Preface

This paper is a part of my Economic History dissertation project "*How industrial evolution changed Nordic ironwork communities in 1880–1960.*" This paper is a framework of the dissertation's first article. It aims to shed some light on the social structure of ironwork communities and the entanglement of professions and the community to enable further analyzes of industrial evolution's[1] impact on it. As it will be shown, profession and work together played a major role in pre-industrial ironwork communities and both could be changed by industrialization. This is just a preliminary version of the article so I am open to all propositions on how to make it better.

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[1] It should be stressed that concept of industrial evolution is not seen as social-darwinistic path of positive progress guided by coincidences. With it whole process of industrialization can be seen as path formed of factors which are co-dependent, which is also shaped by strategic decisions and actions. When compared to old-fashioned and highly controversial concept of revolution it offers longer time-span and portraits continuity of the industrialization process in a more fruitful way.

The importance of a profession as the cornerstone of local networks during Nordic industrial evolution in 1880-1920

by Juuso Marttila[2]

1.   Introduction

> Smiths were their own issue - - did whatever they liked, they were lords highnesses compared to folk of the saw mill. - - smiths were still better folk.[3]

> Smiths were in better position than other workmen.[4]

> Krouvinmäki (where *workmen* lived) was community on its own. Sahamäki (where *smiths* lived) was separate. Better folk they were.[5]

These few citations give a sound example how residents saw the every-day reality of the Finnish ironwork community of Strömfors in the first half of the 20th century. In a traditional and patriarchal ironwork community there still was to be found profession based and separate social spheres/networks. The community can also be seen as a sum of these networks and their interaction with each other and local formal and informal institutions.[6] This emphasizes the importance these networks had in the past every-day reality. But where these networks had their roots and did they change in time? How true was above cited experience of profession based networks and was there really separate networks or only difference in status? It has been previously noted for example by Kari Teräs that a common occupational identity and organization of work produced

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[3] RKA – RRA 3, Interview of Armi Lehto 24.7.1998, p. 5. Translation by Marttila.
[4] RKA – RRA 3, ”Työläisten elämästä Strömforsin tehtaalla tämän vuosisadan alussa” –mixed notes under heading ”On life of workmen in Strömfors Factory in beginning of the 20th century”, made possibly by workman Väinö Aalto. Translation by Marttila
[5] Distance between these two group of houses was ca. 200 m. RKA – RRA 3, Interview of Fanny Klingberg, date unknown, by Börje Broas. Translation and clarifications in parenthesis by Marttila.
[6] See Stobart 2001 on communities as condensations of networks, institutions and objects.

networks in workplaces. This meant more than just transmitting skills and knowledge to new workers. An occupation was also a social construction and a network founded on an occupational identity based on mutual trust and knowledge of social borders.[7] Still we lack further research on these work-related networks: what were their premises, how far they reached from workplace itself, their role in an immediate surrounding community and how did modernization change those. In this paper the concept of network is used to *evaluate the importance of a profession in a case of Finnish Strömfors ironwork community's local networks in 1880-1920 and industrial evolution's impact on them.*

In the recent academic debate (instigated by e.g. Douglas C. North and Avner Greif) in Economics, Social Sciences and especially Economic History both formal and informal institutions and intangible assets, such as networks, have drawn an intense attention both in theoretical and empirical studies. As part of larger dissertation project this paper also contributes to our knowledge of how industrial evolution affected these important aspects of everyday life. It also highlights reciprocity of the relation between the business and the community around it[8] and their co-evolution. It also brings in to focus industry from agricultural environment, which have been slightly neglected in the previous studies of industrial development in Finland[9]. The paper examines local networks in relation to profession through mapping personal connections from church archives including information about family ties, marital behaviour and god-parent connections[10]. It also makes some use of a wide array of themed interviews gathered from Strömfors from the 1960's onwards.

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[7] Teräs 2001, p. 368.

[8] For example of this in academic research see e.g. Göran Rydén's dissertation (1990) on relation between smiths' work and household or Petri Karonen (2002) on reciprocity of relationship between patron and worker.

[9] See for example Teräs 2001, p. 11-12 for key research figures of Finnish industrialization process.

[10] These have recently been used to map local connections and networks in Nordic field of research for example by Kari-Matti Piilahti (2007) and Solveig Fagerlund (2002).

2. *Nordic ironworks*[11]

Since their establishment in Nordic states in the 16th century ironwork societies were isolate and comparatively different from the rest of the agrarian society surrounding them. They centered on privilege-based iron industry although the patron often had also extensive land property for foodstuff and charcoal production and sometimes other industries. The primary product was pig iron and some more processed iron products (e.g. nails, chain, tools, anchors) and so the most precious work force consisted of different kinds of smiths as only primitive water powered machinery (mostly great hammers) was used. It was the exceptional legal privileges on iron production that de jure separated ironworks from Nordic Society of Estates and led to the development of these peculiar proto-industrial communities.[12] They were even often separate from the rest of the patron's holdings that seemed to be more like ordinary agrarian periphery serving industrial central community[13].

