

1. The Name

Even the name can evoke a reaction and carries with it a sense of allure. It once presented a great challenge to the field of linguistics and still does today. It was only a few decades ago that a Celtic origin for the name meaning “passage into the mountains” and an association to the Tauriscers, a Celtic tribe in Noricum as well as the settlement Teurnia near St. Peter in Holz, Spittal was assumed. Recently however, evidence is accumulating which indicates the origin is probably Slavic.

2. Topography

Portions of the Hohe Tauern National Park extend into the Austrian states of Tirol, Carinthia and Salzburg (photo 1).

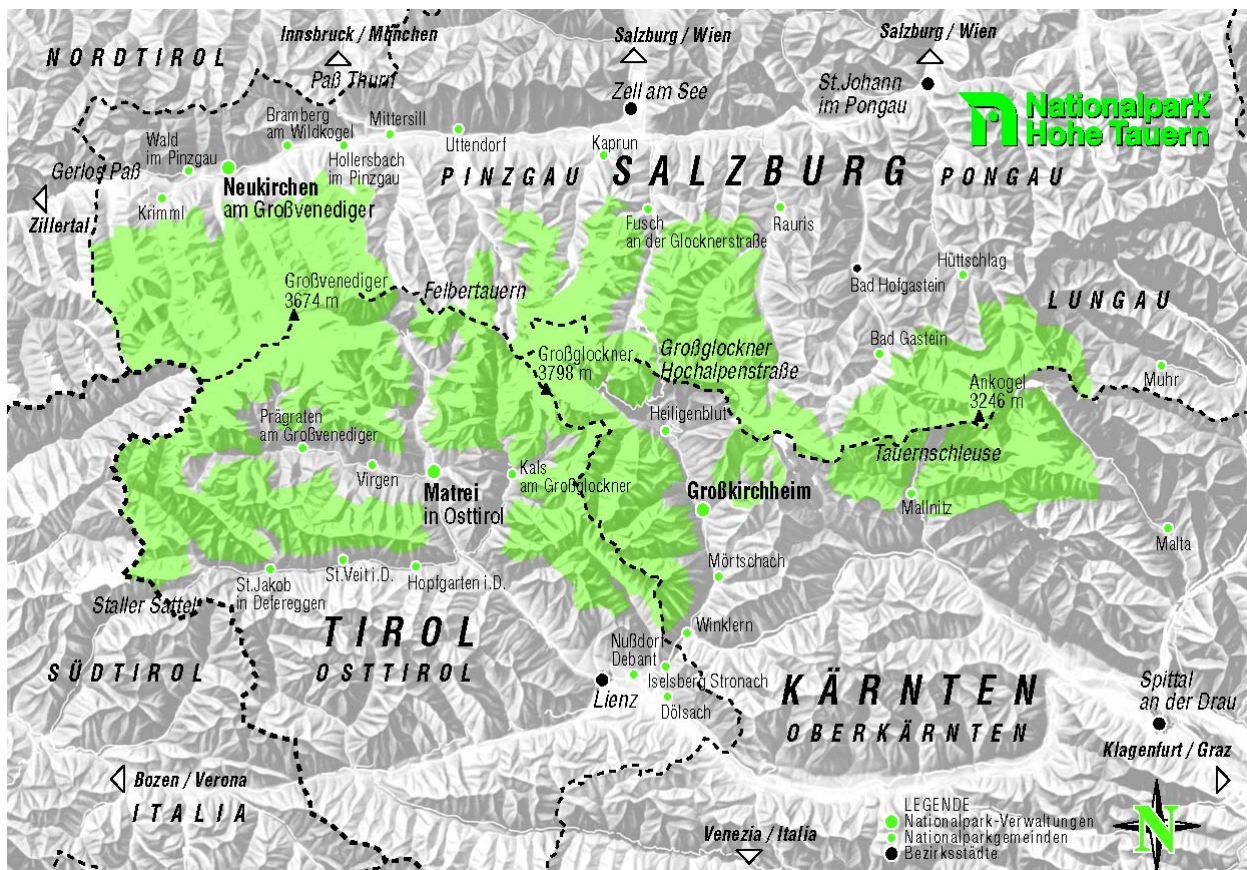


Fig. 1 The geographic area comprising the Hohe Tauern National Park

It encompasses a landscape characterized by cultivated arable pastures, mountains and passes. The following study is not restricted exclusively to the national park, but instead focuses on the entire Hohe Tauern region. It would be impossible to understand this mountainous landscape as an entity without including a discussion regarding the adjoining valley settlements and the reciprocal interaction taking place between them. Distinctive for the region and of significant importance are the numerous thoroughfares and passes that are often designated with the word Tauern such as, Korntauern, Mallnitzer Tauern, Radstätter Tauern, Hoher Tauern, Krimmler Tauern, Rauriser Tauern, Kalser Tauern and Felber Tauern. The Glockner route with its traverse across the Iselsberg and Plöcken Pass, for example, constituted the shortest distance between the area of upper Adria and the Salzburg basin.

The following composition indicates a multitude of similarities. Differences are not apparent in a part of the country where the landscape is dotted by small roomed structures, a scenario spanning the last several thousands years.

