

THE POPULATION OF FOURTEENTH-CENTURY GHENT

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The problem of the population of Ghent in the fourteenth century is a classic illustration of the inadequacy of statistical methods for the treatment of problems of late medieval social and economic history. While some evidence has survived which can give insights into the approximate numbers of persons appertaining to particular social or trade groups, it can never be treated as absolutely accurate.

The standard work on this problem has been that of Professor Hans Van Werveke¹. He bases his conclusions on town militia figures, as indeed have earlier scholars who dealt with Ghent demography². Professor Van Werveke's arguments rest on a comparison of the totals for an expedition to Bethune in 1346 with those of the campaign into Brabant in 1357. The problem is that in 1346 the fullers were out of power and hence furnished only an insignificant part of the town militia; the same was true of the weavers in 1357. Hence Professor Van Werveke compares the total number of men serving in 1346 under the «small guilds» and in the dependent guilds of the textile industry, some of whom were serving with the «small guilds» and others with the major textile guild then in power, with the total contingents of these groups in 1357. He then applies the ratio of increase over the 1346 figure to obtain a weaver total for 1357. The 1346 figures include both men in the militia and those not. According to this ratio, he concludes that since the dependent textile guilds and «small guilds» had a total of 4695 men in 1346, including both military effectives and those not serving, as opposed to 5927 in the militia in 1357, the weavers increased in the same period from 4063 to 5130. The matter of military effectives as opposed to non-participants is not as severe a distortion as it might seem, since the town was mobilized to its greatest possible strength in 1357 for the war of Count Louis of Male against Brabant.

Professor Van Werveke then combines the resulting figures with the militia contingent of the fullers in 1357 to reach a total of approximately 12.250 men. Using a coefficient of 4, and making some allowance for elements of the population which did not serve in the militia, a total of about 7000 persons including families, he concludes that the population of Ghent in 1357 was about 56.000.

(1) Hans Van Werveke, «Het bevolkingscijfer van de stad Gent in de veertiende eeuw», *Miscellanea L. Van der Essen* (Brussels, 1947), pp. 345-354.

(2) Victor Fris, «Densité de la population de Gand du XIV^e siècle jusqu'à nos jours», *Bulletijn der Maatschappij van Geschied- en Oudbeidkunde te Gent*, XVII (1909), 166-167.

Professor Van Werveke's figures are not entirely consistent. His total of 5927 for the dependent textile guilds and «small guilds» is derived from a combination of 690 men serving under the dependent textile guilds in the fiscal year 1358-1359 with 5237 men in the militia of the «small guilds» in 1356-1357. No separate figures for the dependent textile guilds have survived from the latter year, and the proper object of combination thus is the contingent of 5186 men who served in the «small guilds» in 1358-1359. Adding 690 and 5186, we reach a total of 5876 as opposed to 5927; the resulting ratio would lower the number of weavers in the city from 5130 to 5083.

The basic problem with Professor Van Werveke's hypothesis, however, does not concern his use of figures, but rather bears on the very problem of statistical methodology. We cannot approach the problem of the population of the city without some attention to politics and economic life during the years from which we obtain our statistical data.

First, Professor Van Werveke's reconstruction posits a demographic increase of some 20 % across this eleven year period. Yet intervening was the plague year of 1349-1350. Professor Van Werveke has argued elsewhere³ the Black Death did not strike either Ghent or Bruges. Dr. Paul Rogghé has shown conclusively, however, that the plague did indeed cause severe mortality at Bruges, and probably at Ghent as well. Certainly the plague was raging at Courtrai, and the Flagellant movement, so often associated with the plagues of the late Middle Ages, was a recurrent problem for the magistrates of Ghent at this time⁴. There is no direct evidence that the plague struck Ghent in 1349-1350, but in view of the losses sustained by the rest of Flanders it is difficult to believe that Ghent would have increased its population so tremendously in a single decade.

Secondly, economic necessity would dictate that not all able-bodied men of any trade could be spared for military service. There is no indication that the export trade of Ghent came to a sudden halt in 1357, when the need for soldiers was at its height. Even more fundamentally, certain victualling trades could not be dispensed with by the non-combatants: women, children, the elderly, and those who commuted military service with a fee⁵.

Thirdly, the political position of the weavers in 1357 renders the details of Professor Van Werveke's hypothesis untenable. He noted this objection in his article, but disposed of it by stating that we must seek the maximum population of the town in the mid-fourteenth century. In the case of the weavers, at least, this was before 1349, when many were killed in a battle against the fullers in the January city revolution, and others were exiled⁶. Yet if this is the case, the closest approximation of a population figure for

(3) Hans Van Werveke, *De Zwarte Dood in de zuidelijke Nederlanden (1349-1351)*, Mededelingen van de Koninklijke Vlaamse Academie, Klasse der Letteren, XII, no. 3.

