

## Natural and cultural landscapes: models of Alpine land use in the Non Valley (I), Mittelbünden (CH) and Maurienne (F)

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**ABSTRACT** - With regard to the archaeology of landscape which we are discussing in this session, we would like to outline the reasons, processes and limits of the occupation of the Alpine range. These aspects are the main issues of an interdisciplinary research project that I have been carrying out for the past three years at the Department of Pre- and Protohistory of the University of Zurich. The project entitled "Dynamics of prehistoric human settlement and the utilization of resources in the Alps" involves many regions – it is not confined to Trentino and Alto Adige – and includes both the study of the sources and a field research called "Grisons Alpine Valleys Survey" (GAV). The results of this were presented recently at the conference PAESE '97 in Zürich (DELLA CASA *et al.*, 1999)<sup>1</sup>.

*Key words:* Prehistoric settlement, Alpine area, Non Valley

*Parole chiave:* Insediamento preistorico, Area alpina, Val di Non

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### 1. INTRODUCTION AND QUERIES

What made people move around and what were the dynamics of prehistoric settlement? There are two different aspects that must be taken into consideration. I would like to define them as "internal factors" and "external factors" or rather "exogenous" and "endogenous". The external factors for example refer to the density of population, the search for metal minerals and the opening of new trading routes (GLEIRSCHER, 1996:151). On the other hand there are "endogenous" determining factors that can be divided in three categories: natural environment (topography, climate, soil), economy (resources, raw materials, subsistence) and the social-cultural context (society, techniques and rituals). These three aspects condition, motivate, transform and limit the occupation of natural landscapes. They also influence each other as for example human impact on landscape. We must remember that local events and continuous trends interact. The Alpine area represents an ideal place for taking into consideration

the archaeology of landscape: the space is highly structured and is divided in circumscribed settlement areas, which present specific geomorphologic and climatic parameters, the economical potentials of which seem varied and accessible. Nevertheless, there are certain disadvantages: the picture of the archaeological findings is counterfeited by the evolution of the land more so in the Alps than in any other place. Changes in the vegetation, erosion, colluviums and alluviums destroy or hide many sites. Consequently, archaeological research and surveys have been carried out for a long time on certain chosen and reoccurring territorial situations. These are geomorphological windows (hilltops, river terraces) where findings are highly probable (BARKER, 1995:3). These aspects consider only part of the overall picture. An important integration of the sources comes from large construction projects (such as motorways, underground garages etc.) during which deep soil is excavated, and from surveys in areas that were considered to be unoccupied up till now (DELLA CASA, 1997; BAUDAIS *et al.*, 1989/90; BAGOLINI & PEDROTTI, 1992). Indirect indications on the history of settlement



and on the spread of finding places can be obtained from analyses of the environment (e.g. pollen and soil) (BURGA, 1980; ZOLLER *et al.*, 1996). The traditional picture of the archaeological finding places is different – as we have already seen – and an adaptation of the research strategies is necessary. There are many queries as to the interaction of natural, economical and socio-cultural factors. Certain aspects have to be discussed by comparing them to other cases in different areas of the Alps. The focal point is found in the more recent periods and precisely in the Copper, Bronze and Iron Ages. The fact that settlements came about during the Epipaleolithic/Mesolithic epochs must however not be excluded completely. The questions discussed are the following:

- *purpose and variation of findings places*
- *criteria of the choice of settlement areas*
- *evaluation of the specific local resources*
- *territories, mobility and communication*
- *non-functional aspects (rituals) of finding places*

The following regions that have been chosen differ from each other culturally and geographically and also with regard to the archaeological sources (Fig. 1): the Non Valley in Trentino, the San Bernardino route, and the Maurienne Valley in the French Alps. Specific, local factors and supra-regional aspects can be discussed separately and compared.

## 2. PRINCIPLES FOR A FUNCTIONAL STRUCTURING OF FINDING PLACES

If settlement areas represent organic structures, we must expect a large complex of archaeological traces. These ideally reflect a range of human activities such as habitats, working areas, farms, roads and different types of ritual places. In the Alps, there is an ample choice of places for activities because of the specific structure of low- and highlands. Only a terminology that tries to describe the finding places at a regional level allows to reconstruct the prehistoric cultural landscapes. I have tried to list a variety of activity places or potential finding places in three different axes (Fig. 2): location, intensity and function. Each axis has a scale. The topographic position ranges from intentionally caused to casual. The intensity of the use ranges from high and continuous to low (once). The function within the cultural structure ranges from central to marginal. Consequently, a choice of possible situations was fixed: stable settlements, temporary settlements, working places, shelters, burial grounds, storage, quarries, seasonal camps, lost

objects – the list is obviously incomplete. Each situation has been assigned a value from 1 to 5 on the three axes, on the basis of subjective criteria. The diffusion results are linear as the situations depend on the functional parameters. Activity places with high intensity of use, chosen position and central functions are found near the crosspoint of the axes. The more the function is marginal, the lower the intensity is and the more casual the position is, the further the points are.

This graphic represents an effort to illustrate the different importance of the finding situations and helps to explain why the different situations are not regularly represented in the archaeological sources: the further we are from the crosspoint of the axes, the less finding places there are. Practically, the further the situations are in the diagram, the less the chance of making discoveries is, both causal or due to construction works in inhabited areas or by means of traditional archaeological surveys. Good examples of this are supplied by the Mesolithic Alpine camps that were unknown up to the 70's, but the basic system is more clear at present (BAGOLINI & PEDROTTI, 1992; SCHAFER, 1997); many are found in various regions. Furthermore, extraction areas and working places are economy structures that are still missing in many areas.

It is surprising that the issue on the functional structurization of settlement areas has developed both methodically and with regard to the actual position during the early periods (Epipaleolithic/Mesolithic). The Copper, Bronze and Iron Ages are well documented on hilltop settlements, strongholds, and other settlement typologies, but these analyses mainly regard structural descriptions and hardly ever refer to archaeological situations. There are no considerations on the different roles of the settlement structures or on methodical principles for the functional evaluation of archaeological situations.

Ideally, this happens when there is a combination of matters regarding the findings on the one hand and the topography of the areas on the other hand, taking into consideration the relevant parameters of the settlement. It is clear that some hilltop settlements considered as typical – often inaccessible rocks far from cultivated fields or water – have to and can be considered critically with regard to their function as long-term settlements of farming communities. The state of the research and publications in some cases is worse than the general representations and geographical maps would allow to assume. In many places there are only surface findings and only small surveys are carried out; a lot of the material found in places where excavations have been carried out has not been published yet. Therefore, detailed analyses – such as Cazis-Petrushügel (GR) – can give rise to completely new interpretations of archaeological situations.



