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Settlement patterns in the Upper Adige basin from the Middle to the Final Bronze Age

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ABSTRACT - This article deals with the subject from two different points of view: settlement dynamics and territory "political" organization. An examination of available data allows us to recognize long-term tendencies ("colonization" of the mountain zone, growth in the dimensions of sites and reduction in their number, development of seemingly undefended centres), and to define, also by means of a cursory analysis of some better-known areas, a strong variability in the forms of landscape occupation, with scattered or aggregated communities, even at short distance: this settlement cycle, which starts in the Early Bronze Age, seems to break down suddenly at the beginning of the Iron Age (Luco B period, 10th-9th centuries BC), for reasons we try to explain.

Key words: Trentino-Alto Adige, Settlement patterns, Site typology, Bronze Age
Parole chiave: Trentino-Alto Adige, Modelli di insediamento, Tipologia insediamentale, Età del Bronzo

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1. INTRODUCTION

The analysis of settlement patterns is an important theme in the late prehistory of the Upper Adige basin, lacking synthetical treatment[1]. In the following, we shall try to examine the topic from two different perspectives: settlement dynamics and territory "political" organization.

The complex regional morphology and the blanks in the archaeological sources induce to be careful to apply models derived from human geography; on the other hand, the provisional nature of the current data dissuades from a detailed examination, except for a few selected areas. So, we have decided to privilege general problems, such as the number of sites per phase, and settlement choices relating to topography and resource distribution, in order to outline the settlement dynamics (LEONARDI, 1983, 1992), or, at least, the main tendencies.

The chronology of some sites, practically unpublished or with scanty artefacts, caused remarkable difficulties: if we decided to proceed to make the best of an archaeological record that, even though limited, is abundant (Fig.1:a), we have all the same referred to rough temporal divisions, sorting out the settlement episodes in the large phases of the Middle, Late and Final Bronze Age[2], in the context of a purposely schematic analysis.

Another problem relates to site function: in short, we point out that our analysis includes the altitude cult sites (real or presumed), as these are seldom alien from economic activities[3].

2. SETTLEMENT DYNAMICS

The coming of the Bronze Age is an important period for the regional history, since it marks the beginning of a massive increase in landscape occupation, especially in the mountains, previously sparsely settled (BAGOLINI & PEDROTTI, 1992), and the origin of an unprecedented cycle of settlement continuity. Two aspects are best seen: an increase in the number of sites

and the rise in their mean altitude. In Early Bronze Age a new settlement cycle commences, going on, with some "leaps", till the end of the Bronze Age.

In this article, we have taken into limited account the Early Bronze Age, both as the length of this phase would have risked giving a too palimpsestic image of settlement dynamics, and as, despite the above-mentioned general continuity, no doubt helped by the landscape morphology, a break between Early Bronze Age and Middle Bronze Age does exist: about 30% of the sites of the former period did not reach the latter one.

The number of sites per phase is essential to our subject (Fig.1:b): compared to a substantially equivalent value in the first two periods of the Bronze Age, we note a decrease as from Late Bronze Age; if, for Early Bronze Age, the large number of settlements is due to its duration (but also to a lower stability of occupation), an examination of the dwelling-sites which begin and come to an end in each phase let suppose a process of settlement nucleation, although in a slight measure. It is necessary, now, to ascertain whether it is possible to suggest, at least hypothetically, a downright selection, i.e. a development with unambiguous tendencies.

During the Bronze Age one can observe a steady rise in site altitude (note that Copper Age mean is about 500m a.s.l.), which is evidence of the progressive filling of the lateral valleys (Fig.2:a): this fact is linked to a primitive territorial structuring, through the building of slope terraces (Bagolini *et al.*, 1982), probably already on a large scale.

In any case, there is some difference between the Early Bronze Age-Middle Bronze Age situation and that of the following periods: in fact, whereas, in the former, settlements inhabited for only one phase are nearly as high as the total mean, from Late Bronze Age on those have a greater altitude; moreover, the higher position of new sites, compared to the general value, is for a large part due to the fact that many new-established settlements last only one phase. This would let hypothesize the complete filling of the mountain ranges, but also a change in site function.

We can certainly attribute the growth in altitude to a stronger interest in cattle and sheep rearing, in consequence of the "secondary products revolution" (Sherratt, 1981): clues for that are the archaeozoological investigations carried out above all by A.Riedel (e.g., Riedel, 1996), the palynological data from South Tyrol (Seiwald, 1980), and an estimate of the supposed site catchment areas, based, though with some doubt, on a critical reading of the soil utilization maps. The diachronic analysis of site catchment areas (Fig.2:a) seems to show that a selection of settlements, on the basis of local pasture resources, does occur, at least from Middle Bronze Age on.

If we now turn to examine the locational types (Fig.2:b)[4], we note that, even if during all the Bronze Age the leading model was the well-delimited hilltop site, at the end of the 2nd millennium BC fan and slope settlements seem to increase and lakeside dwellings and rock shelters virtually disappear. Well-delimited hilltop sites, usually among the most lasting ones, contrary to those on undelimited relief, show in this period peculiar developments: modest increase in mean altitude, slight reduction in steepness, decrease in isolation from the mountain side, and growth in mean area.

