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Prehistoric settlement in middle and high altitudes in the Upper Rhone Valley (Valais-Vaud, Switzerland): A summary of twenty years of research

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SUMMARY - *Prehistoric settlement in middle and high altitudes in the Upper Rhone Valley (Valais-Vaud, Switzerland): A summary of twenty years of research* - This paper presents the different stages of research that lead to the understanding of prehistoric settlement in the Upper Rhone Valley, from the Early Mesolithic to historical times. It summarizes twenty years of research in the regions of Valais and Chablais (Switzerland): 1985-1987: theoretical model and early fieldwork; 1992-1997: further excavations on reference sites; 1998-2005: new field surveys and new data. First, we present the details of the fieldwork carried out and, in particular, the problems encountered in middle and high altitudes (survey techniques, reliability of the data). After 20 years, a more refined model has been developed with the only weak point being the lack of understanding of settlements in the middle altitudes. After the end of the last Ice Age, Epipalaeolithic and Mesolithic hunters colonised the Rhone Valley by two different routes: over the high mountain passes in eastern Valais (connecting northern Italy) and by the Lower Rhone Valley in the west (connecting Lake Geneva). Early Neolithic culture spread to Valais over mountain passes linking the Alps with the Po Valley, possibly by grazing small herds in high pastures in summer. The Bronze Age reveals a strong demographic development indirectly linked to the exploitation of copper deposits. Later, the mountain passes played an increasingly important role. In particular, during the Iron Age, the relations between the Etruscan and Celtic societies influenced the organisation of alpine communities. Subsequently, connections to the south became more established and developed with Cisalpine Gaul, until Valais was integrated into the Roman Empire. The evolution of the economic management of the vegetational belts led to the establishment, at least in certain regions, of permanent settlements in the mountain belt during the Iron Age.

RIASSUNTO - *Il popolamento preistorico in montagna a media e alta quota nell'Alta Valle del Rodano (Vallese-Vaud, Svizzera): una proposta di sintesi di vent'anni di ricerche* - Il presente contributo illustra le differenti tappe che hanno permesso di precisare le modalità del popolamento preistorico dell'Alta Valle del Rodano, dal Mesolitico antico fino all'epoca storica. Viene qui presentata una sintesi delle conoscenze acquisite in vent'anni di ricerche condotte nel Vallese e nello Chablais vaudois (Svizzera): 1985-1987: modello teorico e prima ricerca sul campo; 1992-1997: approfondimento delle conoscenze sui siti di riferimento; 1998-2005: nuove ricognizioni sul terreno e nuova acquisizione di dati. Vengono descritte le ricerche sul campo condotte e, in particolar modo, i problemi incontrati a media e alta quota (metodologia della ricognizione, affidabilità dei risultati), che hanno portato alla creazione di un modello sempre più elaborato e preciso, il cui unico punto debole consiste nelle conoscenze ancora lacunose circa il popolamento alle medie quote. Dopo la fine dell'ultima glaciazione, i cacciatori dell'Epipaleolitico e del Mesolitico colonizzarono la Valle del Rodano attraverso due vie: i passi d'alta quota (punto di contatto tra Vallese orientale e Nord Italia) e la Bassa Valle del Rodano (punto di contatto tra Vallese occidentale e la regione del Lago di Ginevra). La precoce Neolitizzazione del Vallese avvenne attraverso i passi che collegano le Alpi con la pianura del Po, probabilmente in relazione alle pratiche di transumanza estiva delle greggi verso i pascoli d'altitudine. L'età del Bronzo vide un forte sviluppo demografico, legato indirettamente allo sfruttamento dei giacimenti di rame. In seguito, i passi alpini avrebbero avuto un ruolo sempre più importante. In particolar modo nell'età del Ferro, i rapporti tra il mondo etrusco e celtico influenzarono l'organizzazione delle comunità alpine. I legami con il sud si mantennero e si svilupparono soprattutto verso la Gallia Cisalpina, fino all'integrazione del Vallese nell'Impero Romano. Durante l'età del Ferro, l'evoluzione della gestione economica delle fasce vegetazionali portò, almeno in certe regioni, alla formazione di abitati permanenti nell'orizzonte montano.

Key words: Switzerland, Valais, Vaud, model of settlement, human colonisation, alpine passes, vegetation belts
Parole chiave: Svizzera, Vallese, Vaud, modello di popolamento, colonizzazione umana, passi alpini, orizzonti vegetazionali

1. INTRODUCTION

In mountainous regions, the exploitation of the territory is confronted by the difficulties generated by the particular morphology of the surrounding environment. The vegetation depends directly on the altitude and the climatic conditions (or even local micro-climatic conditions) as well as their evolution over time. The uneven topography leads to a partitioning and terracing of vegetation zones and, in this way, determines how the potential of each zone of production can be extremely varied. Throughout history, the alpine populations demonstrated their capacity to deal with these constrictions. The intention here is actually to complete a study already made in 1997 (Curdy *et al.* 1999), thanks to a series of new discoveries made in the survey area.

2. STUDY AREA

The study area concentrates on a specific intra-alpine zone, the Upper Rhone Valley (Valais and Vaud, Switzerland). The survey covers the source of the Rhone (Rhonegletscher), downstream to the mouth of Lake Geneva (CH) (Fig. 1); it consists of the main Rhone Valley (canton of Valais and going downstream, part of the canton of Vaud) as well as side valleys, most of which run north to south. On the southern bank of the Rhone, there are the deep side valleys, several tens of kilometres long, which lead to the principal alpine passes of the Valais Alps (from east to west: the Albrun, the Simplon, the Monte Moro, the Theodul, the Col Collon, the Col de Fenêtre and the Grand St-Bernard passes). On the north bank, the side valleys are on the other hand very short and abrupt, and lead quickly towards various mountainous passes (from east to west: the Grimsel, the Lötschenpass, the Rawyl and Schnidejoch, the Sanetch and the Pillon passes).