### 3. SETTLEMENT AREAS: OBSERVATIONS ON TOPOGRAPHY AND CLIMATE

We would now like to deal with a few specific cases. We shall sometimes use detailed maps or visualize the finding places where the topographical features and the references to the surrounding areas are evidenced. The first example is the Domleschg-Heinzenberg Valley in the Grigioni area (Fig. 3).

I had to introduce a code of initials in order to evidence the places. The large groups are dwellings and tombs, hoards and single findings as well as ritual places. I classified dwelling places and seasonal camps as settlements and stations, that are as places that are constantly and periodically/temporarily occupied. As I explained before, this is a hypothesis of work. When talking about stable populations, in most cases the presence of tombs suggests that there are also settlements. With regard to the hoards and single findings, mainly without finding contexts, the separation from tombs and ritual places including sacrificial areas is not always evident. The contemporaneity of the places should not be taken for granted and cannot be proven, and the overall picture can be somewhat distorted.

The settlements of Cazis-Cresta and Tomils-Kirchhügel are situated in a comparable situation on a hill between the valley slope and the river, near alluviums and terraces with fine cultivated soils (DELLA CASA, 1998)<sup>2</sup>. A similar case can be found at the Scharans-Spundas and Petrushügel stations, probably used for deer hunting. Single findings illustrate the diffusion of the activity areas.

In the summer of 1997, on the medieval castle hill of Höhen Rätien (DELLA CASA *et al.*, 1999) – a prominent rock where a few single prehistoric remains had already been found – drilling and survey excavations brought to light a late Bronze Age settlement. There was a hearth, two post-holes, a few animal bones and ceramics. The particular position of the settlement – a real and proper latch at the entrance of the gorge of Viamala, the access of which is only possible through this narrow passage – makes this place a strategic control place for people and goods. There are also findings referring to the late Iron Age and the Roman epoch, and especially the late Roman period. If the topography is considered as well as the climate on the basis of observations on the growth of vegetation, then an instructive picture is obtained: settlements and stations are found in favourable and sheltered areas. A particularly interesting example can be found in Schams, a small valley South of Viamala: the Donath terrace that yielded a small group of tombs of the Early Bronze Age. The ground here consists of a unique “warm island” and is still marked out as a cereal cultivation area on maps (DELLA CASA, 1998). The map of

the soil describes an alluvial area with fertile soil. It is not casual that towards South-West the settlements are less abundant. However, single objects show that the area was not unused.

An evident example of a cluster of finding places and information on the consequent organization of the local settlement can be found in Misox (Fig. 4). Excavation and surveys on the new A13 motorway and renewal works on Mesocco Castle carried out in the hilly area allowed to identify various places referring to the Bronze Age (ZURCHER, 1982; DELLA CASA, 1997). The most important of these – an area of 10000m<sup>2</sup> with evident settlement characteristics – is situated on the valley floor between the slope and the castle hill. Findings dated to the same period came to light in two places along the hill slope and the level ground of the castle. It is known that there were also Bronze Age findings in the village of Mesocco. The overall picture of the sites suggests that the territory was sometimes used intensively and other times extensively, compatibly with the open settlement model in a an area of economical exploitation. The castle hill must be considered as a control station (it is situated at the far southern end of the San Bernardino route) or a sheltered hiding place. The map clearly shows how the activity areas moved towards the village during the Iron Age. However, not all of the burial areas are contemporary: small groups are found at Coop (15 tombs), S. Maria del Castello (more like pyre remains) and Anzone (about 30 tombs).

With regard to the topographical maps of the findings in the Non Valley, it is clear that the landscape is different from the Rhine Valley. In the latter the valley is wide with a river where there used to be many meanders in a large alluvial area, and in the former there is a deep gorge, practically with no valley flat, narrow minor valleys, but there are wide terraces. The Alpine passage-ways of the Mesolithic, along the Madalene ridge and in the Laugenspitze area between the Non Valley and the Ultimo Valley clearly indicate – similarly to Misox and to other Trentino-Alto Adige regions – that from the Early Mesolithic period onwards the valley bottom was inhabited or used as an access route (DALMERI & PEDROTTI, 1992)<sup>3</sup>.

The subdivision of the finding places in the third and second millenium, together with the single findings, indicates that the cultivable terraces to the East and the West of the River Noce were highly exploited (Fig. 5). Some stations on terraces belonging to this agricultural settlement are listed: Cunevo, Tres, Dambel, Cloz. Other villages were built in sheltered and/or strategic places: Castelaz of Cagnó and San Biagio of Romallo. Both these places are situated on modern day bridge-heads but are probably ancient. Doss del Gianicol of Tuenno at the entrance of the Tovel Valley and the hill of the church of San Martino at Vervó. Real settlement structures have not been completely excavated as yet



and so the local organization of the places cannot be reconstructed properly. As far back as the Late Bronze Age, there were three ritual places: the sacrificial area on Mount Ozol, the sacrificial place of Mechel Valem-porga as well as the Campi Neri in Cles, undoubtedly a ritual place. The structures and the use of these places are however unknown.

The map of the finding places of the Iron Age confirm the picture (Fig. 6): there are many tombs or clusters of tombs – but also single findings that could belong to tombs (fibulae, etc.) – which suggest that the settlements were situated on well-exposed terraces facing South and North. There are also stations in strategic places: la Rochetta at the entrance of the valley, Castel Corona or Vervó, and another place next to the ritual area of Mechel. The settlement of Sanzeno is situated in a particular position. Due to its remains and the extraordinary richness of the findings, it can be considered as having an important role. I would briefly like to underline the important research carried out by F. MARZATICO (1993, 1999), who, thanks to new excavations, convincingly described the transition from a scattered settlement to a proto-urban organized centre during the period from the late VI century to the II century BC. We shall refer to Sanzeno later on.

The situation in Maurienne is different. This deeply cut valley spreads from East to West forming a highly structured landscape (Fig. 7). Even with regard to the climate it has very few areas that are suitable for settlements. There are no settlements referable to the Copper and Bronze Ages apart from the finding places on the Le Coin terrace in Aussois and at Grotte des Balmes of Sollières – both situated towards the centre of the valley, facing South (BENAMOUR, 1993). However, some niches have yielded findings datable to the Late Neolithic, the Iron Age and part of the Bronze Age<sup>4</sup>: Abri Loutraz in Modane, Fourneaux Grottes, Charmettes Grotte in St-Martin-de-la-Porte, Abri du Chatel in Sollières and La Roche aux Pieds in Lanslevillard, a curved rock with an occupational level in an area where cave art can be found (OZANNE, 1993). Furthermore there is the “background noise” of findings. It is almost impossible to provide absolute dates for rock art; I have marked this out because it is an important aspect of the archaeological picture of the territory. In my opinion, it is remarkable that rock art can be found both in isolated places and right next to settlements (BALLET & RAFFAELLI, 1990).

