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Old people and social network.

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1. Social networks as explanatory variables

The social network is defined as a set of relationships between a definite set of people with the property that the characteristics of these relationships, as a whole, can be used to interpret the social behaviour of the people involved. (Mitchell 1969) The structure of formal and informal social relationships can influence the individual and global wellbeing of the subjects of a social group with an unforeseeable effect based on personal characteristics such as age, sex, culture, income and not deducible from the latter: ignoring the social structures within which the actors are found, a purely character-analysis would lose a good part of explanatory potential which it could offer in conjunction with the relational analysis. The reasons why the analysis of social networks has developed lie essentially in the need to collect properties which can be measured by means of a simple aggregation of individual characteristics.

The relationship approach must not however be seen as a substitute of two traditional approaches: that in which the individuals are identified in terms of variables and their behaviour is specified in terms of simple subjective variables (atomistic approach), or that in which the individuals' behaviour is explained through the behaviour of the groups which he is part of, family, neighbourhood, work environment (group study), but as an integrative approach. The social network is the intermediate element, the contact point between the individual and the social context in which he lives.

The social network analysis is considered more and more not merely descriptive, according to researchers who associate the analysis of social networks to a sociological theory of support, but as interpretative: the model of the social network analysis can rise to a real theory of social behaviour.

Certainly, if the analysis of the network limited itself to a conceptual structure so as to identify how the actors of a certain group are linked amongst themselves, it wouldn't have aroused such a strong interest among social researchers. The system of connections must be used to give an explanation of some aspects of the behaviour of the subjects involved. (Mitchell, 1969) By studying the way in which the elementary units combine to form the social web, the network analysis offers a way of reducing the discrepancy between the behaviour exam and the statuses both at a microsocial and macrosocial level.

If therefore the network is defined as the structure of the existing relationships in a certain set of subjects, its characteristics depend on the contents of these relationships, on the strength of the bond and on its reciprocity. It is the specific characteristics and objectives of the study which principally determine the typography of the relationships to be analysed. The most common types of relationships present in the analysis are the *sentimental* relationships which concern feelings of affection, of esteem and respect, *instrumental* relationships, through which the actors reciprocally contact one another to obtain physical or symbolical goods, and *communication* relationships through which information, relationships of authority and power, etc. are exchanged.

In brief, the relationship approach consists of assuming the social relationships network and the various means which synthesize its characteristics, as explanatory variables in the interpretive models of human behaviour.

2. Standard of living and social network of the elderly

If the individual behaviour depends on the nature of the social relationships which an individual has with others, it becomes fundamental to correctly point out the social network of an individual, but it is inconceivable to study all the relationships which he's involved in. We must therefore focus our attention on

specific relationship typologies and actor categories regarding the object and aim of the research.

The explanatory strength of the social network study is particularly high in the evaluation of the standard of living in the elderly population. The mitigation or the loss of individual capacities, which manifests itself in the last phase of the life cycle, heightens the importance of the relationship network which the elderly person has with other people, whether they are relatives, neighbours, friends, colleagues or members of associations. If the object of the study are the determinants of the living conditions of the elderly, we must focus our attention on the specific relationship typologies, in particular we must analyse the so-called *primary networks*, that is those which presumably provide a significant quota of the total support received. But how can we determine the relationships which make up the primary networks? Using the subjective perceptions of the elderly themselves to define the social network. The network is therefore seen as a social fact regarding only what has been consciously experienced by the same members of the network (*realistic approach*). Such a clearly defined network is depicted as an *egocentric* network, in which the individual characteristics and the basic, elementary relationships of the network can be brought together. While the individual characteristics remain within the different contexts which the actor is part of, the relationships are context-specific, they are altered or disappear with the removal of the actors involved.

Among all the possible types of relationships in the study of standard of living of the elderly population and, in particular, to investigate the fields of wellbeing, health and loneliness, the sentimental and instrumental relationships seem particularly important. Strength and reciprocity must be observed in these two types of relationships. The strength indicates the intensity with which a relationship is lived or the quantity of goods and services which are exchanged, the reciprocity is the level with which a relationship from A to B exists even in the opposite sense.