3. AGRO-PASTORALISM AND VEGETATION BELTS

Up until recent times, the agro-pastoral communities of the Upper Rhone Valley adopted a particular practice, the "*remuage*", which illustrates how the economy can be adapted to alpine environments (Loup 1965). This practice, (which in reality is a seasonal nomadism), is characterized by the movement of human groups between the bottom of the valley and the upper slopes. Either all or part of the community travel with the herds to summer pastures and li-

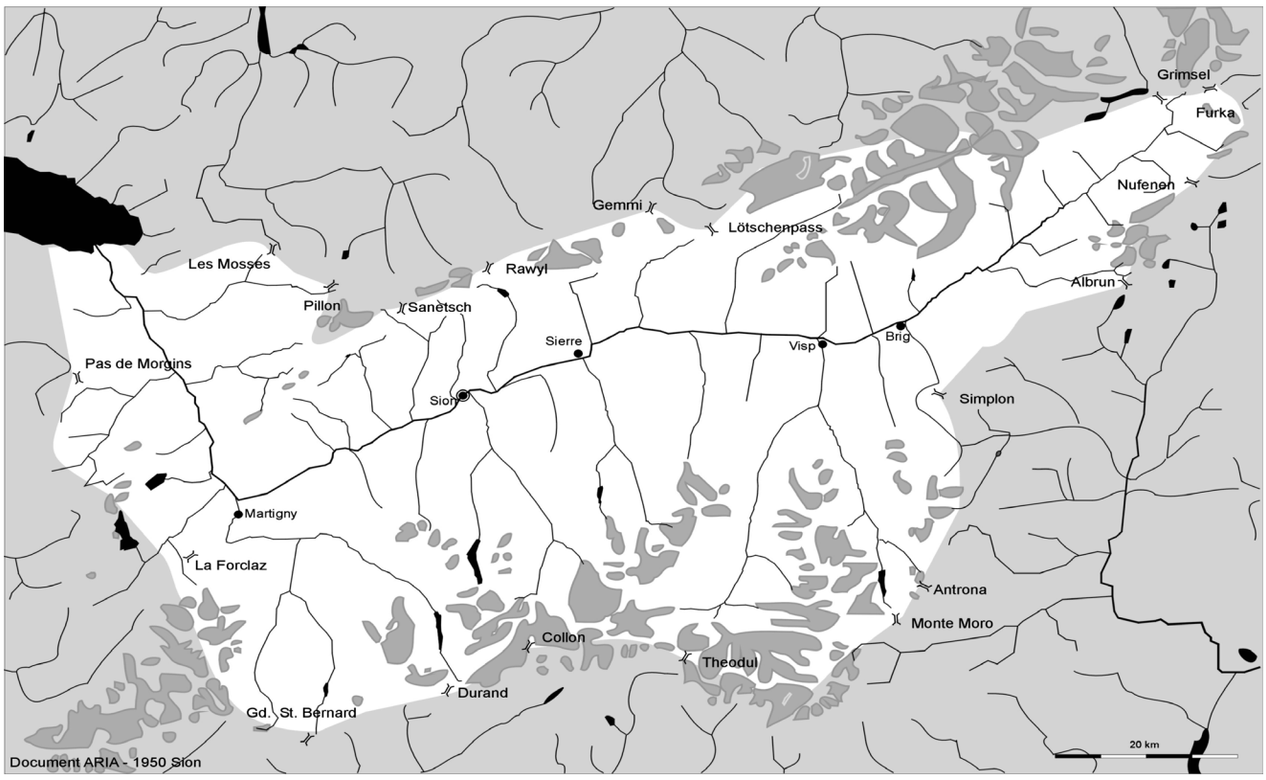

Fig. 1 - Map of the Upper Rhone Valley (Switzerland).
Fig. 1 - Carta dell'Alta Valle del Rodano (Vallese, Svizzera).

ve in temporary settlements (*Mayens*) depending on seasonal farm practices. On a particular note, in the Upper Rhone Valley (Valais), the "traditional" permanent villages (which are the focal points for the community) appear to be often situated in middle altitude and not on the bottom of the valley. The illustration (Fig. 2) is based on information taken from the middle of the 20th century. The village (Mission) is the principal home of the family and is located in a side valley (Val d'Anniviers) at 1307m. In the diagram, the family moves about in the upper sub-alpine vegetation belt (where the *Mayens* are), in May as well as in winter, following the herds (to pastures and hayfields). There are also two main periods of movement towards the bottom of the valley, in March and in October to November; in this case, the movement is related to viticulture, a recent phenomenon.

Leaving aside the idiosyncrasies of the evolution of agro-pastoral practices through history (introduction of viticulture, changes in the local livestock populations, etc.), when did the agro-pastoral communities first decide to settle on a permanent basis in middle altitudes? Or in other words, when were permanent villages constructed in the 1000-1400m belt (mountain belt) or even above (lower sub-alpine belt)? Were these villages built when agro-pastoral practices (Neolithic) were introduced or did they appear later for other reasons? Obviously, to try to and trace the origins of agro-pastoral management using historical data is fanciful considering the documents available. In addition, ethnographic observations have shown the extreme vulnerability of the communities, with rapid changes taking place in the principal residence due to various external circumstances (Gyr 1994: 73).