#### 4. SPECIFIC RESOURCES OF THE AREA AS MOTORS FOR THE SETTLEMENTS?

An important observation regarding the use of resources is that prehistoric places considered as sett-

lement areas – therefore dwelling sites – are situated in favourable geomorphological and climatic micro-regions. That is, they should be considered as belonging to an agricultural and agro-pastoral context. Furthermore, the grouping of the single findings suggests an extensive use of the whole territory including the Alpine highlands. This settlement scenario dates to the end of the Early Bronze Age at the latest (PRIMAS, 1992, 1998). Before this, there is a lapse of 1500-2000 years in which we know little about the local organization of the settlements in the internal Alpine valleys. I would like to underline three important aspects: 1) settlement and working areas such as the stations of Maurienne and Petrushügel of Cazis prove that these valleys are permanent passage-ways. There are also areas with macro-remains and indirect evidence through the history of vegetation (e.g. profiles of pollens), of animal grazing and farming. 2) The materials referring to this period indicate the utilization of a large amount of raw materials from local sources, such as antlers, greenstone, rock crystal or flint. 3) The stability of the Alps, even in more recent times, is a relative concept. There could have been various models of sporadic or semi-permanent utilization of the territory.

A particular example referred to by Bagolini and Pedrotti in their 1992 article regarding the subdivision of the finding places in Trentino Alto Adige, confirmed in other Alpine regions, is that materials from the Copper and first half of the Bronze Age were often found in the same place as those of the Mesolithic period. This is the case for the higher Alpine areas but also for the valley bottoms. An example of this is Mesocco Tec Nev where retouched flint arrowheads, suggesting a late Copper Age period, were found in the late Mesolithic level after an interval of about 2000-2500 years (DELLA CASA, 1997). This might be due to a common strategy of subsistence, for example the specialized hunting of wild animals. In some cases other local resources such as crystal rock could have been used in the central Alpine valleys (PRIMAS *et al.*, 1992:307-).

It is difficult to understand whether single mineral resources, such as metal ores, could have caused or accelerated the colonisation. In my opinion, this is highly improbable in these regions, and there is no direct indication as to this. I would like to explain this by giving an example on the metal sources in the Maurienne valley<sup>5</sup>. They are situated in the crystalline strata of the rocks of the Belledonne and the Gran Paradiso, with ophiolitic formation. The resources of the valley are scattered along the tectonic clefts of the Schiefer/Glimmerschiefer area. Copper is present in the form of pyrite and chalcopyrite (REBILLARD & BOCQUET, 1984). The Iron Age necropoli scattered in most of the places ideal for farming are situated near the mineral sources<sup>6</sup>. This suggests an intensive exploitation of the territory, above all during the Iron Age, but there is no



sign of prehistoric places where minerals were extracted, metal working sites or similar structures.

Therefore, A. BOUQUET (1997:344-) tried to distinguish the typology – from the Late Bronze Age onwards – of the imported and local metal productions of the Northern French Alps. There is a missing link regarding metals between cartographic representation of mineral resources and the typology of finished objects; therefore, it is difficult to discuss general economic implications (RYCHNER & KLANTSCHI, 1995:73,87). However, it is clear that the use of metal minerals is but a continuation of the exploitation that began a long time before with stone raw materials in Maurienne e.g. greenstone.

The absolute proof that specific raw materials were used requires a great amount of fieldwork in order to locate and represent the deposits on geographical maps as well as auxiliary and analytic methods and aids. In many places, these researches have only just begun. So it is not always clear if and how the existing resources were used. In the Non Valley there are for example many potential areas of extraction of different types of flint. The abundant Mesolithic stations on the surrounding mountain massifs and the finding places of the Late Neolithic/Copper Age, such as the deposit of Lóver with 42 flint knives, also yielded other objects that could have been produced, worked and finished locally. There is no analytical proof of this.

## 5. TERRITORIES, MOBILITY AND COMMUNICATION

The potential of detailed analyses of materials regarding the assessment of strategies of prehistoric resources and working techniques, but also in the reconstruction of utilized territories and mobility – and then we shall go onto the next subject – need not be particularly stressed hereby.

Of all the regions, only the finding places of Mesocco were thoroughly analysed with regard to the stone raw materials and their origins. The Mesolithic finding place Mesocco-Tec Nev yielded a wide range of stone materials including rock crystal and quartz, different colours of radiolarite and a coarse-grained flint from flysch formations (DELLA CASA, 1997). The geologist J. Affolter carried out microscopic analysis of the facies on the samples and they were then compared to other larger findings of the Varese area; the microscopic analysis of the gas remains in the crystal was carried out by J. Mullis at Basle. Even though it was not completely confirmed by the analysis, most of the varieties of flint from Mesocco probably came from the strata of “Biancone”, “Maiolica” and “Rosso Am-

monitico” between Como and Casteletto Ticino. As for the crystal – almost 50% of the material – the test on the material of the South and North Alpine clefts and veins was successful. It came partly from beyond the San Bernardino watershed<sup>7</sup>. I have illustrated the interpretation of these results on the map, on the one hand explaining the mobility – possibly seasonal – of the groups of populations and on the other hand giving an idea as to the territory or the territories (lake areas, valley flats, mountain areas) that are used as passageways or utilized during these movements (Fig. 8).

With the growing socio-cultural differentiation of the first prehistoric populations it is difficult to define what “territory” means. In the Alps, which are classified vertically, along with the primary territories that are spatially utilized – agro-pastoral – and secondary territories – orientated towards the resources – other aspects must be considered that can be defined with the concept of “social territories”. These refer to aspects such as contacts and exchanges – the range of production, the areas of trading and influence, the migration networks – as well as general aspects of socio-cultural definition and identities of groups of populations. While the use of territories can be confirmed by analysis of the material and the spatial models as for example an appropriate site catchment analysis, the basic structure of the social territories is difficult to identify. However, some of the models have been distinguished regarding the mobility of peoples, customs and uses, techniques, progresses and above all products.

A classical way of learning about territories is from archaeological distribution scatter plots. How can we interpret the wide diffusion of Golasecca objects in the Rhine Valley, outside the focal area of Lombardia and Ticino, and beyond the San Bernardino and Spluga mountain passes (SCHINDLER, 1998) ? This could be a result of the transalpine trading of goods, that is a local output of a supra-regional movement from the Etruscan-Italic area to the Northern Alpenvorland area during Late Hallstatt and Early La Tène times. There is still much more information to acquire; more precision can be obtained from vast, reasoned and semi-quantitative cartographic representations.

Territories have frontiers that are also ruled by the social groups taken into consideration. It is not surprising therefore to find stations – or control posts as I would rather call them – on our hypothetical transalpine trip North and South of San Bernardino, in the particularly strategic position of Mesocco-Castello and Hohen Rätien at the entrance of Viamaia, which were occupied from the Late Bronze Age onwards. The occupation of neuralgic places is an important factor when controlling both physical and social territories.