This study encompasses the archeological research accomplished up to 2002. A reconstruction and accurate portrayal of prehistoric and historic occupation is dependent upon so many variables (intensity of research and publication, coincidental discovery of artifacts, etc.) that the work must remain incomplete. The present accumulation of artifacts only allows for a detailed archeological analysis of the settlement and occupational situation, burial practices and material objects during specific time periods. It will be up to future generations of researchers to further and refine our knowledge of the people who conquered, adapted and shaped this environment.

3. Glacier archeology

A large portion of the national park is comprised of wastelands and glaciers. These ice leviathans are not just reservoirs of water or natural wonders but comprise what is perhaps one of the most promising areas for archeological research in the future. It was established that glacial advances in the Alps occurred repeatedly between 1600

and 1850. However, since the mid 19th century and also between 1927 and 1973 the large European glaciers have lost one third of their surface area and approximately one half of their volume. Glaciologists have been closely observing the glaciers since the 19th century and historical maps aid in calculating the speed with which their mass is reduced. The visible retreat of the Dorfer-Keeses glacier in Kals between 1875 and 1965 clearly illustrates this phenomenon (photo 2).

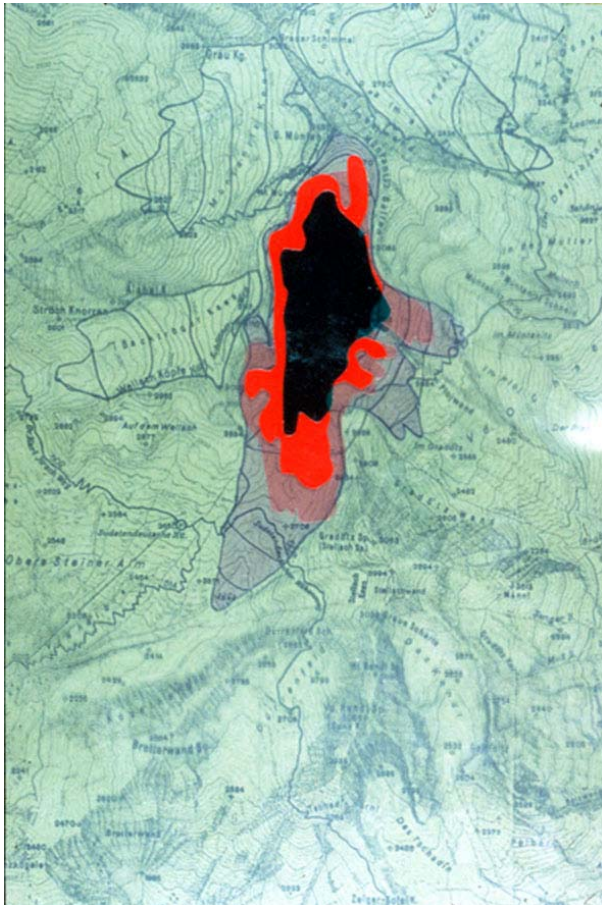


Fig. 2 Retreat of the Dorfer-Kees glacier near Kals, East Tyrol, from 1875 to 1969.
Illustration: M. Schick

This massive shrinkage is not only of interest to the various branches of earth science but offers archeologists a fantastic opportunity as well. Because they are encased in permafrost virtually all substances composed of plant material such as linen, cotton, wood, or those products derived from animals like wool, silk, hair, horn and leather, and even animal cadavers and the bodies of humans, are all excellently preserved. Bodies that are encapsulated in ice undergo a freeze drying process that

often results in very good tissue preservation, especially those belonging to the vital organs, which in turn when analyzed cum lege artis, are a treasure trove of biological data that even include information derived from DNA analysis. The majority of dead persons that are recovered after the glacier melt has unveiled them, belong to the ranks of alpinists and winter sport enthusiasts, followed by soldiers and sometimes poachers, shepherds or the occasional alpine dairy farmer. Archeologically studied instances of accidental deaths remain the exception. Here is a list of three examples: the 5,000 year old iceman from Hauslabjoch (photo 3),



Fig. 3 The man from Hauslabjoch. Photo: H. Maurer

a 16th century mercenary from Theodul pass and the 19th century dairy farmer found on the Porchabella glacier in Switzerland, all of whom had their implements and equipment with them. The fact that the glaciers are returning the dead has long been known and probably accounts for the existence of a widespread legend that entrapped for an eternity in the ice lay banished, poor souls.

In addition, are the legends surrounding the alms (alpine pastures) that have disappeared under the ice and snow, a topic that is also know to the national park.

The almost stigmatic shying away from the high alpine ice zones ended following the inclusion of these areas in the tourist business and after the advent of skiing in the 19th century.

The Basal based archeologist Werner Meyer brings into connection the facts of the sudden, unforeseeable death on the one hand and the lack of a proper burial on the other with the idea of paying your dues in a sort of frozen purgatory. This type of penalty would appear to be the result of frivolous behavior, for example, the forbidden hunt for the white mountain goat, or the dairy farmer's blasphemous predilection to be wasteful. What all of these shadowy and illusive figures have in common is that cannot find their fundamentally deserved eternal peace under the glaciers mantel of ice. The Christian belief that the sinner's guaranteed carnal resurrection on judgment day at the end of his eternal rest is ultimately dependent upon a consummated burial ritual.

