and exogamous marriages as competing risks, and that from two points of view: first, in section 2, we will measure the levels of endogamy in each of the three societies; second, in section 3, we will have a look at the individual, family and community determinants of those transitions, in order to see whether they were determined by the same factors.

In concrete terms, we expect to find in the two rural societies a rather pronounced endogamy in terms of socio-professional status, but not in terms of origin. Marriage would have been little influenced by community variables, while on the contrary, family factors, such as the presence of parents and the number of siblings, would have had a direct influence on marriage. We would thus find in the marriage pattern a control imposed both by the family constraints. On the other hand, marriage would have been much less influenced by those factors in the growing industrial city, and it would have become easier through time. It would have been less endogamous, and, globally, less determined by family variables. In Tilleur,

social origin would also have been a major determinant of marriage,<sup>6</sup> next to geographical origin, since the segregation of the matrimonial market was one of the obvious features of the Liège industrial suburbs (Oris 2000: 400; Jacquemin 1991: 194-197).

Obviously, if the family and demographic systems of the countryside were so restrictive, that was thanks to the existence of a way out to the nearby cities. Urban centers could appear as a way out for those who wanted to marry or for those who got married earlier and who bore more difficulties than the others to settle a rural household (Alter and Oris 1999: 142). Indeed, in Tilleur, at least a double phenomenon has been observed for females. On the one hand, single women – even when they came from the farthest regions – did not need a lot of time to conclude marriages. Obviously, some of them arrived as “concubines” and marriage was probably a part of their migration project. But the majority arrived alone, and they quickly found a partner, preferentially coming from the same area.<sup>7</sup> On the other hand, heavy industry centers also attracted young married women, though they had really few job opportunities and their wages were only a small rather than a substantive contribution to the household economy (Oris 2000). Since towns undoubtedly appear as attractive options for the young unmarried rural inhabitants, either for their job or their marriage opportunities, we will then include another dimension next to the risk of endogamous or exogamous marriages: out-migration. This will permit us to see whether all those three transitions were influenced by the same factors.

## 2. Endogamy and exogamy in rural and urban environments

For studying endogamy and exogamy in eastern Belgium, we rely on the marriage registers.<sup>8</sup> Comparing the occupations of the grooms and brides at the time of marriage raises some specific problems for the classification of professions, for at least two reasons. First, women occupations were often under-registered or referred to vague concepts like “housewife”, rather difficult to interpret. Second, some occupations were specific to females (e.g. “dressmakers”) and others reserved to males (e.g. carpenters, masons, but also directors...) How defining endogamy in these conditions? We thus opted for the comparison of the spouses’ father socio-professional status, i.e. their social origin (van de Putte *et al.* 2005). Yet, this also entails problems, since most of them were dead when their children got married. Indeed, in our three societies, both spouses were father’s orphans in 21.5 percent of the cases: the two fathers were still living at the time of marriage in only 30 percent of the cases (table 2). Those proportions varied a little bit according to each locality, but not that much.

Insert Table 2 – The fathers’ spouses deaths in the marriage registers (in percent)

Fortunately for us, some of the local civil servants have mentioned the father’s profession even when he was dead. It has been done more often in Sart (33 percent of the cases), less often in Tilleur (16 percent), but almost never in the Pays de Herve (1 percent). Linkage between the marriage and population registers did not help us a lot: due to our short periods of observation and the high mobility of the Tilleur and Pays de Herve inhabitants, we have

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<sup>6</sup> On endogamy by social origin in the Liège industrial basin, see Jacquemin (1991 and 1998) for Liège, Pasleau (1998) for Seraing, Hélin and Leboutte (1988) for the Basse-Meuse.

<sup>7</sup> It has been shown in the Tilleur’s case that if migrants usually married later than natives, this only resulted from their specific age structure. When taking into account this element, nuptiality was actually higher among immigrants (Oris 2000 : 395).

<sup>8</sup> The respective databases, with the periods of observation and number of marriages, appear in table 2.

hardly been able to find those missing fathers in the population registers. In other words, for our analyses on endogamy, we will work on 415 marriages in the Pays de Herve, 668 in Sart and 403 in Tilleur.

In each of our three samples, we have made a classification of occupations which combined social status and sector of activity (table 3). At the lowest levels, we find the unemployed and day laborers. Unemployed: are those who were explicitly mentioned without profession, but also those who had no declared occupation; day laborers: those who were unskilled and proposed their work on a day basis. That includes 'manoeuvre', 'journalier', and also 'domestique': this was especially useful for the rural samples, where servants were also named 'valet de ferme' (farm laborer).<sup>9</sup>

At the opposite side of the social scale, we isolated all the people who had a high social status, whatever their activity, in the Petty bourgeoisie. That meant landowners, 'rentiers', students, traders, the professions (doctors, lawyers, etc.), directors, but also office workers and the master artisans. That might seem a rather eclectic category. Yet, as we will see below, this group is really small in eastern Belgium societies, rural or industrial. It is only in the cities that middle classes represented a significant part of the population (van de Putte *et al.* 2005).

Farmers formed a fourth category, which was the most important in the Pays de Herve and in Sart: it includes only 'cultivateurs' and 'agriculteurs'.<sup>10</sup> Yet, farmers in Sart and farmers in the Pays de Herve were not exactly the same population. In the Pays de Herve, farmers were mainly cattle breeders. Though the collapse of pluri-activity led to the disappearance of landed peasants in the first half of the nineteenth century, their re-conversion in tenants was not at all a failure, as proven by a series of indicators on dairy productivity and land renting prices (Neven 2003). On the contrary, farmers in Sart kept their small properties: yet, they were not always sufficient to live on, since less than 1 hectare estates represented 32 percent of the productive lands in the middle of the nineteenth century (Capron, Oris 1997: 51-52). The fate of small Ardennes landowners was surely less enviable than that of the Herve tenants. Finally, though there were no farmers in Tilleur, we had to include this category, because immigrants were, indeed, sometimes children of farmers.