Traditional, pre-1850's ironwork communities were hierarchical in all possible aspects. On top of the hierarchy was always the patron who enjoyed ultimate power in the ironwork. He[14] and his family were absolute nobility of ironwork society followed by accountants, overseers and ironwork's priest. Next in hierarchy had been professionals serving directly the iron production, meaning mostly different kind of smiths, who had an old and strong guild system backing them up. They were followed by other professionals and after them the rest of the workforce. Wives, seasonal workforce, tenants, soldiers and parasites were at the bottom of the order. Importantly the hierarchical way to construct societies penetrated also these subgroups which all

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[11] Brief English review on Nordic (especially Swedish) iron making can be found in "Ironmaking in Sweden and Russia. A survey of the social organisation of iron production before 1900." Eds. Göran Rydén & Maria Ågren. Uppsala : 1993.
[12] Bursell 1974, p. 28–29; Sirén 1971, p. 38–40, 90–91; Vilkuna 1994, p. 152, 261–267.
[13] In my research I follow Kustaa H.J. Vilkuna's definition that central ironwork community consisted of people who lived under patron's direct authority and lived in a village that was formed around central production facilities. Vilkuna 1996, p. 9.
[14] Only in rare occasions female widows inherited his power and reigned as sovereign patrons.

had their own strict hierarchies. General order inside occupational groups was: master, journeyman, apprentice, auxiliaries. Wages were usually paid in kind and perquisites. They were divided unequally along the hierarchy which resulted in an institutionalized inequality, which the top of the hierarchy naturally maintained.

Typical for those hierarchical communities was also their stability: social upwards or downwards movement between unequal worker groups was strikingly absent. Rare social ascent happened usually outside the ironwork community. Both profession and status were usually transmitted from father to son in a direct lineage for hundreds of years and it was virtually impossible to get to some professions without appropriate blood ties.[15] This resulted in multiple more or less closed social spheres, which were centered on certain professions and had only limited contacts to each other. These spheres formed the ironwork community and can clearly be described with the concept of network. These also stand well in comparison to the statements of Teräs mentioned earlier in the chapter one. A more problematic question is how representative these networks were to portray a whole community and were people playing a role in more than one network. In other words: how often did these networks overlap and what was the border between everyday communications and networks? To overcome this problem, data from godparent –institution is used, as it can be presumed that getting an invitation as a godparent meant having a more intense contact than just everyday communication.

Another key concept to describe ironwork communities is (industrial) patriarchalism. It means the reciprocal relationship between the ironwork company and its loyal clients – workforce. Company's responsibility was to take care of its employees and their families and in return expected unflinching loyalty, subjugation and diligence. This relationship was also often personal, especially in smaller ironworks.[16] Reciprocity leads us also to the concept of social capital as it's often seen as its essence[17]. Above said

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[15] Dahlström & Dahlström 1984, passim.; Vilkuna 1996, p. 42–46, 52–58.
[16] Karonen 2002, p. 259; Vilkuna 2002, p. 170.
[17] E.g. Putnam 2000, p. 20-21, 134.

on ironwork societies considered, those networks of professionals can be clearly seen as social capital in more than one aspect. Firstly, they were social capital to their members, most positively in the upper steps of hierarchy. Secondly, they were also social capital to ironworks owner as they ensured that the production of goods and industrial peace were maintained. This indicates that these concepts are of use to describe these historical communities and also examining these communities is useful to get more information on these concepts.

Generally speaking the situation in ironworks had remained virtually the same with only some minor technological innovations until the late 19th century when mechanization – and along it industrial evolution – began to gain momentum in Sweden and a bit later on in Finland. At the same time many ironworks integrated some other mechanized industries in the factory community, like lumber and iron mills. Mechanization in general made workers more uniform and equal as meaning of individual skill declined. Business leadership began also to change from a patriarchal to a capitalist system and in many places industrial evolution meant dismantling the old hierarchical organization of work and stable worker networks. Also a larger institutional framework was going through major changes in Nordic countries. Firstly, the old guild system was demolished in the later part of the 19th century that was signaling transition from the Society of Estates to the Class Society. Secondly, the beginning of the 20th century saw changes in legislation that brought the old perquisite system to its end and so removed one essential source of inequality. Some ironwork communities adapted and changed into more homogeneous and modern industrial communities. Others answered to the threat of a new industrial culture and proletarization with a cultural isolation and clinging to old patriarchal ways.[18]

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[18] Florén & Rydén 1992, p. 85–86; Karisto, Takala, Haapola 1998, p. 166; Morger 1985, p. 264-265.