The frozen bodies released by the glacier's grasp inevitably generate great public interest, the most famous example being the iceman from Hauslabjoch, a testimonial in itself and topic of extensive discussion. Still, too little attention is devoted to the objects found in areas once traveled by foot, like the Neolithic wooden bows and Medieval wood shafted crossbow bolts or the plumage remains discovered at the Swiss Lötschental glacier or the woolen socks and leggings found at 2850m above sea level that date back to the Hallstatt period around the 8-6th century BC.

Archeology is not the sole beneficiary of the glacier melt. Colleagues at the department for High Mountain Research at the University of Innsbruck, have been studying wood specimens collected at the retreating glacial edges at Pasterze and Gepatschferner. Radiocarbon analysis on these samples has produced the surprising date of 10,000 years BP, and so, provided illuminating evidence for the development of the dendrochronological curve and to the understanding of Holocene glacier evolution in Tirol.

We see then from the aforementioned, the glacier's importance to historians and the natural sciences as sources for information. The new branch within the pick and shovel research area, glacial archeology, becomes even more significant when

taking into consideration the virtual absence of written documentation regarding the activity of people in high alpine ice regions. Glacier archeology methodology and inquiry must undergo acute development. They should function however, at an interdisciplinary and international level. The cornerstone was laid during the iceman symposium in Innsbruck in 1992. It is the Hohe Tauern National Park in particular that carries a great responsibility with respect to this subject.

Subsequent to this introduction ensues the results and artifact presentation section. We begin with the segment of the Hohe Tauern National Park that is situated in the state of Tirol and with a presentation of the informatory potential of archeological resources and the cultural history in that state along with a comparative analysis of these subjects as they exist in other member Austrian states.

If the mammoth tooth (photo 4)

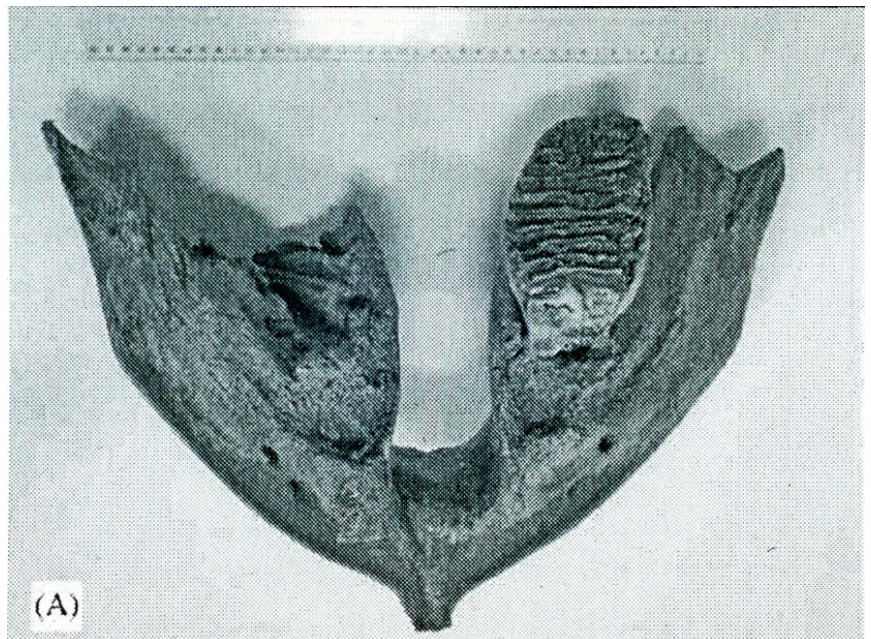


Fig. 4 Mammoth tooth recovered from the Isel riverbed near Hinterbichl, Prägraten county, East Tirol. Photo: H. Stadler

that was discovered in the Isel riverbed near Hinterbichel in fact turns out to be the remains of a hunted animal, then we can establish the presence of humans in East

Tirol before the Wormian ice age 25,000 years BC. This date is approximately the same as that attributed to the bone points that were found in the Tischofer cave near Kufstein which are a document to the early use of our valleys by Pleistocene hunters. The oldest confirmed artifacts to date are the stone tools discovered by a local researcher on the banks of the 2,143m above sea level lake Plank (photo 5)



Fig. 5 Hirschbichl, St. Jakob county in Defereggental, East Tyrol. Photo: H. Stadler

near the so called Hirschbichel (Deer Mound), in the Defereggental valley. Amongst the artifacts are rock crystal projectile points as well as cutting tools, triangular scrapers and small blades made of flint (photo 6).



Fig. 6 Hirschbichl, St. Jakob county in Deferegggen, East Tirol. Rock crystal and silex implements.
Photo: W. Leitner

The indication is that the tools were used in the meat butchering process and in animal skin preparation. It is believed that this spot was utilized as a seasonal hunting camp. The Hirschbichl tools are typologically characteristic for the period of 7,000-6,000 BC. The animals focused upon by **Mesolithic hunters** as prey during their summer excursions through the high alpine region were undoubtedly ibex, marmots and mountain goats. Lately, the presumption that alpine lake fishing augmented the palette of food resources is gaining favor and support (see also chapter on late Middle Age).