After the evidence so far, it can be suggested (albeit with some reservations) that the earliest evidence of "permanent" settlements in middle altitude would also provide a plausible argument to the existence of "remuage", or at least of a practice related to it. The evolution of land occupation by prehistoric peoples can be traced by using variable degrees of archaeological evidence; by defining very simple categories of land occupation: habitation, burial, isolated find (nature of occupation unspecified), place of worship (sanctuary), deposit (hoard-types, hiding-place or votive offering). This hypothesis is based on the extensive research of the Upper Rhone Valley, directed by the Department of Anthropology of the University of Geneva (A. Gallay) for over a quarter of a century.

4. A FIRST THEORETICAL MODEL OF PREHISTORIC SETTLEMENT

From the earliest finds, researchers turned their attention to the cultural features of these prehistoric communities. In particular, Professor Marc-Rodolphe Sauter was the first to try and summarise the prehistory of the Upper Rhone, followed by Alain Gallay. The latter was the first to develop a theory on how the land was organised to supply local communities (Crotti *et al*. 1983).

In 1983, Gallay drew up a theoretical model of prehistoric settlement in Valais and Chablais (Gallay

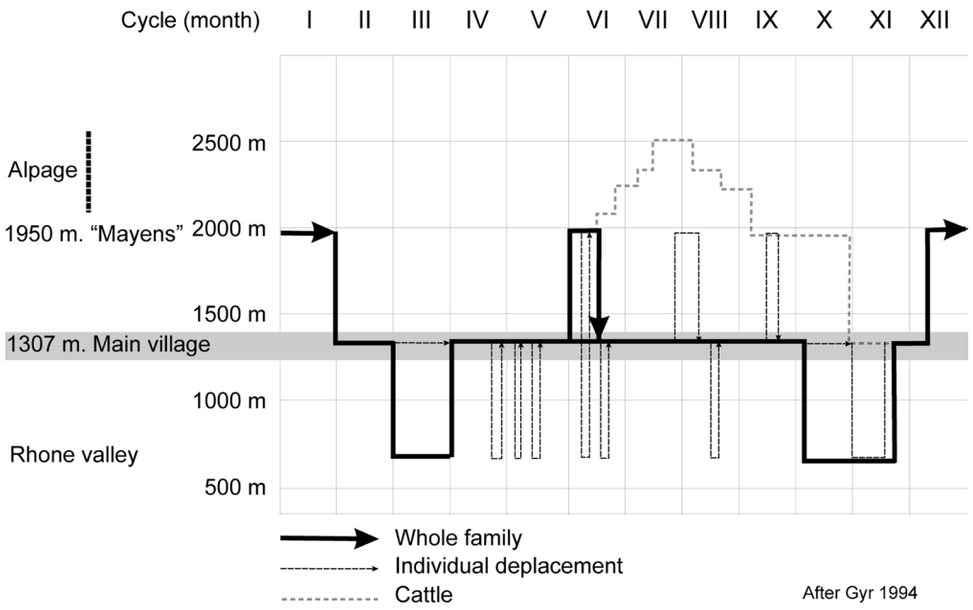

Fig. 2 - Family movements from Mission village (Val d'Anniviers, Valais Suisse) in 1935. After Gyr (1994: 63, Fig. 28).
Fig. 2 - Spostamenti stagionali di un nucleo familiare del villaggio di Mission (Val d'Anniviers, Vallese, Svizzera) nel 1935. Da Gyr (1994:63, Fig. 28).

altitude	zone biogéographique	VALAIS CONTINENTAL			vallées latérales	
	étage	Sauveterrien	Tardenoisien	Néolithique ancien/moyen	Néolithique récent/final Bronze ancien	Bronze moyen Bronze final
2400 m	alpin			pâturages défrichements	pâturages défrichements	pâturages défrichements
	subalpin sup.	camp de chasse saisonnier			mines de cuivre	mines de cuivre
2000 m	subalpin inf.	halte de chasse	halte de chasse	pâtures défrichements	établissement principal agricole défrichements céréales	établissement principal agricole défrichements céréales
1400 m	montagnard	camp de chasse saisonnier			mines de cuivre	mines de cuivre
800 m	collinéen	camp de base permanent	camp de base permanent	établissement principal agricole défrichements céréales	établissement principal agricole défrichements céréales	établissement principal agricole défrichements céréales

Fig. 3 - Settlement model of Valais (Gallay 1983).
Fig. 3 - Modello di insediamento del Vallese (Gallay 1983).

1983; Baudais *et al*. 1987). The study was restricted to societies, considered by the author, to have lived by self-subsistence (Mesolithic, Neolithic and the Early Bronze Age). The objective of this model (Fig. 3) was to try and interpret the types of activities and therefore, the types of buildings in each range of altitude (zones of specific exploitation) and for each period. Gallay saw an evolution in settlement through the progressive conquest of the various altitude ranges. According to this model, the first permanent buildings in middle altitude ought to date at the earliest, to around the end of the Neolithic to the beginning of the Bronze Age.