The strength of a relationship can be concretely individualized in the *social support* in terms of the functional contexts of the relationships, that is, the level of flow of affection, help and information. We must therefore distinguish two aspects of the support: the emotional aspect (daily and in moments of crisis) and the instrumental aspect (economical, living together, personal care, small practical help).

3. Our research

The questions we should be able to answer through the analysis of the social networks of the elderly are many. For example, we can ask ourselves: In what kind of terms are the interactions with family members, and those with friends, colleagues, neighbours and so on? How do such relationships change with ageing?

Do the types of relationships people have with others change through generations? Are the relationship networks in our country, especially family relationships, undergoing the same evolution that other European countries register?

Our project of research is part of the CNR Finalized Ageing Project, amongst many others, its aim is to study the relationship between standard of living parameters such as wellbeing, health, loneliness, and the system of primary social relationships which the elderly person is part of.

A direct survey was carried out with interviews held at the elderly person's home using the computer. The sample is of almost 1700 elderly residents in western Tuscany belonging to generations born between 1903 and 1937. The sample is representative of conditions in north-western Tuscany, but certainly also of other numerous areas characterised by a policentric reality, from a low level of rurality and from a family-structure historically connoted by low fertility. The survey uses a version adapted from the questionnaire used in the analogous survey "Living arrangements and Social Networks of Older Adults" carried out in the Netherlands by a group of researchers from the Netherlands Interdisciplinary Demographic Institute, from the Department of Social Research Methodology and from the Department of Sociology and Gerontology of the Free University of Amsterdam.

The names and addresses of the unit of the survey were extracted from the registries of the municipalities. The municipalities were selected according to a series of indicators capable of expressing the urban level and other social and economical conditions. The collected information allowed us to learn about not just the social relationship network of the elderly but also, their family history, from their parents to their grandchildren, their residential history, their occupational history, and a series of individual characteristics regarding marital status, education, income, attitude towards religion, use of free time and autoperception of their own health. Guided by such information it is possible to try the intergration between the three levels of approach, character, relational and reticular, associating to the

individual characteristics, relational data (for example, studying the relationship support related to sex, age, marital status, family structure, residential typography and so on) and reticular data correlating the characteristics of the network with those of the individual. The association between individual characteristics and reticular data is made possible by the fact of having conceived the relationship network as an egocentric network. The questionnaire is complex, the interviews lasted on average about an hour, the operation of gathering information went on for almost two years and the data base has been completed only recently.

In this occasion we can present the first results regarding only some characteristics of the relationships which form the social network of the elderly, like the number of contacts indicated as regular and important and the typography of these contacts in relation to the characteristics of the contacted person (family, relatives, neighbours, friends, colleagues and so on), related to some individual characteristics such as marital status, age and typology of the area of residence (urban, non urban).

4. Marital Status and social networks

The 1685 interviewees declared a total number of 7981 contacts as regular and important. The mean number of contacts (mean network size) is therefore 4,5. We are looking at a relatively reduced network compared to that shown in other populations. The Dutch study, for example, shows a mean network size of more than double. The fact that the Italian elderly have a smaller social relationship network compared to the elderly in northern Europe is not particularly surprising, but the difference seems however very large and stimulates the development of comparative studies. The current literature indicates factors of economical development but, aboveall, the sociocultural factors (private-oriented society against public-oriented society, maintenance of close family ties against the loss of importance of relatives, priority of catholic religion against priority of protestant religion) as responsible for the differences in the social relationships network between countries in north-western Europe, in north America and Australia and countries in south and eastern Europe and particularly in Italy (Hollinger, Haller, 1990).