At the present time, there has yet to be any evidence of high alpine camps in either the Salzburg or Corithian sections of the national park. We must, however, assume that gaps in the artifact record are to blame, since these areas are dotted with the typical locations where artifacts are commonly found like traverses, alpine lakes and rock cornice shelters. Intensifying the examination of these places would certainly lead to rapid success with respect to this situation.

4. Rock Crystal

The Hohe Tauern range belongs to a group of regions very plentiful in quartz. It is also rich in a multitude of other minerals that were sought after and used by early man. One of these is rock crystal. Because it is extremely hard and yet easily split it was used as raw material in the construction of implements, tools and weapons. Rock crystal tools and fragments representing production waste have been found at Mesolithic and Neolithic camp sites like Hirschbühel, Tuxer Joch, Loas Sattel, Staller Sattel/Obersee, Rofangebirge and Achensee. The presence of sites, such as the one found on the Riepenkar at 2800m above sea level in the Tuxer alps where the existence of a stone age rock crystal quarry could be established, can also be expected in the Hohe Tauern. As far as we know, rock crystal gathered, transported and so made available by hunters and nomadic herdsman, was a valued barter and trade commodity. Since early history (Classic and Early Middle Age), colored varieties of quartzite were preferred for jewelry and therefore also as burial gifts.

5. New Stone Age

Disseminating slowly from the Near East and coinciding with the start of the **New Stone Age** (6000-3000 BC), began the advent of agriculture and stock rearing, pottery making and house construction as well as the grinding, polishing and drilling of stone in the national park region. This is just an allusion to some the most notable advances made with since the previous epoch. Relics dating from this period that should be mentioned are for example, the stone hatchet made of serpentine from Schloßberg in Lienz whose form type is distinct for the middle Neolithic period. This piece and another with a hole and both originating from the same site, have unfortunately disappeared. That frequent foot travel through the adjacent valleys began early is evidenced by the stone axe made of serpentinite discovered in Kals. Several late New Stone Age ceramic shards from Lavanter Kirchbichl (pointed shaped handle with vertical eyelet) and pot rim fragments from the Breitegg settlement north of Nußdorf and the Burg settlement near Obermauern, Virgen, indicate the presence of Neolithic inhabitants. The Abri (rock cornice) Gradonna site (photo 7)

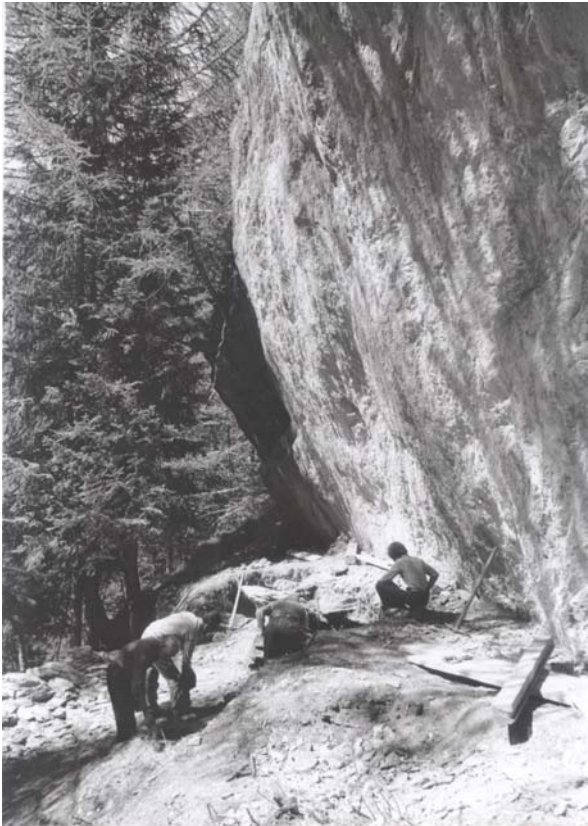


Fig. 7 Kals on the Großglockner, East Tirol. Abri Gradonna.
Photo: S. Lindsberger

near Kals deserves special consideration since it was probably utilized as a place of worship (ibex and bear sacrifices) and produced the oldest known ceramic goods in East Tirol, namely the so-called Vasi bocca quadrata-culture type (vessels with quadratic openings) and numerous flint blades of superior quality dating back to 5000 BC. Burials from this early period have yet to be discovered in East Tirol.

What is known from the Salzburg section of the park with regards to artifacts are, a flint hatchet found not too far from the Fledermauskapelle near Badgastein dating back to 4000 BC and a sandstone hammer from Pyrkerhöhe. High altitude finds worth mentioning include two stone axes with handle holes from Kreuzkogel and on the north side of the Korntauern. In addition to prehistoric artifacts, an ever-increasing amount of evidence has emerged recently from the natural sciences which indicate the intense utilization of pasture areas at high elevations. One of these indices derives from the analysis of a pollen sample taken from lake Bockhart

situated at approximately 2000m above sea level. It proves that the adjoining eastern and southern areas were already covered by alpine pastures in 4000-3000 BC. The sample even contained grain pollen, which can be accounted for through transport via air current from the lower elevation valley floors.

As of yet, there have been no Neolithic finds stemming from the Carinthian section of the national park.