5. 1985-2005 TWENTY YEARS OF RESEARCH

1985-1987. Early field surveys

Based on this theory, a systematic field survey programme was carried out in the Upper Rhone Valley, with the aim of testing and if possible, validating this model. Between 1985 and 1987, three sample zones were studied, all characteristic of the Rhone Valley (Baudais *et al*. 1990) (Fig. 1). The first survey covered the Chablais region (partly in both Valais and Vaud), not far from where the Rhone flows into Lake Geneva. The second study area was in central Valais, around the town of Sion and in the broad side valley of Val d'Hérens. The third survey was located upstream in the Upper Rhone Valley, also in a broad side valley (Vispertal), leading to the foot of the Matterhorn (around Zermatt). The results of this fieldwork has already been presented and summarised on several occasions (most recently Curdy *et al.* 1999). It must be pointed out that no Mesolithic site had been located and probably stems from the fact that surface observations were hurriedly carried out, usually by drilling with ground augers and test-trenching at the base of large over-hanging rock features (blocks). In investigating settlement in mountain belts (1000-1600 m), the lack of results was due to the fact that these zones were difficult to survey as they were usually under dense forest cover.

The survey led to the discovery of several Neolithic sites in central Valais, situated on hills with difficult access, in the upper limit of the collinean belt (around 900 m). Contrary to the known habitations in the immediate vicinity of the Rhone Valley, these new settlements were built on agricultural lands located on shelves or plateaux, at around 1000 m. In another surprise, evidence of human occupation above 2000 m was found: in block-shelters or in hollows at the bottom of cliffs. In these cases, the oldest occupations were dated from the Middle Neolithic to the Bronze or Iron Age (Baudais *et al.* 1990).

In short, this early project made it possible to highlight a substantial density of occupations from the

Neolithic, distributed in valleys and on plateaux on the lower limit of the mountain belt. It also brought proof of occupations in block-shelters in mountainous zones (upper sub-alpine and alpine belts).

1993-1997. High altitude Mesolithic sites

Since 1993, several complementary research projects were set up in conjunction with the University of Geneva; they were aimed at supporting the results from the earlier field surveys and especially for the Neolithic period. On this occasion, the most unexpected discovery was that of a second settlement constructed on a craggy outcrop (Müller 2003) in Sion, dated to the Early Neolithic (5500-4700 BC). At the same time, after three series of excavations led by the National Swiss Museum on the high altitude site of Zermatt, work revealed the presence of an archaeological level dated to the Mesolithic (Curdy *et al*. 2003).

2003-2005. Mountain passes in eastern Valais

In 1999, the Cantonal Museums of Valais (Archaeological and Natural History Museums) began an excavation on a Middle Palaeolithic site (Praz *et al.* 2000). The results were published and appeared in the exhibition, "Premiers hommes dans les Alpes" (*Early Humans in the Alps*), in the summer of 2002. The event initiated a cross-border project (Interreg IIIb-Project, Crotti *et al*. 2004). The field survey research programme concentrated on the areas of the Simplon (Simplonpass, 2006m) and the Albrun (Albrunpass, 2409 m), on the Italian-Swiss border. A large amount of evidence was uncovered proving that there was a seasonal presence of Mesolithic communities and in particular near lakes and in shelters at the foot of cliffs (Fig. 4).

6. RE-EVALUATING THE SETTLEMENT EVIDENCE

In order to draw conclusions on these discoveries, all evidence of prehistoric occupation will have to be taken into account. The main body of evidence includes part of the data published in 1999 (Curdy *et al* 1999), although the sites from the Bernese Alps (cantons of Fribourg, Vaud and Bern) are not included because they are located outside the Rhone Basin. The recent results from the Interreg IIIb project are included as well as new data available from local institutions in charge of archaeology (Archéologies cantonales, Valais and Vaud). The geographical limits of the study area are based on the political borders of the canton of Valais, as well as the Chablais region (canton of Vaud, cf. Fig. 1). The following altimetric ranges are used: the collinean belt (<900/1000 m), the mountain belt (900/1000-1400 m), the lower sub-alpine belt (1400 - 1900/2000 m), the upper sub-alpine belt (1900/2000-2400m) and the alpine belt (>2400 m); towards the Lake Geneva area, it is necessary to lower these limits by around 100/200 m due to climatic differences. The study concentrates on the middle and high altitudes: the vegetation zones in the mountainous and sub-alpine belts.

Evidence from before the end of the last glacial period is not taken into account and in particular Middle Palaeolithic sites. In the period following the Last Glacial Maximum, currently the oldest known site in the study area is the rock shelter of Villeneuve (Crotti *et al.* 2002), dated to the end of the Magdalenian period. However, it is not included in the study. As a result, the earliest evidence of occupation dates to the Mesolithic

Fig. 4 - The Simplon Pass and the Rötelsee (lake); the location of the Mesolithic hunting-camps found in 2003.
Fig. 4 - Il Lago Rötelsee al passo del Sempione; localizzazione di siti mesolitici di caccia scoperti nel 2003.

because even though there are currently only two Epipalaeolithic occupations known in the Swiss Alps, both are outside the study area (Crotti *et al.* 2002).

For all periods, finds are grouped into four broad categories: 1, settlements (habitations, rock shelters etc.); 2, graves (necropoles or isolated graves); 3, isolated finds; 4, deposits and sanctuaries. Deposits are collections of one or more valuable objects buried in a precise place; the group sanctuaries (or places of worship) includes prehistoric finds as *menhirs* or datable engraved rocks; it also includes certain prehistoric buried offerings found on sites where later Roman sanctuaries were to be erected (most notably, sanctuaries on mountain passes). Undatable rocks with cupmarks are not listed. We have limited the corpus to the finds whose heights can be approximated with a precision of 200 m. The total inventory includes 461 points of finds going from the Mesolithic to the end of the Iron Age (Fig. 5).

