RELFECTIONS ON THE DEMOGRAPHY OF THE JEWISH COMMUNITY OF ANCIENT ROME

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Introduction[1]

In the twentieth century, archaeological discoveries have confirmed what ancient authors already knew, namely that in Antiquity Jewish communities could be found throughout the Roman world. Jewish settlement did not limit itself to the larger cities of the Roman Empire. In smaller towns and even in the countryside, Jewish communities seem to have been a common sight. Nor was this phenomenon limited to the Hellenistic period or to the first century C.E. Well into the third and fourth centuries, if not beyond, Jewish communities seem to have done well, being perhaps less affected by the rise of Christianity than the often virulent passages in the writings of the Church Fathers seem to suggest[2].

In light of such an abundance of evidence, it is not surprising that modern authors have frequently wondered about the implications of this phenomenon in demographic terms. Such authors have focused on the question of how many Jews may have lived in the Roman Empire and on whether we can discern certain trends or patterns over longer stretches of time[3]. More detailed issues, for example regarding life expectancy, have also been raised, but they are decidedly less popular[4]. Still other important questions—for instance regarding the health of the Jews in Antiquity as reflected by pathologic changes of their bones—have not been addressed in any systematic fashion. Thus, the field of ancient Jewish demography is significantly more underdeveloped than its classical counterpart: starting in the early 1990s the study of ancient (non-Jewish) demography has seen changes that have revolutionized this field[5].

A brief glance at recent scholarship reveals why the study of ancient Jewish demography is in such a fairly poor state: this is not because of a lack of interest or the absence of expertise but because good primary data are so hard to come by. In the recent past, scholars interested in ancient Jewish demography have generally taken one of two approaches (and sometimes both, since they are not mutually exclusive). The first approach takes the literary sources as point of departure, in particular the figures provided by that literature[6]. The second approach is more theoretical in nature and centers on the question of the carrying capacity of Roman Palestine[7].

It hardly needs stressing that both approaches have their problems. More often than not, we simply have no way of determining whether the figures provided by the ancient literary sources are reliable. Similarly, hypotheses concerning the number of people that could have lived in a certain area might have heuristic value, yet they do not inform us as to the number of people that actually lived there at a given point in time. Besides, neither approach can present us with more than mere snap-shots; information concerning developments over longer periods of time remains beyond our reach. Thus, our inability to come up with sensible reconstructions is such that one author has observed recently that «figures are well beyond our grasp », while another has gone so far as to exclaim that there are in fact « good grounds for despair »[8].

In light of such a state of affairs, one might be tempted to conclude that the study of ancient Jewish demography is a lost cause. In this article I would like to argue that this is not so by making available new information from one of the most important sources at our disposal, namely the Jewish catacombs of Rome. Although these Jewish catacombs do not figure in discussions of Jewish demography, they are of crucial importance to gain a better understanding of some aspects of the demography of one of the larger Jewish Diaspora communities during the period from the first through the fourth century C.E[9].

Delimitation of the evidence

The evidence presented and analyzed in this article derives from a Jewish catacomb complex under the Villa Torlonia. Since the excavations by padre Umberto M. Fasola in the years 1973-74, we know that this complex consists of two catacombs—a so-called upper and a lower catacomb[10]. The upper and lower catacombs developed separately and are to be considered as two catacomb complexes[11]. Both catacombs are about equally large. On the basis of a variety of topographical and formal features, Fasola subdivides them, correctly, into five regions, namely regions A-C (upper catacomb) and regions D-E (lower catacomb)[12]. It is important to stress that this alphabetical subdivision is not identical with the chronological development of the site. The correct chronological order—as hypothesized by Fasola and now confirmed by new chronological data gathered by the present author and his associates—is: A-C-B and E-D[13].

That both catacombs under the Villa Torlonia are Jewish, follows from the inscriptions and the artwork discovered in the galleries of this impressive subterranean complex[14]. Even though the evidence itself seems to leave little room for doubt with regard to the identification of those who used this site for burial, it should be noted here that Jas Elsner has recently questioned the validity of this identification. In a challenging article on how to define Jewish and early Christian art, he argues that the presence, in the Jewish catacombs, of material remains with an iconography that is not outspokenly Jewish, may be used to argue that these catacombs were not used by Jews exclusively. Instead, Elsner believes that such remains help to document inter-cult fluidity[15].

A closer look at Elsner's line of reasoning reveals, however, that it is problematic, not because it is theory-driven, but because he fails to test his views against the available archaeological and epigraphic evidence. One of the most striking features of the Villa Torlonia catacomb complex is the consistency with which the inscriptions—often

accompanied with painted menorahs—speak of ideals and values that are distinctively Jewish[16]. Not a single inscription survives that embraces concepts we can identify as either typically pagan or characteristically early Christian. In addition, even a cursory look at the material remains on which Elsner bases his arguments reveals that these are but isolated fragments that were not employed in any structural fashion, but were normally reused to help seal the graves[17]. Besides, even if we did suppose these fragments derive from large sarcophagi that were once used for funerary purposes, why should we assume that fragments with a non-Jewish iconography document fluidity? By attributing a deeper religious meaning to fragments that are mostly quite neutral in their iconography[18], one imposes on these remains—as well as on the community that used them—precisely the same interpretational rigidity that Elsner criticizes when discussing current conceptions of ancient Jewish art. As long as no truly incontrovertible evidence turns up that suggests that people other than Jews were laid to rest in the long and winding galleries of the Villa Torlonia complex, we must conclude that this catacomb complex was used in its entirety by Jews, and by Jews only[19].

The tombs in the Villa Torlonia catacombs

In the past, references to age at death included in funerary inscriptions have frequently been used to reconstruct the life expectancy of the populations they commemorate. Thanks to K. Hopkins' groundbreaking article dealing with the possible age structure of the Roman Empire we now know that epigraphic references tell us little about the demographic structure of a population, but instead only document its commemorative practices[20]. Something very similar holds true for Jewish funerary inscriptions that contain references to age at death: once contrasted with Model Life Tables, they too turn out to contain patterns that are demographically impossible[21].

Another way of looking at life expectancy is by taking as point of departure the tombs that have been preserved in the Villa Torlonia catacombs. On-site registration provides us with the following figures.