## 6. RITUAL ASPECTS OF CULTURAL LANDSCAPES

Frontiers are obviously areas of contact and communication; their mechanisms are defined through rituals. Ethnographic parallels confirm that rock art is not only religious but also social. According to M. Conkey and B. Hood, who have carried out many researches in Australia, rock engravings are "points of information that are geographically fixed and act as a centre for the legitimization of social systems of knowledge, potentially forming and conserving structures of supremacy and dealing with human relations". Therefore, their position often coincides with contact areas of different social territories (MANDT, 1995:277).

Can these models be adopted in the Alpine area? The area of rock art at Crap Carschenna, which we have seen on the map of the findings, is near to Hohen Rätien on a marked hill. This is obviously a contact area as described by the map of J. Rageth, based on classic models of distribution of objects (Fig. 9). I marked out the position of the rock engravings of Carschenna, at the confluence of the Rivers Albula and Rhine (Hinterrhein in German), that is the eastern route of the pass towards the Inn Valley and Veltlin and the road going South towards Ticino.

The areas with rock art in the French Alps – Maurienne, Tarentaise and other areas further to the South – undergo a similar process and often appear in contact areas as indicated on A. Bocquet's map of the cultural groups of the sixth and fifth century (BOCQUET, 1997, fig.41).

Sacrificial places with pyres and similar structures are ritual places with a high content of materials compared to rock engravings. These are cultural knots and therefore important structural elements of the cultural landscape. Lastly, I would like to underline just one aspect: ritual places are of economic importance. The surrounding network – the sustenance of the locality, the production of raw and finished materials, different services – depending on the place of attraction, can have long-term influences and vitalize local or regional growth. P. Turk illustrated a good example of this in the Karst area of Skocjan-San Canziano in the South-Eastern Prealps: this ritual place, the Mosche Grotto (Fliegenhöhle) was in use for about 300 years between the tenth and the seventh century. The isolate sacred place – as can be seen from the detailed analysis and the cartographic representation of the consecrated findings – with supra-regional attraction brought about an economical impulse that had repercussions on burials in the contemporaneous necropolis of Brezec.

As previously stated, I would like to go back to Sanzeno. In the search for a plausible explanation as to the incredible development of this region during the

Iron Age, the ritual places of the Non Valley always come to mind, with the surprisingly rich materials and above all the metals.

Along with an extensive exploitation of the regional resources, F. MARZATICO (1999) recalled the presence of iron minerals in the Sole Valley, the fact that many sacred places are nearby (Mount Ozol, Cles) must be considered as a determining factor for the economic boom of the Iron Age.

## 7. CONCLUSION

The different destiny of our three alpine regions in the past - I hope I have made this point clear - is closely tied to the topography, the resources and the geographical position within the prehistoric cultural landscape, not only of the Alps but also within the Alpine radius. The attempt to observe the archaeological finding places on a theoretic and practical basis will partly explain the fundamental models of the exploitation of the territory.

## NOTES

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2 - Für entsprechende Informationen nützlich: Bodeneignungskarte der Schweiz (Bern 1980); Klimaeignungskarten für die Landwirtschaft in der Schweiz (Bern 1977); Wärmegliederung der Schweiz auf Grund phänologischer Geländeaufnahmen (Bern 1977). Fundplätze besprochen bei: PRIMAS, 1985; ZÜRCHER, 1982.

3 - Fundstellendatenbank des Autors, in Zusammenarbeit mit dem "Ufficio Beni Archeologici" von Trento. Für einen Fundstellenüberblick und weiterleitende Literatur vergleiche man: VON USLAR R., 1991 - Vorgeschichtliche Fundkarten der Alpen. *Römisch-Germanische Forschungen* 48.

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5 - Geotechnische Karte der mineralischen Lagerstätten Frankreichs.

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7 - Publikation der Analysenberichte in: DELLA CASA Ph., 2000 - Mesolcina praehistorica. Mensch und Naturraum in einem Bündner Südalpental vom Mesolithikum bis in römische Zeit. Universitätsforschungen zur prähist. Archäologie 67, Bonn.

SUMMARY - With regard to the archaeology of landscape which we are discussing in this session, we would like to outline the reasons, processes and limits of the occupation of the Alpine range. These aspects are the main issues of an interdisciplinary research project that I have been carrying out for the past three years at the Department of Pre- and Protohistory of the University of Zurich. The project entitled "Dynamics of prehistoric human settlement and the utilization of resources in the Alps" involves many regions - it is not confined to Trentino and Alto Adige - and includes both the study of the sources and a field research called "Grisons Alpine Valleys Survey" (GAV). The results of this were presented recently at the conference PAESE '97 in Zürich.

RIASSUNTO - In questo lavoro, desideriamo chiarire le ragioni, i processi e i limiti della continuità dell'occupazione dell'arco alpino. Questi aspetti costituiscono il principale argomento di ricerca di un progetto interdisciplinare che è stato realizzato nei passati tre anni grazie al dipartimento di Pre e Protostoria dell'Università di Zurigo. Il progetto intitolato "Dinamiche dell'insediamento umano preistorico e l'utilizzo delle risorse nelle Alpi" interessa molte regioni - non limitate al Trentino e all'Alto Adige - e include sia lo studio delle fonti che la ricerca intitolata "Prospezioni nelle valli alpine dei Grigioni". I risultati furono recentemente presentati alla conferenza PAESE '97 in Zurigo.