6. Caves

Since the early Stone Age caves were the frequent choice for use as rest spots, dwellings, places of worship and burial grounds. Documenting this situation are a number of examples in the Swiss Alps. Not only humans, but even livestock have used these rock cavities while searching for shelter. This is how a virtually unknown cave in the Umbal valley in East Tirol was discovered. On the ceiling of this particular cave is an circular engraving (photo 8)



Fig. 8 Umbal valley, Virgen, East Tirol. The cave ceiling where the circular engraving is located.
Photo: H. Stadler

whose age and meaning have not yet been deciphered. On the whole, however, it can be maintained that the eminently significant area of cave research in the national park remains a blank spot on the archeological map.

7. Bronze Age

During the early and middle **Bronze Age** (ca. 2200-1300 BC), following a brief transition period subsequent to the Copper Age, bronze became the primary material for tool and weapon production. The new material, an alloy composed of 90% copper and 10% tin, required new and improved techniques, special metallurgic knowledge and afforded simultaneously the possibility of manufacturing completely novel shapes and designs. The metal used in making the bronze objects that were recovered at the Hohe Tauern National Park sites probably originates from the Pinzgau, Pongau and Isel valley. Initially the metal was procured in open mines, later the mining operation was conducted within the mountain. Copper was dispersed through trade, cast in the form of bars and often in the form of neck rings. The bars also functioned as pre-monetary currency during purchasing and bartering. Once again a few individual finds are responsible for our knowledge regarding the material culture of this early period, like the early Bronze Age bracelet from Virgen/Göriach or a middle Bronze Age dagger blade with a trapezoid shaped handle plate from Virgen/Nilbach, possibly an offering to the water goddess. Ceramic finds were discovered at, in addition to the aforementioned two sites, Lienz-Schloßberg/Geierbichl, Heinfels/Burghügel, Strassen/Jakobibichl and at Lavant/Kirchbichl as well as in Matrei/Klaunzerberg where the existence of an early Bronze Age smelt could be established. A process involving the mixing of crushed copper slag into the clay used in ceramic vessel making is often observed in this region. Unfortunately, at present, there is an absence of systematic excavations of settlements that provide us with information regarding subjects like house construction and the economic situation, or Burial sites and grave goods that contribute to a better understanding of Bronze Age clothing and weaponry. In the Salzburg section, a number of settlements have been discovered and these are almost always situated at high elevations. Those located in valleys, like Gries in

the Pinzgau, are more seldomly seen. Throughout the Bronze Age a small village was located on the ridge of the Weberpalfens. The archeological excavations uncovered a 3 x 6 m hut along with fire places and a garbage pit. Additional evidence for Bronze Age settlement patterns has been gathered from sites such as Kirchhügel in St. Georgen, Birg in Kaprun, Nagelköpfel near Walchen, Birgkogel near Niedernsill and Steinbühel in Uttendorf. A village with foundations for sixteen huts is situated on the high plain of Mnt. Falkenstein near Krimml. Important to mention as well are the individual artifacts like the flat handle plate sword from Rauris-Bucheoben (photo 9)



Fig. 9 Oberstaller alm, Innervillgraten, East Tirol. Cupped stone.
Photo: J. Schett

that was found stuck straight down into the ground and can be interpreted, with relative certainty, as an offering. With regards to settlement and burial archeology in the Carinthian section, the first step is to initiate a more intensive research program. Even the individually found artifacts originating from here are scarce, like the flat handle plate sword exhibiting the Sauerbrunn form from Obervellach or the rimmed hatchet from Danielsberg near Kolbnitz, both of which are made of bronze.

8. Cupped stones

Also included in the discussion is an artifact type that has existed in the inter alpine region since at least the Bronze Age and naturally, surrounding which a variety of contradictory opinions with respect to function and date are prevalent. Referred to here are stones with cup like depressions or indentations that are sometimes connected to one another by grooves. The palette of possible explanations for these, so called, cupped stones range from their use in prehistoric sacrificial ceremonies to being the product of bored medieval and modern day shepherds doing something to just pass the time. Stone specimens such as these have been found on the east shore of lake Tristacher in East Tirol and the Oberstaller pasture in the Villgraten valley (photo 10)

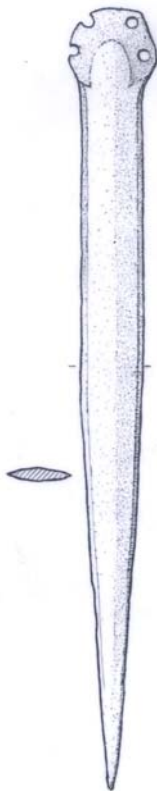


Fig. 10 Rauris-Buchebeben, Salzburg. Bronze sword with handle fixation plate.
Illustration: A. Blaickner

and other locations as well.

9. Mining

As far back as can be remembered the mineral wealth in the Hohe Tauern, which have made the conglomerates leaders in the alpine region, have had an irresistible perhaps even magical effect on people. Traces of a Bronze Age copper mine were found back in the 19th century on the Kelchalm near Kitzbühel. Up to this day, over forty prehistoric copper smelt sites have been uncovered in the Jochberg area alone. Copper mining was conducted within the Hohe Tauern National Park at the back end of the Isel valley, in the Salzach valley, Gasteiner valley and at the farthest end of the Großarl valley, although one must say that the research status in these various areas differs greatly.