Section	**Infant**	**Intermediate**	**Adult**	**Not clear**	**Totals**
A	327	24	656	15	1022
B	159	35	171	3	368
C	86	5	297	7	395
D	77	0	728	34	839
E	224	25	820	10	1079
Totals	873	89	2672	69	3703

Table 1: Tombs in the Villa Torlonia catacombs, per section

Before attempting to interpret these data, it is important to recall that we did not measure every single loculus since this would require many months of work without the guarantee that this would enhance the value of our work substantially. The subdivision into « adult », «infant», and « intermediate » resulted from the material evidence itself: such a subdivision turned out to produce useful and reliable results while being workable for those who recorded the tombs. Although many tombs differ slightly from one another, adult tombs may generally be said to measure approximately 1.50 m and up. Intermediate ones measure anywhere between 90 cm and 1.20 m. Tombs in the category « infant » measure between 30 and 60 cm. Tombs labelled « not clear » are normally located in areas too degraded to determine the tomb type.

It would be desirable to know the precise age of those buried in these different kinds of tombs. Unfortunately, most of the tombs are empty, thus preventing us from determining the age of those that were buried in them. The only option is to assume that the average length

and growth patterns of the Jewish population buried here were similar to that of other ancient populations[22]. If we assume that, we may safely say that the tombs designated as « infant» were meant for the inhumation of infants and, possibly, also for children up to the age of about two or three. They certainly did not contain children beyond the ages of four or five. Similarly, intermediate tombs enclosed the mortal remains of those who died somewhere between ages of 5 and 15. Adult tombs may generally be said to have been destined for those who reached maturity. Of course, such a scenario does not preclude the possibility that an infant or a child was buried in a tomb of the adult variety (thus becoming invisible for us). As we will see shortly, this seems to have happened in certain sections of the Villa Torlonia complex (but in those sections only).

Looking at the totals as contained in Table 1, it becomes evident that a total of 26% of the tombs in these catacombs belong to children as opposed to 72.2% that fall into the adult category. More significantly still, of these children, 23.6% fits into the category of infant tombs. Such evidence is not only highly interesting. It is significant that it is available at all. As is well known, it is often hard to identify children's graves archaeologically. While the skeletal remains of children disintegrate easily, practices such as exposure and various forms of infanticide likewise contribute towards the disappearance of children's graves from the archaeological record[23]. Thus, it is frequently impossible to reconstruct child mortality on the basis of archaeological remains alone. In the case of the Villa Torlonia catacombs the situation is substantially different. Here, children's graves survive because they were cut into the tuff walls of galleries whose formal appearance has not changed significantly within the last 1700 years. Consequently, such graves reflect reliably the total number of graves constructed in antiquity for the specific purpose of burying infants and children. While the above figures thus suggest that child mortality was a significant factor, the evidence becomes

even more dramatic once we translate *all* the evidence into percentages, and divide it, once again, into sections.

Section	Infants	Intermediate	Adults	Not clear
A	32%	2.4%	64.2%	1.5%
B	43.2%	9.5%	46.5%	0.8%
C	21.8%	1.3%	75.2%	1.8%
D	9.2%	0	86.8%	4.1%
E	20.8%	2.3%	76%	0.9%

Table 2: Table 1 in percentages

Table 2 shows that in region A and especially in region B many graves fall into the infant categegory, namely more than 30%. This means that either fertilty or child mortality was high (an probably both). Such percentages should not surprise us. In fact, they conform perfectly to osteological evidence from Israel itself. This evidence, although available in rather limited quantities only and predating the Jewish evidence from Rome by at least 50 to 100 years, likewise derives from an urban setting, namely Jerusalem. In the so-called Caiaphas tomb 15.8% of all skeletal remains belongs to the age cohort 0-1, and still another 25.4% to age group 1-4[24]. Similar mortality rates can also be observed in the Akeldama tombs. There 26.1% falls into the former, and 13% into the latter group[25]. Comparison with other osteological collections from the Jerusalem area indicates that mentioned percentages are far from unusual[26]. Finally, there also exists some evidence for smaller urban centers in later Roman Palestine. There the survival rate for children does not seem have been any better[27]. Interestingly enough, such percentages are similar to those documented for non-Jewish populations, as is evident from still unpublished data from the second and third-century necropolis at Isola Sacra.

When we now return to the percentages documented for the Villa Torlonia catacombs as contained in Table 2, it can be observed that the percentages for regions A and B differ markedly from the percentages evidenced for region D. There only 9.2% of the graves belong to the category of infant graves. To be sure, named difference can be explained by taking into account topographical factors. Regions A and B belong to the upper catacomb and display an irregular pattern insofar as the placement of the tombs is concerned. This indicates that tombs were dug only when needed, and that the size of the tomb that was dug, was determined by the size of the person that was to be buried in it.

The situation in region D, which belongs to the lower catacomb, is altogether different. This region was designed carefully from the outset, with tombs of the adult variety cut at regular intervals, and infant tombs only near corners, to fill up the remaining space. The regularity of this region is in fact such that it seems as if it had been planned using modern technological means. There can be no doubt, then, that in antiquity area D was developed systematically and that it essentially contained adult tombs that were available long before their potential users appeared on the scene. When such users turned out to be children, adult tombs were divided into two by means of small brick walls or tiles. Such a phenomenon can be observed in a number of tombs, for example in gallery D2. Inscriptional evidence that has been preserved in situ in this part of the catacomb also confirms that children were buried in adult graves[28]. This practice was probably more prevalent than the evidence that survives today suggests. The fact that graves of the intermediate type are wholly absent in region D also confirms that the *fossores* in this area were primarily concerned with the construction of one type of grave only, namely adult graves. One possible explanation for the prevalence of adult tombs in this region is that the D region was specifically designed for the burial of an immigrant rather than a stable, local population.

The upshot of all of this is, of course, that region D provides us with a rather skewed picture of infant mortality within the community that used this area for burial. The lack of careful planning in A and B, on the other hand, suggests that these regions do indeed reflect reliably, at least to some degree, the incidence of infant mortality. To this should be added that percentages—even in regions A and B—must always be regarded as minimum percentages. After all, one must always allow for the possibility that an infant was buried in an adult tomb, for example together with its mother when both died during delivery.

The evidence from regions C and E is clearly more difficult to interpret. In these regions, most galleries are fairly regular, but some seem to have been developed along the principle visible in A and B: in certain areas in C and E also graves were dug only when needed. Such characteristics explain why infant mortality patterns in C and E hover precisely between the pattern documented for D and that attested in A and B.

Life expectancy of the Jews of ancient Rome

Now that we have established the percentage of infant graves, we can attempt to determine the life expectancy of the people that were buried here. For reasons explained earlier, the evidence from A and B is particularly usefull. In order to determine life expectancy patterns, it is necessary to resort to Coale and Demeny's Regional Model Life Tables.[29] It should be stressed that much of what follows, is an exercise in probabilistic modeling—not one that claims to reconstruct definitively the actual life-expectancy of all age cohorts of the population under study. Most problematically, mentioned Life Tables relate to stable populations, which the Jewish community of ancient Rome was not. To this other interpretational problems can still be added[30]. Even so, the results may be said to reflect the original demographic composition of Rome's Jewish community better than results based on references to age at death as preserved in the Jewish funerary inscriptions from Rome.