(4) Paul Rogghé, «De Zwarte Dood in de Zuidelijke Nederlanden,» *Revue Belge de Philologie et d'Histoire*, XXX (1952), 835-837.

(5) Van Werveke, «Bevolkingscijfer,» p. 352.

(6) *Ibid.*, p. 351 n. 28.

the weavers should be the 4063 who are known to have been in the town in 1346, not the 5130 whom Professor Van Werveke has reconstructed as inhabiting the city in 1357.

The weavers were out of power at Ghent in the 1350's. They were placed under civil disabilities. They were excluded from the magistracy. They were forbidden to assemble in groups of three or more⁷. In lieu of military service between 1356-1358, they paid heavy fines to the city⁸. As with all classes of the population, they were forbidden to bear arms; yet there is evidence that the prohibition was enforced on the weavers, but only spasmodically at best upon others⁹. The weavers only returned to power at Ghent in 1359-1360; their exclusion remained effective throughout the Brabantine war. Professor Van Werveke's thesis, therefore, assumes that the entire population of able-bodied men of the fullers and « small guilds, » the two ruling groups of the town, went to Brabant in early 1357, leaving 5130 weavers in the city with only the incapacitated and those who would rather pay than fight to guard them and prevent a revolution! It thus seems extremely probable that his figures are too low for the fullers and men of the « small guilds » and too high for the weavers.

Other figures have survived which could conceivably give proportions usable in a demographic study, but they are not reliable. For instance, between 1325 and 1334 the town assessed a fee of 1 *inghelsche* on each weaver, to be paid each week that he practiced his trade. Even if each weaver worked throughout the year, the collection amount would vary between a low of 2045 weavers in 1326-1327 and a high of 2393 weavers in 1332-1333¹⁰. Furthermore, collection was weekly, but only annual totals are entered in the municipal accounts; as we shall see, there is evidence that many weavers worked only part-time. In addition, these sums are the remainder after the costs of collecting the tax have been deducted¹¹. Hence there unquestionably were more weavers in Ghent during this period than the *weversgeld* assessment shows. But, influencing the statistic in another direction, many weavers left the town due to the fall of their guild from power. On August 11, 1331 the town account shows an expedition going to the vicinity of Vinderhout to disarm the weavers¹². Hence there were many weavers outside the town who returned later, and certainly would have returned by 1338, when the weavers returned to power. The *weversgeld* figures thus are too uncertain to be used in conjunction either with the militia figures of the 1340's or the *weversgeld* totals of the 1350's.

When the weavers again fell from power in 1349, the weekly tax was

(7) N. De Pauw (ed.), *De Voorgeboden der stad Gent in de XIVe eeuw (1337-1382)* (Ghent, 1885), p. 53.

(8) G. Espinas and H. Pirenne (eds.), *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre*, 4 vols. (Brussels, 1906-1924), II, 618.

(9) Stadsarchieef te Gent (hereafter SAG), Series 400, VIII, fo. 6 r, for a fine assessed on a journeyman weaver for carrying a weapon.

(10) Espinas and Pirenne, II, 635.

(11) J. Vuylsteke (ed.), *Gentsche Stads- en Baljuwsrekeningen, 1280-1336* (Ghent, 1900), p. 503.

(12) *Ibid.*, p. 782.

reintroduced. The total for the five months of fiscal 1348-1349 gives an average of 941 workers paying weekly. But weekly totals have been preserved for fiscal 1349-1350. Even the monthly totals show a fluctuation between 805 1/2 weavers in the first month (we obviously must make allowance for costs of collection) and a fixed average of 1314 weavers from the tenth month through the end of the fiscal year. Within these sums, the weekly variations are so great that we are plainly dealing with a large supply of part-time labor. Returning exiles obviously would cause the figure to tend to rise; but 1349-1350 shows a pronounced tendency for work to drop off during the winter months, then rise again in spring and summer¹³. From this time, the *weversgeld* was leased to tax farmers. From 1352-1353, the collectors paid to the town an amount equal to the tax owed by 1560 weavers¹⁴; but since they obviously were making a profit on the transaction, there probably were at least 2000 weavers in the city by 1352 even if all were working full-time. In view of our evidence of part-time labor, the total probably is at least 2500, with a tendency to rise in subsequent years as conditions stabilized within the town.

The question of part-time labor is important not for our reconstruction of the 1357 population figures, but rather for 1346, when 4063 men classified as weavers were living in the city. If a large number of weavers had a second occupation, with whom would they have served? There is no certain answer.