Strömfors Ironwork was established in 1695. Its core industries employed from 10 to 20 smiths in forges and a few other professionals in a mill and a lumber mill. There were also from 20 to 30 mixed unskilled workmen. The 1850's marked the beginning of an era of investments and development and expansion of production in both iron goods and lumber. This didn't change Strömfors' iron production's unique old-fashioned nature. "New" france-comté technology was already badly outdated and, for example, in Sweden more competitive and modern Lancashire method was winning ground quickly[19]. In the 1870's also ironwork's ownership was changed from the patron-system to a corporation, but still the new leadership maintained old patriarchal customs. At its height iron goods production was in the 1880's around 300 000 kg's and at the same time ca. 1000 m³ of lumber was produced. In the 20th century the lumber mill became the central point of management's attention and in the same time production of iron goods declined, although not linearly as both World Wars contributed to increase of demand. In the 1920's forges produced from 30 000 to 50 000 kg's of iron goods and at the same time the lumber mill's production surpassed 2 000 000 m³. This also changed the social milieu of Strömfors Ironwork community considerably as the amount of saw workers increased from a few employees of the 1870's to 80 in the 1920's and so exceeded the declining number of smiths who previously had dominated ironwork society's population[20]. After the Second World War both Strömfors' main industries were deemed hopelessly old fashioned[21] and their modernization was considered as unprofitable. They were still kept running until early 50's. However Strömfors' ironwork community preserved its industrial nature as Ironwork's owner, Ahlstrom Corporation established a new plastic and electronics plant on site employing many of the late ironwork's workers.[22]

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[19] Larsson 1986, p. 23-24.
[20] It should be stressed that hereafter "worker" and workman always means unskilled worker (male or female) who usually worked in sawmill or in other mixed jobs. Professional means smiths or other skilled workman and craftsman.
[21] In fact the old fashioned forges had been a tourist attraction since turn of the century. Sirén 1972, p. 98.
[22] Sirén 1971, passim.

3. *Evidence from church archives*

To gain any statistical evidence on previously mentioned, traditional profession-related social spheres and networks of the ironwork society of Strömfors in the turn of the 20th century, information on christenings has been gathered. This information includes occupation of parents and godparents and therefore can be used to map connections between people their occupational background considered. Godparent connections offer a great tools to analyze local networks as these connections were used as economic safeguards for children, to create contacts between families and to bring children themselves into these contact networks[23]. In Strömfors it can be seen as an extensive source at least before 1915 after which other occupational groups' than workers children became too scarce. After that only analyze of unskilled worker network, which by then formed an uncontested majority of the community, can be done reliably with these sources.

Firstly it should be noted that statistical evidence confirms that both ironwork societies were indeed detached from rural population surrounding it. Of almost 900 connections examined in Strömfors in 1880-1919 ca. 5% of relationships involved both member of ironwork and rural societies[24] although spatial distance was under no circumstances insuperable. This meant that even contacts with the rest of the ironwork's patron's workforce from Jokiniemi manor were playing minor part and ironwork's central community was indeed separate even from other holdings of the patron. Notably the figure stayed same through the period examined here. Situation is familiar

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[23] Häggman 1994, p. 108-109.
[24] RSA, Kastettujen kirjat 1880-1919. Figures are not accurate, as some of connections counted as "rural" may have been in fact croft holders in direct relationship with the ironwork and some connections involving hired hands not counted as "rural" may have been contacts with hired hands of surrounding farms.

also from other ironworks of the same era and even some fights could regularly occur between ironwork population and outsiders[25].

Significance of the spatial dimension can also be seen in an occasion when a smith arrived to Strömfors for a short time from elsewhere and apparently didn't manage to penetrate the local smith-network to get local smiths as godparents and usually soon moved elsewhere. This leads to a conclusion that Strömfors' smith-network was also a quite local institution despite of a still strong habit of circulation of smiths between Finnish and Swedish ironworks. This circulation was emphasized by a period of ironwork closures in the turn of the century as jobless smiths searched last ironworks where an old trade of hammer work could be still carried on.[26] Still in Strömfors there existed clearly the local network of smiths, who had roots or rooted in the ironwork. Contrast to the group of short-time visitors is clear as they, despite their numbers, cannot be found as godparents.[27] This does well to remind of weight of the word *local* in these networks.

Not surprisingly one sphere that stood clearly out of source material was formed around the upper "class"[28] of the ironwork society in both cases. It was formed on one hand of clerks and different kind of overseers and on the other hand people who could be described as academics (teachers, priests, inspectors etc.). As such it was a fairly heterogeneous group. This group was spatial-wise a rather open network as many of these connections involved outsiders from higher circles of Finnish and Swedish societies in general, usually also behind a considerable distance. Those who were by their occupation in close contact with the local production also had sporadic relationships with workforce, especially with smiths in Strömfors, when the proportion of smiths to other workers is noted. Still it must be stressed that godparent connections

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[25] Bursell 1974, p. 217–218.
[26] Bursell 1974, p. 225; Florén, Isacson, Rydén & Ågren 1993, p. 36–37.
[27] RSA, Kastettujen kirjat 1880-1919.
[28] Term class is used here without a reference to class theories and is simply used to distinguish this group of people from rest of the ironwork community's populace.

to workmen were almost entirely one sided: upper class virtually never asked workman to become a godparent[29]. This can be seen as clear line of segregation towards workmen as godparentage has been seen usually as reciprocal institution when families from upper tiers of a society usually were godparents to each others children.[30] In line with previous studies, in the upper class case the godparent institution can be seen as a clear and conscious effort to either expand or solidify/maintain their network[31] as they almost invariably had at least 5 different godparents of decent status when compared to ordinary 1-3 godparents of ironworks employee[32]. This can be seen as a way to keep up old contacts[33], maybe gain new ones and also promote one's status.