By comparing our table 2 with mentioned Model Life Tables, and especially with Model West, we may get some sense of what life expectancy might have looked like within the Jewish community of ancient Rome. If we assume that infant graves contain the remains of infants only, that is, of children that passed away before their first birthday—assuming also that immigration and emigration can be neglected and that there was no population growth within this community—the following pattern emerges[31]:

	Females	*Males*
Region A	West, level 2 /3 e (0): 22.5 / 25.0	West, level 4 e (0): 25.3
Region B	East, level 1 e (0): 20.0	West, level 1 e (0): 20.4
Region C + E	West, level 7 e (0): 35.0	West level 8/9 e (0): 34.9 / 37.3
Region D	West, level 15 e(0): 55.0	West, level 16 e (0): 54.2

Table 3: Table 2 in light of Coale and Demeny's Model Life Tables. E(0): life expectancy in years at age 0.

In region A, life expectancy for Jewish females is extremely low. Such a life expectancy means that within the Jewish community of ancient Rome mortality was very high: by age five, half of the cohort was dead. In Region B life expectancy is a still lower than in region A. In fact, it is so low that in the case of females we actually have to resort to another life table. This does not mean that the evidence is therefore unreliable. As Sallares has argued recently, populations with a life expectancy of around 20 at age 0 are not unusual, especially not among populations that suffer from various forms of malaria[32]. Of course, such a remark is not meant to intimate that the Jews of ancient Rome all suffered from malaria[33]. It only serves to

underline the fact that these low life expectancies are demographically possible (even when they did little to guarantee the survival of a group characterized by such high mortality rates).[34]

When we now turn to the figures for regions C and E, it immediately becomes clear that they are substantially higher than those ascertainable for A: they are probably too high. The figures for region D are definitely too high. This « deviance » can be ascribed to the particular tomb-construction characteristics of this region mentioned earlier.

Once placed within a broader historical framework, it is interesting to see that the pattern for region A is similar to the one documented for non-Jewish females in Egypt during a period from the first through the middle of the third century, and to evidence that can be derived from Ulpian's Life Table[35]. Even though this non-Jewish evidence may be less reliable than we would like to think[36], it is probably not a coincidence that our Jewish evidence is on a par with such life expectancy levels—levels that are, incidentally, known from other, pre-modern societies too[37]. This is not suprising. In ancient Rome, Jews lived under the same poor sanitary conditions as the rest of the population, suffered from the same diseases, and had to deal with the same health hazards as the rest of the urban population[38]. For them too, Rome was nothing but a population sink, that is, an environment in which population growth was minimal or non-existent and in which immigration represented an essential ingredient to safeguard the survival of the population.[39] As we have already seen, region D may be indicative of the existence of such an immigrant population.

That we encounter so many infant graves in the Villa Torlonia catacombs is also exceptional. It immediately brings to mind a series of passages in both Jewish and non-Jewish sources that stress that Jews were opposed to infanticide and under the moral duty of rearing children that had been exposed[40]. Whether the Jews of ancient Rome ascribed to this practice, it is impossible to ascertain, even though the evidence is suggestive indeed.[41]

However this may be, it is clear that the percentages recorded in Table 2 are impressive indeed. Such percentages provide us, rather unexpectedly, with a unique opportunity to reflect on questions of life expectancy—even when such reflections are based on data that allow us to say frustratingly little about adult mortality[42]. They also provide us with a means to determine the size of the Jewish population of ancient Rome, as we will now see.

Size of the Jewish population of ancient Rome

If we accept that life expectancy for the Jews of ancient Rome must have been somewhere between 22.5 and 25 years of age, then it becomes possible to determine the Crude Death Rate[43]. Again, this determination is based on the assumption that we are dealing with a stationary population. In the case of the region A, this rate hovers somewhere between 44.4 and 39.5 births and deaths per thousand people, depending on whether one takes Model West Females Level 2 or Model West Males Level 4 as point of departure. Such figures are not unusual for pre-modern societies.

Now that we know the Crude Death Rate, our next step is to match this evidence with the tombs in the Villa Torlonia catacomb. The upper and lower Villa Torlonia catacombs contain a total of 3703 graves. Since there is no evidence for either reburial or reuse of these graves[44], and the Villa Torlonia catacombs are known in their entirety, we may assume that the number of tombs corresponds roughly to the number of individuals buried in them. If we then take into account that in region D, and to a lesser extent in C and E, adult tombs were used for the burial of infants in ways that can no longer be ascertained on site, we should perhaps also assume that the number of extra infant burials in this area amounted to about 400[45].

On the assumption, then, that some 4100 individuals were buried in the Villa Torlonia catacombs over a period of roughly 250 years it follows that the number of tombs needed per year amounted to approximately 16.4. With a Crude Death Rate of about 40 per thousand, the community that buried in the Villa Torlonia catacombs can thus not have been larger than 410 people. This is not to say that this community could not have been larger. Mentioned figure is just an average. It only means that if the community was bigger than 410 at one time, it must have smaller at other points in time[46]. Assuming that the average family size for Jews in Rome was similar to that hypothesized for families in Roman Egypt, namely 4.3, we may conclude that the Jewish community that used the Villa Torlonia catacombs consisted, on average, of some 95 families[47]. This is a sobering figure, especially for those who are familiar with the Villa Torlonia catacombs and its sheer endless maze of galleries, each of which is studded with graves.

Using this type of approach, it is also possible to propose new figures for the size of Rome's Jewish population in its entirety. In addition to the Villa Torlonia catacombs, there once existed Jewish catacombs at Monteverde and along the Via Appia. There were also Jewish hypogea along the Via Labicana and in the Vigna Cimarra. Although the Jewish catacomb along the Via Appia has been excavated only partially, most of its plan is known. The Monteverde catacomb no longer exists today, but fortunately, we have two plans that allow us to determine the extent of its underground galleries. The same holds true for the hypogeum on the Via Labicana—a site that was not very big in any event. The hypogeum in the Vigna Cimarra is known from descriptions only[48].