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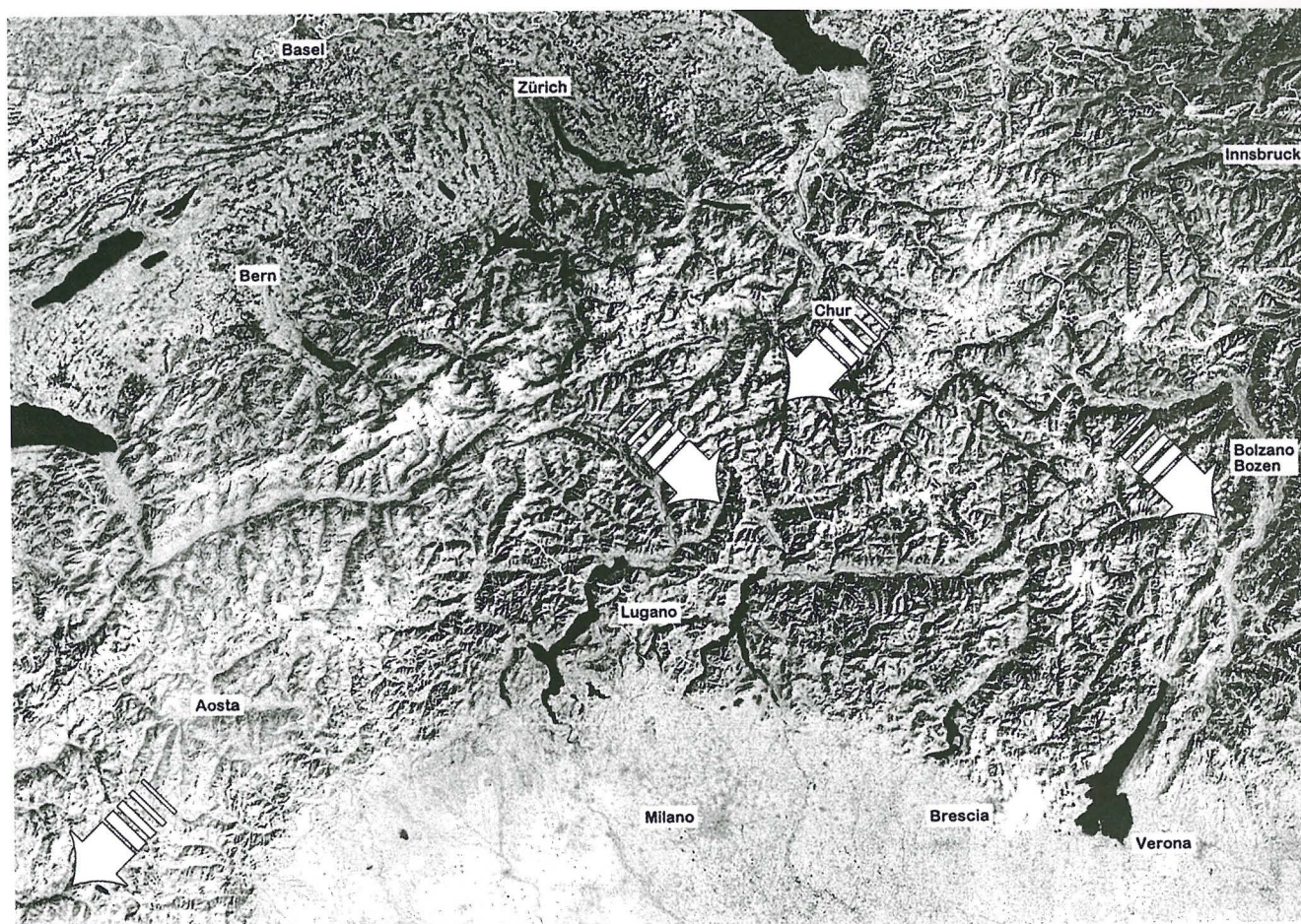


Fig. 1 – Satellite image of the Central Alps, discussed regions marked with arrows.

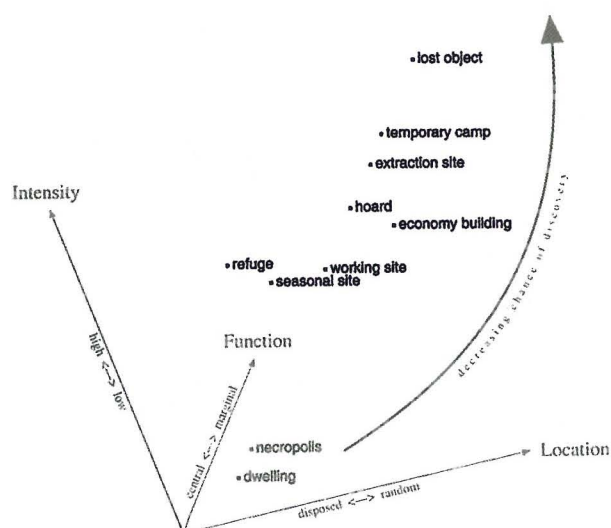


Fig. 2 – 3-D-diagram model of archaeological situations.



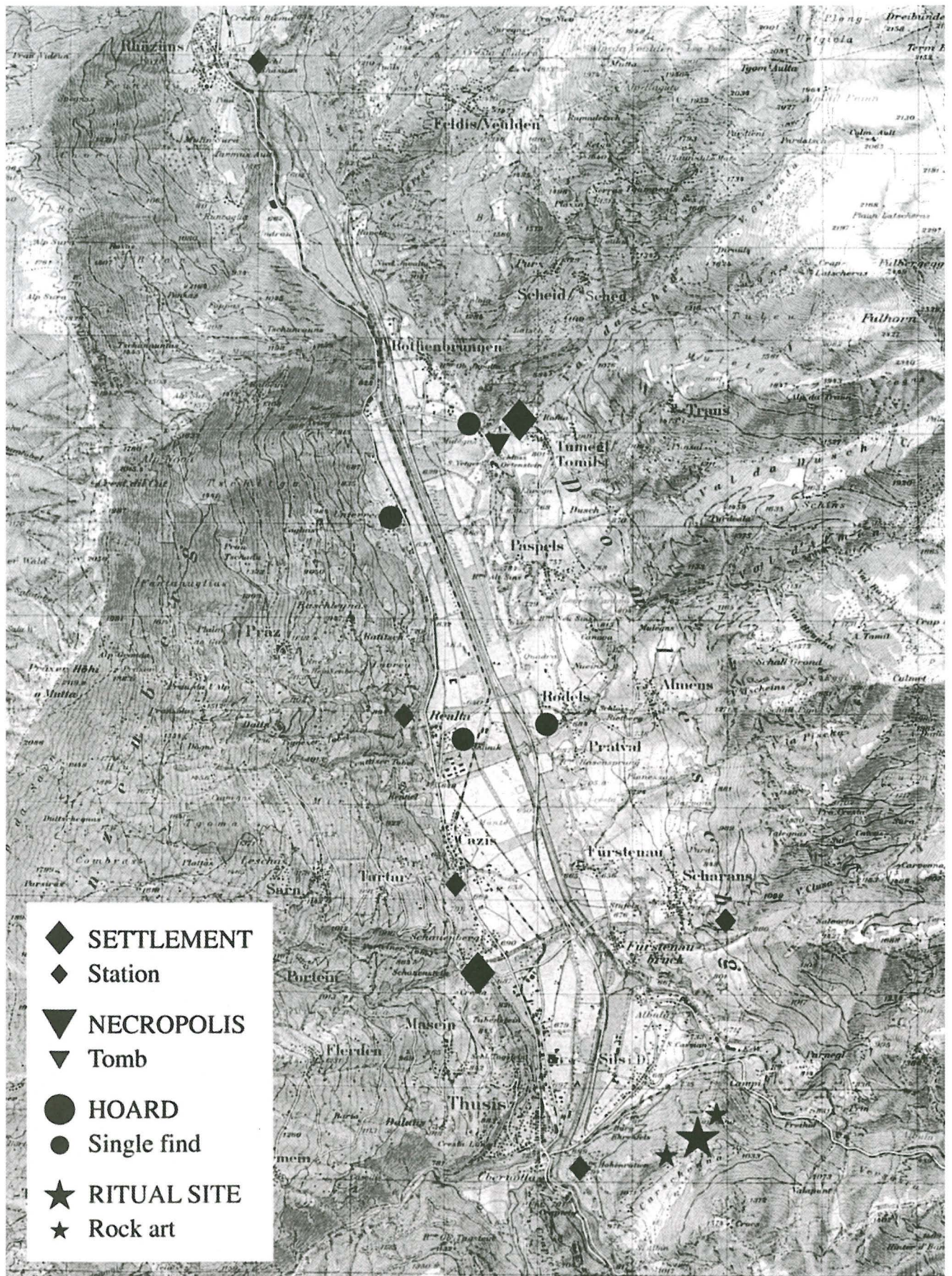


Fig. 3 – Bronze Age sites in the Domleschg-Heinzenberg Valley (CH).