The last fact is particularly visible during Final Bronze Age: now the process of selection of hilltop sites according to their size is clear, since settlements not reaching the Iron Age have an area about half the total mean.

However, the size growth of hilltop sites between Middle Bronze Age and Final Bronze Age (18%) does not balance the decrease in the number of settlements, which we may estimate about 23%: this might be due, besides the above-mentioned reasons, to the fact that Late Bronze Age-Final Bronze Age hilltop locations seem in several areas to take second place, owing to the emergence of fan or slope sites (of which we cannot reckon the exact size), centres that will be flourishing in the Iron Age.

In the investigated sites, sometimes from the beginning of the Bronze Age, but more often during this period, one can note a phase of slope instability, along with episodes of widespread erosion, and colluvial formations, and even landslides at the foot of the mountains (Coltorti & Dal Ri, 1985); in the peatbog of Fiavè (Brochier *et al.*, 1993) colluvial deposits, already occurring during the life of the site, become more important after its abandonment (start of Late Bronze Age), perhaps relating to the collapse of supposed terraces: the reasons for this cannot be, if not subordinately, climatic changes, but rather the human activities, particularly through intense forest clearing for the exploitation of new areas. This intervention appears to be directly attested by the growth in domestic pollen, gregarious plants, and herbaceous species typical of pasture lands in the mountain wet deposits.

3. TERRITORY "POLITICAL" ORGANIZATION

The condition of archaeological data recommends to take into examination, about settlement distribution in the territory, only a few better-known areas, like those around Bruneck and Brixen, the Oltradige, and the Trento basin.

The Bruneck basin is particularly relevant to the analysis of locational dynamics and territory organization (Fig. 3,a): here there is evidence, in Early Bron-

ze Age, of a settlements system, of which we know at least twelve dwelling-sites, all at short distance on small hilltops above the valley bottom; in Middle Bronze Age, settlements fall to four, grow in mean size, and move downwards slightly over the course of the river Rienz; from Late Bronze Age on, three sites of four disappear, and the population level seems to decline. It is likely that we are facing a real "system crisis", and a radical change in occupation patterns: the surviving settlement (the Sonnenburg), nevertheless, enjoys a wonderful position, as it lies on a hill overlooking the river, close to the confluences in it of the Ahrn and Gader streams.

In the Natz plateau too a change seems to happen, although not so deep (Fig.3:b): the Middle Bronze Age settlements appear not to reach Late Bronze Age, and to be replaced, all but one (Laugen, whose residential character is all the same doubtful), by low-lying villages.

The Brixen basin (Fig.3:b) shows a series of settlements of different size situated around the valley bottom at altitudes between 650 and 900m a.s.l.: contrary to the area of Bruneck, here there is some continuity, at least between Early Bronze Age and Late Bronze Age, and we notice a site (the A Late Bronze Agenbühel) lasting from Early Bronze Age to all the Iron Age, even if with minor shifts. The very existence of clusters of settlements is attested by the cases of Plabach and Nössing, where there are, on the same relief, separate groups of huts almost certainly of equal date.

An instance of "polycentric" communities is probably that of Oltradige (a former valley of Adige, filled in by glacial deposits) particularly in the zone of the municipality (with scattered population still today) of Eppan (Fig.3:c): many contemporary villages, almost all long-lasting, usually small and at short distance each other, lie on the morainic hillocks.

The situation around Trento is still different (Fig.3:d): here there are many hilltop sites, all (setting aside Dosso S. Agata) long-lasting, coeval, but distant enough and regularly spaced, so that we can hypothesize their mutual autonomy. Settlements seem to control the entrances to the basin, or at least important ways, such as those to the Valsugana, Mt.Bondone (a rich pasture area), the Valle dei Laghi, and the lake Garda. The position of Doss Trento is interesting, as it overlooks the Adige slightly North the Fèrsina confluence, and close to the tracks to Mt.Bondone: however, we know too little this site to postulate a central function.

As will be clear in the light of these few considerations, a complex patterns emerges, with the possible existence, side by side (perhaps for geomorphological reasons too), of areas with settlement nucleation, and of clusters of hamlets linked in socio-political units: it is hard to think that sites a few square metres large could have been autonomous, at least demographically, and even settlements stricto sensu, suggesting a diverse explanation.

The existence of "polycentric" communities should not be meant in the sense of landscape hierarchization, of which we do not have any reliable trace, but is consistent with a functional differentiation of sites, especially in the latter part of the Bronze Age: we might suppose, to be clear, fortresses or refuges in case of danger, or else installations for special economic purposes (like the exploitation of pastures and, when present, of mines). This model seems to offer the advantage of explaining the apparent lack of defensive interests shown by many settlements, perhaps even important (e.g., Eppan-Siechenhaus), compared to a large number of small sites naturally and/or artificially defended. In substance, we would expect a system with downright dwelling-sites, from Late Bronze Age on more and more frequently in open situations, in a landscape controlled by "strongholds", maybe with small "garrisons", along with seasonal camps.