In the attempt to correlate the social relationships network with some of the elderly person's individual characteristics let us start by studying the influence of the marital status. The latter represents a variable which, together with the size of the original family and the number of children generated, certainly influences the number of relatives that the elderly person can indicate in his network. If we accept the hypothesis that in the individuation of the network members the elderly person is influenced by the "availability" of relative relationships, it is reasonable to expect married couples to indicate a larger number of contacts of this kind compared to widow/ers and divorcees who in turn will have a larger number of contacts compared to people who have never been married. (Fischer 1982)

This hypothesis is regularly verified even by our data. In table 1, where the mean number (calculated as the relationship between the total number of contacts named and those who have at least one contact) and the type of relationship of the elderly divided into three categories of marital status: married, widowed and divorced, single, is shown, we can note that on average the married couples have named a significantly higher number of relationships than the widow/er/divorcee and singles. It is worth noting that the largest mean size of the married couple network can be explained only in part by the presence of the partner.

Tab. 1: Mean number of relationships distinguished by type, in the three marital status groups.

	Never Married (n=122)	Married (n=1047)	Married in the past (n=382)	Total (n=1551)
Partner/spouse	0.0	1.0	0.0	0.7
children	0.2	1.2	1.1	1.1
siblings	0.8	0.5	0.5	0.5
parents	0.0	0.1	0.0	0.0
grandchildren	0.6	0.3	0.6	0.4
acquired relatives	0.2	0.8	0.6	0.7
other relatives	0.6	0.2	0.2	0.2
other household members	0.2	0.1	0.3	0.2
neighbours	0.7	0.6	0.7	0.6
colleagues	0.2	0.3	0.1	0.2
friends	0.3	0.3	0.2	0.3
other contacts	0.4	0.2	0.2	0.2
Total	4.1	5.4	4.7	5.1

If we observe the type of relationships that the network characterizes we notice that in all three groups the group of relationships with relatives clearly prevails even if their importance is relatively less among the people who have never married (62%) compared to widow/ers (72%) and to married couples (76%) (figure 1) These data are enough to connote the social relationships network of the elderly as "family networks". Seeing as the availability of relatives varies a lot regarding marital status, it is necessary for substitution mechanisms to act within the family relationships so that even people who have never married have in the sphere of their social network a prevalence of relatives as do married couples and widow/ers. If we look closely at with whom relationships are maintained we find that in the case of people who have never married siblings and their families form the central nucleus of the relation network whereas for widow/ers this nucleus is made up of children, their spouses and grandchildren. This process of substitution among relatives is limited to the closest relatives: descendants of the family of origin in the case of people who have never married, to the own family and that of their own descendants for married couples and widow/ers. But when the regular and important contacts are not of close family they are of physical closeness: half or more of the contacts with non-relatives concerns neighbours. This category is relatively more important for elderly people who have never married representing in this way a kind of compensation for people without partners or children. On the whole the extra-family relationships represent from only a third to a quarter of the total number of relationships, the presence of friends is very scarce and that of members of associations, especially religious ones, is noteworthy only for the people who have never married.

5. Life cycle and social relationships network

When we compare the mean size of the composition of the network of the three groups of the elderly mentioned above we mustn't forget that they are characterised by age differences. The married couples are relatively young whilst the widow/ers are relatively old. We must therefore introduce the age effect and ask ourselves if the differences observed according to the marital status regarding the number and type of relationships vary with ageing.

Some reasons make us think that the differences according to marital status increase with ageing as a result of the gradual reduction of contacts of a homogeneous age (siblings, their spouses, friends, colleagues) which are more frequent, as we have seen, among people who have never been married, even if other factors which intervene with ageing, like the loss of physical efficiency which necessarily involves a limitation in the social interaction, could develop a more important role than the marital status and reduce the differences (Dykstra, 1993).

With ageing, examining the older generations, as it was logical to expect, a reduction in the number of particularly regular contacts is evident in the married couple category. Figure 2, which shows the accumulated frequencies of the individuals in this category according to the number of contacts, allows us to immediately visualize how the distribution changes and how much, for example, the median value of contacts clearly diminishes passing from the younger generations to the older ones. The comparison between the marital status category in the younger generation group and the older generation one seems to convalidate more the hypothesis of the reduction of differences with ageing and not that of their increase.(figure 3)

The analysis of the distribution of contacts also shows that a not so insignificant percentage of elderly people (around 10%) without spouse, never been married, or widow/er, does not consider any of their own relationships as regular and important (empty network) and this percentage tends to increase with age. This group deserves thorough analysis of family behaviour and of other variables which we haven't taken into consideration so far. The fact remains that in these people the lack of spouse is not compensated by other relationships making them risk social isolation.