As early as 1953, Ernst Preuschen and Richard Prittioni provided evidence for prehistoric copper appropriation in this area. These indices were, more often than not, slag heaps of the type found in large numbers at Bronze Age mining areas like Mitterberg near Salzburg and Jochberg in North Tirol. Through the discovery of various artifacts ranging from stone implements to ceramics, copious amounts of information regarding mining activities could be gathered. Numerous shallow ditches (Heidenzechen) characteristically displaying burned areas from campfires have been preserved through time. Today's new methods used in close conjunction with the data derived from magnetic field measurements make possible the discovery and documentation of smelting furnaces as well as multi phase, stone encased torrefying beds that lay hidden under the earth. The latest slag analysis results coming from archeological studies of the Jochberg site, show that pyrite rich copper ore originating from nearby quarries was being used there. Urnenfeld period sites for smelting indicate a wash facility with a wood lined drainage pipe. Here the crushed, now sand like copper slag (slag sand), was rinsed to separate the dross yielding the metallic portion of the slag.

A comparison with similar studies conducted in places like Mitterberg in Salzburg, the Eisenerz Alps in Styria, and from South Tirol and Trentino all indicate, the wide spread existence of a highly evolved and highly developed copper metallurgy with a distinctly early industrial age character in the alpine region. The evidence for broad

based copper production in Fahlerzen is of eminent importance when considering the supply of metal to the foreland of the Alps during the Bronze Age.

10. Gold mining

In addition to copper and silver, some digging was also being done for gold. The most important territory for mining this precious metal lies between Gastein and Heiligenblut in the Hohe Tauern. The geo-chemical conditions distinctive for the Baukarlscharte area are the ideal surroundings for generating the lupine seed sized gold nuggets that, according to Polybius and Strabo in the middle of the 2nd century BC, were discovered and mined by the Taurisker.

11. Urnenfeld Age

The late Bronze Age is also referred to as the **Urnfeld Age** (12th –8th century BC) and is so designated due to the emergence of a new type of burial practice. The dead are cremated on wood pyres following which the ash along with gifts and other grave goods is placed in an urn and buried in a large cemetery. During the Urnenfeld Age East Tirol appears to have belonged to a relatively homogenous culture, above all, one that was characterized by a specific type of ceramic (pitchers with a pointed lip and large handle). They are named the Laugener-Melauner culture a term that stems from the two sites in the Eisack valley where artifacts belonging to these people were found. Their distribution reaches from the Alpin-Rhein valley, through North and South Tirol, into the Carinthian valley of Drau and further on to Lavamünd. The only notable finds on East Tirolean soil have been primarily ceramic artifacts (Nußdorf/Breitegg, among others a bowl (photo 11),

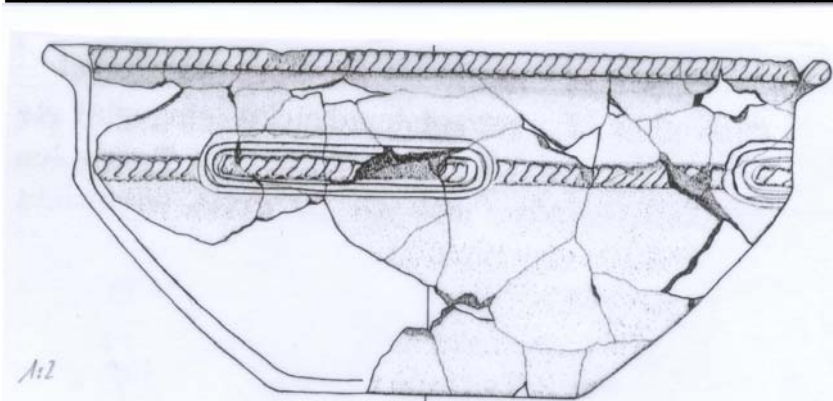


Fig. 11 Breitegg Nussdorf-Debant, East Tirol. Ceramic bowl belonging to the Laugen-Melaun-Culture. Illustration: A. Blaickner

and a bronze knife; Lienz-Schloßberg/Geierbichl; Obermauern/Burg; Burghügel in Heinfels; Lavanter Kirchbichl. In addition to these are various scattered finds made of bronze: socket adze from Nikolsdorf, a lance tip with a winged blade from Lienz, hatchets with narrow mid- and terminal end handle indentations from Matrei and several needles with plump and elaborately ornamented necks from Virgen. Especially worthy of mention are also a reuseable stone mold for casting scythes and hatchets from Mitteldorf near Virgen and a bronze triple bulge handle sword discovered over a century ago in Gamsbach but which has regrettably vanished in the Bolzano art dealer milieu. Burials dating from this period have yet to be found. On the contrary, the fields bearing artifacts in the Salzburg section are much more fruitful. Four urn graves in Gries and five more west of St. Georgen illustrate this well. The close proximity of the individual graves and the intentional destruction of the bronze grave gifts, rendering them unusable, are both characteristic for this area. Also found were four early Hallstatt period cremation burials set in stones in Bruck on the Glockner thoroughfare and one grave dating from the same period from Markt Taxenbach. The number of artifacts discovered in this area is also extraordinarily high. Hatchets with mid- and terminal end handle indentations were recovered in the Sulzbach valley near Neukirchen in a location where the valley begins to taper off and open up. With the exception of a bronze needle discovered in Sagritz, the Carinthian section has no other finds to report that belong to this period.