On the other hand, the decrease in defensive interests in the choice of settlement position might be due to the establishment of large units of territorial nature, with relatively lasting and formalized relationships (cfr. Tecchiati, in: Mottes & Tecchiati, in press): evidence for this would be firstly the birth of cult sites on mountain summits, probably well beyond the local sphere, if not "federal" (e.g., the Schlern), secondly, the cultural uniformity in Final Bronze Age, thirdly the impressing expansion ability of Luco people in craftsmanship and in trade across the Alps, and, possibly, in the Northern Po plain too, as the data from Calcinato (Poggiani Keller *et al.*, 1994), for instance, seem to suggest.

The fall of the Bronze Age settlement cycle, more or less in the Luco B phase (end of the Bronze Age-Early Iron Age, ca.1000-800 BC), represents a phenomenon which is difficult to explain: if, on the one hand, the process could be linked to sociopolitical causes, especially the further concentration of sites in fan and slope positions (maybe also after the reopening of the Brenner trade route, under Villanovan influence), on the other hand it cannot be excluded, as a concomitant factor, the above-mentioned geomorphological degradation of the weakest areas, i.e. particularly the mountain zone. A lasting reoccupation of such landscapes, along with the beginning of a new cycle, will occur only from the middle Iron Age on, maybe in coincidence with trade increase in the Po plain, but certainly also thanks to the success of the works of soil defence, of which we have already proof in "urban" context in 7th-century Vadena (Dal Ri, 1992).

4. CONCLUSION

From the previous analysis the gradual genesis of large stable communities, thoroughly exploiting landscape resources, seems to emerge; as from a late phase, we may suppose the birth of settlement systems involving sites at different altitudes and functionally distinguished, in a process of strengthening of the intercommunal links: perhaps this explains too the development of craft specialization, in particular metallurgy and mining activities.

The situation changes radically at the beginning of the Iron Age, when, probably also as a result of the virtual abandonment of the mountain zone (and therefore the declining contacts among the different areas) well-delimited territorial districts, sometimes gravitating towards neighbouring regions, come into beeing, which are the likely root of the following civitates. Only then the process of constitution of social structures organized on a territorial base, of which we can see the first elements, though contradictory, in the Bronze Age, is complete.

The hypotheses presented here, some not very original, have solely a propositional value: such and so many are the blanks in data that it seems reasonable to proceed very cautiously. However, I think the time has come to try an interpretation, not only in order to recognize possible research priorities, but also to contribute to the definition of the historical processes acting in the late prehistory of the Upper Adige basin, so following Bagolini's teaching (e.g., Bagolini, 1980).

NOTES

1 - See, however, the recent contribution by Tecchiati (Mottes & Tecchiati, in press); for a wider analysis cf. my Ph.D. thesis, now in press (Di Pillo, in press).

2 - With "Final Bronze Age" we mean the Luco A period, correctly beginning in the course of the Late Bronze Age and ending probably at the start of 10th century (calibrated chronology): so, the "Late Bronze Age" corresponds properly to the first part of the Late Bronze Age in Italian sequence. Here the following abbreviations are used (cf. Di Pillo, in press, for chronology): Early Bronze Age=Early Bronze Age (ca.2300-1650 BC); Middle Bronze Age=Middle Bronze Age (ca.1650-1350 BC); Late Bronze Age=Late Bronze Age (ca.1350-1250 BC); Final Bronze Age=Luco A (ca.1250-1000 BC).

3 - Consider, i.e., the cases of the Roterdspitze and the Schwarzsee: the former is connected to sheep-rearing, the latter also to mine working.

4 - Keys to Fig.2:b (site position): 1) well-delimited hilltop; 2) not well-delimited hilltop; 3) alluvial fan; 4) slope; 5) valley bottom; 6) lakeside; 7) rock shelter; 8) high-altitude temporary camp

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SUMMARY - This article deals with the subject from two different points of view: settlement dynamics and territory "political" organization. An examination of available data allows us to recognize long-term tendencies ("colonization" of the mountain zone, growth in the dimensions of sites and reduction in their number, development of seemingly undefended centres), and to define a strong variability in the forms of landscape occupation, even at short distance: this settlement cycle, which starts in the Early Bronze Age, seems to break down suddenly at the beginning of the Iron Age, for reasons we try to explain.

RIASSUNTO - Si analizza il quadro insediativo nell'area atesina dal Bronzo medio al Bronzo finale da due punti di vista diversi: la dinamica del popolamento e l'organizzazione del territorio. L'esame consente di individuare tendenze di lungo periodo ("colonizzazione" delle aree di quota, aumento dimensionale dei siti e diminuzione nel loro numero, sviluppo di abitati in posizioni poco munite) e di definire un'ampia varietà di forme di occupazione del paesaggio anche a distanze limitate: tale ciclo insediativo pare bruscamente interrompersi al principio dell'Età del Ferro, per cause che si tenta di chiarire.