Even if it is not legitimate to see the behaviour at an advanced age as a projection of that at a younger age, that is, looking at the differences for the observed ages from a longitudinal point of view, we can, bearing in mind these limits, hypothesize the terms of the relationship between cycle of life at an elderly age and changes in the social network. Moving from the age in which working life ends or post working life begins, which also corresponds to the period in which the family becomes smaller because children leave home, at the older ages we witness a reduction of the social relationships network and at the same time a modification of its composition. It is the extra-family relationships (friends, colleagues) which are mostly reduced. Within the family relationships the natural decrease of availability of relatives homogeneous in age because of death (spouse, siblings, siblings spouse)

is partially compensated by the acquired relatives (sons and daughters-in-law) and with the grandchildren who have become adults. In other words, with the advancement of the individual and family life cycle there is a possibility of elderly person maintaining a minimum social relationships network within his own family and above all within his own descendents.

6. Type of settlement and social relationships network

The process of industrialization of an area with its connected phenomenon of urbanisation and of geographical mobility undoubtedly represents a break-up factor in the family relationships network because of the moving away of people from the family of origin and place of birth. Smaller possibilities of contact lead to a selection of relationships with relatives to the advantage of the more important ones, the lack of relatives linked to this selection can be compensated by with the inclusion of non relatives (friends, work colleagues, association members and so on).

It is undeniable that urban life provides greater alternatives for contacts with non relatives and that therefore the size of the locality of residence, its population and its level of urbanisation are capable of influencing the dimensions and the structure of the relationship network. In this way we can foresee that for those who live in areas with a great degree of urbanisation the connection between relationships with relatives and others tends to be more reduced compared to that of people who live in rural areas. (Fischer, 1982, Pfeil, 1970). Moreover, in the smaller centres we can expect a smaller variety of contacts between the non relatives and among these the subjects would be inclined to choose a larger number of neighbours who would in this way have a greater role in comparison with what happens in the city.

Seeing as the elderly people interviewed are residents in an area very different according to the level of urbanisation (the municipalities of residence were sampled according to a stratification cluster on different parameters among which size, "demographical potential" and socio-economical characteristics of urbanisation/ruralisation), it is possible to point out the influence of the characteristics of the settlement environment on the size and composition of the network. We have therefore observed two groups of subjects separately, those

belonging to an urban area, made up above all of capitals of province, and those belonging to non urban areas, made up of smaller centres and with more prominently rural characteristics. In table 2 we can easily see that the mean size of the network (mean number of contacts) of the elderly people belonging to the urban area is significantly smaller than that of the non urban area. In both areas we can note the same propensity to decrease the network with ageing.

The differences in the distribution according to the size of the network in both socio-economical realities are effectively visualized by the accumulation of frequencies according to the number of contacts shown in figure 4. If we consider an elderly person who is not able to enumerate more than two regular and important relationships as lacking in relationships, then this group represents no less than 40% in the urban area and a quarter in the non urban area. The results obtained don't seem to completely confirm the hypothesis that relationships with relatives have a smaller role in urban areas. In this area, within a mean number of reduced relationships, the network seems greatly unbalanced in favour of the closer family relationships (children, siblings.) In non-urban areas the contact with distant relatives and neighbours is more frequent.