That is all for the categories common to our three societies. We indeed used specific groups for the rest of the population in each of our samples. In the Pays de Herve, the other workers were either craftsmen (shoemakers, masons, joiners, etc.) or textile workers. Indeed, some textile factories developed in the Pays de Herve in the middle of the nineteenth century, trying to resist to the urban centers competition. Besides, cottage industry continued through one way: weavers remained 'independent' rather than 'urban industrial workers' until the end of the nineteenth century: we thus suspected this group of 'textile workers' to have specific behaviors, being the last to resist to the competition of the modern industry.

In Sart, textile industry did not survive in the same way, and even skilled workers as a whole were so few that we only created a join category for craftsmen and skilled workers.

In Tilleur, the industrial activities were divided in two main sectors: coal mines and iron and steel industries. We respected this segregation since miners distinguished themselves by specific demographic features, especially as far as mortality was concerned (Neven 2000). We also know that they developed peculiar cultures (Gaier 1988; Cooper-Richet 2002).

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<sup>9</sup> See Segalen M., Jacquart A. (1971), *Choix du conjoint et homogamie*, in *Population*, n° 3, p. 489.

<sup>10</sup> Agricultural day laborers were included in the 'day laborers category'.

Insert Table 3 – Occupational structure in eastern Belgium: household heads socio-professional status

Three measures have been used for measuring endogamy,:

1) the ‘*homochtony rate*’ is simply the percentage of people who made an endogamous marriage, i.e. those who married somebody who came from the same social group. This index is really dependent on the social structure and on the number of categories we defined. It may be difficult to compare several localities with different classifications.

2) an index proposed by M. Segalen and A. Jacquart, measures the level of endogamy, by comparing a random model without any selection (panmictic hypothesis) with a model of maximal endogamy. The “*index of endogamy*” shows the propensity of the people to realize endogamous unions: it will be equal to 100 if endogamy is maximal, and 0 in case of totally random choices (Segalen, Jacquart 1971; Jacquemin 1991: 166).

3) we also use simple *indicators* proposed by *Antoine Prost* (1981: 680), which this time are not general, but rather permit to take into account the specific relationships between the different sub-populations. For each social group, there are the ratio between the observed value and the marginal distributions. When such indicator is higher than 1, it suggests an attraction between the two groups taken into account; when the value equals 1, it suggests indifference; and an indicator lower than 1 tends to show repulsion.

Table 4 summarizes the ‘homochtony rate’ and ‘index of endogamy’ obtained by comparing 1) the spouses fathers’ occupations and 2) the groom occupation with that of his father-in-law.<sup>11</sup> The index of endogamy (Jacquart-Segalen) confirms that in the rural areas, the spouse was not chosen at random, and his/her selection tended to be socially oriented. This was apparently even more the case in the Pays de Herve than in Sart, though the ‘rate of homochtony’ rather proves the contrary. We think that these contradictory results depend on the respective social structures of the two societies: in the Pays de Herve, 41 percent of the spouses’ fathers were farmers, against 68 percent in Sart. For this reason even without any clear choice of endogamy, children of farmers had much higher chances to marry a farmer’s child. When the index of Segalen-Jacquart takes the social structure into account, we find a higher endogamy in the Pays de Herve (0.46 against 0.28). In Tilleur, the ‘rate of homochtony’ was more or less equivalent to that of the Pays de Herve, but the ‘index of endogamy’ was much lower (0.26).

Insert Table 4 – Endogamy in eastern Belgium in the nineteenth century

Insert Table 5 – The occupations of the spouses fathers according to the marriage registers. Eastern Belgium during the nineteenth century

Prost indexes are useful for a more in depth analysis of endogamy by studying the relationships between each sub-population. In every case, the Petty bourgeoisie distinguished itself by the strongest endogamy (Table 5). Yet numbers were small, even when comparing the groom’s profession with that of his father-in-law. But in Tilleur at least, where this group was better represented, we find that its members were 2.6 times more likely to choose their partner in their group than they would if the partner was randomly selected. Another sub-population to be distinguished is that of farmers: in both rural societies, their endogamy was real. If it was not necessarily as high as in the other groups, results are significant because this category is large enough. Moreover, children of farmers systematically rejected all the other

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<sup>11</sup> This double comparison has been done to enhance the representativeness of our samples.



groups, in Sart as well as in the Pays de Herve<sup>12</sup>. Yet, one can notice two differences: farmers' endogamy was stronger in the Pays de Herve (1.79 against 1.13) and their repulsion towards the other social groups was also deeper. Day laborers, textiles workers and craftsmen were also used to marry each other in the countryside, but contrary to farmers and to Petty bourgeois, they did not systematically reject the other sub-groups. In Tilleur, the strongest closure<sup>13</sup> was to be found among the children of coal miners, who rejected (or were rejected) by the members of the bourgeoisie, and even by the iron and steel worker. Yet, we also noted some indifference with day laborers: the partner selection might have been less influenced by the social group than by the geographical origin<sup>14</sup>.

### **3. Endogamous marriages, exogamous marriages, or out-migration? The determinants of the life-course patterns of the unmarried people aged 15 to 39**

#### *- Starting hypotheses*

The model used for event history analysis combines community, family and individual variables. At the community level, we included time periods, in order to control for the medium-term changes in the local economies. As we do not observe the same years and as there were some local peculiarities, the periods were not the same in each of the three samples. In the Pays de Herve, we distinguished a first period of stability (1846-1872), then a period during which Belgium had to bear both an agricultural and an industrial crisis (1873-1890), and finally, the last decade of the nineteenth century, when out-migration increased. In Sart, we isolated the first half of the nineteenth century, during which the Malthusian pressure continuously increased, due to the population rise. Then, from 1846 to 1874, pressure became too strong and Sart discovered out-migration. And in the last quarter of the nineteenth century, it began its economic re-conversion, on the Hervian model, from subsistence farming towards cattle rearing. In Tilleur, though the period of observation is much shorter, we also adopted three periods: 1846-1856 is a time of intensive growth, with still massive arrivals of migrants; from 1856, natives gain in importance. From 1873, the urban cities experienced their first long depression since the beginning of the industrial revolution. According to the modernization theory (see Van de Putte 2005), we could expect to find a decrease of endogamous marriages (especially in Tilleur), and for the rural samples, an increase of migrations.