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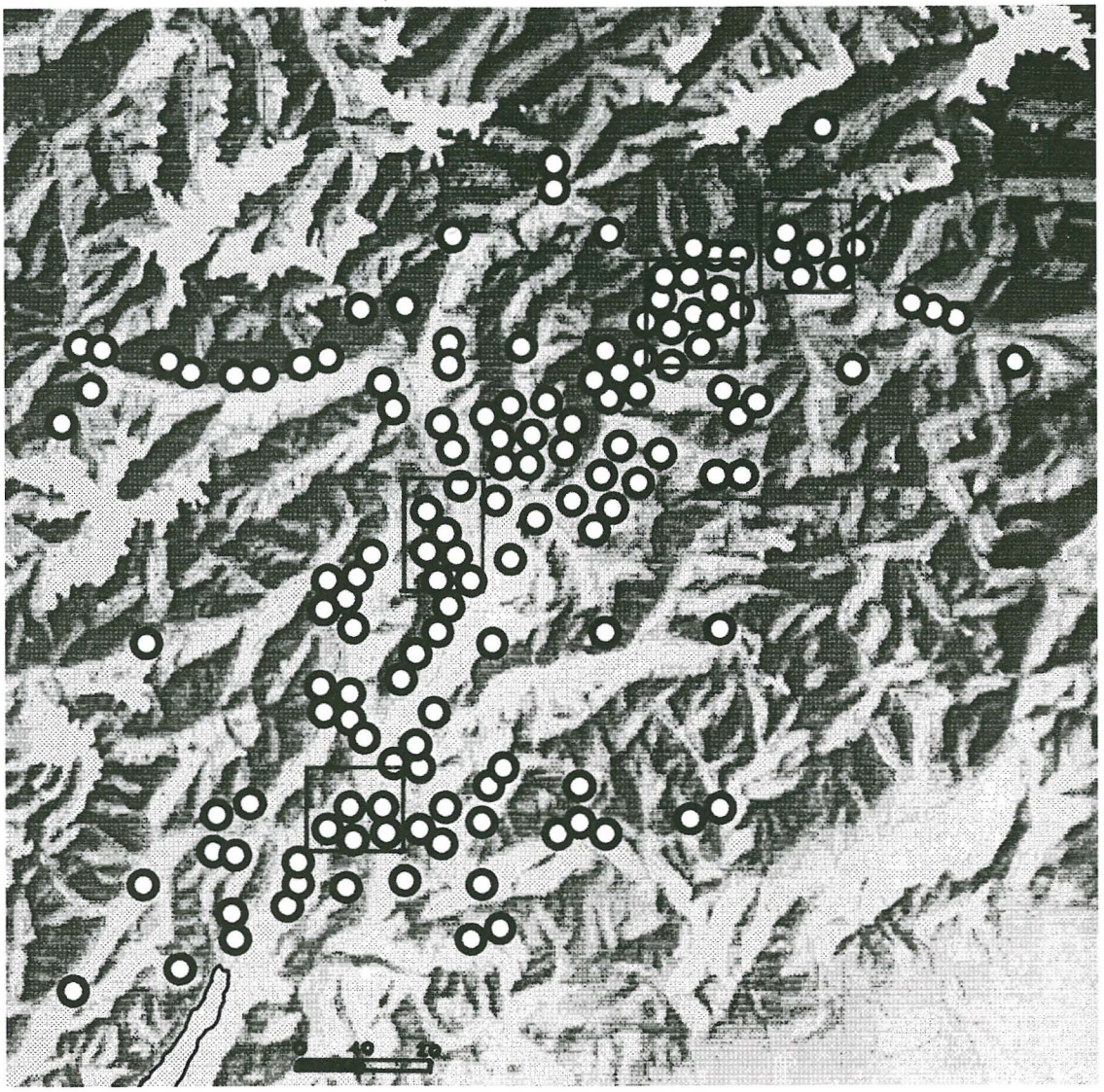