As natural as forming of a network in upper layers of community, was forming of worker's network in the other end of the hierarchy. As unskilled workforce's numbers in Strömfors increased from 1890's onwards their network too became more visible and "self-sustained" as proportions of godparent connections to people with different occupational background diminished sharply. Workers also seem to have actively sought godparents from higher tiers of community and this seeking of social ascent seems[34] to explain most of connections outside worker-network. Also the remaining contacts – especially those where worker was invited as godparent to children from higher social strata – were more and more explained by pre-existing blood or marital ties.[35] Development of worker network resembles also proletarization and forming of the worker class in some respects, but before such conclusion its "spirit" must be examined more closely elsewhere.

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[29] Cf. Piilahti 2007, p. 236.
[30] See Häggman 1994, p. 108–109.
[31] See also Fagerlund 2002, p. 32; Lempiäinen 1965, p. 71, 188, 190.
[32] For example, in Strömfors roughly 45% of children had only one godparent (or a godparent couple which is still seen as one connection), 38% three or more and only 4% four or more. RSA, Kastettujen kirjat 1880-1919. See also Piilahti 2007, p. 258.
[33] These "academics", clerks and managers, were seldom locals, but moved in from elsewhere. Only a few foremen were locals.
[34] Lempiäinen 1965, p. 71, 188, 190.
[35] RSA, kastettujen kirjat 1880–1940.

The most intriguing network is formed around smiths and their families since they were wage workers, but as professionals had placed themselves clearly apart from unskilled workmen for hundreds of years. They also had extensive nature benefits and other perquisites that contributed to general inequality and distinguished them from other employees also for their economic position. For their unique nature they were traditionally known as "clog nobility"[36] by the lower tiers of the community and the most valuable asset of patron and skilled professionals by higher tiers. In previous studies their group has also been found to be exclusive in nature.[37] They were also the group that was the most alien to modern industrial society – meaning considerable difficulties to adapt when compared to other workers – which makes them a great opportunity to observe industrial evolution. Their group should also be the most clearly defined, homogeneous and its size limited enough to enable further analysis on its nature and the significance of a profession.

Figure 1: Distribution of godparent connections of smiths and their family members in Strömfors

Source: RKA, Kastettujen kirjat 1880-1909

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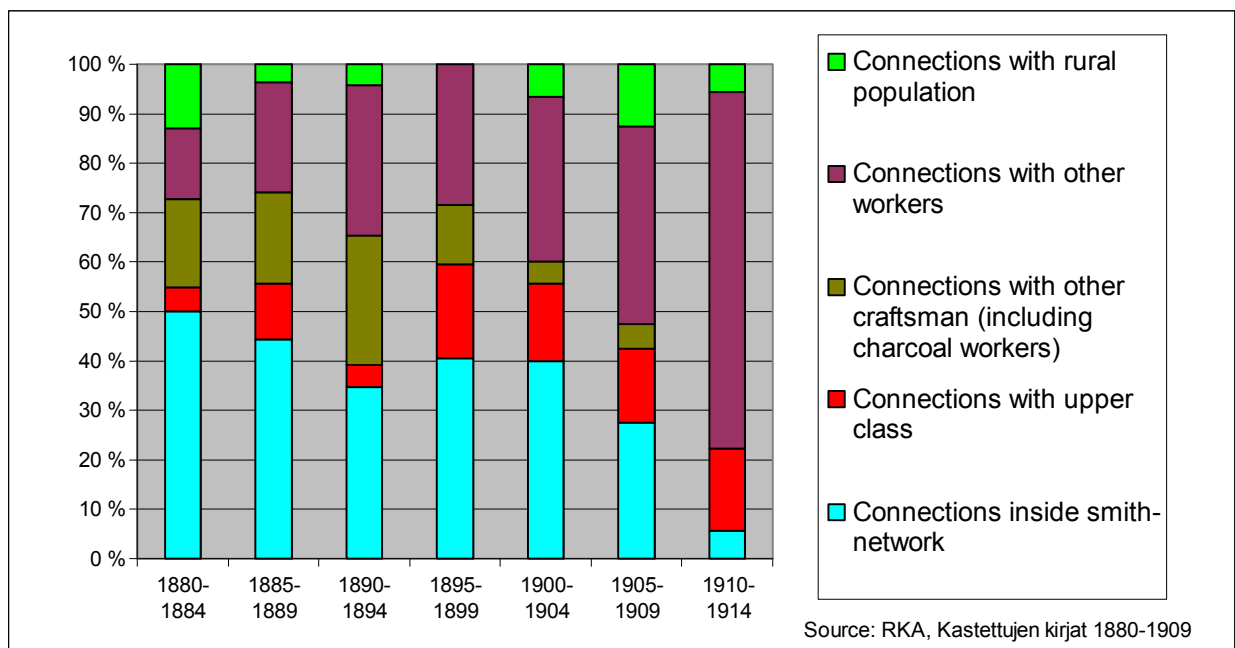
[36] This was due the traditional wooden shoes smiths used when working.
[37] Bursell 1974, p. 248–250.