Next to periods, we also included for each of the localities a prices variable, in order to control for short-term economic fluctuations (Bengtsson 1993). We used rye prices for Sart (for explanations, see Alter Oris 1999), a cost of living index for the Pays de Herve (see Neven 2003) and real wages for Tilleur (Alter, Neven and Oris 2004). In the Pays de Herve, several studies have already pointed out the absence of relationship between short-term fluctuations and demographic behaviors, especially for migrations and mortality of married adults and the elderly. Yet, out-migrations of the unmarried adults seemed to have been slightly affected by prices fluctuations: when the cost of life index increased, the likelihood of migration decreased (Neven 2003: 342, 370, 382, 403). In Sart, on the contrary, when rye

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<sup>12</sup> A similar social closure of the farmers group has been observed in Zeeland, 1796-1922, by Bras and Kok 2005, 272 & *passim*.

<sup>13</sup> The strongest actually was that of children of farmers, but numbers are too small (only 11 endogamous unions in this group).

<sup>14</sup> for endogamy in Tilleur by geographical origin, see Oris 2000. Origins will also be included in our event history models and we will see the main patterns in section 3.

prices rose, the likelihood of marriage tended to decrease but out-migration increased (Alter, Oris 1999: 146-147). All in all, we do not expect price fluctuations to influence endogamous marriages differently than exogamous marriages. The idea is that they mostly influenced migrations in the countryside, a worsening of the situation pushing the young unmarried adults from their villages to the cities. On the contrary, we think that real wages had no real impact on migrations in Tilleur, both because transiency was a part of the urban way of life and because wages level should have been more or less homogeneous within the same industrial basin. But when real wages rose, the likelihood of marriage (in general) should have increased, the young couples benefiting from an earlier economic freedom.

At the family level, we included three covariates. The socio-professional status of the household head – as we have already said – was likely to greatly influence both marriage and migration patterns, in the countryside as well as in town. The Petty bourgeois and farmers, in Sart and in the Pays de Herve, are expected to have a higher probability of contracting an endogamous union, and we already know that farmers had a much lower propensity to move than the other occupational groups. In Tilleur, we can expect a higher endogamy of the Petty bourgeois and a decrease of the borders between the manual workers through a process of class formation (van de Putte *et al.* 2005, 180, 188). Presence of parents and cohabitation with siblings was definitely a key element in the countryside, and it greatly influenced marriage and migration patterns of the unmarried. In Sart as well as in the Pays de Herve, to lose a parent or to have few siblings increased the likelihood to marry. That shows the difficulty for parents to establish children in the locality. Everybody was not likely to settle a household and most of them were obliged to out-migrate to the town. In the complex economies of Sart and the Pays de Herve, the real challenge was not to find a spouse but to find an establishment, a niche (Neven, Alter, Capron, Oris 2005). In these conditions, we also expect to find a stronger endogamy when parents were present, because endogamy was probably linked with the strong social and family control exerted on the young adults in rural eastern Belgium societies. The loss of one of their parents, or even more of both of them, would have totally changed their opportunities. But as far as Tilleur is concerned, the influence of family variables on demographic behaviors has never been considered. Yet, presence of parents being much rarer in Tilleur (more than three quarters of the young unmarried adults were living there without any parent, against only 22 percent in the Pays de Herve), we do not expect such a strong influence of family covariates.

At the individual level, we considered the sex and the origin of the young unmarried adult. As we have seen, sex is likely to have deeply influenced marriage and migration patterns, especially due to an imbalanced sex ratio and labor market. Individual origin (i.e. his/her place of birth) should have had a strong influence on endogamous unions in Tilleur, as a detailed analysis has shown (Oris 2000). Even when controlling for other family and community variables, we still expect this factor to have a deep impact: especially, in-migrants (whom the Flemish ones) would have been tempted to marry people coming from the same origin. The hypothesis is very similar in Sart, which was almost an isolate until the middle of the nineteenth century, as proven by the fact that 94 percent of the household heads in the nineteenth century were born in Sart itself! In these conditions, the rare in-migrants should have had some difficulties to assimilate in this closed society. The Pays de Herve is expected to show a totally different pattern: this modern rural society, which developed very early a commercial agriculture, was opened to other regions, as it is proven by high in- and out-migration rates. Geographical origin should thus be less decisive on marriage opportunities.

*- Four competing risks for the unmarried aged 15-39*

When comparing endogamous versus exogamous marriage,<sup>15</sup> the two rural areas appear similar from many perspectives. Obviously, the social status of the household head was the main determinant (See tables 6 to 9). In the Pays de Herve, for instance, the unmarried adults whose household head was a farmer were 34 to 76 percent more likely to make an endogamous union than all the others. On the contrary, all the other groups (but the textile workers) were more likely to marry somebody from another group. Clearly, farmers had a specific pattern! In Sart, though the contrast was less pronounced, those living in households headed by an inactive, a day laborer or a craftsman were about two times less likely to make an endogamous union than farmers.

Insert Table 6 – Overview of the event history models: time at risk and number of events

Insert Table 7 – The determinants of endogamous, exogamous, indeterminate marriages, and out-migration in the Pays de Herve (1846-1890). Cox regression

Insert Table 8 - The determinants of endogamous, exogamous, indeterminate marriages, and out-migration in Sart (1812-1890). Cox regression

Insert Table 9 - The determinants of endogamous, exogamous, indeterminate marriages, and out-migration in Tilleur (1846-1880). Cox regression

Other family variables also played a role, and especially siblings, whatever their age or sex, but patterns were very similar for both type of marriage. The same holds true for the absence of parents. Indeed, those living without their parents were much less likely to make either endogamous or exogamous marriages, though much more likely to make an “indeterminate” one. Actually, this result might only ensue from the way we built our data. When we did not know the bride’s father profession, we could not know the type of marriage. But we surely know better the parents profession of those we could observe than the others. As a result, those who were not living with their parents in the localities we were studying were more likely to make an indeterminate marriage... And beyond the results appearing here, it remains clear that both in Sart and in the Pays de Herve, children who lived with only one or even without any parents were more likely to marry earlier in the countryside.