Tab. 2: Mean number of relationships distinguished by type in two areas

	urban area (n=639)	non urban area (n=912)	Total (n=1551)
Partner/spouse	0.6	0.7	0.7
children	1.0	1.2	1.1
siblings	0.4	0.6	0.5
parents	0.0	0.1	0.0
granchildren	0.3	0.5	0.4
acquired relatives	0.5	0.8	0.7
other relatives	0.2	0.2	0.2
other household members	0.1	0.2	0.2
neighbours	0.5	0.7	0.6
colleagues	0.2	0.2	0.2
friends	0.3	0.3	0.3
other contacts	0.2	0.2	0.2
Total	4.3	5.7	5.1

7. Conclusion

What we have read above is a simple description of very general relationships between some individual characteristics and the characteristics of the social relationships network. However some results which deserve a conclusive comment do emerge. In some ways, what has been noted was foreseeable on the basis of the theoretical studies on networks and on the factors which determine their characteristics, in others it seemed surprising and therefore worthy of particular attention. The elderly people in our samples consider regular and important a very limited number of relationships. Their social network is a lot smaller than that noted, with the same methodology, in other socio-cultural societies like the one in the Netherlands. The relationships with close relatives dominated the network connoting the network itself as a "family network" which among the non-relative relationships reserves a little space to neighbours but which seems relatively closed to relationships with friends, colleagues, association members and others. We still cannot know if this small family network is the consequence of factors of the preceding and present demographical kind which affect the availability of close relatives (low fertility of the elderly person, of his parents, of his children), or of a high efficiency in terms of support in the few named contacts, or of a very low social attitude in giving importance to extra-family relationships. If we try a longitudinal look at the differences in age studying the relationship between composition and size of the network and the cycle of life, we find that the processes of substitution between the different figures of relatives and that of compensation between relatives and non-relatives are limited. For this reason the network which is already small at a younger age is subjected to further reductions with ageing.

What kind of support can a network this small and characterised by the prevalence of only one type of relationship give? This question is particularly important when, like at the present, a growing number of elderly people live alone and longer. The prevalence of relatives in the network does not ensure in itself the necessary support, on the contrary a high proportion of relatives within the network can indicate a lack of alternative relationships, for example with friends. When this lack of alternative is verified they must turn to relationships with relatives, whether they are satisfactory or not (De Jong Gierveld, 1993)

It is well-known how loneliness is a very diffused state of being among elderly people and the relationship between loneliness and health conditions has

been proved. In this light these first results do not reassure us also because, as we have just said, a family prevalent network does not guarantee a good support. On the other hand if we look at the phenomenon in perspective we can mitigate this negative sensation and hypothesize that in the future elderly people, of a higher education, will be able to develop and preserve a larger number of non- family relationships and therefore maintain their own autonomy as along as possible.

Fig.2: Accumulated distribution of the elderly, in the different cohorts, according to the number of relationships and marital status