If we take the evidence from Villa Torlonia as our point of departure, we arrive at an average of 3.8 tombs per meter of underground gallery. If we then apply this figure to mentioned catacombs and hypogea, we arrive at a grand total of 6864 tombs[49]. Again, it is important to remember that these are averages. Thus, tomb density in the Vigna Randanini

catacombs is certainly lower than in the Villa Torlonnia catacombs, but tomb density in the now destroyed Monteverde catacomb could very well have been higher, to judge from Müller's report who describes this site as a labyrinth of galleries with a complex network of tombs constructed one on top of the other. Along similar lines, we are probably right to assume that within this figure of 6864 tombs, infant tombs are underrepresented in the same way and for the same reasons as is the case in region D of the Villa Torlonia catacombs. If so, the number of 6864 tombs corresponds to a total of 7436 burials. A total of 7436 burials over a period of some 300 years equals 24.7 tombs per year. With an average Crude Death Rate of 40 per thousand, the Jewish communities that used mentioned cemeteries for burial cannot have exceeded 620 people or 144 families. Again, these figures are truly sobering in light of the size generally assumed for this community. This size—which is based on an analysis of two isolated references in the literary sources—ranges from 10,000 to 60,000[50].

Of course, it is crucially important to recall that the figures proposed on the basis of the funerary evidence represent a minimum-figure only. The Jewish community of ancient Rome is likely to have consisted of more than 600 people, and there can be no doubt that fluctuations occurred over time—either as a result of immigration, emigration, expulsions, and because of seasonal mortality[51]. In addition, it is also conceivable that we no longer dispose of vital evidence: Jewish catacombs and hypogea may have disappeared in the course of time. Besides, some Jews may have refrained from marking their graves in ways that makes it possible for us today to identify them as Jewish. Roman Jews may also have been buried elsewhere in Italy, even though it seems unlikely that this happened on a large scale. The Jews of ancient Rome may even have used cemeteries *sub divo*—that is, cemeteries in the open air that we are no longer able to trace.

Still, even if we assume that the 600 persons accounted for on the basis of the archaeological evidence represent a mere 10% of the Jewish community that lived in Rome

during the period of the first through fourth centuries, we must nonetheless conclude the earlier estimate of up to 60,000 people is in desperate need of revision. After all, it is simply inconceivable that 99% of the archaeological evidence bearing on this community has been lost (the surviving evidence being 600 out of a hypothesized total of 60,000 people, that is 1%). Since the earlier estimates are extrapolations that are purely hypothetical to begin with, I believe that we should dispense with them altogether. The archaeological evidence speaks a clear language: during the period under discussion the Jewish community in ancient Rome did not encompass more than an average of a few thousand souls at best. Its membership did most certainly not run into the tens of thousands, as all previous writers on this issue have suggested. Confirmation also comes from the Jewish funerary inscriptions: to date, some 600 such inscriptions are known. This number stands in strong numerical contrast to the 40,000 early Christian inscriptions discovered thus far. Since there is no reason to suppose that there are differences in the survival rate of Jewish versus early Christian inscriptions or in the epigraphic habits of both communities, we must conclude that these figures confirm our calculations, namely that the Jews of ancient Rome represented only a minor portion of the overall population.

Conclusions

In this article I have argued that the archaeological evidence preserved in the Villa Torlonia catacombs allows us to theorize about the life expectancy as well as the size of the Jewish community of ancient Rome. Although the Villa Torlonia materials provide us with certain kinds of information only, it nevertheless becomes clear that they allow us to view the Jewish community of ancient Rome from an unconventional perspective, namely that of population history. It is also clear that my main conclusions—namely, that life expectancy was low and that the Jewish community of ancient Rome was significantly smaller than has been assumed

previously—have far-reaching consequences for the way in which we perceive this community and its role in history. For example, we know that Jews lived throughout the city and that in that sense they were very much part of the urban tissue of ancient Rome. We also know that most of these neighborhoods do not exactly qualify as salubrious[52]. The life expectancy figures as hypothesized in Table 3 confirm what this meant on a day-to-day basis: while these were neighborhoods where diseases spread easily and sanitary circumstances were far from ideal, the Jews of ancient Rome were exposed to the very same health hazards that also threatened the rest of the urban populace. Thus, Jews may have suffered from malaria as well.[53] They were probably also prone to a host of other diseases. In short, the materials analyzed in this essay present us with independent evidence to confirm what onomastic data also tell us, namely that in terms of their living conditions, Roman Jews had much in common with the non-Jewish urban masses[54].

It hardly needs stressing that under these conditions, the growth rate of the Jewish community of ancient Rome is unlikely to have been very big. For the Jews too, the capital of the Roman Empire was a population sink. This meant that they needed immigrants to keep their community from achieving negative population growth. Jewish epitaphs indicate that immigration occurred and that such immigrants came from all over the Roman world[55]. Too few inscriptions survive to help us determine the actual number of immigrants. Still, the fact that these immigrants derived from a variety of out-of-the way places seems to suggest that immigration might have occurred on a larger scale than we would perhaps otherwise expect.

In light of named precarious demographic balance, it should not surprise us that the total number of Jews as calculated on the basis of the evidence from the Jewish catacombs of Rome is much lower than that presupposed by everyone who has ever written about this topic. This is not surprising inasmuch as the traditional view is based on evidence that we are incapable of evaluating properly. It is worthwhile to stress that the lower figures I have

proposed in the course of this paper do not represent isolated data. They are in keeping with a general tendency to criticize inflated population estimates based on literary sources exclusively[56], with new suggestions concerning the total number of Jews in the Roman Empire[57], as well as with a new calculation with regard to the maximum number of people residing in Rome under Augustus. According to this calculation, this number amounted to around 450,000 rather than to 750,000 or more, as proposed by previous writers on the subject[58]. Once we contrast Jewish with non-Jewish evidence, the conclusion becomes inescapable: less than 2% of the inhabitants of ancient Rome was Jewish[59].

It goes beyond saying that such a percentage has a profound effect on the ways in which we view the Jewish community of ancient Rome, both insofar as its internal structure is concerned as well as regards the relations between this community and the non-Jewish world that surrounded them. The small size of the community might help to explain, for example, why no remains of monumentally constructed synagogues were ever found in Rome. After all, given the small size of the community, it is quite conceivable that a community of this size convened, at least in part, in settings that were primarily domestic in terms of architectural character rather than in more elaborately structured buildings[60]. Along similar lines, while a small-sized community does not necessarily make the existence of an overarching body superfluous, it nevertheless raises the question of whether the infrastructure of the Jewish community of ancient Rome was such as to create the need or desire for the formation of such a *gerousia*.[61]

If we accept the thesis that the Jewish community of ancient Rome was but small numerically speaking, this also throws new light on the much-debated issue of conversion to Judaism in late antiquity[62]. It is true that the Jewish epitaphs from Rome indicate that conversion to Judaism did occur to some degree, but it is not possible to determine on what scale[63]. Yet, given the relatively small size of the community, it does not seem very likely that

we are dealing with a community that was growing rapidly due to the gaining of new adherents in significant numbers. With mortality levels that reduced the community by half by the time its members had reached the age of five, the Jewish community of ancient Rome was primarily concerned with trying to ward off negative population growth. Concerns about maintaining this precarious demographic balance must have had consequences concerning the process of identity formation. This, in turn, must have influenced the attitude of Roman Jews towards accepting new believers in their midst.