As it was expected, prices fluctuations had no influence on any type of marriage in the rural samples. However, structural changes captured through periods had an impact. In Sart, endogamous marriage tended to decrease along the nineteenth century (the risk was 43 percent lower after 1875 compared with the first half of the nineteenth century), while the indeterminate type of marriage rather increased with time, since mobility grew. On the contrary, in accordance with what we know about the Hervian nuptiality pattern, the likelihood of marrying reduced as time went by, whatever the type of marriage.

Finally, in the rural world, the two individual covariates had a decisive impact on the marriage pattern and there again, a difference appears between endogamy and exogamy. Natives of Sart and natives of the Pays de Herve were more likely to make an endogamous union compared with people who were born outside (especially abroad for the Pays de Herve). It reflects the density of the networks built by parents, but also by the groom and the bride themselves, in a place where they lived since their birth.

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<sup>15</sup> As we have not been able to determine systematically whether a marriage was endogamous or not (see note above), we proposed a third competing risk: realizing an “indeterminate” union.

As for sex, all the results converge: women were more likely than men to marry, whatever the type of marriage, with a global advantage of 31 percent on the Hervian matrimonial market, and of 64 percent in Sart (table not shown). This undoubtedly reflects – in Sart at least – the unbalanced sex ratio observed among the young unmarried adults. But it also results from the traditional marriage system in Belgium, where women usually got married in their own village, while men consequently rather married in their wife’s locality. Men were thus more likely to migrate just before marriage to meet their spouse, while women tended to migrate just after their wedding. To measure this bias, the ideal would be to compare the migration risks of the unmarried and those of the young married couples. However, in Tilleur, such technical explanation is surely not enough to explain the advantage of women on men in the nuptiality patterns: they were indeed twice more likely than men to marry!

For Tilleur, few other results are statistically significant. But two features at least seemed clear. On the one hand, endogamous marriages were less and less frequent as time went by. Compared with the 1846-56 period, the likelihood of marrying somebody from the same socio-professional group had fallen from 74 percent in 1857-72, and from 98 percent in 1873-80. On the other hand, confirming Prost indicators, and even when family and community covariates are taken into account, endogamy was really strong among the Petty bourgeoisie, while its members were much less likely to make an exogamous union. We see here a process of class formation similar to the one observed in the Flemish city of Gent: the late 19<sup>th</sup> century gave rise to the unification of the different subcategories of the lower classes on the marriage market, while intermarriage with the middle class did not increase (van de Putte, Miles 2005). It only happened earlier in Tilleur which was exclusively an industrial town<sup>16</sup>.

Migrations analysis completes the portrait of the young unmarried life-courses in eastern Belgium. As far as sex is concerned, for instance, a “process of compensation” can be observed in the Pays de Herve. As we noted above, the custom wanted that women got married in their village and, then, went to live with their husband. Thus we are more likely to observe women’s marriages, while men who did not marry a resident were more at risk of leaving their village before marriage. The higher propensity of women to marry was partly compensated by a lower propensity to out-migrate as singles. But in Tilleur, we cannot refer to this kind of process: not only women were two times more likely than men to marry, but also, they were 30 percent more likely to out-migrate. It seems difficult in their case to link out-migration with the search of better marriage market opportunities!

In Eastern Belgium, as well in the rural as in the urban world, migrations increased as time went by, a quite expected result. But change was particularly noticeable in Sart, where risks increased sixfold between the first and the second half of the nineteenth century. For prices fluctuations also, our hypotheses proved to be true: short-term economic stress not really had an impact on out-migration, but a small one in Sart.

The expected higher mobility of the lowest social classes in the Pays de Herve (no activity and day laborers) was confirmed, and as a general rule, we indeed found again that farmers were the least likely to move in the countryside, even in the Hervian tenants society! In Tilleur, compared with day laborers, people living in coal miners’ and Petty bourgeoisie’ households – although so different from each other – were both more likely to migrate (+ 25 percent). For the miners, there is a double explanation. First, many were new single immigrants and just made a stop in Tilleur. Second, René Leboutte (1988) has shown that

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<sup>16</sup> See also Kocka 1984 who observed the same process in the Westphalian towns.

those well established in the basin moved very frequently from place to place, just for a little change in salary, to follow a good foreman, or simply to avoid a sanction after a an absence at work, etc.

In the countryside, the unmarried living without parents had higher risks of migration. In that case, parental absence does not mean that an economical niche was free, but in most of the cases a status of servant, typically mobile. Though relatively few people were involved in the life cycle service, some of them were. On the contrary, the numerous unmarried adults living without parents in Tilleur had a lower mobility than those living with their parents. Indeed, young adults, men especially, were really exploited by their parents who needed their work. We observed in a previous work their tendency to escape as soon as possible (Oris 2000), which is confirmed here.

Patterns also appear to differ as far as the siblings are concerned. In the two rural areas, having older siblings, whatever their sex, increased the likelihood to stay in the village, while the youngest siblings seemed to push their old sibs out of their household. On the contrary, in Tilleur, the more siblings living in the household, the more likely was the propensity to stay. It seems contradictory with the preceding result about parental presence, but in fact it is a case – quite classical in event history analysis – of inverse causation: in some households, there were many siblings because they did not leave...

Our hypotheses concerning the impact of origin on migrations were not totally confirmed in the Pays de Herve. Those who were born in the region had a lower propensity to move than those born outside. Yet, the largest gap (with foreigners) was “only” 87 percent, while in Tilleur all the in-migrants were three times more likely to out-migrate than the natives! In Sart, the 94 percent of people who were living in a household whose head was born in Sart were also more rooted than the others, who were 120 percent more likely to leave the village.