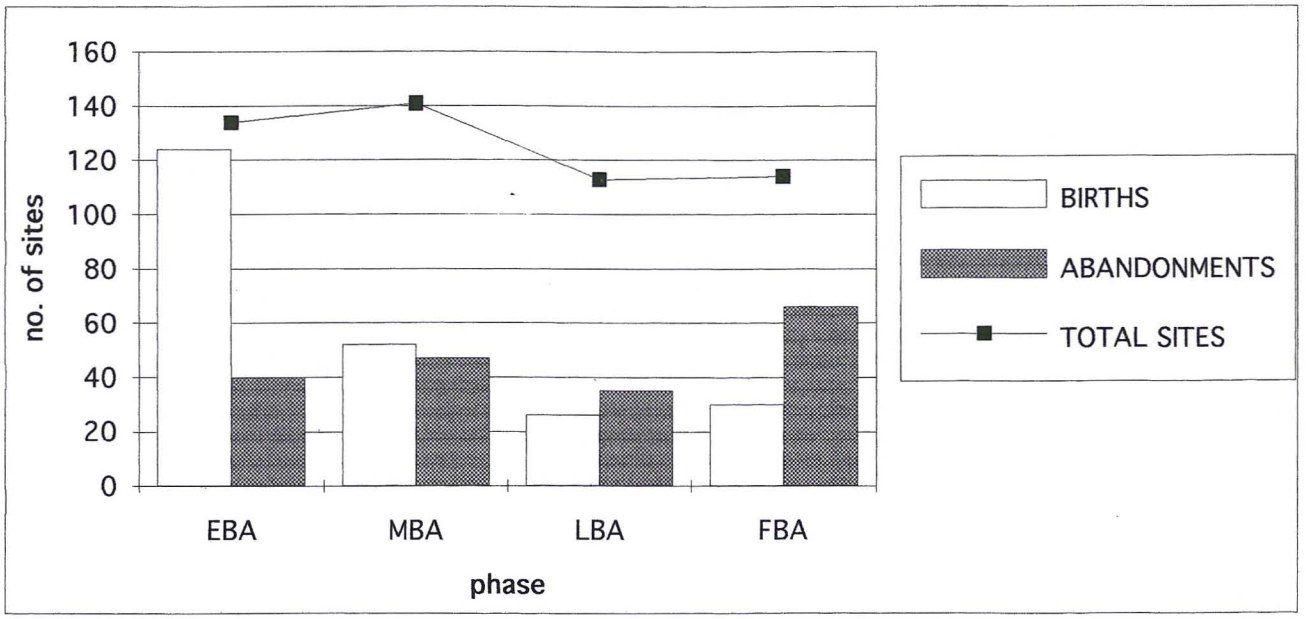

Fig. 1 – a) general map of Middle-Final Bronze Age sites in Trentino-South Tyrol (areas examined in Fig.3:a-d are shown); b) number of sites and "settlement balance" per phase (cfr. the text for abbreviations)

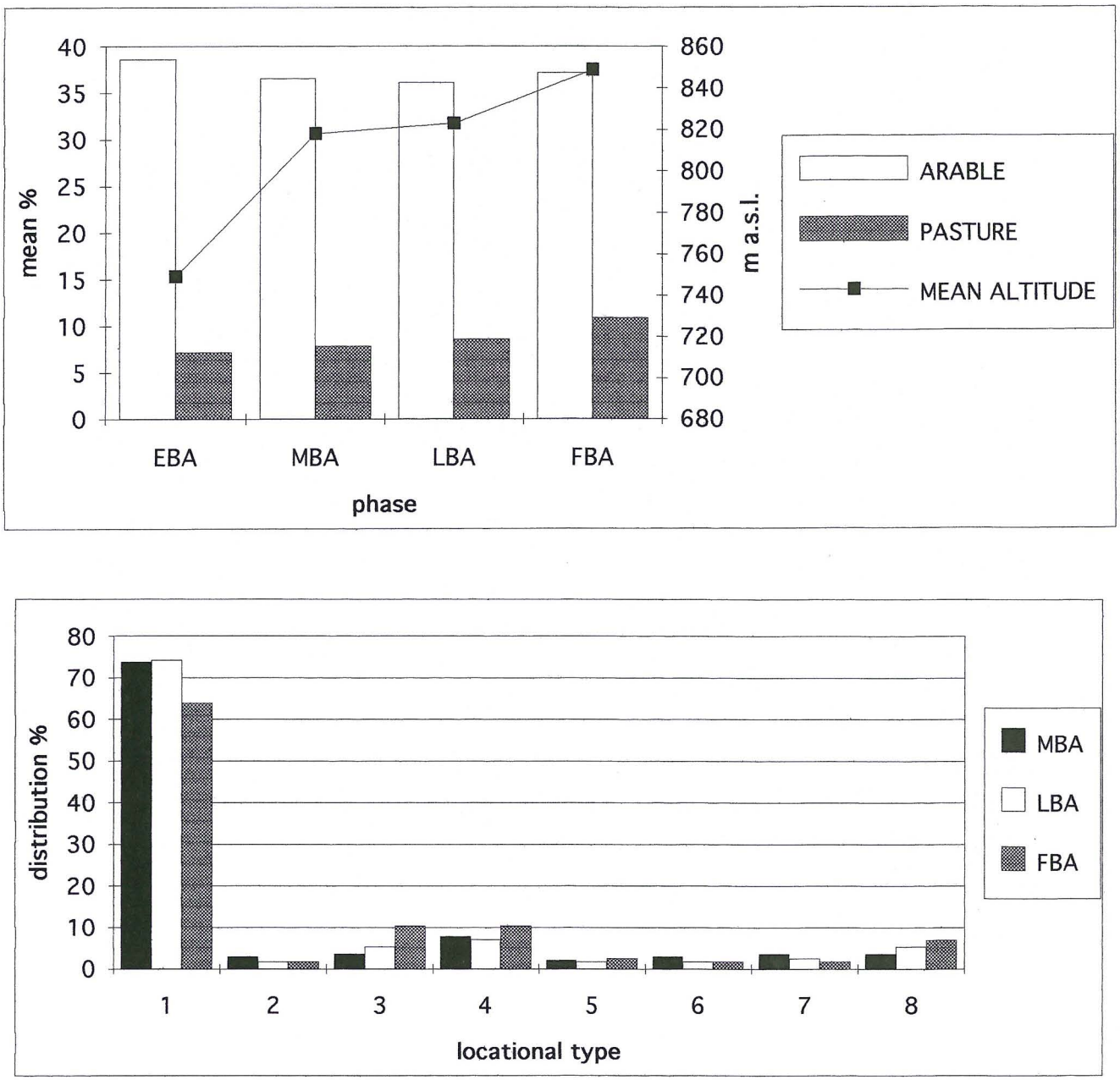

Fig. 2 – a) mean altitude and simplified catchment areas of sites per phase; b) percentual distribution of locational types per phase (see the text for keys)