In **figure 1** can be seen marked general decline in godparent connections inside the smith-network. Still the amount of connections was significant when the demographic development is considered. In 1880 the amount of both smiths and workmen were around 20 and craftsman around 10[38]. Already in 1890's number of workmen had almost quadrupled, but the number of smiths and craftsmen stayed same and declined later on.[39] Still this growth didn't seem to have considerable effect on local networking until the 1910's. The period from 1910 to 1914 is an exception that can mostly be explained by the lowest amount of children (7) and of which three were children of a smith with an extraordinary background. Axel Alfred Borgman was from family of charcoal burners who traditionally had had also plenty of connections to workmen and these were maintained even after Axel became a smith. Many from Borgman family had also become workmen and were included in those connections.

In Strömfors, the importance of a profession as a determining factor can be seen clearly also in some of connections to other profession and thus outside smith-network. There was a significant amount of connections to other craftsmen, like Borgmans, before the turn of the century. Profession was an important building block of their identity[40] and the same was true in the case of smiths[41]. Both drew from a common heritage of guilds and a monopolization of skill which produced on one hand a mutual unity between them and on the other hand otherness against rest of the workforce. A clear majority of the craftsmen who had contacts with smiths even had a common employer as they were millers and charcoal workers for the ironwork company. In this situation it's almost doubtful whether craftsmen and smiths should be in separate networks. However, smiths enjoyed a position beyond reach of other craftsmen. Of 32 godparent connections between smiths and craftsmen only in ¼ a smith was asking a craftsman to be a godparent to his child. This gives an impression of still distinct networks, when

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[38] In addition there were around ten hired hands working in lumber mill. Exact amount of people in various categories depends on a source used, but the ratio nevertheless stays nearly same.

[39] KAd, U:86, p. 1304–1306; RSA, Rippikirjat vuosilta 1879–1880, 1890–1899.

[40] See for example Rule 1989; Teräs, p. 66, 184; Uotila 2006, passim.

[41] Marttila 2006, passim.

taken in account that asking someone to act as godparent was a token of trust and that it was usually given to someone from the same or higher social strata[42]. Partly because of this lower social status craftsmen on their part could more easily have and also had relatively plenty of relationships with workmen. As they seem to be some kind of intermediaries between workmen and smiths, this reminds how a profession could also define networks and their limits via status it offered. Still it is obvious that craftsmen had contacts to smith-network particularly because of their profession and similar occupational identity. This is further emphasized by **figure 2** later on as it shows that there were also a relatively plenty of marital ties solidifying relationships between the two groups.[43]

Also a striking notion from **figure 1** is a proportion of connections to the upper layers of ironwork society which is nearly double compared to the case of workmen. Smiths' contacts to upper class were also more reciprocal by nature as smiths appear also as godparents of upper class children. [44] This portray well that smiths still manned a relatively high vertical position in the hierarchy of the ironwork community. These connections can easily be seen as status-godparents – a kind of manifestation of smiths' high status – as these higher positioned godparents had in no occasion preceding blood or marital ties to smith-network[45]. Even if this doesn't clearly indicate that multiple professions of the heterogeneous upper class were directly determining factors in these inter-network relationships, it does again well to remind how a profession and a status were intertwined in the Nordic model of the Society of Estates. Connections upwards could be considered as a merit and connections too far downwards could endanger one's position in hierarchy. Smiths also followed the upper class custom of having a plenty of godparents as 53.2% of smiths had three or more godparents and only 28% had only one godparent. This hints that smiths in Strömfors used godparent-

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[42] Fagerlund 2002, p. 217; Piilahti 2007, p. 236.
[43] RSA, kastettujen kirjat 1880–1909.
[44] In 1880-1909 11.9% of all connections of smiths involved an upper class godparent compared to 6.6% of workmen in 1880-1919. RSA, Kastettujen kirjat 1880-1919.
[45] See also Piilahti 2007, p. 258 on status godparents.

connections as conscious strategy of maintaining status of both themselves and their offspring. As virtually none of the smiths seemed to seek a higher position, this does serves well as reminder of also strong maintaining aspect of (both marital and god-parent) local connections instead of usually noted seeking of advancement of one's status.[46]

When looking other connections outwards from smith-network there's still a quite large and increasing proportion of connections to workmen. Previously said noted smiths' increasing contacts to other workers in Strömfors shown in **Figure 1** should indicate lowering position of smith-network, which demands a closer look considering also kinship relationships.

Figure 2: Godparent connections of smiths and their family members, relationships observed.