12. Alpine nomadic pastoralism

Since the domestication of sheep and goats around 8,000 years BC, nomadic pastoralism has played a significant role in the alpine region. This nomadic movement probably facilitated, and is a likely explanation for, the dispersion of objects that are found often thousands of kilometers away from their origin of production. A particularly striking example for this is a bronze dagger dating from the 13th century BC and originating from the Black Sea area that was subsequently found near the pastures around Kirchdorf (photo 12)

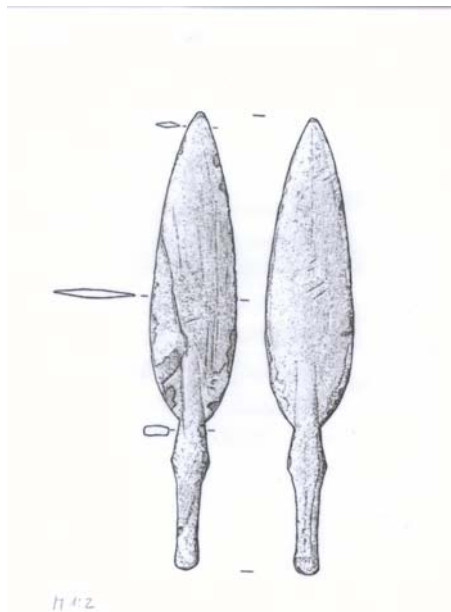


Fig. 12 Kirchdorf, North Tirol. Bronze dagger blade. Urnenfelder period.
Illustration: A. Blaickner

in the lower Inn valley at 1400m above sea level. It can thus be deduced that the discovery of ornamented weapons and technically exotic tools and implements in the High Tauern area can well be expected.

13. Early Iron Age

The latter half of the 8th century BC witnessed the beginning of the **early Iron Age** in Italy, central Europe and so, logically, in our region as well. It is designated as the Hallstatt period after the main area of archeological findings dating from this time (8th

-5th century BC) in the upper Austrian Salzkammergut province. It is remarkable primarily due to the heavy use of a new and until then, virtually unused metal. With regards to East Tirol only a few scattered finds from the upper Isel valley dating from the Hallstatt stage C period and above all the cemetery in Welzelach near Virgen that dates from the later Hallstatt stage D period can be mentioned. In the case of the latter, the forestry assistant Alexander Schernthanner excavated 56 stone encased graves between 1889 and 1891. In addition to weapons, jewelry and amber pearls, a bronze, plate metal pail with a figural motif was unearthed at the cemetery (photo 13).

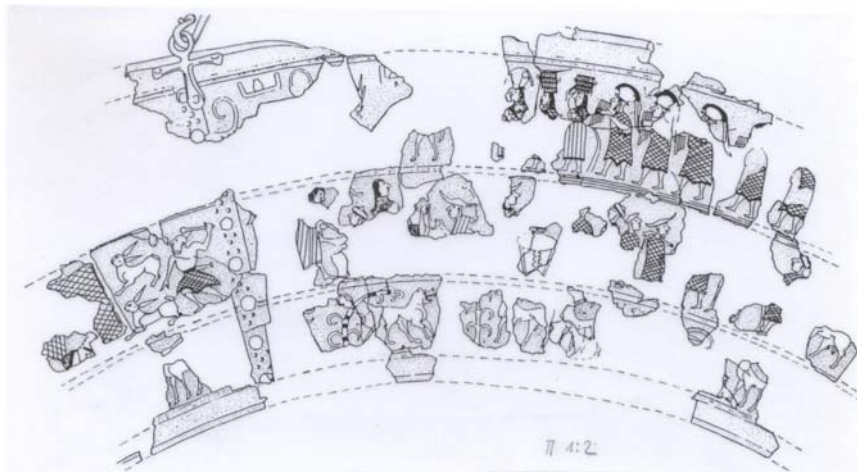


Fig. 13 Welzelach, Virgen, East Tirol. Bronze plate metal pail with figural scenes.
Illustration: A. Blaickner

It is presently the only relic representative of Situlen artwork in the entire Hohe Tauern National Park region and testifies to the affluence of its former owner who probably achieved his wealth through mining. The pail is approximately 23 cm tall, has a maximum diameter of 24 cm and a bottom measuring 13.5 cm in diameter. The figural portrayals are separated into three zones, each delineated by two thin ribs.