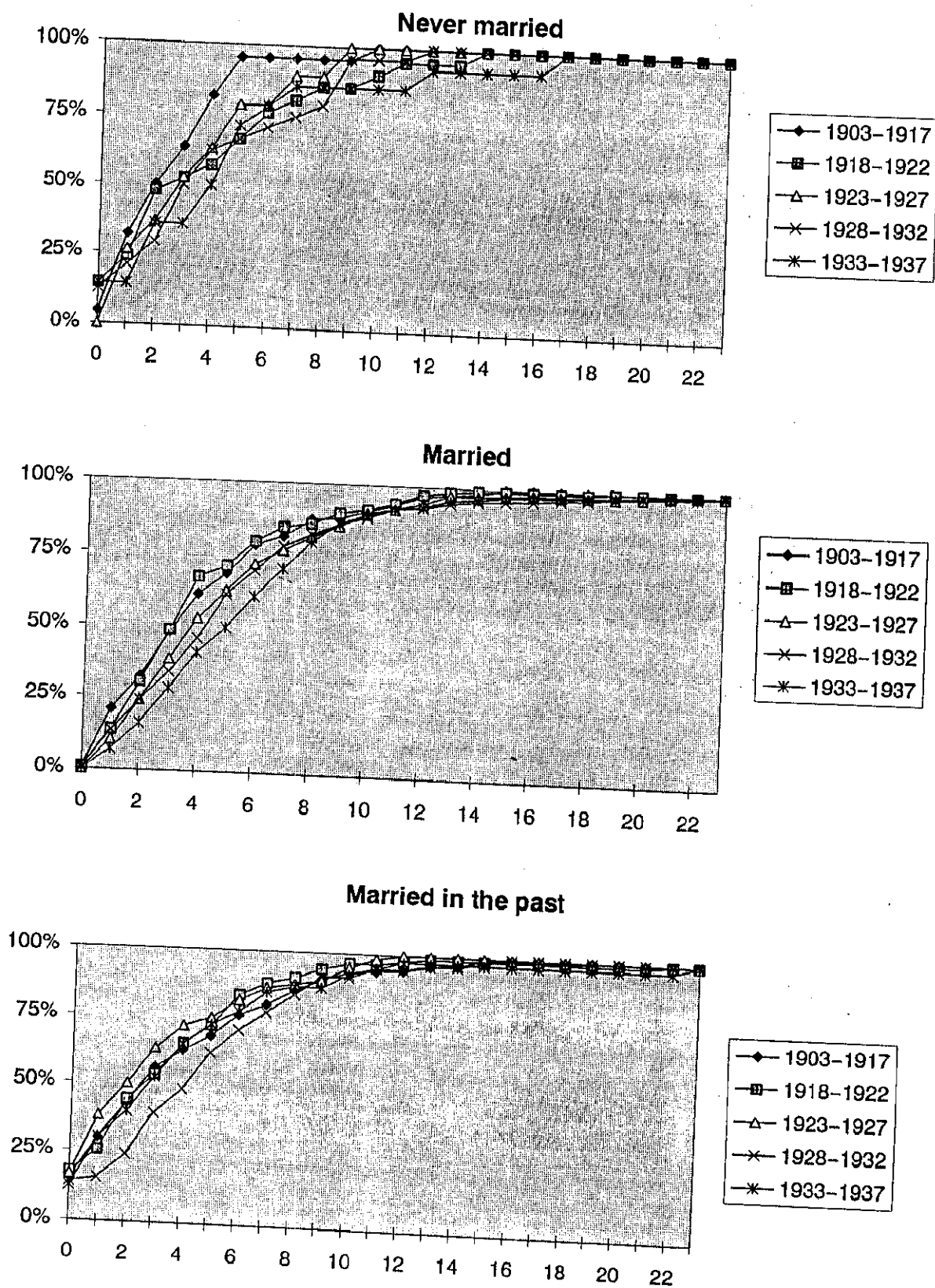


Fig. 3: Accumulated distribution of the elderly according to the number of relationships, marital status and specific cohorts