Source: RKA, Kastettujen kirjat 1880-1909
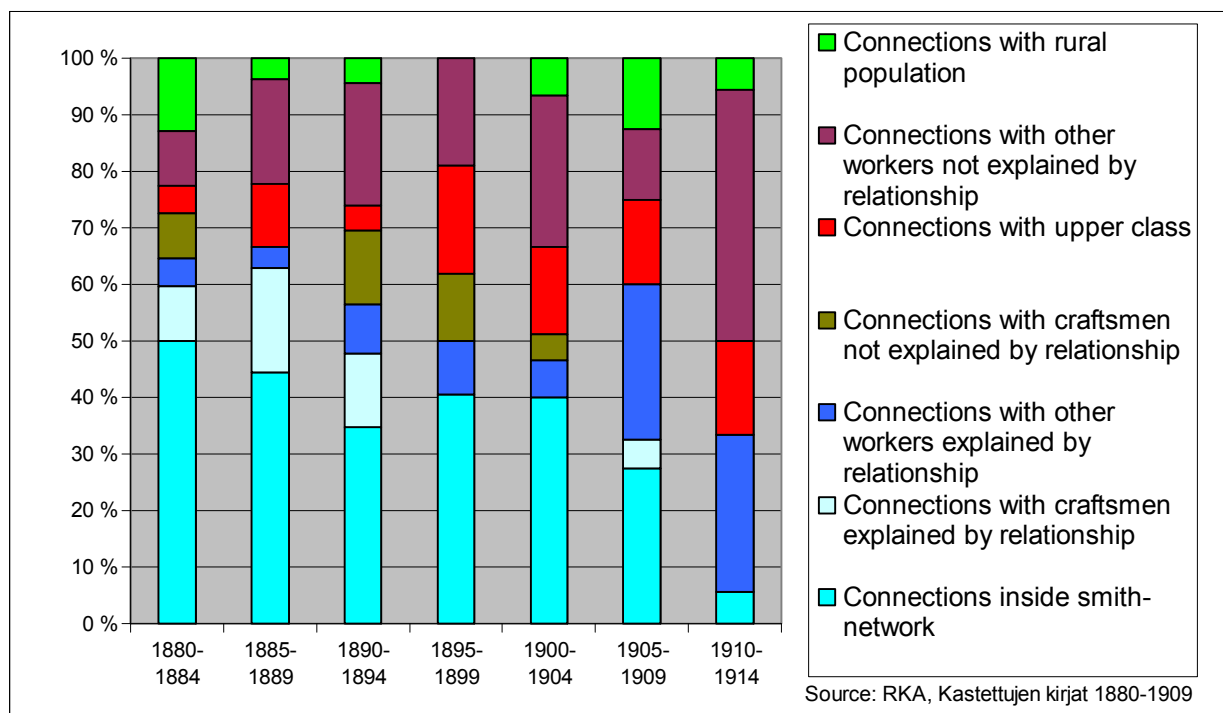
It is interesting to note in **Figure 2** in 1904-1914 a steep rise in godparent connections between smiths and workmen, where there was already previously existing

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[46] Cf. Piilahti 2007, p. 238; see also Fagerlund 2002, p. 32.

blood or marital relationship between families. This seems to explain the most of the previously observed increase in contacts between these groups. Even though some of these are explained by two smiths with a craftsman background who maintained their previous connections to workmen, amount relationships is considerable and needs some qualitative research. It reveals that in fact the old smith-network endured almost intact, but suffered from downwards social spiral. As the general trend in the business suggested there was a decline in a number of jobs available in the forge and the number of highest ranking master smiths diminished.[47] This meant that more and more descendants of smiths had to either move elsewhere[48] or resort to lower position jobs in the ironwork for their living. The data shows that workmen descendants of the smith-network, despite of their new lower social position, maintained connections to more highly positioned relatives. Most of the remaining contacts were explained by only two or three workmen who were admitted for some reason to smith-network and, in addition to marital links, the ties were strengthened with multiple godparent connections. It can be said that as possibilities to practice a smith's profession dwindled, kinship gained more ground as a defining factor for networks or at least kinship and a profession became more separate from each other.[49]

It's also important to look smith-workman connections also from the perspective of who asked whom to be godparent. It was an ordinary custom to ask people from one's own social class or higher to act as (status) godparents. So connections in which a smith was asked to act as godparent don't in fact tell anything about networks at least when no preceding relationship (by blood or marriage) can be found. To get over this deficiency all connections between workmen and smiths have been divided in four categories in **Figure 3.** Their change in time is dealt in **Figure 4**.

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[47] See for example Florén, Isacson, Rydén & Ågren 1993, p. 36–39; Montelius 1962, p. 221-222; Sirén 1971, p. 81.

[48] Interestingly smiths' descendants were notably keen to migrate to the United States when compared to other workmen. See Marttila 2006, s. 107-108.

[49] RSA, Kastettujen kirjat 1880–1909.