Besides, we also have to consider an alternative scenario, namely, that the Jewish community was so small because it lost members to evangelizing Christians. Again, whether this happened and, if so, on what scale, it is impossible to ascertain. What is clear, though, is that the sources are far too scant to argue that after the Bar Kokhba revolt the Jews of the Diaspora were an easy prey for Christian missionaries because generally «disenchanted, disaffected, and despondent »[64].

Classical authors indicate that the Jews of ancient Rome were tangibly present, at least in the first century[65]. In late antiquity, Jews in all parts of Italy continued to be a factor of importance, as evidenced by archaeology, late Roman law, and by the letters of Gregory the Great[66]. As is well known, a new evaluation of all this evidence has resulted in a major revision of the Jew's role in the later Roman world, especially in the Diaspora[67]. Still, we have not yet made great progress with regard to interpreting all this evidence properly. For example, what do we really mean when we say that Jews were at home in the Diaspora? How visible were the Jews? And what did such « visibility » entail?

The evidence presented in this article does not make an answer to such questions any easier. Evidently, it would be plainly wrong to conclude that the small size of Rome's Jewish community precludes it from having been able to influence their contemporaries on a conceptual level. On the other hand, it seems hard to dispute the claim that « size does

matter»: a community made up of 60,000 members (the old hypothesis) is certainly more prominent and tangible than a community consisting of only 600 people (the new hypothesis). The archaeological evidence from Rome indicates that while Jews remained tangibly present during the late antique period, and in no doubt about their own identity[68], the community might have been so small as to have been a major factor in the development of Christianity only at an early stage, but perhaps not in the fourth century or later. Such a conclusion fits nicely with Stephen Spence's new study that shows that the separation between Rome's Jewish and early Christian communities may have occurred much earlier and on a much more fundamental level than has been supposed hitherto[69].

From the viewpoint of modern demography, it is clear that the archaeological evidence presented in this article is far from complete. In fact, we lack vital data, and in order to draw conclusions we need to make several assumptions and develop various working hypotheses. Such hypotheses include the idea that we are looking at a stable/stationary population and that Model Life Tables may be consulted for heuristic purposes. In the course of this article, it has become evident that working hypotheses such as these are far from ideal. Sometimes they are even plainly problematic[70]. Hence the conclusion that our reconstructions are nothing but an attempt to approach a past that, in reality, was far more complex and that we will never be able to reconstruct fully.[71] Nevertheless, it would be unwise to exclude the archaeological evidence from our discussions of ancient Jewish history only because it is so difficult to interpret it properly. As I have tried to make clear, reflecting on the demography of Rome's Jewish community is crucially important if we are to understand how this community functioned and how it fitted into the larger framework of late antique society.

What is perhaps most amazing about this community is not its small size. Rather it is the fact that such a small community was capable of constructing and maintaining catacombs in the first place. Consisting of an elaborate network of underground galleries hidden away

below the Roman countryside, these underground cemeteries are truly works of art. Their impressive size, their imposing architectural appearance, and their extraordinary pictorial decoration testify to the existence of a community that does not seem to have despaired in the face of mortality rates characteristic of a high pressure regime. Instead, Roman Jews organized themselves into a well-functioning community, successfully maintained their identity in the cultural melting pot that was ancient Rome, and set out to construct cemeteries where the deceased members of the community could be laid to rest in an appropriate fashion, that is in a community-setting that was specifically Jewish. The surviving archaeological evidence thus indicates that even under harsh demographic conditions, the Jews of ancient Rome were capable of upholding their culture and, more importantly, of shaping their own destiny.

[1] For permission to study the Villa Torlonia materials, I would like to thank dott.ssa M. Barbera. This project was sponsored by the Netherlands Organization for Scientific Research (NWO). For discussion I would like to thank G.J.R. Maat. For his incissive remarks, I would also like to thank E. van Imhoff of the Netherlands Interdisciplinary Demographic Institute.

[2] For a survey of the archaeological evidence in the Diaspora, see R. Hachili, *Ancient Jewish art and archaeology in the diaspora*, Leiden, 1998. For Diaspora synagogues, see L.V. Rutgers, *The hidden heritage of Diaspora Judaism*, Leuven, 1988, p. 125-35. In general, *ibid.*, p. 14-44. For Jewish inscriptional evidence from the eastern half of the Empire, see now D. Noy *et al.*, *Inscriptiones Judaicae Orientis*. *I. Eastern Europe*, Tübingen, 2004; *iid.*, *Inscriptiones Judaicae Orientis. III. Syria and Cyprus*, Tübingen, 2004; and W. Ameling, *Inscriptiones Judaicae Orientis. II. Kleinasien* Tübingen, 2004.

[3] Of fundamental importance remains L.H. Feldman, *Jew and gentile in the ancient world*, Princeton, 1993. See also *id. Conversion to Judaim in antiquity*. I would like to thank Prof. Feldman for sharing an advance copy of this manuscript with me. Not available to me was C. Dauphin, *La Palestine Byzantine: Peuplement et populations*, Oxford, 1998. For a summary, see *ead.*, *The birth of a new discipline*, in *Bulletin of the anglo-Israel archaeological society* 17, 1999, p. 77-91. In general, also S. della Pergola, *Histoire démographique du people juif: bref apercu*, in S. Trigano (ed.), *La société juive à travers l'histoire*, Paris, 1993, p. 573-619.

[4] L.V. Rutgers, *The Jews of ancient Rome*, Leiden, 1995, p. 100-38 with references to earlier scholarly literature.

[5] For introductions, see T.P. Parkin, *Demography and Roman society*, Baltimore and London, 1992; B. Frier, *Demography*, in A.K. Bowman et al. (ed.), *Cambridge ancient history*, XI, Cambridge, 2000 p. 787-816; *id.*, *Roman demography*, in D.S. Potter and D.J. Mattingly (ed.), *Life, death, entertainment in the Roman Empire*, Michigan, 1999, p. 85-109; W. Scheidel,

Progress and problems in Roman demography, in *id., Debating Roman demography*, Leiden, 2001, p. 1-81 (excellent). Important monographic studies include: R.S. Bagnall and B. Frier, *The demography of Roman Egypt*, Cambridge, 1994; W. Scheidel, *Death on the Nile*, Leiden, 2001; R. Salares, *Malaria and Rome*, Oxford, 2002.

[6] A. Byatt, *Josephus and population numbers in first century Palestine*, in *PEQ* 104, 1972, p. 51-60; J. Scheckenhofer, *Die Bevölkerung Palästinas um die Wende der Zeiten*, München 1978, Feldman, *op. cit.* n. 3.