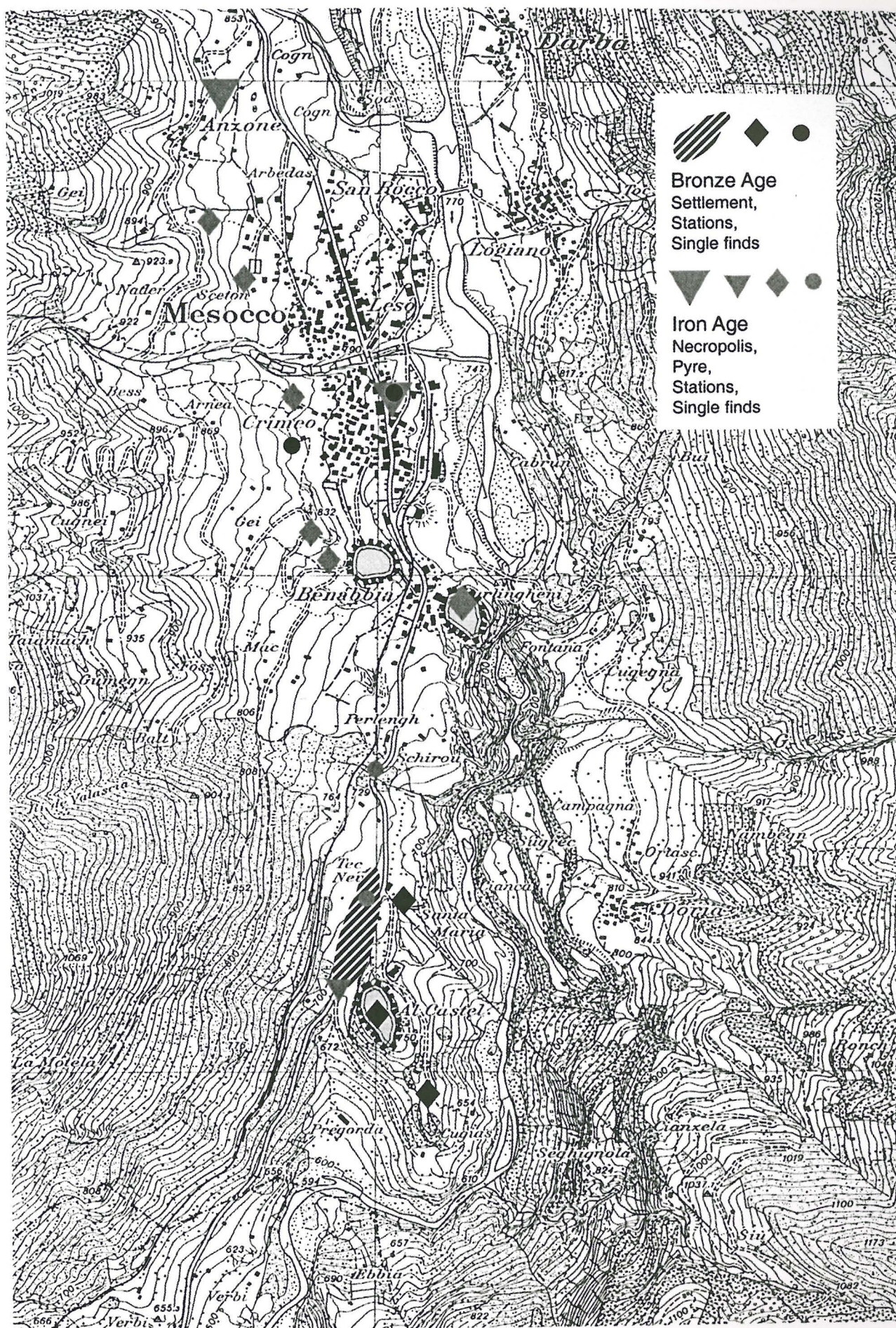


Fig. 4 – Bronze and Iron Age sites on the terrace of Mesocco (CH)