There is no evidence that many weavers were deserting to other occupations in the 1340's; but it was a severe problem for the magistrates of Ghent during the period of weaver civil disability. Many weavers tried to escape their occupation; in so doing, they were severely damaging the textile industry, the chief export trade of the city. It was forbidden for weavers to take up other occupations, especially brokerage, wholesaling, the wine trade, and grain merchandising¹⁵. The repetition of these ordinances shows the extent of the problem. In addition to the wealthier weavers, of whom particular mention is made in these statutes, humbler artisans were changing their occupations. In early 1358 one Willem De Coepman was sent on two pilgrimages for assault; he is termed « weaver or maker of wooden shoes » in the text¹⁶. It is possible that the magistrates simply were unable to ascertain his profession, but it seems more likely that he had two, practicing each part-time. The magistrates obviously were unable to enforce their own rule. This man probably escaped military service entirely in 1357, for the *platijnmakers* are not among the guilds whose militiamen accompanied the expedition; hence he would be included in the large sum of persons, whose total must remain largely hypothetical, who were not accounted for by the guild-militia structure. But what of weavers who changed to occupations which would have forced their military service? The possibility of distortion of the figures becomes immense.

(13) Espinas and Pirenne, II, 436-452.

(14) *Ibid.*, p. 436.

(15) *Ibid.*, pp. 476, 486.

(16) SAG, Series 330, Zoendinboek, fo. 170 r.

In addition to the distortion in the figures caused by part-time labor, many persons left the town after 1349. Numerous weavers seem to have gone to avoid the repression. They were ordered to return by the magistrates, who desperately needed textile laborers,¹⁷ but such a decree is impossible to enforce. We must reckon also with a large number of persons exiled by the count in 1349 for their part in the activities of the Artevelde decade. The total number of the exiles is not known. In 1359, however, Louis of Male pardoned a total of 566 Gentenaren. This by no means included all exiles. The more serious rebels, those serving in 1359 with foreign armies, and those who could not furnish a bond of 300 lb. were all excluded. Of the 566, 26 were women; a total of 540 persons thus would have been added to the militia rolls had they been in Ghent in 1357. Profession is stated for only a few of the returning exiles; but of those whose occupation is given, most were weavers¹⁸.

In short, then, the city was suffering from a lack of weavers in 1356-1357. If only 1200 fullers were in the city, there could scarcely have been as many as 5130 weavers.

Before we can evaluate adequately the demographic worth of the militia figures, we must examine the nature of the city army. As we have seen, it was basically a guild structure. All men of all parishes were enrolled on the town militia records¹⁹. Yet when we speak of « town », we are involved with the *banmijl*, the mile around the city where the « ban » power of the magistrates was in force. The *banmijl* was measured from the city walls on all sides; it was a distance of 6 kilometers in the fourteenth century²⁰. The *banmijl* thus included an enormous area, much of which still is rural in the twentieth century.

Most of the *banmijl* was, of course, agrarian in the fourteenth century. But there were substantial concentrations of textile artisans in the abbatial villages of St. Pieter and St. Baaf, south and east of the town respectively. The enrollments of the 1330's were made in the villages, as well as in the town proper²¹. The records of 1356-1357 show that many fullers who were mustered lived in the abbatial settlements²². Finally, in a quarrel of 1360 between the linen artisans of the town and those of the *banmijl*, the agreement was reached that in case of war or other unforeseen expenses, the men outside should contribute on the same basis as those living within the walls; but they would not be subject to service in guild *wapeninghen* inside the town²³. While this text may simply indicate that the two groups are to pay

(17) Espinas and Pirenne, II 471.

(18) N. De Pauw (ed.), *Cartulaire historique et généalogique des Artevelde* (Brussels, 1920), pp. 711-718.

(19) Vuylsteke, p. 780.

(20) See Archives du Département du Nord à Lille, B 1566, fo. 3 v: the *banmijl* of Ghent was calculated at 1500 *roeden* in the fourteenth century. The *roede* was approximately 3,854 meters, or almost exactly six kilometers for the Ghent *banmijl*.

H. De Schrijver, *De oude landmaten in Vlaanderen* (Brussels, 1936), p. 27.

(21) Vuylsteke, p. 780.

(22) See the enumeration by streets and districts of 1356-1357, SAG, Series 400, VIII, fo. 168 r.

(23) SAG, Series 152, no. 1, fo. 25 r.

expenses, equally in combination with other evidence it would seem to indicate rather conclusively that the men of the *banmijl* were subject to militia duty. That so great an area could furnish an army of 6500-7000 men is not at all surprising.