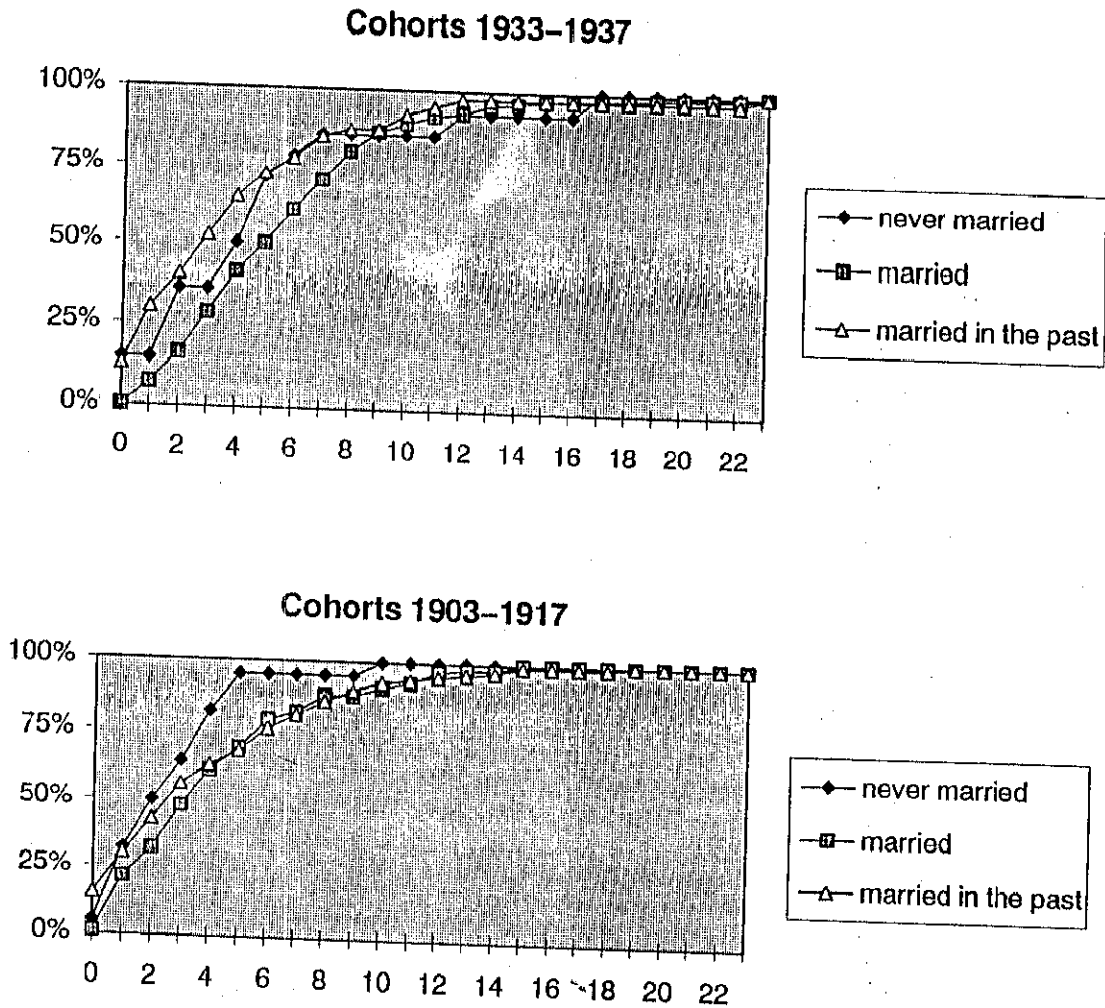
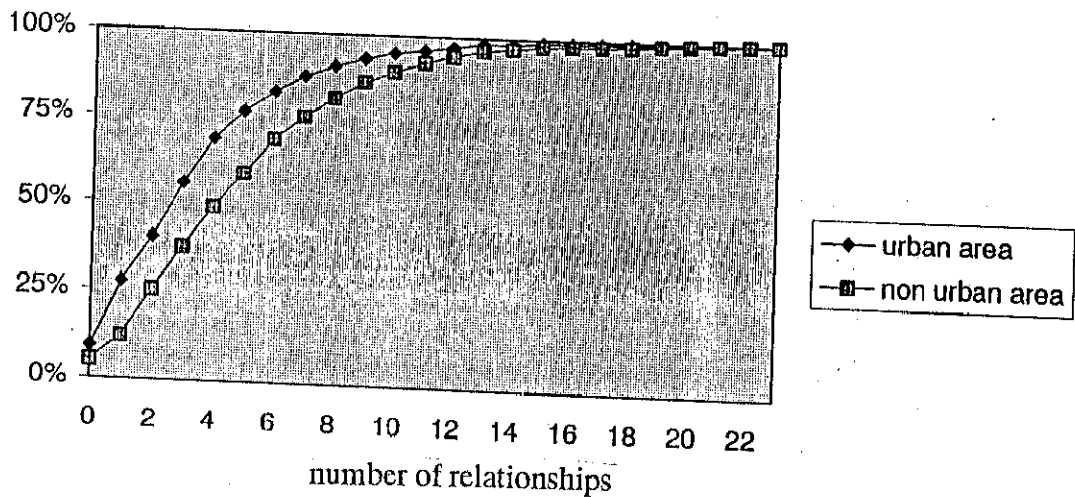


Fig. 4: Accumulated distribution of the elderly according to number of contacts and residential area



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