6.1. The Epipalaeolithic and Mesolithic

At the moment, no Azilian and Epipalaeolithic sites have been found in the Upper Rhone Valley. The closest site is the rock shelter of Château d'Oex, over looking the Swiss plateau (Crotti 2002). For the Mesolithic, the majority of finds are recent finds situated on the Simplon Pass. Apart from two isolated finds, the evidence suggests camps, between 1900 and 2600 m, concentrated in the upper sub-alpine and alpine belts. Taking into account the height, they were probably seasonal camps. With the exception of the unique rock shelter of Châble-Croix (Pignat 2002), the current state of research and in particular the absence of sites in the collinean belt, hinders establishing a link between high altitude sites and camps in lower altitudes. Theories on the function of these camps are not discussed here and can be referred to in recent updates published on the area (Crotti 1998). As to the question concerning the colonisation in the Upper Rhone Valley, two routes appear likely, one via Lake Geneva and the other perhaps over the southern mountain passes of Valais, which would confirm the recent discoveries in the Simplon area.

6.2. The Neolithic

This period is relatively well known because of the many research projects on the Neolithic in Valais, especially on the Early Neolithic (Müller 2003). Loo-

Height	<599	600-799	800-999	1000-1199	1200-1399	1400-1599	1600-1799	1800-1999	>1999	**Total**
Settlement										
Mesolithic	1	0	0	0	0	0	0	1	6	**8**
Neolithic	25	10	3	0	0	0	1	1	1	**41**
Bronze Age	18	11	5	3	2	1	1	0	3	**44**
Iron Age	20	11	2	3	3	2	0	2	1	**44**
	64	**32**	**10**	**6**	**5**	**3**	**2**	**4**	**11**	
Graves										
Mesolithic	0	0	0	0	0	0	0	0	0	**0**
Neolithic	17	5	1	0	0	0	0	0	0	**23**
Bronze Age	40	14	8	0	0	1	1	0	0	**64**
Iron Age	41	30	12	10	15	14	1	0	0	**123**
	98	**49**	**21**	**10**	**15**	**15**	**2**	**0**	**0**	
Finds										
Mesolithic	0	0	0	0	0	1	0	1	0	**2**
Neolithic	11	5	2	1	1	2	2	0	0	**24**
Bronze Age	16	1	5	2	5	3	1	2	0	**35**
Iron Age	12	5	2	0	4	1	1	0	0	**25**
	39	**11**	**9**	**3**	**10**	**7**	**4**	**3**	**0**	
Deposit/sanctuary										
Mesolithic	0	0	0	0	0	0	0	0	0	**0**
Neolithic	3	0	2	0	0	0	1	0	3	**9**
Bronze Age	6	1	1	0	0	0	0	0	4	**12**
Iron Age	1	0	0	0	1	0	0	0	5	**7**
	10	**1**	**3**	**0**	**1**	**0**	**1**	**0**	**12**	
										461

Fig. 5 - List of sites by height range.
Fig. 5 - Elenco dei siti archeologici ripartiti per quota altimetrica.

king in detail, the number of sites shows that there are 13 finds out of 97 above 1000m in all categories of occupations (16%).

The majority of the sites are in the Rhone Valley. In the mountain belt, a votive offering and three unspecified finds were recorded. Higher up in the lower sub-alpine belt, another votive offering (a prestigious axe, 35cm long), four unspecified finds and two "temporary" occupations in shelters; one is a shelter in Val d'Hérens (Baudais *et al.* 1990) another, an isolated flint in a cave, la Grotte des Dentaux (Curdy *et al*. 1999). Even higher, there are no archaeological remains in the upper sub-alpine belt, apart from a very high altitude rock shelter in Zermatt, 2600 m (Curdy *et al*. 2003). In summary, one observes that the necropoles do not exceed 900/1000 m (Fig. 6); they all are concentrated in the collinean belt, corresponding with the majority of the settlements. If the Early Neolithic presence is restricted in central Valais, then from 4000 BC onwards, settlements are constructed in side valleys always at low altitude: the habitations and burials at Sembrancher, in Val d'Entremont, c.700m (Gallay *et al*. 1986) the burials at Bagnes/Villettes, in Val de Bagnes, at 830m (David-Elbiali *et al*. 1987), the habitation at Vex, in Val d'Hérens, at 850 m (David-Elbiali & Chaix 1990). The high frequency of habitations and necropoles in the Rhone Valley and its tributaries can be related to having an economic territory based on exploiting resources from the collinean belt, at least on an agricultural level. Although few in number (but nevertheless present), the occupations in high altitude (block-shelters and isolated finds) can be envisaged in the form of hunters, prospectors of raw materials (rock crystal) and by shepherds and their herds, moving between the bottom of the valley and the upper slopes.

6.3. The Bronze Age

Out of a total of 155 sites, there are 29 traces of evidence above 1000m (19%). From this period onwards, there is an increase in the number of finds in the mountain belt; although the majority are unspecified finds of which the distinction from habitation and burial is not clear; on the other hand, there are some genuine habitations in middle altitude such as at Zeneggen Kastelltschuggen, at 1600m (David-Elbiali 1994) or Fully Chiboz, at 1400 m (Curdy 2002); surprisingly, no burials have been found apart from those of Saint-Luc, at 1600 m (Sauter 1950). These hilltops settlements of middle range altitude (which for the moment at least, are not associated with necropoles) seem to have had particular functions; some appear to be related to metal production (presence of ovens/furnaces) or perhaps to control copper deposits which occur frequently in the side valleys of the Valais (David-Elbiali 2000). Above the tree line, there are block-shelters, which have been dated to the Bronze Age by charcoal samples taken from hearths. In mountains, the presence of votive offerings at such high altitudes has already been confirmed and is well known in the Bronze Age in the alpine massif.