There was not, however, a universal military obligation to serve. The number of men varied with the needs of the particular campaign. In the 1340's the town undertook frequent expeditions with forces of only a few hundred soldiers. Even in the case of the Brabantine war, where the figures remain reasonably consistent after February, 1357, there is variation even within the same fiscal year ²⁴. In August, 1356 the « small guilds » furnished 1808 men ; in February, 1357 they furnished 4834, more than double their earlier supply. The contingent of the fullers grew at the same time from 776 to 1111, and that of the dependent textile guilds from 313 to 604 ²⁵. Hence the number of men furnished by a guild in a given campaign was based upon an assessment. To fill its quota, the guild would choose men from its own rolls, although we do not know the choice was made. A universal obligation to military service did exist when the defense of the town itself was in question, but this did not extend to service outside the town. Soldiers who served in the Brabant campaign were paid, and their maintenance provided. It seems probable that at least on minor campaigns (although certainly not those of 1356-1358) the guild contingents were made up of volunteers who were attracted by the prospect of some extra money and the pleasures of the chase.

We must also consider the *buitenpoorters*. Very little is known of the *buitenpoorterij* of Ghent, consisting of persons enjoying bourgeois status but residing outside the town, before the fifteenth century. In other towns for which statutes for the *buitenpoorters* have survived, however, bourgeois living outside the town were obligated to furnish military service whenever needed ²⁶. There is considerable evidence in the accounts of the 1330's, and particularly during 1334-1335, that Ghent used its *buitenpoorters*, many of whom were knights, to coerce Waas and the Vier Ambachten. They were also stationed near important frontiers, particularly in the territory of Aalst ²⁷. A text of 1409 shows that much of the city militia was made up of *buitenpoorters* and residents of the castellany surrounding the town ²⁸. Whether this was true in 1356-1358 is impossible to prove ; but it seems extremely probable, particularly in view of the activities of the town officials who circulated in the countryside to collect the *exnwe* tax ²⁹. This is normally a

(24) The fiscal year at Ghent began on August 14.

(25) SAG, Series 400, VIII, fo. 167 r-168 v ; Van Werveke, « Bevolkingcijfer », p. 350.

(26) See in general J. Verbeemen, « De buitenpoorterij in de Nederlanden, » *Bijdragen voor de Geschiedenis der Nederlanden*, XII (1957), 81-99, 191-217.

(27) Vuylsteke, pp. 970, 1004.

(28) C.-L. Diericx, *Mémoires sur la ville de Gand*, 2 vols. (Ghent, 1814-1815), I, 62.

(29) This tax was levied on all property which passed outside the jurisdiction of the magistrates of Ghent ; see Hans Van Werveke, *De Gentsche stadsfinanciën in de middeleeuwen* (Brussels, 1934), pp. 195-197.

very minor duty of the magistrates, but during the war numerous horsemen were sent to collect it, particularly in Waas and the Vier Ambachten³⁰. Messengers also were sent into these areas on unspecified business concerning « porters buten »³¹. While much of this activity, particularly concerning the collection of the tax, probably has to do with the estates of townsmen who had fallen in battle, it is difficult to avoid the impression that the town was doing an extraordinary amount of business with its *buitenpoorters* during the war. It may have been connected with their military obligations.

Hence we have the potential for a considerable expansion of the town militia beyond the men who actually lived in the town proper. Since the army was organized on a guild basis, the outsiders would have to serve under one of the guilds. Still, it is unlikely that even these considerable variables would have caused such a drastic increase in the membership of the small guilds as the militia records indicate took place between 1346 and 1357. The variation is due in large part, in all probability, to the differing natures of the trades and their internal relations. The textile guilds restricted admissions. There was a long period of apprenticeship and a tendency for mastership to become hereditary. While there is no evidence that only masters could serve under the banners of the textile guilds in the town militia, these guilds would not tend to increase rapidly.

The « small guilds », however, were subject to much greater fluctuation. Unfortunately, few statutes have survived for them before the fifteenth century, but those that have do not indicate as severe a degree of restriction as with the textile guilds. Except for the shipping guilds, the trades making up the « small guilds » were directed less at an export trade than at the domestic market within the town. Hence, and because most of their « industrial » operations were less complicated than those involved in the production of a luxury textile, it seems probable that most migrants to Ghent gravitated toward the « small guilds ».

The issue of migration is, of course, of paramount importance for the study of demography. Unfortunately, we have no reliable estimates of the number of persons entering Ghent in any given year. While the town administrations of Bruges and Ypres charged a fee for admission to bourgeois status, that of Ghent did not. Hence the town accounts of Ghent, in contrast to those of Bruges and Ypres, give absolutely no indication of migration. In all probability, however, it was quite heavy, although most scholars heretofore have maintained the contrary. The policy of the Ghent magistrates was fixed by statute on June 9, 1375: all who had entered the town within the past year were to register before the *schepenen*; those who wished to come to Ghent to live in the future were to register within three days of entering the town³². There was thus no restriction at all on entry into the town. Restrictions were imposed only upon guild membership,

(30) SAG, Series 400, VIII, fo. 134 r-v.