## **Conclusions**

The nineteenth century Eastern Belgium has been deeply changed by the double process of industrialization and urbanization. Even the so-called “traditional” rural regions were clearly under pressure after the collapse of proto-industry, and constrained to drastic adaptations. Among others, the Pays de Herve and the Ardennes societies were obliged to use simultaneously an old solution, the Malthusian brake of late marriage and high level of final celibacy, and a new one – at least by its magnitude – the out-migration to industrial towns. Here, we have been able to explore two rural settings as well as an industrial city, and consequently to provide a relatively complete picture, thanks to a unique opportunity, the linkage of the marriage certificates with population registers.

Such databases offer the opportunity to look at the destiny of unmarried adults: endogamous or exogamous marriages were only one of the several possible roads in their life-courses. Section 2 has shown that making an endogamous union was a minor option compared with exogamous marriage, as well in the countryside as in the industrial town. But it is even more obvious when the other opportunities are considered, such as out-migrating or staying (and even staying single). If going beyond the dichotomy was already a challenge, we also wanted to show that each transition was the product of a process, of a life course, of interactions and compromises between several influential factors.

Our results show that in the two rural areas – although they were pretty different – the same pattern emerges. Farmers and natives were the less mobiles, the more rooted, and dug even more deep their roots since they clearly had the higher probability of contracting endogamous marriages. Such endogamy participated to the preservation and reproduction of rural local cultures, to the maintenance of a “core” population keeping and defending traditions, including the visions of a proper family and a proper marriage.

It remains that everywhere migration rose, populations were more and more mobile and, consequently, everywhere also, endogamy declined along the nineteenth century. When individual, family and community variables are included in multivariate models and control each other, this result becomes obvious. We could evoke, beyond mobility, its impact in terms of distances taken with the parents and the community of origin. This is in fact in Tilleur, in the industrial town, that children escaped from parental pressure by out-migrating. Yet, this parental control concerned their contribution to the household economy, not their partner choice. All in all, even if the evolution of endogamy appears to be the same, it is also clear that industrial populations invented radically new cultures and rules.

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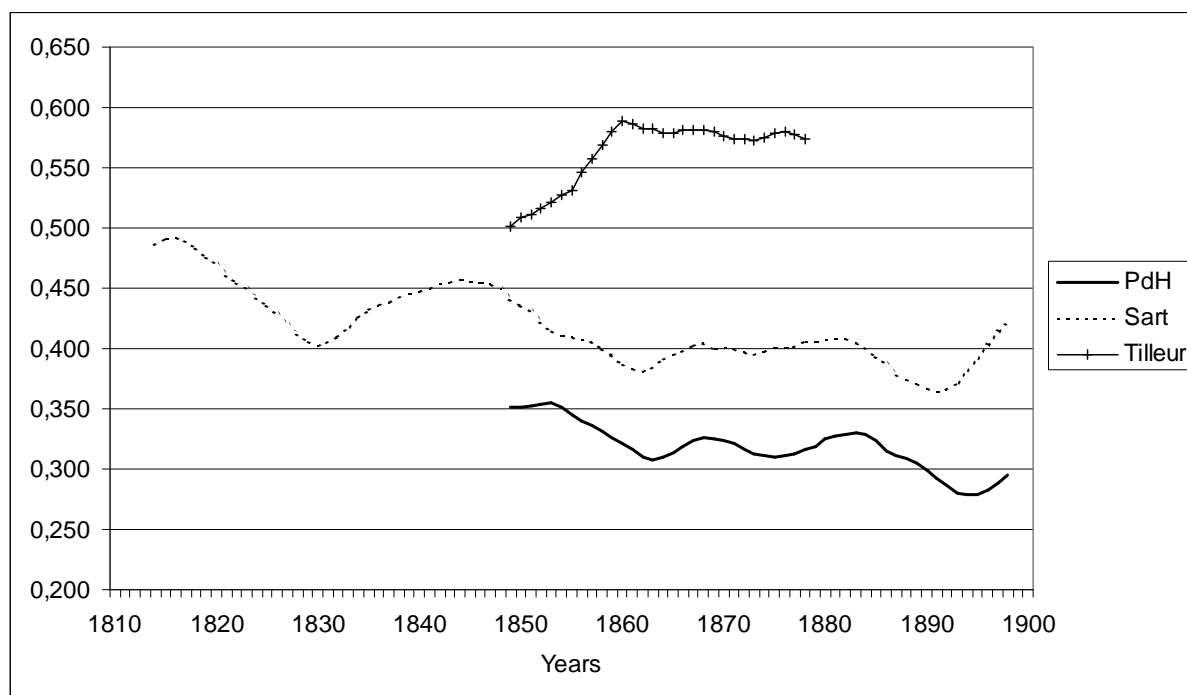
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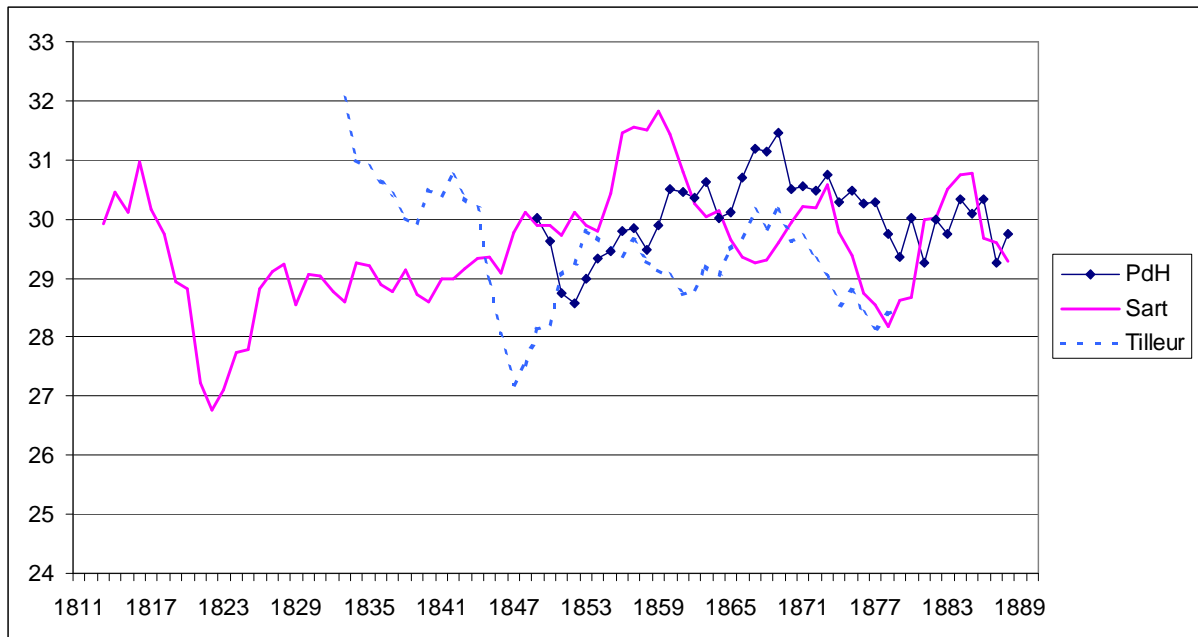
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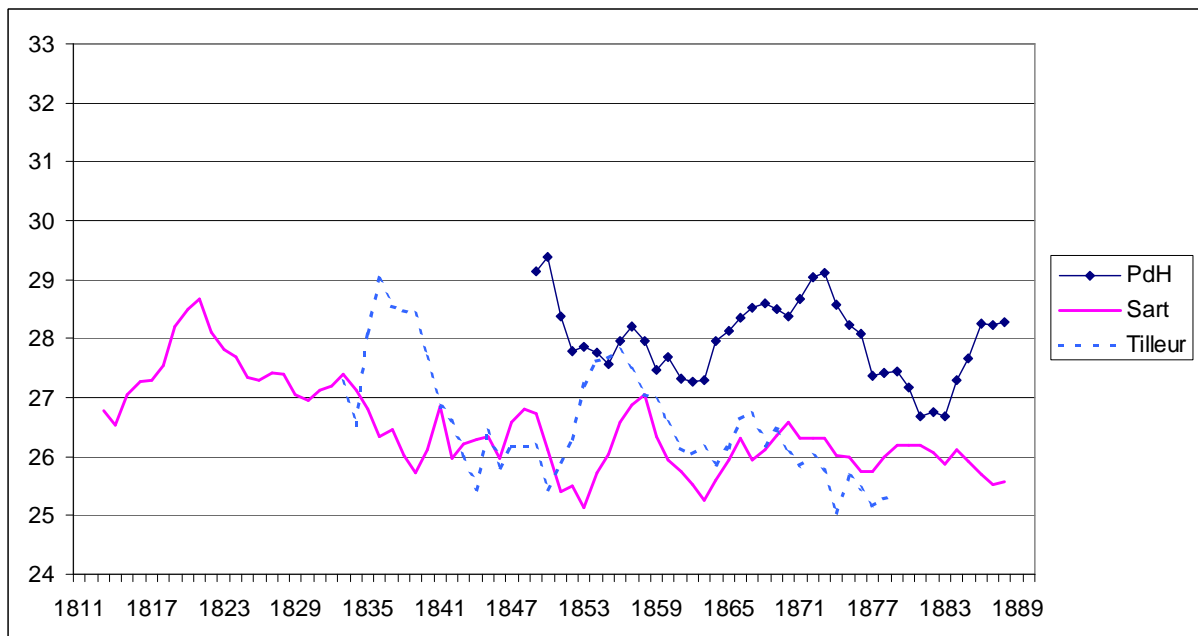
**Figure 1 – Proportion of married women (Im) in nineteenth century eastern Belgium**