Figure 3: Smith-workman godparent connections in Strömfors in 1880-1919

Source: RKA, Kastettujen kirjat 1880-1919
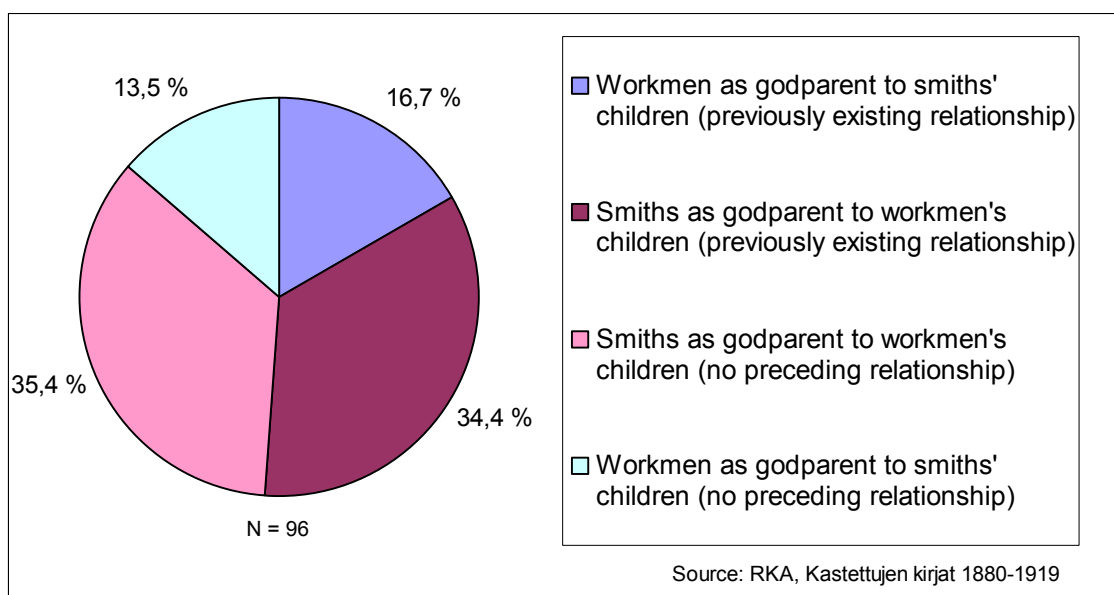
Figure 4: Average amount of workman godparents per smith's child[50]

Source: RKA, Kastettujen kirjat 1880-1919
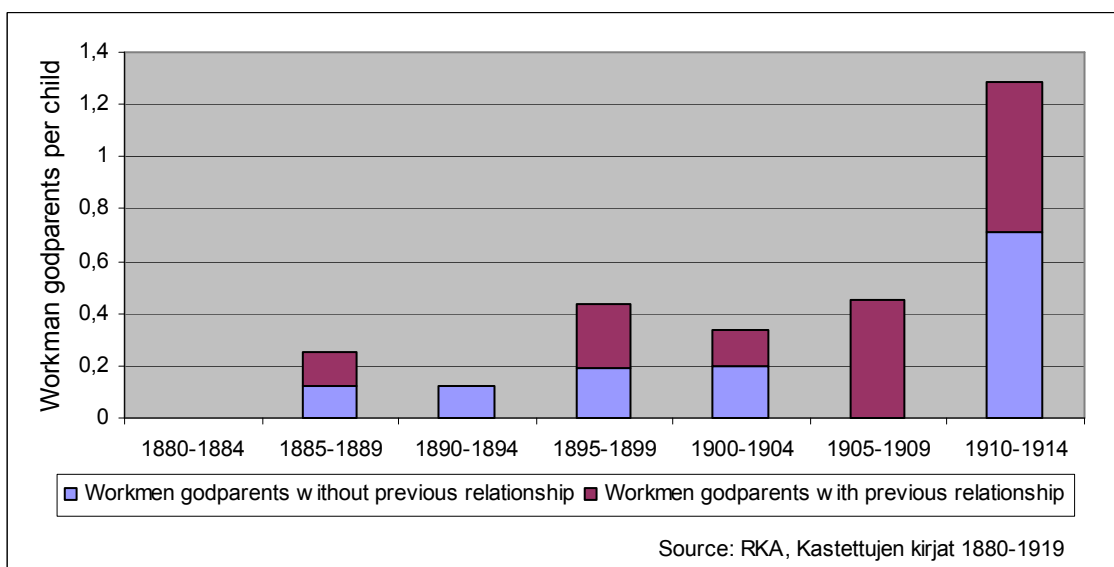
As **Figure 3** shows only ca. 30% of all smith-workman godparent connections were due a smith asking a workman to act as godparent. The figure stays same even when comparing only connections with previous relationships between parties. This

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[50] In average a smith's descendants had 2,24 godparents.

should confirm an apparent difference in status and in composition of networks. As **Figure 4** indicates this segregation was stronger before 1895 and even after that stayed fairly clear. The period 1910-1914 is again exceptional as mentioned earlier and hard to consider presentable. When demographic considerations are taken into account, the situation becomes clearer as even the quadrupling the amount of workmen by the turn of the century didn't change the ratio considerably.

Generally speaking kinship seems a formidable factor in explaining Strömfors' smiths' connections outside their network as seen in case of workmen and craftsmen even if blood and marital ties to craftsmen were due to their profession and occupational identity. This naturally the raises question of how much smith-network itself was based on kinship when compared to profession. How literally true was young smith Eero Forstén in saying that upon entering the Strömfors forge in 1919 "everybody still was like one and the same family"[51]? In fact, in this case a similar division between connections due profession and relationship cannot be done as virtually all members of the smith-network were relatives either by blood or marriage. Smiths had a convention to usually marry another smith's daughter[52] and even if it disappeared by the turn of the century[53] it was enough to make it impossible to distinguish kinship's and profession from each other for a long time thereafter. This portrays well the entanglement of a profession and kinship/family and through it emphasizes significance of profession.