[7] E.g. M. Broshi, *The population of western Palestine in the Roman Byzantine period*, in *BASOR*, 236, 1979, p. 1-10; Y. Tsafrir, *Some notes on the settlement and demography of Palestine in the Byzantine period: the archaeological evidence*, in J.D. Seger (ed.), *Retrieving the past*, Winona Lake, 1996, p. 269-83. Much of this literature conceives of carrying capacity in all too straightforward terms. On the notion of carrying capacity, see R.E. Dewar, *Environmental productivity, population regulation, and carrying capacity*, in *Population studies* 86, 1984, p. 601-14.

[8] E. Gruen, *Diaspora: Jews among Greeks and Romans*, Cambridge, 2002, p. 3 and p.15; B. McGing, *Population and Proselytism*, in J. Bartlett (ed.), *Jews in the hellenistic and Roman cities*, London, 2002, p. 89. I owe the latter reference to G. Stemberger.

[9] For a first evaluation of the data, see L.V. Rutgers, *Nuovi dati sulla demografia della comunità ebraica di Roma*, in G. Lacerenza (ed.), *Hebraica Hereditas. Studi in onore di Cesare Colafemmina* (in press). The current article contains a more detailed analysis and takes into account new evidence for the dating of the Jewish catacombs, which was unavailable when the Italian article was written.

[10] U.M. Fasola, *Le due catacombe ebraiche di Villa Torlonia*, in *RAC* 52, 1976, p. 7-62.

[11] Archaeological evidence suggests that the connection between both catacombs at the junction C1-E1 is not the result of careful planning but of accident: the *fossores* who dug

gallery C1 went too deep and ended up destroying the ceiling of gallery E 1. They thus effectuated a connection between the two cemeteries that was unintended and that they tried to repair while continuing with the construction of the gallery they were trying to finish all along, namely C1, *pace* Fasola¸ *op. cit.* (previous note), p. 9-11.

[12] See the map included at the end of Fasola's article, *op. cit.* n. 10.

[13] Fasola, *op. cit.* n. 10, *passim*. For a first presentation of evidence concerning a new, revised chronology, see L.V. Rutgers, K. van der Borg, A.F.M. de Jong, *Radiocarbon dates from the Jewish catacombs of Rome*, in *Radiocarbon*, 44:2, 2002, p. 541-47. For a more extensive and reliable account, with a detailed study of how this new dating relates to the topography of the Villa Torlonia catacombs, see L.V. Rutgers, K. van der Borg, A.F.M. de Jong and A. Provoost, *Sul problema di come datare le catacombe ebraiche di Roma* (forthcoming).

[14] For the inscriptions, see D. Noy, *Jewish inscriptions of western Europe. II. The city of Rome*, Cambridge, 1995; for an analysis of the archaeology and epigraphy, see Rutgers *op. cit.* n. 4, *passim*.

[15] J. Elsner, *Archaeologies and agendas: reflections on late ancient Jewish art and early Christian art*, in *JRS*, 93, 2003, p. 1-17.

[16] Cf. Rutgers *op. cit.* n. 5, p. 191-201.

[17] It is surely no accident either that they were found in spots were there is no room for the arrangement of large sarcophagi.

[18] Fasola *op. cit.* n. 10, p. 15 n. 10 and fig. 5 (mostly bucolic stock repertoire).

[19] It is, of course, always possible that synchretistically-minded pagans or Christians hide behind Jewish remains (Elsner *op. cit.* n. 15, p. 117), yet we have no way of determining that they did. In any case, even if such people were buried in the Jewish catacombs, their pagan or early Christian identity has receded into the background to such a degree that this is no longer identifiable. On these sarcophagi, cf. also G. Koch, *Jüdische Sarkophage der Kaiserzeit und*

der Spätantike, in L.V. Rutgers (ed.), *What Athens has to do with Jerusalem*, Leuven, 2002, p. 190-200.

[20] K. Hopkins, *On the probable age structure of the Roman population*, in *Population studies* 20, 1966, p. 245-64.

[21] Rutgers *op. cit.* n. 4, esp. p. 124-30.

[22] G.J.R. Maat, *Male Stature. A Parameter of health and wealth in the low countries 50-1997*, in *Wealth, health and human remains in archaeology. Vijfentwintigeste Kroon-voordracht* , Amsterdam, 2003, p. 57-88 discusses evidence from the Netherlands, with further references.

[23] J. Boswell, *The kindness of strangers*, New York, 1988; W.V. Harris, *Child-exposure in the Roman Empire*, in *JRS* 84, 1994, p. 1-22; P. Salmon, *La limitation des naissance dans la société romaine*, Bruxelles, 1999.

[24] Percentages derive from Table 1 in J. Zias, *Human skeletal remains from the Caiaphas' tomb*, in *`Atiqot* 21, 1992, p.79.

[25] Based on the evidence presented in Table 1 in J. Zias, *Anthropological analysis of human skeletal remains*, in G. Avni and Z. Greenhut (ed.), *The Akeldama tombs*, Jerusalem, 1996, p. 118. I would like to thank Gidon Avni for a copy of this book.

[26] See R. *Human remains from the Har Hazofim observatory tombs (Mt. Scopus, Jerusalem)*, in *`Atiqot* 35 (1998), p. 41: 55% subadults of which 25% in the 1-3 age group.

[27] In Ashqelon, for example, it was even worse, see E. Kogan-Zehavi, *Late-roman remains at Ashqelon*, in *`Atiqot*, 39, 1999, table 1 (in Hebrew) where during salvage excavations a cist grave was found that contained 60% children. Note that this evidence may be atypical and not-Jewish.

[28] This was first observed by Fasola, *op.cit.* n. 10, p. 54-55.

[29] A.J. Coale and P.G. Demeny, *Regional model life tables and stable populations*, New York, 1983.

[30] To use Model Life Tables to interpret ancient evidence is also problematic because one imposes post-1850 mortality patterns on populations whose mortality patterns one is actually trying to reconstruct. There is not reason to suppose, *a priori*, that this is correct. This is especially true for populations with high mortality. In addition, the relationship between IMR/ECMR and adult mortality rates can be significantly more complex than suggested by mentioned Life Tables. On these problems, see R. Woods, *On the historical relationship between infant and adult mortality*, in *Population studies* 47, 1993, p. 195-219. With regard to the ancient period, I concur with Scheidel *Death cit.* n. 5, p. 118-80. Hence the observation that my calculations are merely meant to have a heuristic value.

[31] Obviously, the sex ratio cannot be established for the tombs in question, hence the subdivision into females and males as proposed in Table 3.