**Figure 2 – Average age at first marriage in nineteenth century eastern Belgium  
Men**



**Figure 3 – Average age at first marriage in nineteenth century eastern Belgium  
Women**





**Table 1 - Proportion of never married. Pays de Herve, Sart, and Tilleur in the second half of the nineteenth century**

	Pays de Herve 1846-1890	Sart 1846-1890	Tilleur 1846-1880
Males	20.7	16.4	13.8
Females	21.7	14.2	7.5
Total	21.2	15.4	10.9

**Table 2 – The fathers' spouses deaths in the marriage registers (in percent)**

	2 fathers deceased	at least one father deceased	Number of marriages	Period of observation
Pays de Herve	18,0	66,0	1221	1846-1890
Sart	21,4	70,3	1268	1812-1890
Tilleur	25,8	73,4	1055	1846-1880
Total	21,5	69,8	3544	

**Table 3 – The occupational structure of eastern Belgium at the population censuses**

	Pays de Herve	Sart	Tilleur
No activity	12.1	11.2	7.7
Day laborers	12.0	10.7	36.8
Farmers	38.1	58.5	-
Petty bourgeoisie	12.8	9.5	18.2
Textile workers	12.6	-	-
Craftsmen	12.5	10.1	-
Miners	-	-	22.0
Iron and steel workers	-	-	15.3
Total (%)	100.0	100.0	100.0
Total (n)	4231	3356	1501

*Table 4 – Endogamy in eastern Belgium in the nineteenth century*

	Pays de Herve		Sart		Tilleur	
	Father-Father	Bridegroom-F.-in-law	Father-Father	Bridegroom-F.-in-law	Father-Father	Bridegroom-F.-in-law
Homochtony rate	40,7	46	60	54	44	42
Index of Jacquart-Segalen	0.46	0.4	0.28	0.44	0.26	0.23
n	415	738	668	928	403	636

**Table 5 – The occupations of the spouses fathers according to the marriage acts Eastern Belgium during the nineteenth century**