Naturally there were also an increasing number of marriages across networks' borders. Interestingly wives of these marriages seem to explain clear majority of border crossing godparent connections as they seemed to regularly bring their relatives to the

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[51] RKA – RRA 3, Interview of Eero Forstén in 14.8.1968. Translation by Marttila.

[52] In Finland this was a normal custom at least in the 18th century. Vilkuna 1996, p. 68-70. In Sweden in average ¼ of brides were smiths' daughters. Rydén 1990, p. 212-213. On craftsmen and protestant marriage customs see also Roper 1991, p. 3.

[53] There can be found 10 couples married in 1860-1900 where both spouses descended from smith families (even if not all from the same ironwork). In the 20th century custom seems to totally disappear. RSA, Rippikirjat 1860-1940.

circle of potential godparents.[54] This way kinship over occupational borders mattered and had clear effect on statistics, but status and economic well being was still determined through head of the family's profession. This is emphasized by findings of Solveig Fagerlund concerning Early Modern Sweden, where godparent connections in which a male was a dominant party were mostly inside same occupational group or at least between persons whom a profession had brought together.[55] Even if the profession of the head of a family was determining factor, it determined the whole family. This is well seen in a fact that child's sex didn't make any difference on what came to selection of godparents.[56] On the other hand this tells of the nature of god-parent connections as connections between families, not individuals,

The entanglement of a profession and kinship is confirmed by another more persistent custom of keeping the profession in a family. In ironworks in general work was done in work crews of few smiths who were usually members of the same family as master smith leading the crew was allowed to choose his crew and apprentices. It was a natural strategy to maintain and defend own household's position. This had led to birth of an aristocracy – the previously mentioned "clog nobility" – also in the sense of succession. Other than own kind was taken as apprentice only until own offspring were ready to replace these and even then these were often from other smith families. Usually only master smiths could have afforded extra burden apprentices brought which meant that outsiders had insuperable difficulties in getting to smith's profession. Keeping the tradition in the family resulted in a guild-like self-consciousness of own profession and status, which contributed to deeper connection with other smiths than was possible in other occupations of an ironwork.[57]

In Strömfors this custom was kept until 1940's even though the apprentice-system's legal base was demolished already in the 19th century and wage system changed in the first decades of the 20th. Still, before the 1930's no outsider got into the

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[54] RSA, Kastettujen kirjat 1880-1920.
[55] Fagerlund 2002, p. 217-218.
[56] RSA, Kastettujen kirjat 1880-1920.
[57] Bursell 1974, p. 72-78, 225; Florén 1991, p. 33; Florén 1993, p. 104-105; Rydén 1990, p. 151-160, 217.

profession of a smith. Even if a few smiths with a workman father can be found from church archives, fathers were on their part descendants of smiths. Even in the 1930's only one clearly outsider managed to get into smith's profession. Finally the 1940's saw almost dozen new apprentices from outside of the smith-network, but it was due to unusual conditions. The Second World War and its aftermath generated suddenly an unexpected demand for handcrafted iron goods made from scrap metal and the out-dated smith-network couldn't answer to the sudden need of workforce. Their offspring were either already working in the forge or had moved away to get an education or a job in a machine shop. These Finnish speaking newcomers didn't manage to penetrate to the still Swedish speaking – once a majority, in the 1940's a minority in community – smith-network and formed clearly their own group of apprentices. Only a few of them managed to get promoted to a position of a proper smith before the closure of the ironwork and even they couldn't match the members of the old smith-network in skill.[58] They were also outsiders when looking relationships between them and the old smith-network, as there were no connecting marriages, blood ties or even godparent connections. This only confirms an exclusive nature of the tightly-knit old smith-network. It also helps to draw network's borders along those who qualified for smith-work adding few local leading craftsmen families, a few prominent and specialized workers and a couple members of the upper class to promote the network's status.

Summing up previously stated factors, profession was a major if not even leading determinant in forming of individual's status and ironwork community's networks. On one hand it stiffened unity between certain occupational groups and on the other hand estranged from others who didn't share the same profession. This also meant that they lacked uniting workplace, family ties, standard of living and area of residence which all derived more or less from a profession[59]. Long history of entanglement of a profession and a kinship also contributed to this. Even if every profession didn't have a equally

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[58] Sirén 1971, p. 81; RKA – RRA 1–2, passim.; RSA Rippikirjat 1920–1950.
[59] These indirect influences of a profession will be studied in a separate article.

strong influence on local networks, it was enough that those with deep roots, strong occupational identity and high status did. Others then took the space that was left out of those spheres. When examining Strömfors smith-network, the absence of effects of industrial evolution on the importance of a profession before the 1940's and the 1950's is striking. Of course the occupation was slowly dying, but it certainly refused to change before fall. On workmen's network result might have been different as they in the first half of the 20th century formed more clearly a class instead of a precisely defined network, but it's out of scope of this research paper.

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