[32] Salares, *op. cit.* n. 5, p. 278.

[33] After all, the low life expectancy in the case of region Bin the Villa Torlonia catacombs is wholly due to the high incidence of mortality in the 0-1 cohort. In the case of populations exposed to malaria, people from all age cohorts are likely to succumb to this disease.

[34] Cf. the comments by Woods, *op. cit.* n. 30, p. 216 n. 33.

[35] Bagnall and Frier, *op. cit.* n. 5, p. 84-90; B. Frier, *Roman life expectancy: Ulpian's evidence*, in *HSCPh* 86, 1982, 213-51; Frier 1999 *op. cit.* n. 5, p. 101-2 also supposes that the annual Roman death rate oscillated between forty to forty-five per thousand. Frier 2000, *op. cit.* n. 5, uses Model West, level 3 as point of departure. Similar percentages in Parkin *op. cit.* n. 5, p. 93 and n. 9. For Roman and Byzantine Palestine, Dauphin *op. cit.* n. 3, p. 87 assumes a rate of 30 per 1,000.

[36] For a critique of Frier's interpretation of Ulpian, see Parkin, *op. cit.* n. 5, p. 27-41. Cf. also Sallares, *op. cit.* n. 5, p. 272 and 282. For a critique of Frier's and Bagnall's interpretation of the Egyptian census returns, see Scheidel *Death cit.* n. 5 , p. 118-80, and esp. p. 174 sq.

[37] For a child mortality of 30% deriving from a nineteenth century cemetery excavated at 's Hertogenbosch in the Netherlands, cf. Maat *op. cit.* n. 22, p. 77 (most children in this group were younger than five years of age). For a CDR of 43.1 in 1623 in Rome, see Salares, *op. cit.* n. 5, p. 203.

[38] For details, see A. Scobie's classic essay, *Slums, sanitation, and mortality in the Roman world*, in *Klio*, 68, 1986, p. 399-433.

[39] *Pace* Salares, *op. cit.* n. 5, p. 273-78; Scheidel *Death cit.* n. 5, p. 173.

[40] Hecataeus *apud* Diodorus, see M. Stern, *Greek and latin authors on Jews and Judaism*, Jerusalem, 1974, I, no. 11; Philo, *Spec.* 3.110-19; Josephus, *Ap.* 11.202; Tacitus, *Hist* 5.5. For a discussion of the Jewish evidence, see also Boswell *op. cit.* n. 23, p. 147-52.

[41] Rutgers, *op. cit.* n. 4, p. 112 observes that 31.7% of all Jewish funerary inscriptions from Rome refer to males and 25% to females. Note that these percentages are lower than the percentages recorded from non-Jewish epigraphic materials. And note that these percentages do not provide us with reliable evidence in terms of determining mortality rates, cf. *ibid.*, p. 124-28.

[42] On the complex relationship between child and adult mortality, see the discussion in Woods, *op. cit.* n. 30, *passim*; for the ancient evidence, cf. Parkin, *op. cit.* n. 5, p. 83-84 and the discussion in Scheidel 2001, *op. cit.* n. 5, p. 128-30.

[43] *Pace* Bagnall and Frier, *op. cit.* n. 5, p. 79 with regard to the CDR. The following method of trying to establish the number of people that used a cemetery has been used previously in the Marcellino e Pietro catacomb, see J. Guyon, *Le cimetière aux deux lauriers*, Rome, 1987, p. 101. Note, however, that Guyon does not distinguish between infant, child, and adult tombs and note that he does not derive the CDR from the evidence itself, but works on the assumption of a (rather high) rate of 45 to 50 per 1,000.

[44] For a more detailed treatment, see Rutgers *op. cit.* n. 9.

[45] I arrive at this figure by assuming that child mortality is regions C, D, and E was similar to that in region A, namely 30%.

[46] It would be desirable to track such ups and downs over time, but the chronological evidence currently available for the Villa Torlonia catacombs is too limited to allow for the development of a model.

[47] For the Egyptian figure, see Bagnall and Frier, *op. cit.* n. 5, p. 67

[48] For the Monteverde catacomb, see the maps in N. Müller, *Die jüdische Katakombe am Monteverde zu Rom*, Leipzig, 1912 and *id*., *Cimitero degli antichi ebrei posto nella Via Portuense*, in *Dissertazioni PARA*, 12, 1915; p. 205-318 and R. Kanzler, *Scoperta di una nuova regione del cimitero giudaico della Via Portuense*, in *NBAC*, 21, 1915, p. 152-57. For the Via Appia catacomb, I have used the unpublished plan of the Pontificia Commissione di Archeologia Sacra. For the Via Labicana, see O. Marucchi, *Di un nuovo cimitero giudaico sulla Via Labicana*, Roma, 1887. For Vigna Cimarra, see G.B. de Rossi, *Scoperta d'un cimitero giudaico presso l'Appia,* in *BAC* 5 (1867), p. 16.

[49] Villa Torlonia: 3703 tombs; Monteverde: 1120 tombs; Vigna Randanini: 1900 tombs; Via Labicana: 141 tombs.

[50] H. Solin, *Juden und Syrer im westlichen Teil der römischen Welt*, in *ANRW* 29.2, 1983, p. 698-701 with references to earlier literature; M.H. Williams, *The organisation of Jewish burials in ancient Rome in light of evidence from Palestine and the diaspora*, in *ZPE*, 101, 1994, p. 180 (suggests that in the second century it might have been larger than 60,000); J. Barclay, *Jews in the Mediterranean Diaspora. From Alexander to Trajan (323 BCE-117C.E.)*, Edinburgh, 1996, p. 295; H. Botermann, *Das Judenedikt des Kaiser Claudius*, Stuttgart, 1996, p. 50 n. 132; D. Noy, *Foreigners at Rome: citizens and strangers*, London and Swansea, 2000, p. 257. This list could be extended easily. For a brief analysis of the ancient evidence, see also Rutgers, *op. cit.* n. 9.

[51] B.D. Shaw, *Seasons of death: aspects of mortality in imperial Rome*, in *JRS*, 86, 1996, p. 100-38; Scheidel 2001, *op. cit.* n. 5, pp. 1-117.

[52] *Pace* R. Macmullen, *The unromanized in Rome*, in S.J.D. Cohen en E.S. Frerichs (ed.), *Diasporas in antiquity*, Atlanta, 1993, p. 54-55.

[53] Note that low lying areas such as Trastevere and the Campus Martius were particularly prone to malaria, in antiquity as well as later. This was due to the presence of water, see Salares, *op. cit.* n. 5, p. 206-15. Note also that people who had not been born in Rome, were more vulnerable to this disease, *ibid.* p. 223.