(31) *Ibid.*, fo. 135 r, 134 r.

(32) De Pauw, *Voorgeboden*, p. 134.

since persons who did not know a trade had to be kept from entering it and producing bad work.

There was a tendency throughout Europe in the wake of the plagues for peasants to migrate to towns in greater numbers than ordinarily. The surviving accounts of Bruges and Ypres indicate that this was not true in Flanders. Nonetheless, some migration continued, and in view of the absence of a fee Ghent may have absorbed more newcomers than did the other two cities. Most migration almost certainly filled the ranks of the « small guilds » and would help to explain the dramatic increase in their numbers between 1346 and 1357.

We obviously have a picture filled with uncertainties. Even in view of that, however, there is a possible calculation of the population of Ghent in the mid-fourteenth century. Our conclusion, perhaps surprisingly, must be that Professor Van Werveke was essentially correct in his estimate of the total population of the city, but erred in his calculation of the totals for particular artisan groups.

In 1340, under the Artevelde regime, all professional groups within Ghent participated actively in town affairs. Hence an expedition to Tournai in that year consisted of 1800 weavers, 1200 fullers, and 2139 men of the « small guilds »³³. In contrast to the situation of 1346, when the fullers were excluded, and of 1357, when the weavers were excluded, we have military figures which may be representative of the entire population. The ratio between weavers and fullers in 1340 was 3 : 2 ; that between weavers and men of the « small guilds » was 1 : 1, 19.

There is no definite indication that the dependent textile trades participated in the expedition of 1340, although it is extremely unlikely that they were omitted. In 1346 and again in 1357, some of these guilds served with the weavers (1346) or fullers (1357), others with the « small guilds ». Professor Van Werveke made this correction in his calculations.

The following ratios are instructive. In the expedition to Bethune in 1346³⁴, we find

	<i>Participating</i>	<i>Not Participating</i>	<i>Ratio</i>
Weavers	750	3313	1 : 4,42
Dependent textile trades	120	729	1 : 6,075
« Small guilds »	756	3090	1 : 4,08

There is, then, a clear correlation between the number of men serving their guilds in the town militia and total numbers within the town. The assessment of weavers and « small guilds » is quite close. And the figures become almost identical if we combine the dependent textile trades with the

(33) N. De Pauw and J. Vuylsteke (eds.), *De Rekeningen der stad Gent. Tijdsak van Jacob van Artevelde, 1336-1349*, 3 vols. (Ghent, 1874-1885), II, 85.

(34) For the table of effectives and non-participants, see Van Werveke, « *Bevolkingscijfer*, » p. 346. We have calculated the ratios on the basis of these figures.

small guilds. We would have 876 participants, 3819 non-participants, for a ratio of 4,35. The dependent textile guilds, not being a dominant force in the city, obviously would furnish a lower percentage to the militia than would the weavers. Furthermore, they were among the most specialized artisans of the textile industry. Dyers, shearers, and the like, the finishers of the cloth, could less easily be surrendered to the vagaries of the military campaign than could weavers.

Let us apply the ratios of 1340 to the documentation of 1346. Multiplying 750 x 1,19, the military effectives of the weavers in 1346 with the weaver « small guild » ratio of 1340, gives us 893. The combined military effectives of dependent textile trades and « small guilds » in 1346 numbered 876, a difference of 17.

In view of the difference, it seems probable that one contingent of seven men from the dependent textile guilds served under the weavers, rather than the « small guilds, » in 1346. Such a contingency would further strengthen the argument that the entire city did military service on something approaching a percentage basis of the total population. The tables for 1346 show that 1626 men participated on the expedition to Bethune, while 7132 did not. Leaving aside the question of guild membership, the city-wide ratio of participants to non-participants thus is 1 : 4,386. Multiplying 4,386 x 743, our provisional new figure for the weavers in 1346, gives us 3259 persons, 54 less than the earlier total of 3313 non-participating weavers. Combining this 54 with our earlier total of 3819 non-participants in the dependent textile trades and « small guilds » gives us 3873.

Our corrected table for the expedition to Bethune in 1346 thus is as follows :

	<i>Participating</i>	<i>Non Participating</i>	<i>Ratio</i>
Weavers	743	3259	
Dependent textile trades	127	783	
	883	3873	1 : 4,386
« Small guilds »	756	3090	

The total number of weavers in the town in 1346 thus was 4002 ; there were 910 men of the dependent textile trades and 3846 in the « small guilds, » a total of 4756.