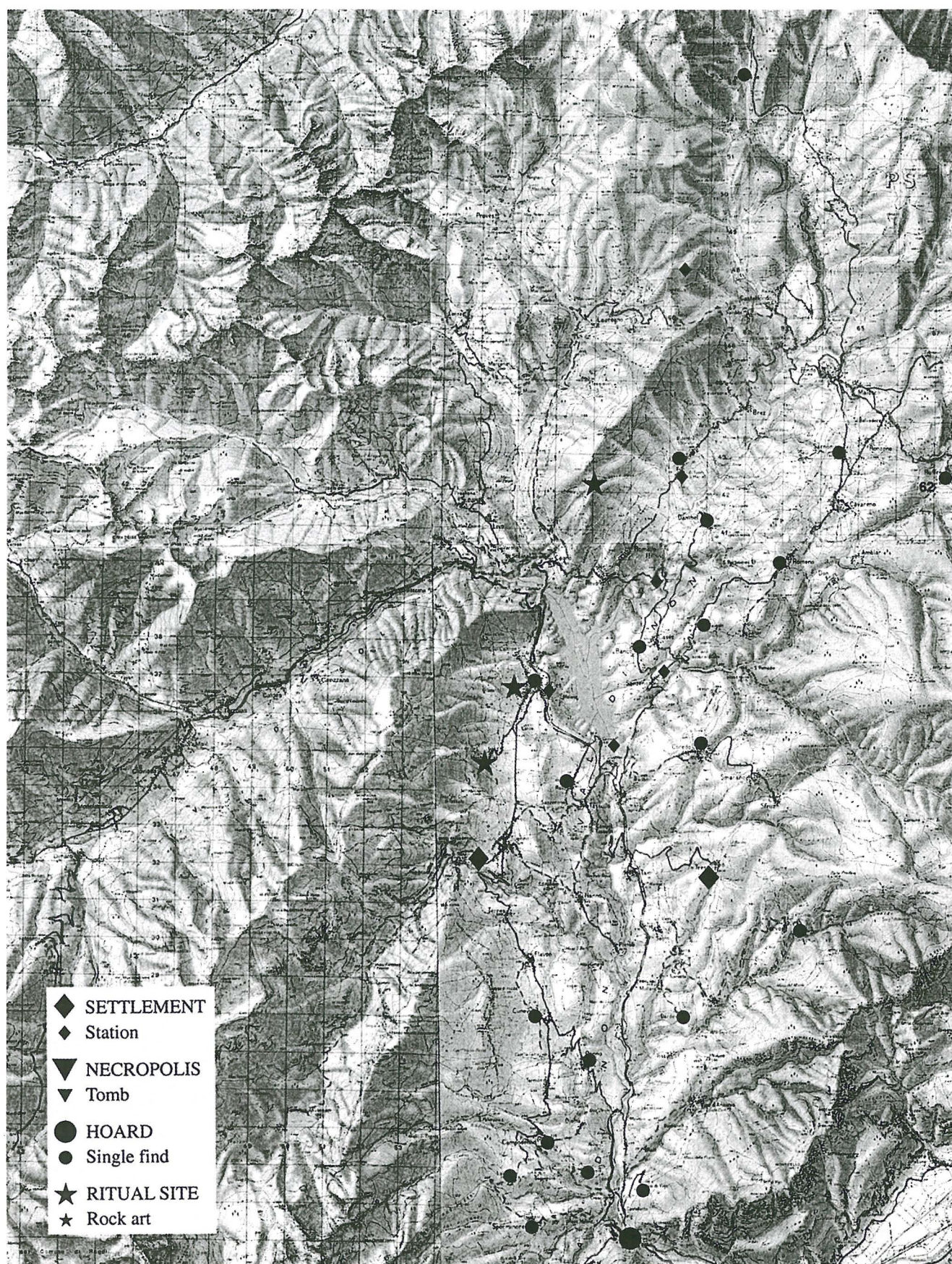


Fig. 5 – Bronze Age sites in Val di Non (I).



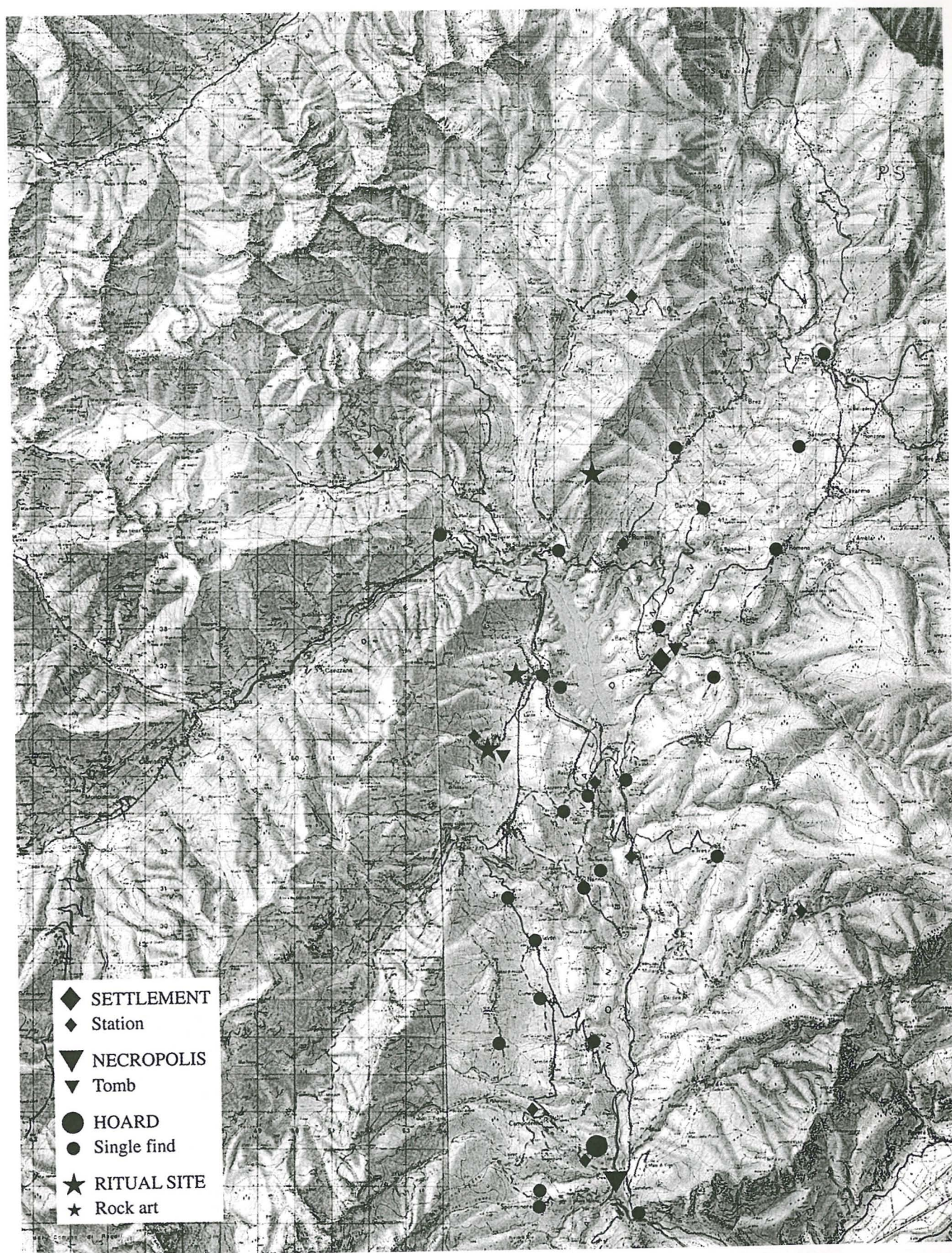


Fig. 6 – Iron Age sites in Val di Non (I).





Fig. 7 – Sites of 4th–2nd millenium BC in Maurienne (F).