[54] Rutgers *op. cit.* n. 4, p.166-69 on the onomastic data. Although there exists a general connection between health and wealth (see Maat *op. cit.* n. 22, p. 58-59, 69, 74) this does not mean that for the higher echelons of Roman society life expectancy was much higher; Zias *op. cit.* n. 24, p. 79 with regard to Jewish evidence and Woods, *op. cit.* n. 30, p. 216.

[55] Noy, *op.cit.* n. 14, s.v.

[56] E.g. Scheidel, *Progress cit.* n. 5, p. 51-62 and *id., Death cit.* n. 5, p. 245-47 with reference to Egypt.

[57] M. Broshi, *Demography*, in E.M. Meyers (ed.), *The Oxford encyclopedia of archaeology in the Near East*, Oxford ,1997, p. 143 suggests that the maximum population in Roman Palestine amounted to one million; this figure may find confirmation in I. Finkelstein, *A few notes on demographic data from recent generations and* ethnoarchaeology, in *PEQ*, 122, 1990, p. 47-52. Cf. also A. Wasserstein, *The number and provenance of Jews in Graeco-Roman antiquity*, in R. Katzoff (ed.), *Classical studies in honor of David Sohlberg*, Ramat Gan, 1996, p. 307-17. K. Hopkins, *Christian number and its implications*, in *JECS*, 6, 1998, p. 214 believes the number of Jews in the entire Roman Empire (including Roman Palestine) amounted to three million, but admits that this is just a hypothesis with a high probable margin of error. These figures are in stark contrast to traditional views that set this figure at

around six million. Also careful is G. Stemberger, *Juden*, in *Reallexikon für Antike und Christentum*, 19, 1998, p. 172. A lower figure is also fitting in light of the relatively low Jewish population figures in the Middle Ages and early modern period as suggested by della Pergola, *op cit.* n. 3, p. 580 (around one million): if the maximalists are right, then they also have to explain this sudden drop in Jewish population numbers in the Middle Ages. For miminalists it suffices to point out that there never was such a dramatic drop. They are in a position to argue that well into the early modern period continuity characterizes Jewish demography.

[58] G.R. Storey, *The population of ancient Rome*, in *Antiquity* 71, 1997, p. 966-78 and the comments by Scheidel, *Progess cit.* n. 5, p. 51. The old figure can be found, for example, in G. de Kleijn-Eijkelstam, *The Water Supply of Ancient Rome*, Amsterdam, 2001, p. 61-68 with references to the earlier literature. Similar is Frier 2000, *op. cit.* n. 5, p. 813. And cf. E. Lo Cascio, *Le procedure di* recensus *dalla tarda reppublica al tardo antico e il calcolo della popolazione di Roma*, in *La Rome impériale. Démographie et logistique*, Rome, 1997, p. 75.

[59] 6,000 (the maximum figure) out of 450,000 equals 1.3%. If we decide to adhere to the old figure of one million inhanbitants, this figure dwindles to a mere 0.06%! The inscriptions provide us with comparable figures, but they are, of course, less reliable than the evidence derived from the tombs (600 out of 40,000 equals 1.5%).

[60] Admittedly, this argument is somewhat tricky. The Dura synagogue, for example, is not an impressive building in terms of floor size. But in terms of the decoration that spreads out over the tall walls of this building, this building is truly imposing.

[61] M. Williams, *The structure of the Jewish community in Rome*, in M. Goodman (ed.), *Jews in a Graeco-Roman world*, Oxford, 1998, p. 215-228 argues in favor of such a governing body, but the evidence she adduces is largely circumstantial, except for her pertinent remarks on the *archigerousiarchus* inscription from the Villa Torlonia catacombs (*ibid.*, p. 226-27). In

the course of this article, the authors also revives, oddly, several outdated notions concerning the Jewish community of ancient Rome.

[62] Feldman *op. cit.* n. 3, *passim* has argued for widespread conversion to Judaism in late antiquity. For a critique, see Rutgers *op. cit.* n. 2, p. 199-234 and Feldman's reaction, *Reflections on Rutgers's attitudes to Judaism in the Greco-Roman period*, in *JQR*, 86, 1995, p. 153-70 and see now Feldman's careful analysis in *id., Conversion cit.* n 3.

[63] Noy, *op. cit.* n. 14, s.v.

[64] *Contra* Hopkins, *op. cit.* n. 57, p. 214, who derives this idea from R. Stark.

[65] Sources in H.J. Leon, *The Jews of ancient Rome*, Philadelphia, 1960, p. 11-36 and Solin *op. cit.* n. 50, *passim.*

[66] C. Colafemmina, *Hebrew inscriptions of the early medieval period in southern Italy,* in B. Garvin and B. Cooperman (ed.), *The Jews of* Italy, Bethesda, 2000, p. 65-81; *id. Le catacombe ebraiche nell'Italia meridionale e nell'area Sicula; Venosa, Siracusa, Noto, Lipari e Malta*, in M. Perani (ed.), *I beni culturali ebraici in Italia*, Ravenna, 2003, p. 119-46; A. Linder, *The Jews in Roman imperial legislation*, Detroit, 1987; on Gregory's letters, see e.g. L.V. Rutgers, *Gli ebrei in Sicilia nel tardoantico,* in N. Bucaria *et al.* (ed.), *Ebrei e Sicilia*, Palermo, 2002, p. 45-54.

[67] See A. T. Kraabel's classic essay, *The Roman Diaspora: Six questionable assumptions*, *Journal of Jewish studies* 33, 1982, p. 445-64. For further discussions, see Feldman *op. cit.* n. 3, *passim*; Barclay *op. cit.* n. 50, *passim* and Rutgers, *op. cit.* n. 2, p. 14-44; L.V. Rutgers, *Justinian's novella 146 between Jews and Christians*, in R. Kalmin and S. Schwartz, *Jewish culture and society under the Christian Roman Empire*, Leuven, 2003, p. 385-407

[68] Rutgers *op. cit.* n. 4, p. 191-209

[69] S. Spence, *The parting of the ways. The Roman church as a case study*, Leuven, 2004.

[70] *Pace* Scheidel 2001, *op. cit.* n. 5, p. 176 who, in reference to Egyptian materials, believes the match in age distribution between the Egyptian census returns and the Model Life Tables to be coincidental.

[71] We have to take into account, for example, that in the Roman world there was no single life expectancy that applied to everyone, *pace* Sallares, *op. cit.* n. 5 , p. 271 and p. 283-5. The same holds true, naturally, for Jews in both Roman Palestine and in the Diaspora. Similarly, we have to consider that life expectancy is likely to have changed over time as well, and that cause-specific mortality patterns profoundly influenced life expectancy patterns.