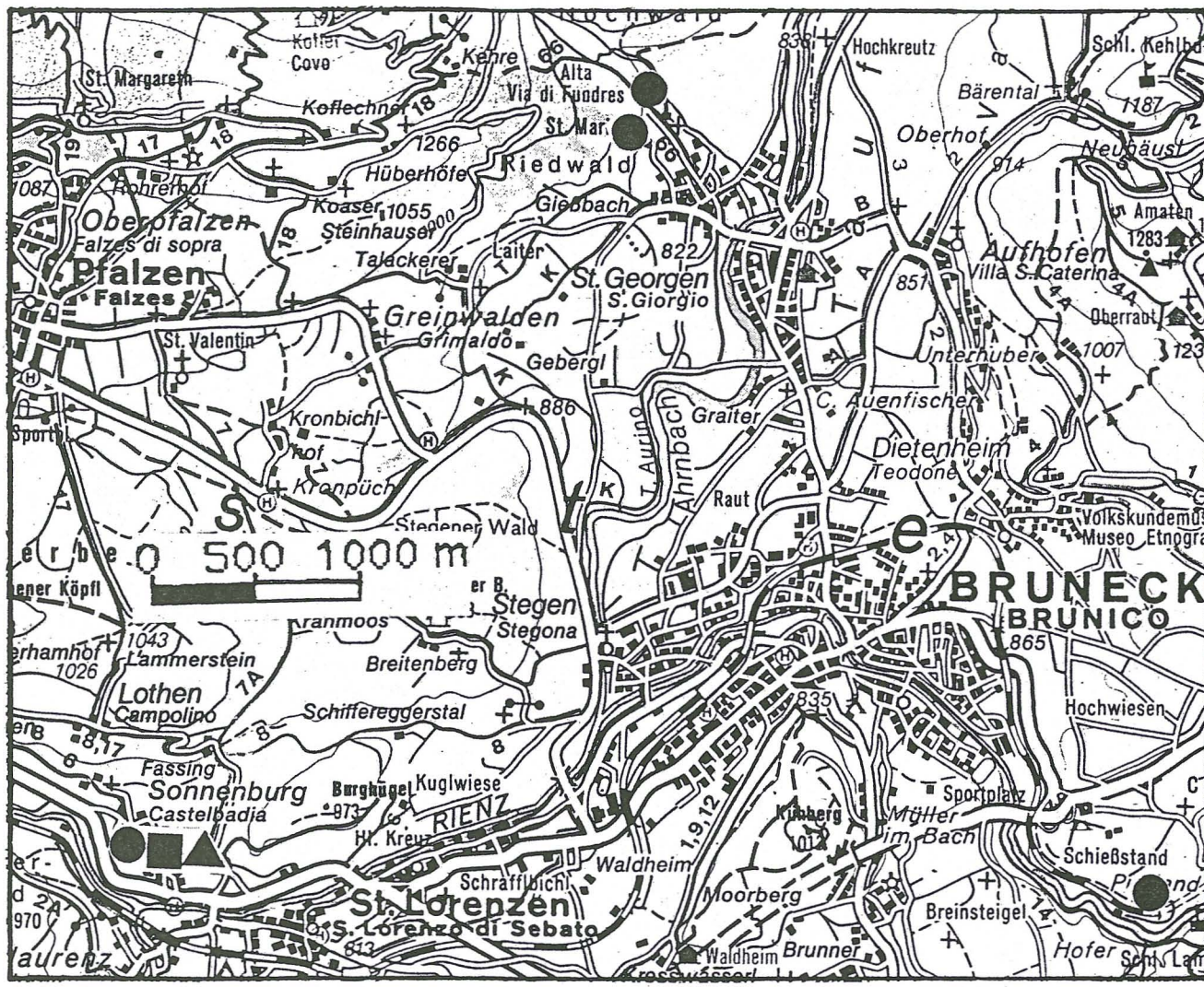

Fig. 3 – a) settlement dynamics in the Bruneck area

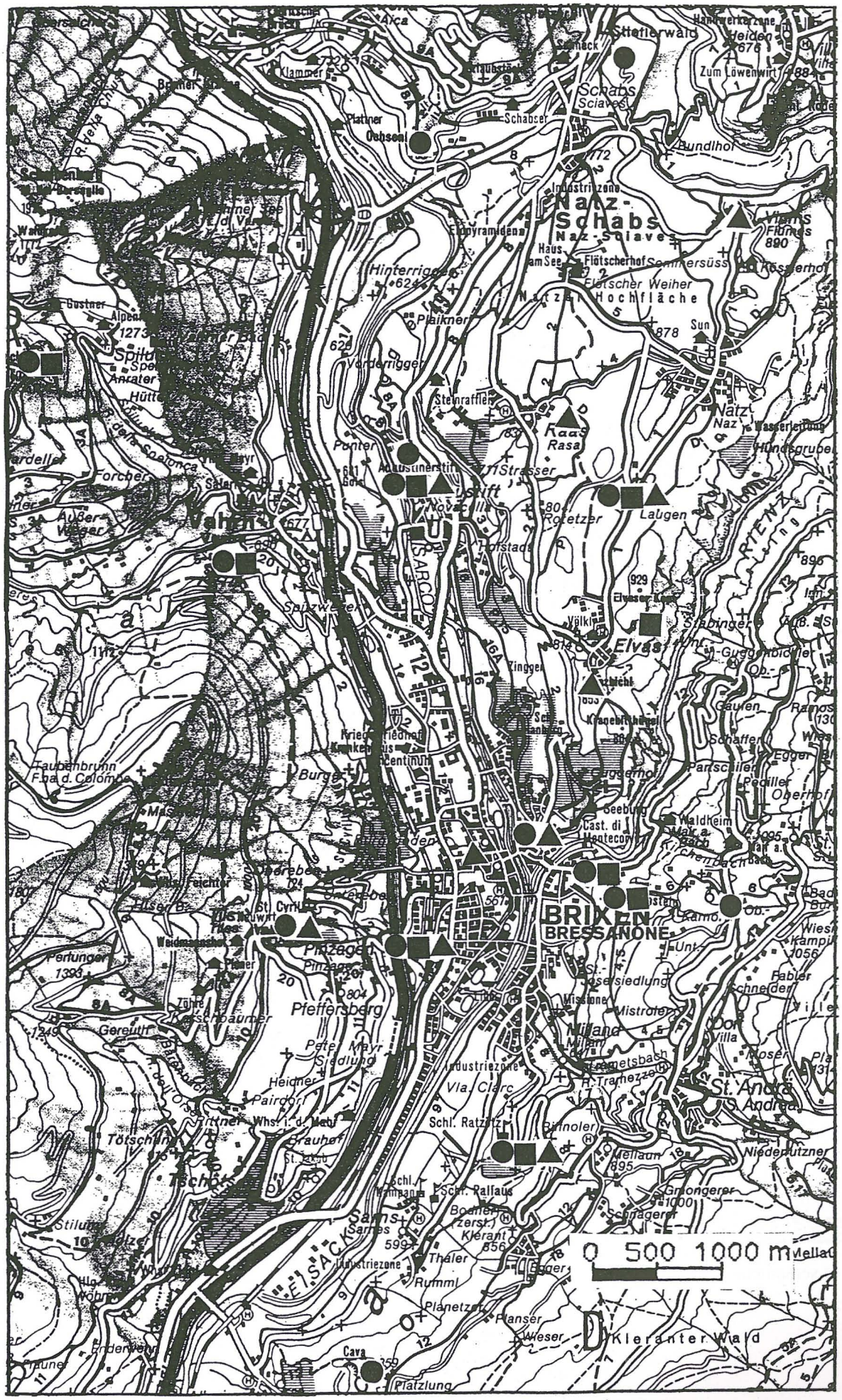