6.4. The Iron Age

For this period, the traditional separation between the Early and Late Iron Ages is often very delicate; the-

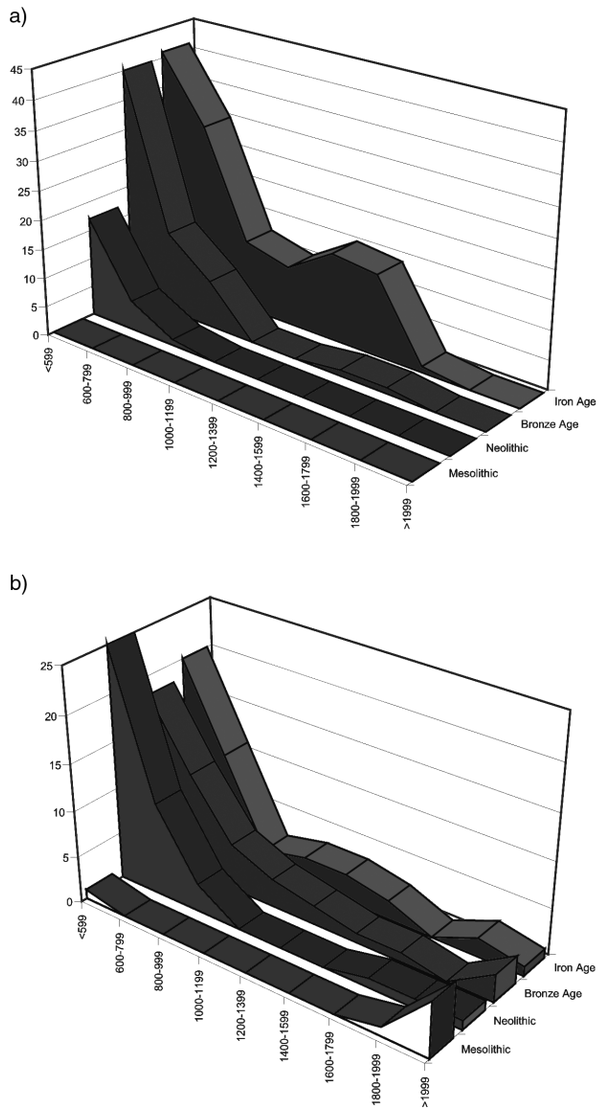

Fig. 6 - Diagram of grave (a) and settlements (b) density by period and height range.
Fig. 6 - Diagramma di densità dei siti delle sepolture (a) e d'abitato (b) ripartiti per periodo e per quota altimetrica.

re is a large uncertainty in the typo-chronological dating of artefacts and especially between those from the HaD3 (Ticino C) and the La Tène A/B (Ticino D/La Tène B); the changes occurred with the transition from one period to another and are largely unnoticed; this fact is all the more regrettable giving the significant historical events in the Alps at the beginning of the 4th century BC (Celtic migrations over to the Po Valley).

The relative frequency in middle and high altitudes confirms a clear evolution compared to the beginning of the Bronze Age: the economic territory of the alpine populations in the Upper Rhone Valley seems at least to cover the middle altitudes throughout the whole Iron Age.

In the Late Iron Age, the most remarkable fact is the unquestionable presence of burials/necropoles between 1400-1600m (Fig. 6): the 12 necropoles listed are almost all in the large side valleys of Valais or in the most easterly part of the Valais (Goms). As for the domestic settlements, although less significant, they are also found in these zones of middle altitude or slightly lower.

As a result, the permanent human occupation in the mountain belt seems to correspond with the transition to the Iron Age (Late Iron Age). If it were suggested that there was a relationship between burials and permanent settlements, then it has to be admitted that this period corresponds with the first real colonisation of middle altitudes by prehistoric populations, since the last Ice Age. Even more surprising is the fact that the beginning of Iron Age corresponds with an unsettled period of climate with several glacier advances (Göschenen I and II, 800 BC and 600 BC respectively, Maise 1998). Therefore, it is also necessary to assume that changes or innovations in agrarian practices allowed this colonisation and in particular, the introduction of cereals more adapted to these belts (millet, barley, cf. Jacomet *et al*. 1999). Looking beyond the Iron Age, the situation appears stabilise in Roman times, with more settlements in middle altitude (Paccolat 2004).

7. CONCLUSIONS AND DISCUSSION

A diagram schematises the interpretations presented above and uses the data of the model put forward by A. Galllay, by taking into account the long duration of time, i.e. including the end of the Metal Ages (Fig. 7). This more general model makes it easier to highlight a steady rise (especially in burials/necropoles), leading to the gradual colonisation of middle altitudes.