<b>Pays de Herve</b>	Bride's fathers occupation						
Bridegroom father's occupation	No activity	Day laborer	Farmer	Textile	Craftsman	Petty bourg.	Total
No activity	17	14	13	5	3	2	54
Day laborer	9	21	12	4	13	0	59
Farmer	9	4	122	10	12	7	164
Textile	8	11	6	11	11	4	51
Craftsman	9	15	12	6	9	9	60
Petty bourg.	5	0	7	0	4	11	27
<b>Total</b>	<b>57</b>	<b>65</b>	<b>172</b>	<b>36</b>	<b>52</b>	<b>33</b>	<b>415</b>
<b><i>Prost indicators</i></b>							
No activity	2,29	1,66	0,58	1,07	0,44	0,47	
Day laborer	1,11	2,27	0,49	0,78	1,76	0,00	
Farmer	0,40	0,16	1,79	0,70	0,58	0,54	
Textile	1,14	1,38	0,28	2,49	1,72	0,99	
Craftsman	1,09	1,60	0,48	1,15	1,20	1,89	
Petty bourg.	1,35	0,00	0,63	0,00	1,18	5,12	
<b>Sart</b>	No activity	Day laborer	Farmer	Craftsman	Petty bourg.	Total	
No activity	8	7	20	5	2	42	
Day laborer	5	28	33	4	4	74	
Farmer	15	27	349	32	19	442	
Craftsman	5	11	42	11	4	73	
Petty bourgeoisie	0	3	23	3	8	37	
<b>Total</b>	<b>33</b>	<b>76</b>	<b>467</b>	<b>55</b>	<b>37</b>	<b>668</b>	
<b><i>Prost indicators</i></b>							
No activity	3,86	1,46	0,68	1,45	0,86		
Day laborer	1,37	3,33	0,64	0,66	0,98		
Farmer	0,69	0,54	1,13	0,88	0,78		
Craftsman	1,39	1,32	0,82	1,83	0,99		
Petty bourgeoisie	0	0,71	0,89	0,98	3,9		
<b>Tilleur</b>	No activity	Day laborer	Farmer	Iron and steel	Miner	Petty bourg.	Total
No activity	0	0	0	0	0	0	0
Day laborer	0	104	9	24	30	24	191
Farmer	1	22	16	8	6	8	61
Iron and steel	0	15	4	7	2	8	36
Miner	0	20	2	5	20	4	51
Petty bourgeoisie	0	12	8	6	8	30	64
<b>Total</b>	<b>1</b>	<b>173</b>	<b>39</b>	<b>50</b>	<b>66</b>	<b>74</b>	
<b><i>Prost indicators</i></b>							
No activity	0.00	0.00	0.00	0.00	0.00	0.00	
Day laborer	0.00	1.27	0.49	1.01	0.96	0.68	
Farmer	6.61	0.84	2.71	1.06	0.60	0.71	
Iron and steel	0.00	0.97	1.15	1.57	0.34	1.21	
Miner	0.00	0.91	0.41	0.79	2.39	0.43	
Petty bourgeoisie	0.00	0.44	1.29	0.76	0.76	2.55	

*Table 6 – Overview of the event history models : time at risk and number of events*

	Pays de Herve	Sart	Tilleur
time at risk	54701	28200	24144
Endogamous marriages	263	430	34
exogamous marriages	362	332	229
Indeterminate marriages	865	770	428
Total number of marriages	1490	1532	961
Out-migrations	2743	1031	2573

**Table 7 – The determinants of endogamous, exogamous, indeterminate marriages, and out-migration in the Pays de Herve (1846-1890). Cox regression**

	Endogamous marriages		Exogamous marriages		Indeterminate marriages		Out-migrations	
	Relative risk	P-value	Relative risk	P-value	Relative risk	P-value	Relative risk	P-value
Sex								
Men (ref.)	1,00		1,00		1,00		1,00	
Women	<b>1,79</b>	0,000	<b>1,70</b>	0,000	1,08	0,236	<b>0,85</b>	0,000
Period								
1873-1890 (ref.)	1,00		1,00		1,00		1,00	
1846-1872	1,07	0,616	<b>1,37</b>	0,006	<b>0,76</b>	0,000	<b>0,88</b>	0,001
Cost of life index	1,00	0,970	0,99	0,423	1,01	0,075	1,00	0,837
Socio-professional status of the household head:								
Farmers (ref.)	1,00		1,00		1,00		1,00	
No activity	0,63	0,081	<b>2,17</b>	0,000	1,15	0,214	1,14	0,063
Day laborer	<b>0,39</b>	0,000	<b>1,84</b>	0,000	1,24	0,055	<b>1,34</b>	0,000
Textile worker	<b>0,66</b>	0,041	1,14	0,519	0,93	0,573	1,02	0,729
Craftsman	<b>0,53</b>	0,002	<b>2,07</b>	0,000	0,99	0,892	0,94	0,334
Petty bourgeoisie	<b>0,24</b>	0,000	<b>1,61</b>	0,009	0,90	0,382	<b>1,14</b>	0,041
Presence of parents:								
Both present (ref.)	1,00		1,00		1,00		1,00	
Mother only	0,71	0,100	1,06	0,718	<b>2,31</b>	0,000	<b>1,19</b>	0,004
Father only	1,25	0,215	1,33	0,071	<b>1,49</b>	0,001	<b>1,16</b>	0,024
Nobody	<b>0,45</b>	0,000	<b>0,57</b>	0,001	<b>1,70</b>	0,000	<b>1,97</b>	0,000
Presence of siblings:								
Old brother(s)	<b>0,75</b>	0,003	<b>0,84</b>	0,027	<b>0,79</b>	0,000	<b>0,92</b>	0,004
Old sister(s)	<b>0,62</b>	0,000	<b>0,60</b>	0,000	<b>0,76</b>	0,000	<b>0,92</b>	0,004
Young brother(s)	<b>0,84</b>	0,006	<b>0,85</b>	0,004	<b>0,92</b>	0,015	1,03	0,111
Young sister(s)	<b>0,88</b>	0,033	0,90	0,050	0,95	0,117	<b>1,07</b>	0,000
Origin (place of birth):								
Pays de Herve (ref.):	1,00		1,00		1,00		1,00	
Rural area	0,76	0,235	0,80	0,283	1,03	0,821	<b>1,62</b>	0,000
Urban/industrial area	1,10	0,797	1,32	0,328	<b>0,53</b>	0,014	<b>1,52</b>	0,000
Other	<b>0,27</b>	0,028	0,64	0,210	<b>0,48</b>	0,001	<b>1,91</b>	0,000

In bold : significant at 0.05 level

**Table 8 - The determinants of endogamous, exogamous, indeterminate marriages, and out-migration in Sart (1812-1890). Cox regression**