While there are fractional variations, the equation is sufficiently exact to show that the dependent textile guilds almost certainly served under the « small guilds » in 1340, when the assessment was made on the basis of 1 : 1,19 ratio. In 1346 they served as dependents of the weavers, but one guild, with a contingent of seven, actually fought under the banner of the weavers, rather than under its own standard. It is impossible to ascertain the guild. The ratio of seven participants to fifty-four non-participants, or 1 : 7,71, is rather lower than the average for the entire groupe of dependent textile guilds, The ratio of 7 : 127, or 1 : 18,11, when applied to the correc-

ted figure of 844 for the dependent textile guilds in 1357³⁵, should produce a contingent of 47 in 1357. None of the dependent textile guilds even approaches that figure at this time, however³⁶, and we must conclude that the assessment within this group was revised in the interval.

The problem remains of whether our ratios are of use merely as military assessments, or whether they have some validity as an index of total population. Taking our new total of 4002 weavers and multiplying by 1,19, we reach 4762—six more than the corrected total of 4756 men in the combined « small guilds » and dependent textile trades. The calculation is not exact, but it is sufficiently close to form a strong case for the hypothesis that the ratios given by the military assessment of 1340 were based upon total population, and that they are therefore of some use as multipliers with other data. The slight error in the calculation comes from the necessity of rounding to the nearest whole man when using demographic evidence.

We have dealt heretofore only with the ratio between weavers and the combined « small guilds » and dependent textile trades. Since this ratio, of 1 : 1,19, is accurate, it follows that the ratio of 3 : 2 between weavers and fullers probably is accurate as well. This ratio finds support in Bruges military documents of 1340. The economic structures of Bruges and Ghent were very different, and population ratios cannot automatically be assumed valid for both. But the industrial ratio of total numbers within the textile industry almost certainly was rather close. Bruges had 1016 weavers and 669 fullers in the militia in 1340³⁷: a percentage of 0,658, or almost exactly 3 : 2.

Let us now apply this ratio to the evidence of 1346 for the fullers. If there were 4002 weavers in the city in 1346, there were 2669 fullers.

We must now test the application of the ratios to the evidence of 1356-1358. It is useful here to repeat Professor Van Werveke's table of the total number of military effectives for the Brabant campaigns. These figures are before the correction between dependent textile trades and « small guilds » ; but since our ratios are based upon a total of these two groups, the distinction here is meaningless³⁸.

Source	Fullers	Dependent textile trades	« Small guilds »	Total
Acct. 1356-1357	1111	604	4.834	6.549
Acct. 1356-1357		1900	5.237	7.137
Acct. 1357-1358				7.486
Acct. 1358-1359	1208	690	5.186	7.084

(35) The correction is made necessary by the fact that three trades served under the small guilds in 1357 which were considered dependent textile trades in 1346. See *Ibid.*, p. 350.

(36) SAG, Series 400, VIII, fo 168 v.

(37) J.F. Verbruggen, *Het Gemeenteleger van Brugge van 1338 tot 1340 en de namen van de weerbare mannen* (Brussels, 1962), p. 78.

(38) The table is from Van Werveke, « Bevolkingcijfer, » p. 350.

We thus have a large variation. Which of these sets of figures is most accurate for the population of the city?

The two sets of figures for fiscal 1356-1357 refer to the same expedition. At the first monthly salary payment, 1111 fullers, 604 men in the dependent textile trades, and 4.834 of the « small guilds » were paid. But the total as given in the account is 6662, not the 6549 to which these totals should compute. The difference is due to 89 sergeants, archers, and other town guards who are entered with the small guilds for a total of 4923. This total holds for the first two payments, but rises to 4942 for the third payment on April 2³⁹. The total numbers of fullers and small textile trades rose by five, to 1720, by the second payment on March 5⁴⁰.

By the fourth payment, on April 30, the totals for fullers and dependent textile trades had risen to 1898, from 184 men who subsequently joined them⁴¹. The « small guilds » by this time had risen to 5233, and to 5237 by the fifth payment on May 28⁴². The figures for all groups then stabilize. In view of the considerable increase following the first three payments, it seems extremely probable that the additional soldiers were not men living within the town who left on their own to follow the militia, but rather were *buitenpoorters*, conceivably men of the castellany, or mercenaries who joined the Ghent forces after they had left the town and were, for the most part, enrolled under the small guilds. It thus would seem that the basic totals for townsmen in the militia, including the sergeants and town guards as « small guildsmen » and the five additional recruits of the textile guilds as appertaining to the dependent trades, should be as follows:

<i>Fullers</i>	<i>Dependent Textile Trades</i>	<i>« Small Guilds »</i>	<i>Total</i>
1111	609	4942	6662

We now must account for the figures of 1357-1359, which are higher even than the second figure of 1356-1357. The total of 7486 is derived from reimbursements to that number of soldiers for clothing. The payments are for the entire fiscal year 1357-1358, and are stated to be given in arrears⁴³. During February, 1358 an expedition of 1028 men was sent to Antwerp from the fullers and small guilds, without indication of particular contingents⁴⁴. This group would be included in the 7486. Combining the high total of 7137 with 1028, we have a total of 8165; in view of the statement that the 7486 uniforms are stated to have been paid to that number of men, it seems unlikely that the 1028 who participated on the expedition to Antwerp were returnees from the conflict in Brabant. The difference of

(39) SAG, Series 400, VIII, fo. 154 v.