Fig. 3 – b) settlement dynamics in the Natz plateau and the Brixen basin

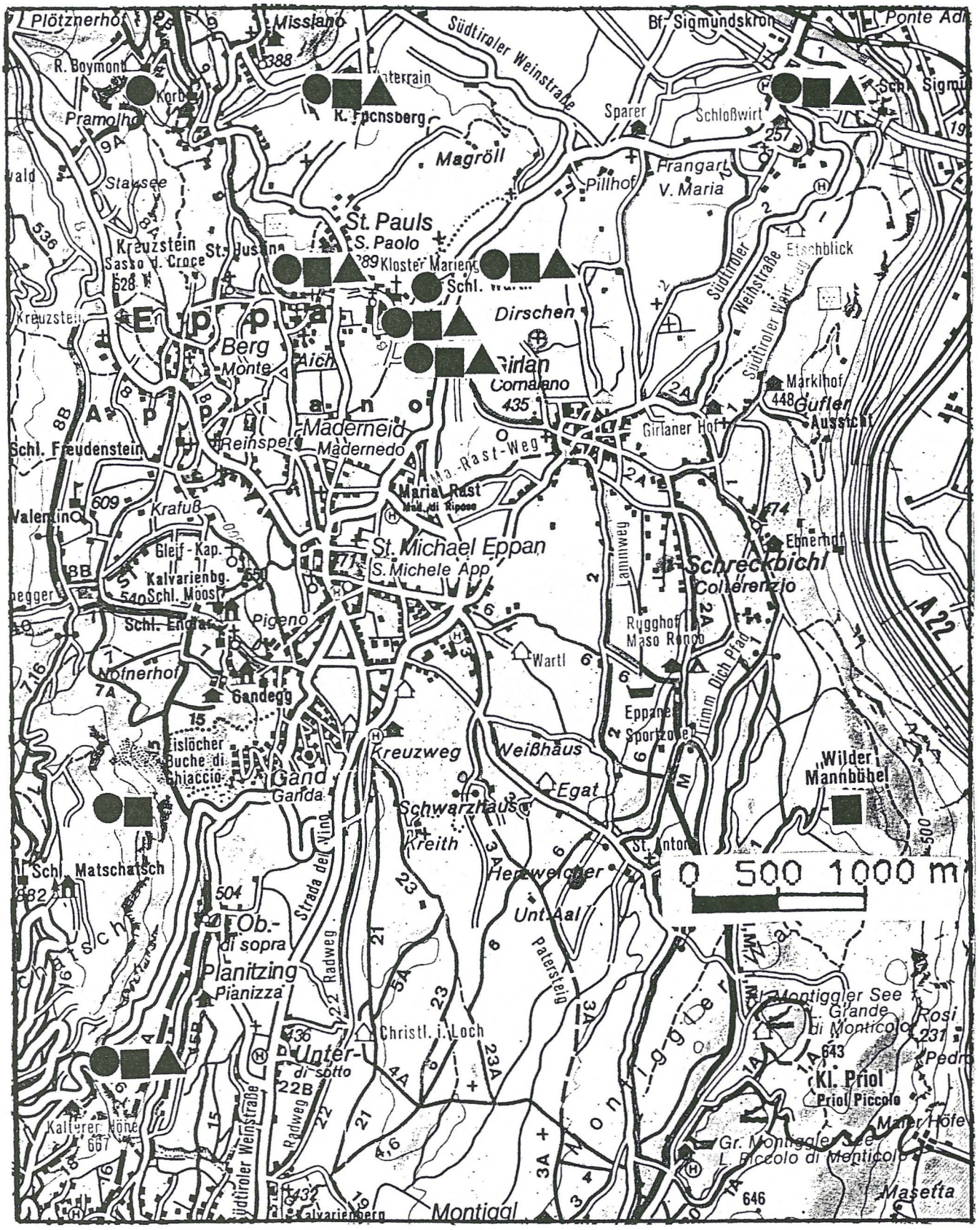

Fig. 3 – c) settlement dynamics in the Oltradige