For the earliest settlements, the recent data confirms the presence of Mesolithic camps in the Rhone Valley and at high altitude. In the following period, the Neo-

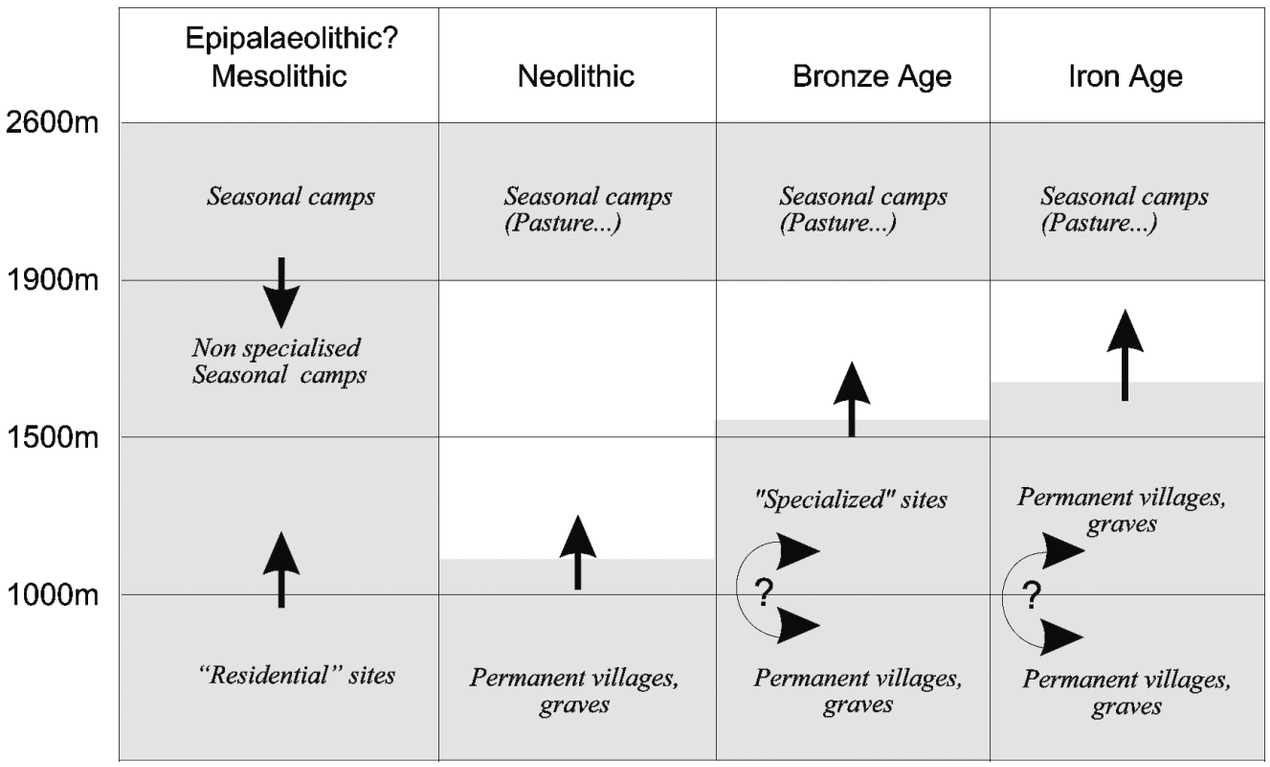

Fig. 7 - Model showing the evolution of economic territories from the Mesolithic to the Iron Age in the Upper Rhone Valley.
Fig. 7 - Modello dell'evoluzione economica del territorio nell'Alta Valle del Rodano dal Mesolitico all'età del Ferro.

lithic, the recent data does not shed any new light on the theories already presented. The Neolithic populations of the mountainous regions were probably aware of developed practices of pastoralism and they used two complementary and separated economic zones: the valleys (agriculture and cattle rearing) and high altitudes (cattle rearing). As a result, "permanent" settlements may have existed in the Rhone Valley whereas the mountain belt appears not to have provided any economic contributions. The Bronze Age is characterized, from the very beginning, by a slight change: the first habitations timidly appear on the alpine belts and some graves are documented in the mountain belt; here, some sites may have had particular functions, perhaps in relation with the control of mountain passes or copper deposits. The Iron Age confirms the rise in altitude of habitations and appears to correspond with the first real permanent settlement of communities in middle altitudes. That could have partly have lead to the early introduction of total management of all the vegetation belts (of production), from the bottom of the valley to the upper slopes. This control of the vegetation belts could have led to, in later periods and perhaps for other economic reasons, to the practice of "remuage" in central Valais, as was mentioned earlier. However the archaeologist must admit that for the moment, it is impossible to define or to even prove the existence of complementing economic activities between the valley settlements and those of the sub-alpine belt, as can be shown by "remuage" economies in more recent times.

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REFERENCES

Baudais D., Curdy P., David-Elbiali M. & May O., 1987 - Prospection archéologique du Valais: une approche du peuplement préhistorique. *Archéologie suisse*, 10: 1-12.

Baudais D., Curdy P., David-Elbiali M. & May O., 1990 - La néolithisation du Valais: modèles de peuplement et premier bilan de la prospection archéologique du Valais (Suisse). In: Biagi P.(ed.) *The Neolithisation of the Alpine Region. Papers delivered at the international round table (29 April - 1 May 1988, Brescia).* Museo Civico di Scienze Naturali, Brescia: 159-174 (Natura Bresciana, 13).

Crotti P., 1998 - Mesolithic Settlement of the Central Alps and the Use of the Mountain Sectors. *Preistoria Alpina*, 34: 119-128.

Crotti P., 2002 - Occupations mésolithiques dans les Alpes suisses. In: Crotti P., Pignat G. & Rachoud-Schneider A.-M., 2002 - *Premiers hommes dans les Alpes: de 50 000 à 5000 avant Jésus-Christ. Catalogue de l'exposition, Sion 2002*. Payot et Musées cantonaux du Valais, Lausanne et Sion: 86-89.

Crotti P., Curdy P., David M., Farjon K., Gallay A., Pignat G., Studer J. & Wermus E., 1983 - Le territoire des sites du Néolithique moyen valaisan (Suisse). In: Le peuplement de l'intérieur du massif alpin de la préhistoire à la fin de l'Antiquité. Colloque int. sur les Alpes de la préhistoire à la fin de l'Antiquité (10-12 sept. 1982 ; Aoste). *Bull. d'études préhist. alpines*, 15, n° spéc.: 55-80.