(40) *Ibid.*, fo. 157 r.

(41) No guild differentiation is given for these men. The total was slightly erroneous, referring apparently to the earlier total of 1715: but this would involve an increase of only 183. *Ibid.*, fo. 158 v.

(42) *Ibid.*, fo. 158 r., 159 r.

(43) « ...achterstellen van den frocken die men den goeden lieden van den commune tachter es. » *Ibid.*, fo. 281 r.

(44) *Ibid.*, fo. 279 r-v.

679 between the high total of 8165 and the 7486 reimbursed would represent men killed in Brabant and at Antwerp.

The 1028 were certainly men of the town, and their numbers must be added to our earlier 6662, a total of 7690 men of Ghent under arms in a total army of 8165. There were hence 475 *buitenpoorters* and mercenaries in the total militia force. These men were almost certainly the first to be released from service at the conclusion of the emergency.

A death rate of 679 in a militia of 8165 is 0,083. Even on the very risky assumption that all groups within the militia sustained equal losses, the non-townsmen would have lost 39 persons. Hence 436 *buitenpoorters* and mercenaries remained to be mustered out when the Brabantine campaign ended in mid-1357. Subtracting 436 from 7486 leaves a total of 7050 men who thus would have been in the militia in 1358-1359 after the release of the non-townsmen. This is 34 less than the 7084 actually under arms. The error is due to the fact that, obviously, we cannot assume an equal death rate for all social segments of the militia.

Hence the total of 7084 persons is accurate for the number of militiamen surviving after the Brabantine campaign and the expedition to Antwerp. The maximum number of townsmen in the militia at any one time, however, was 7690. Despite this, we should probably use 6662 as the basic militia assessment; the 1028 men sent later to Antwerp were not part of this, for if they had been, they would have gone to Brabant. They seem to have been left behind in a home guard.

Let us now apply our earlier ratios of 3 : 2 and 1 : 1,19 to these data. On the basis of our corrected totals for February, 1357 there were 5551 men serving in the combined contingents of the dependent textile groups and the «small guilds». Since the ratio of fullers to this group in 1340 was 1200 : 2139, or 0,561, there should have been 3114 fullers in the city at this time; yet there were only 1111 in the militia.

The resolution of the dilemma lies in the fact that not all fullers participated in the military activity. We have mentioned earlier the total impossibility of the ruling groups leaving the city unguarded while the weavers, barred from the militia, remained within the town. If there were 3114 fullers in the town in 1357, with 1111 serving in the militia, a home guard of 2003 fullers is left. Since the defense of the town was an obligation incumbent upon all bourgeois, they were not paid and hence do not appear in the town accounts.

We are left with the 1028 men sent to Antwerp, whose guild allegiance is not specified. For a guild division of this figure, we should take the ratio of fullers in the militia in February, 1357 to the total numbers within the military, or 1111 : 6662, almost exactly 1 : 6. Such a ratio would produce 171 fullers and 857 men of the «small guilds» and dependent textile trades on the expedition to Antwerp. Subtracting 171 from the home guard of 2003 still would leave a force of 1832 fullers in the city to guard the weavers. The 857 men of the «small guilds» and dependent textile crafts probably represented all or nearly all of the remaining effectives of those trades. The expedition to Antwerp was short, and their services could be dispensed with for a brief period.

The logical fallacy in this argument, of course, is that we have assumed that the home guard which protected the city against a weaver uprising was made up largely of fullers, and in February 1358 consisted almost entirely of fullers. But this distortion is probably not as great as it might appear on first glance. The ratio of 1340 was shown to have validity for total population as well as for military quotas. It seems very probable that most of the home guard consisted of fullers. They were the natural enemies of the weavers ; the « small guilds » never would have feared a weaver-fuller combination against them. But the fullers had good reason to fear such a union of weavers and « small guilds ». Such a combination was to drive them from power in 1359-1360. In terms of total population, then, our totals are probably rather close. For the total number of « small guildsmen » and dependent textile artisans in the town, we should probably do no more than round off the Antwerp expedition figures from 857 to 1000. This would leave a home guard at all times of 143, with 1832 fullers.

Our totals therefore, for the militia figure of 7690 are 1282 fullers, 6408 small guildsmen. Correcting the latter figure by 143, we find 6551 men of the « small guilds » and dependent textile trades in the city, 3114 fullers.