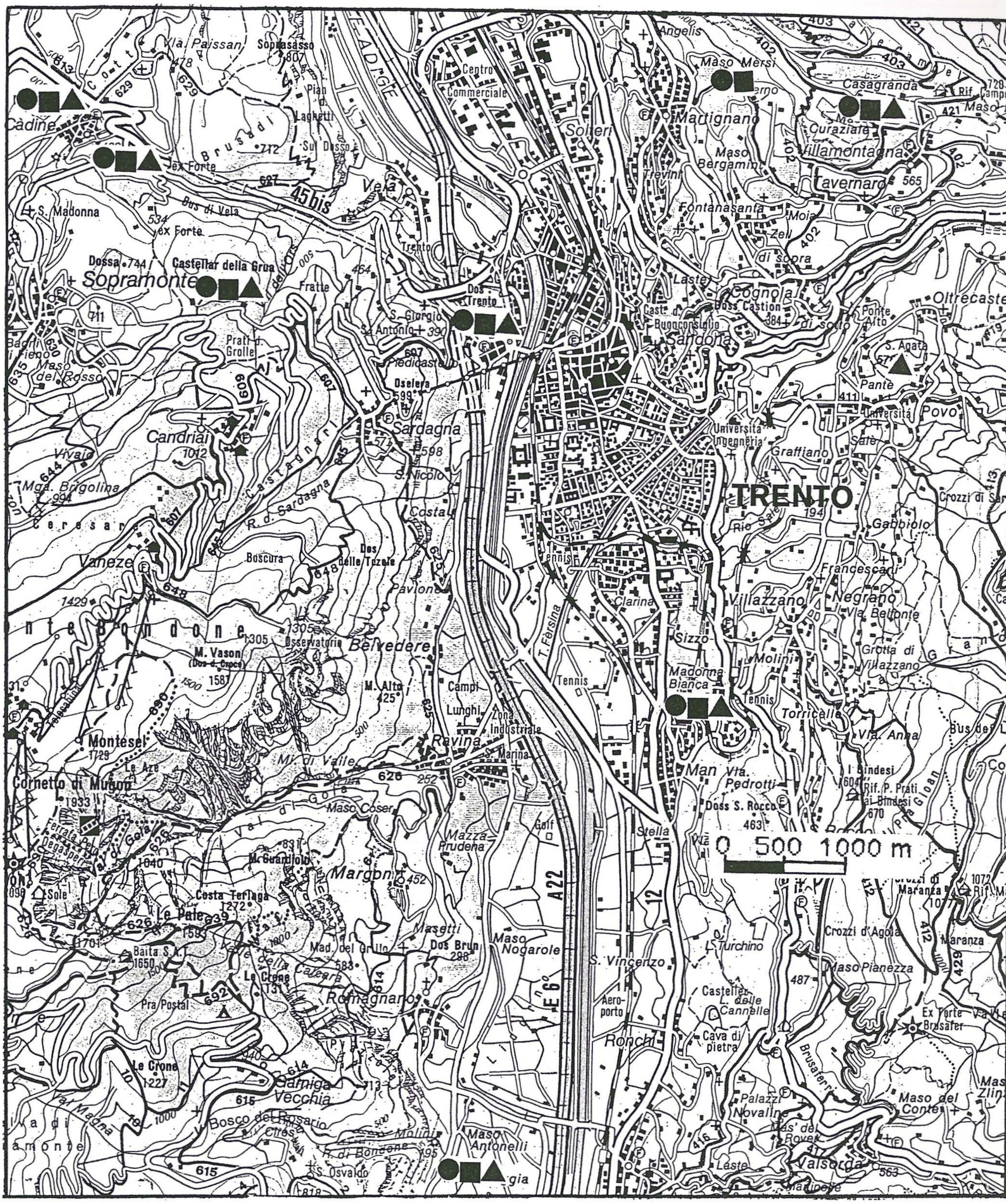

Fig. 3 – d) settlement dynamics in the Trento basin. (Middle Bronze Age: l; Late Bronze Age: n; Final Bronze Age: s)