Crotti P., Pignat G. & Rachoud-Schneider A.M., 2002 - *Premiers hommes dans les Alpes: de 50.000 à 5000 avant Jésus-Christ. Catalogue de l'exposition, Sion 2002*. Payot et Musées cantonaux du Valais, Lausanne et Sion: 199 pp.

Crotti P., Curdy P. & Leutzinger U., 2004 - La région du Simplon (Valais), du Mésolithique à l'époque moderne. *Annu. de la Soc. suisse de préhist. et d'archéol*., 87: 271-278.

Curdy P., 2002 - Assises lointaines. In: Papilloud J.-H. (ed.), *Histoire du Valais*. Société d'histoire du Valais romand, Sion, *Tome 1*: 15-80.

Curdy P., David-Elbiali M. & Honegger M., 1999 - Le peuplement du Mésolithique à la fin de l'âge du Fer dans les Alpes de Suisse occidentale. In: Della Casa P. (ed.), *Prehistoric Alpine Environment, Society and Economy. Int. Colloquium Paese '97 (3-6 Sept. 1997, Zürich). Universitätsforsch. zur prähist. Archäol. Zürich*, 55: 47-59.

Curdy P., Leuzinger-Piccand C. & Leuzinger U., 2003 - Zermatt Alp Hermettji et les cols secondaires du Valais. In: Besse M., Stahl Gretsch L.-I. & Curdy P. (ed.), «ConstellaSion», hommage à Alain Gallay. *Cahier d'archéologie romande*, 95: 73-88.

David-Elbiali M., 1994 - Les influences culturelles en Valais au début du Bronze final au travers des découvertes de Zeneggen-Kasteltschuggen. *Annu. de la Soc. suisse de préhist. et d'archéol.*, 77: 35-52.

David-Elbiali M., 2000 - La Suisse occidentale au II^{ème} millénaire av. J.-C.: chronologie, culture et intégration européenne. *Cahier d'archéologie romande*, 80: 570 pp.

David-Elbiali M. & Chaix L., 1987. - Occupation en grotte à l'âge du Bronze récent/final en Haut-Valais (Grotte In Albon*). Annu. de la Soc. suisse de préhist. et d'archéol*., 70: 65-76.

David-Elbiali M. & Chaix L., 1990 - L'âge du Bronze en Valais et dans le Chablais vaudois: un état de la recherche. *Annu. de la Soc. suisse de préhist. et d'archéol*., 73: 19-50.

Gallay A., 1983 - De la chasse à l'économie de production en Valais: un bilan et un programme de recherche. *Docum. du Dép. d'anthrop. et d'écologie de l'Univ. de Genève*, 7: 118 pp.

Gallay *A*., Kaenel G. & Wiblé, F., 1986 - *Le Valais avant*

L'histoire. *Catalogue de l'exposition, Sion*, *1986*. Musées cantonaux du Valais, Sion: 379 pp.

Gyr W., 1994 - *Le val d'Anniviers vie traditionelle et culture matérielle basées sur le patois de Saint-Luc*. Francke, Basel et Tübingen: 1035 pp.

Jacomet S., Jacquat C., Maise C., Schibler J., Stopp B., Studer J., Wick L. & Winter M., 1999 - Climat, environnement, économie agricole et alimentation. In: Müller F., Kaenel G. & Lüscher G., *La Suisse du Paléolithique à l'aube du Moyen-Age IV Age du Fer*. SGUF, Bâle: 93-135.

Loup J., 1965 - *Pasteurs et agriculteurs valaisans: contribution à l'étude des problèmes montagnards*. Impr. Allier, Grenoble: 679 pp.

Maise C., 1998 - Archäoklimatologie: vom Einfluss nacheiszeitlicher Klimavariabilität in der Ur- und Frühgeschichte. *Annu. de la Soc. suisse de préhist. et d'archéol*., 81: 197-235.

Müller K., 2003 - Modèle de frontière, modèle de la vague d'avance: accueturation et colonisation lors de la première néolithisation européenne. In: Besse M., Stahl Gretsch. L.-I. & Curdy. P. (ed.), «ConstellaSion», hommage à Alain Gallay. *Cahier d'archéologie romande*, 95: 89-114.

Paccolat O., 2004 - Etablissements ruraux du Valais romain: état de la question. *Bull. d'études préhist. et archéol. alpines*, 15: 283-292.

Pignat G., 2002 - L'abri de Châble-Croix. In: Crotti P., Pignat G. & Rachoud-Schneider A.-M., 2002, *Premiers hommes dans les Alpes: de 50.000 à 5000 avant Jésus-Christ. Catalogue de l'exposition, Sion 2002*. Payot et Musées cantonaux du Valais, Lausanne et Sion: 165-171.

Praz J.-C., Curdy P., Leuzinger U., Leuzinger-Piccand C. & Schweitzer M., 2000 - Paléolithique alpin à Taney (commune de Vouvry VS). *Annu. de la Soc. suisse de préhist. et d'archéol.*, 83: 25-36.

Sauter M.-R., 1950 - Préhistoire du Valais, des origines aux temps mérovingiens. *Vallesia*, 5: 1-297.

Wermus E., 1983 - Sembrancher, distr. d'Entremont, VS. *Annu. de la Soc. suisse de préhist. et d'archéol*, 66: 249-254.