To obtain the number of weavers, we should apply the 3 : 2 ratio of 1340 to the total of 3114 fullers, giving a total of 4671 weavers. They were guarded by 2003 fullers, or 1832 in February, 1358. This force certainly was adequate. The figure for the weavers is probably rather high, in view of their civil status. Yet we must remember that they were strong enough to force the fullers from power in 1359-1360, approximately a year and a half from the date of validity of our statistics, and to rule the town in combination with the « small guilds » from that time on. Hence the allowance for the weavers need not be great. We must remember, as well, that 566 exiles, of whom 540 were men and should be involved in a coefficient of households, returned the following year. They must be added as part of the normal population of the city. It is purely a guess, but we should perhaps assume that this number may roughly cancel out the extent to which our ratio of 1340 has caused us to overestimate the number of weavers in Ghent in early 1358.

Hence, remembering always the slight variations possible, we are left with the following figures for total population of Ghent in the mid-fourteenth century :

	1358	1346
Weavers	4671	4002
Fullers	3114	2669
« Small guilds » and dependent textile trades	6551	4756
Total	14.336	11.427

We thus are left with the unresolved problem of the increase of population across the plague years. It is at least possible that part of the difference would be due to the allowance made in the 1358 figures for a home guard; but since the 1346 totals include both guild members involved on the expedition and those not involved, this seems unlikely. Furthermore, the proportions would not be the same, since in 1357-1358 a small number of fullers guarded a large number of weavers, while the reverse was true in 1346. In view of these figures it seems almost undeniable that Ghent grew appreciably by migration in the early 1350's; but since there are no migration statistics, this must remain supposition. Professor Van Werveke's essential point however, is well taken: that the militia figures of the 1350's betray a greater extent of emergency than do those of 1346, and that they are therefore a more accurate population index than are the earlier totals.

We must make allowance, in addition, for residents of the city who did not belong to a guild which was bound to military service. Professor Van Werveke has estimated this group, with their households, as totalling approximately 7000 persons. This seems to us rather high. The question of double occupations and part-time labor unquestionably resolves part of the dilemma; for example, as we have seen, a *platijnmaker* not included in the militia figures has found his place among the weavers in our calculations. Our figures also have made allowance for a substantial home guard, which did not enter Professor Van Werveke's figures. In addition, we have seen that the professional soldiers and town guards served under the small guilds, thereby further reducing the uncertainty. Unquestionably the total of wealthy bourgeois, who could or would pay a fee rather than serve, the clergy, and the incapacitated would not have been as high as 14-15 % of the entire male population, as Professor Van Werveke's figure supposes.

There remains the problem of a coefficient. The only conceivable source of one for the fourteenth century in the Ghent archives is the series of registers of *staten van goed*. Yet these registers record only the property of orphans, or occasionally of adult heirs who ask the magistrates to settle inheritance questions. A ratio can be obtained for the number of minor children inheriting property, but this is of no use in computing the number of persons, both adult and child, in an average household. On the basis of Pirenne's figures for Ypres⁴⁵, Professor Van Werveke uses a coefficient of 4. While there is immense regional variation throughout Europe, this figure is in rough agreement with that found by Josiah Russell in his statistical surveys of medieval population⁴⁶.

Our total figure of 14.336 includes 640 townsmen presumed killed in Brabant. They did not, of course, take their households with them, and our base figure must remain the same; but 640 heads of households must be subtracted from the total. For our total, therefore, we multiply 14.336 x

(45) H. Pirenne, « Les dénombrements de la population d'Ypres au XVe siècle (1412-1506), » *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte*, I (1903), 14; Van Werveke, « Bevolkingcijfer, » p.352.

(46) J. C. Russell, *Late Ancient and Medieval Population*, Transactions of the American Philosophical Society, n. s. XLVIII, part 3 (Philadelphia, 1958), pp. 53-55.

4: 57,344 persons, subtracting 640 who died in Brabant: 56,704. This total must be increased by a figure for the non-military classes who were not in the home guard. This is a piece of shameful guesswork, but it probably was not more than 3000. Hence we conclude that the population of Ghent at its height in the mid-fourteenth century was approximately 60,000. This is somewhat higher than Professor Van Werveke's calculation of 56,000, but account has been taken of enough possible variables even within the guild-military structure to justify the higher figure. When we consider that our total figure includes men of the *banmijl*, although we have tried, albeit crudely, to make allowances in the figures for *buitenpoorters* in the militia, our conclusions are not as far from those of Professor Van Werveke as they might seem, for he did not, if we have correctly understood his meaning, consider the question of the military service of peasants in the *banmijl*. That, despite our reservations regarding Professor Van Werveke's method, our conclusions have so closely paralleled his is less a commentary on either author than on the entire question of statistical applications of medieval data.