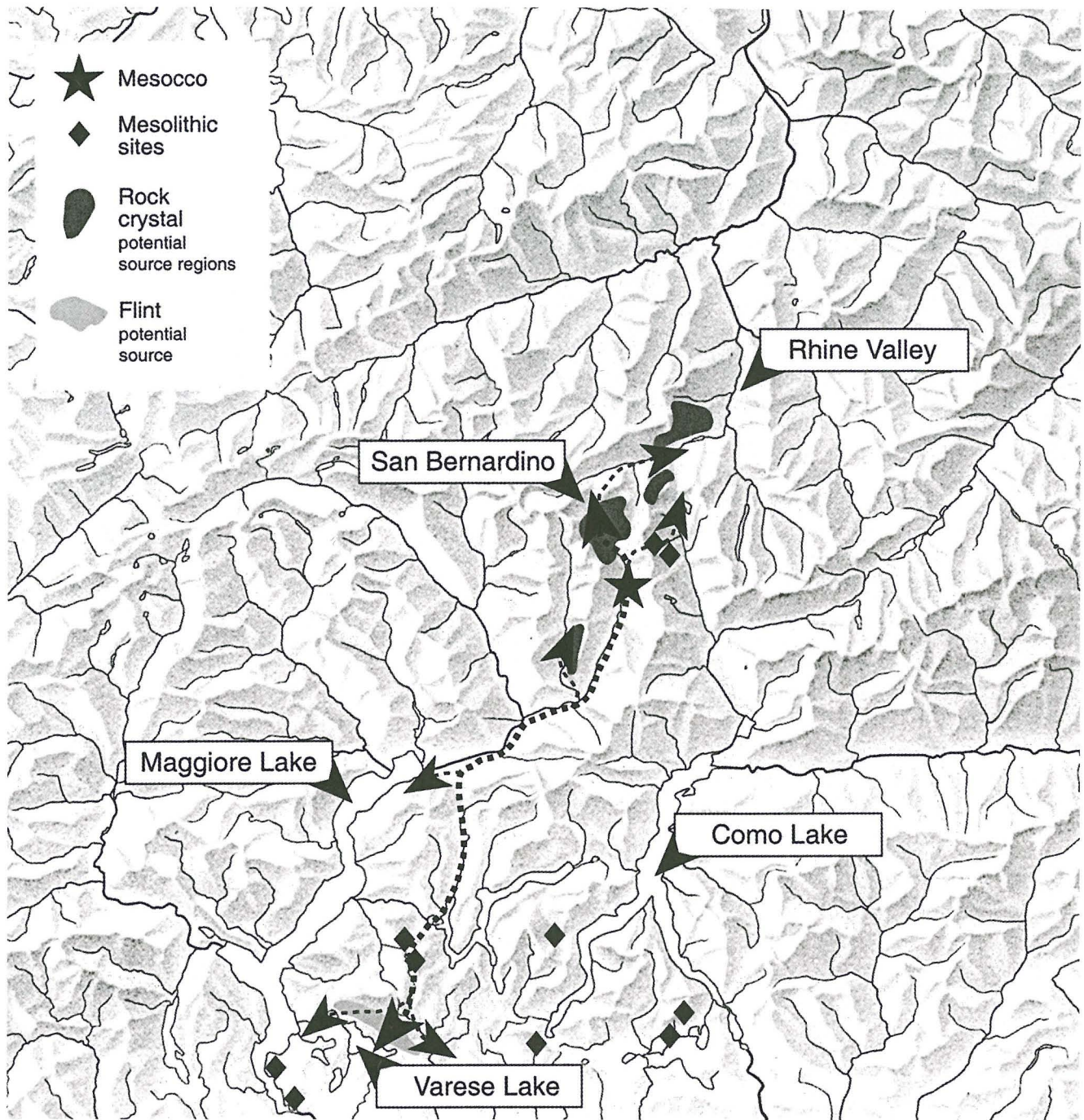


Fig. 8 – Model of seasonal mobility and raw material exploitation during the Mesolithic between the San Bernardino pass and the North Italian lakes.



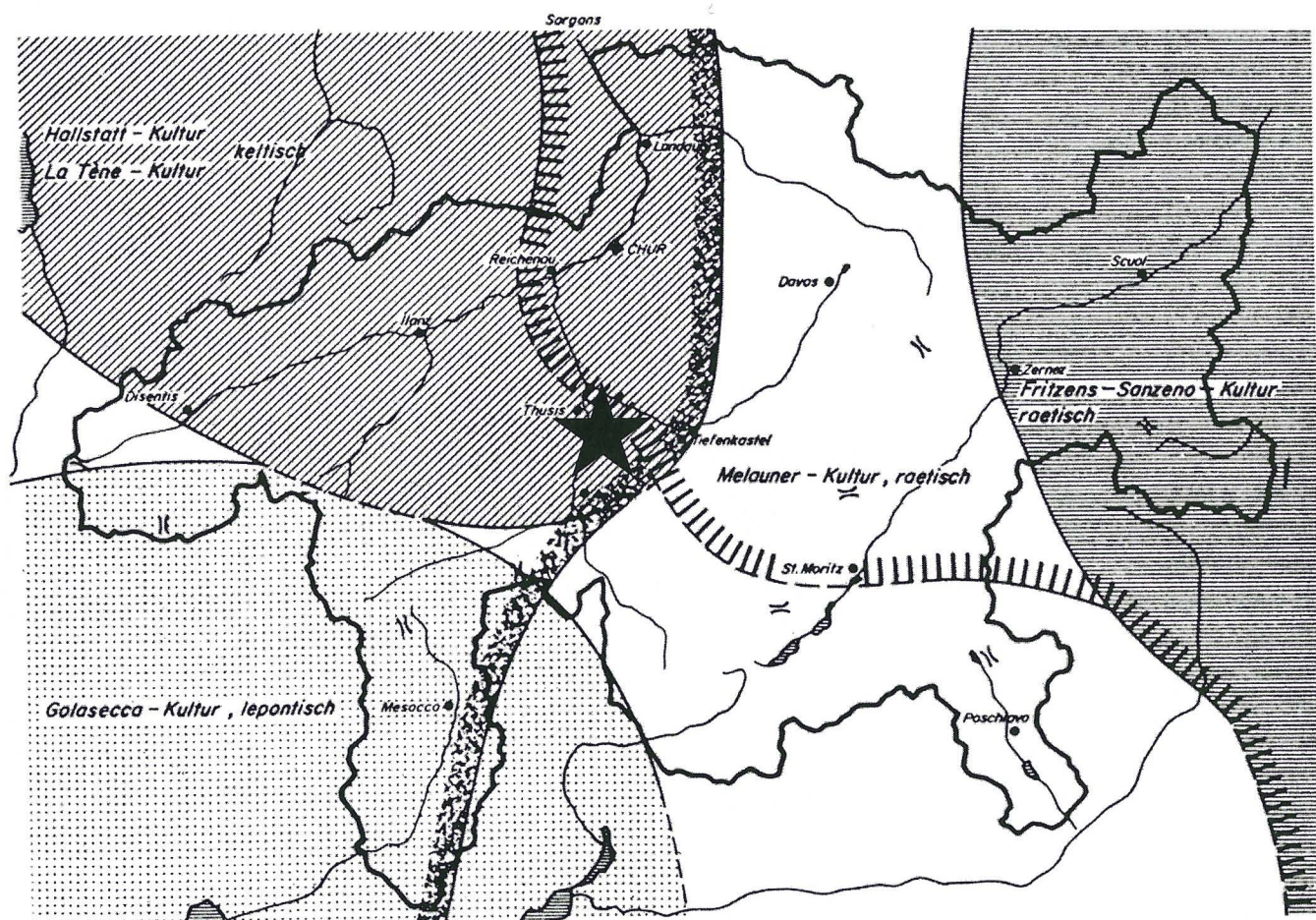


Fig. 9 – Map of Bronze and Iron Age cultural groups in the Grigioni area (Zindel, Rageth, 1977) and rock art zone of Carchenna.