	Endogamous marriages		Exogamous marriages		Indeterminate marriages		Out-migrations	
	Relative risk	P-value	Relative risk	P-value	Relative risk	P-value	Relative risk	P-value
<b>Sex</b>								
Men (ref.)	1,00		1,00		1,00		1,00	
Women	<b>1,36</b>	0,002	<b>1,87</b>	0,000	<b>1,73</b>	0,000	0,99	0,895
<b>Period</b>								
1812-1846 (ref.)	1,00		1,00		1,00		1,00	
1847-1874	0,90	0,326	0,92	0,523	<b>1,20</b>	0,037	<b>6,04</b>	0,000
1875-1890	<b>0,57</b>	0,000	0,87	0,365	<b>1,26</b>	0,021	<b>6,14</b>	0,000
Rye prices	0,99	0,332	0,98	0,153	0,99	0,140	1,01	0,050
<b>Socio-professional status of the household head:</b>								
Farmers (ref.)	1,00		1,00		1,00		1,00	
No activity	<b>0,59</b>	0,033	0,60	0,089	<b>0,73</b>	0,019	<b>1,47</b>	0,000
Day laborer	<b>0,50</b>	0,002	1,26	0,199	<b>0,75</b>	0,045	<b>1,99</b>	0,000
Craftsman	<b>0,44</b>	0,004	1,43	0,063	0,76	0,103	<b>1,43</b>	0,003
Petty bourgeoisie	0,92	0,742	1,05	0,864	0,74	0,137	<b>1,94</b>	0,000
<b>Presence of parents:</b>								
Both present (ref.)	1,00		1,00		1,00		1,00	
Mother only	0,80	0,101	<b>0,68</b>	0,026	<b>2,11</b>	0,000	1,11	0,313
Father only	1,09	0,483	1,28	0,083	1,09	0,464	1,16	0,154
Nobody	<b>0,57</b>	0,000	0,73	0,058	<b>1,65</b>	0,000	<b>2,30</b>	0,000
<b>Presence of siblings:</b>								
Old brother(s)	<b>0,83</b>	0,014	<b>0,75</b>	0,001	<b>0,85</b>	0,004	<b>0,84</b>	0,001
Old sister(s)	<b>0,59</b>	0,000	<b>0,74</b>	0,004	<b>0,77</b>	0,000	<b>0,81</b>	0,002
Young brother(s)	<b>0,83</b>	0,000	<b>0,89</b>	0,026	1,02	0,594	0,98	0,603
Young sister(s)	0,95	0,310	<b>0,84</b>	0,002	<b>0,83</b>	0,000	1,06	0,065
<b>Origin (place of birth):</b>								
Sart (ref.):	1,00		1,00		1,00		1,00	
Outside Sart	<b>0,62</b>	0,010	0,83	0,307	0,89	0,319	<b>2,20</b>	0,000

In bold : significant at 0.05 level

**Table 9 - The determinants of endogamous, exogamous, indeterminate marriages, and out-migration in Tilleur (1846-1880). Cox regression**

	Endogamous marriages		Exogamous marriages		Indeterminate marriages		Out-migrations	
	Relative risk	P-value	Relative risk	P-value	Relative risk	P-value	Relative risk	P-value
<b>Sex</b>								
Men (ref.)	1,00		1,00		1,00		1,00	
Women	1,78	0,102	<b>1,99</b>	0,000	<b>2,20</b>	0,000	<b>1,30</b>	0,000
<b>Period</b>								
1846-1856 (ref.)	1,00		1,00		1,00		1,00	
1857-1872	<b>0,26</b>	0,016	<b>0,18</b>	0,000	0,70	0,057	<b>1,33</b>	0,000
1873-1880	<b>0,02</b>	0,001	<b>0,16</b>	0,000	<b>0,68</b>	0,042	1,14	0,065
Real wages	2,90	0,372	<b>5,41</b>	0,000	<b>2,41</b>	0,005	0,95	0,714
<b>Socio-professional status of the household head:</b>								
Day laborers (ref.)	1,00		1,00		1,00		1,00	
Miners	-	-	1,28	0,150	<b>1,38</b>	0,018	<b>1,26</b>	0,000
Iron workers	1,09	0,905	1,36	0,150	0,82	0,297	0,96	0,563
Petty bourgeoisie	<b>3,27</b>	0,009	<b>0,37</b>	0,000	1,06	0,623	<b>1,25</b>	0,000
<b>Presence of parents:</b>								
Both present (ref.)	1,00		1,00		1,00		1,00	
Mother only	0,47	0,357	0,62	0,212	<b>6,61</b>	0,000	1,12	0,177
Father only	1,49	0,626	1,02	0,971	1,37	0,699	1,20	0,115
Nobody	0,53	0,332	1,02	0,942	<b>5,25</b>	0,000	<b>0,69</b>	0,000
<b>Presence of siblings:</b>								
Old brother(s)	0,76	0,298	0,88	0,276	<b>0,74</b>	0,024	<b>0,93</b>	0,008
Old sister(s)	0,93	0,731	<b>0,67</b>	0,004	<b>0,76</b>	0,038	0,99	0,704
Young brother(s)	0,90	0,775	0,89	0,571	0,70	0,180	0,98	0,630
Young sister(s)	0,34	0,114	<b>0,52</b>	0,035	<b>0,34</b>	0,012	<b>0,80</b>	0,001
<b>Origin (place of birth):</b>								
Tilleur (ref.)	1,00		1,00		1,00		1,00	
Rural area	1,13	0,805	<b>5,44</b>	0,000	<b>1,78</b>	0,000	<b>3,61</b>	0,000
Urban/industrial area	1,55	0,333	<b>2,65</b>	0,002	<b>1,55</b>	0,005	<b>2,76</b>	0,000
Flanders	1,96	0,201	<b>7,40</b>	0,000	<b>2,15</b>	0,000	<b>3,24</b>	0,000
Other	-	-	<b>7,02</b>	0,000	<b>2,06</b>	0,000	<b>3,19</b>	0,000

In bold : significant at 0.05 level