The upper zone depicts a celebratory procession led by a mounted warrior, although only the horses front legs and one of the warriors feet have been preserved. The warrior is closely followed by three women, the first of which is carrying a bronze metal plate pail covered with a cloth, the other two are balancing so called Zisten

(horizontally ribbed pails) on their heads. These too, have been archeologically documented in Matrei a. Brenner. Behind the women is a line of plume helmeted men, dressed in long checkered and tapered to a point capes who are playing the Syrinx, a type of wind instrument. Facing the on coming procession is another human form, however, only a hand holding what appears to be a staff or branch has been preserved. The specific function of this individual is not ascertainable. At any rate, the portrayal can be viewed as having something to do with worshiping the dead. Discernable behind and to the left of the procession are carrying boards, laden with vessels between which are plate metal pails either standing or hanging. Still preserved in the upper zone, left of the mid-line, are some fragments containing the depiction of fabrics. The connection between these folded and bordered, as well as dotted and checkered textiles, and the ceremony itself, remains unclear. The middle zone provides a colorful change to the portrayed scene. To the left of the vertical seam is a depiction of the famous rabbit hunt. A man in a checkered loin cloth wearing a dagger sheath at the waist is hurling a type of bola in the direction of the fleeing rabbit. This is followed by a scene where a woman is washing a seated man's feet. This motif is unique in the realm of Situlen art. Next to this is a scene in which a seated man is being attended to by a woman holding a ladle. Adjoining this is a kettle with legs that are multiply bent and stabilized by two vertical bars. This is then followed by men wearing narrow and wide brimmed hats as well as long, checkered clothing. One of the individuals is carrying a hatchet over his shoulder. To the far right is another man leading a horse.

The lower zone which symbolizes the wilderness, depicts a predatory animal, perhaps a wolf or a lion, whose throat is ripped open. Imaginary plants with rolled up leaves are standing between him and other animals.

Alpine fauna as well as animals that exist in Classical mythology are included in the figural motif. To the far right one can just make out the horns of an ibex. The interring of the grave containing the bronze situla occurred in approximately the 5th century BC.

Further Hallstatt settlement findings, grave goods and scattered artifacts are dispersed throughout East Tirol with an emphasis in the Virgen valley.

The Hallstatt period is documented in only a very few locations (bronze jewelry from Ramingstein) in Pinzgau and in Lungau. Small high altitude settlements are situated on the Burgstall near Gries, on the Maiskogel near Unken and the Biberg near Saalfelden (see also: chapter on La Tène period. Also of interest are three needles from the Viehofen mining area in central Pinzgau that illustrate the continued value placed upon copper acquisition during this time period. Presently, known burials include a grave with cremated remains on the south slope of the Lukaspalfen near Bruck on the Glockner thoroughfare and the most notable in the region, a cemetery near Uttendorf. From 1975-2002, over 550 burial plots were excavated including a number of stone encased graves (photo 14).

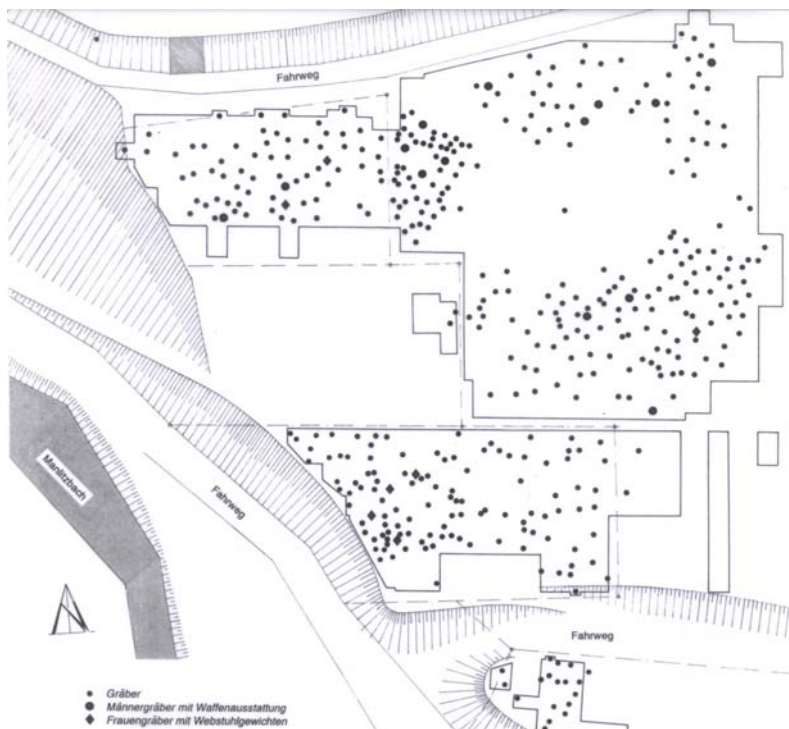


Fig. 14 Uttendorf, Pinzgau, Salzburg. Cemetery plan. F. Moosleitner

A peculiar feature observed here are the small distinctive forms made by those who did the interring, composed of layers of stones and visible on the surface directly above the covering stone. Due to the discovery of metal and ceramic grave goods, an association to the east alpine region (Carinthia, Krain, Isonzo valley) and to Italy (Padua) can be made. This makes the Uttendorf burial grounds, which probably belonged to miners or to those who profited from the mining business, the largest Iron Age cemetery found in the inter alpine area to date.

With respect to the Carinthian section, grave goods coming from Penk in the Möll valley are occasionally reported.

14. La Tène Period

During the **La Tène Period** (ca. 450-15 BC) in the East Tirol region, the predominant people belong to the Fritzens-Sanzeno-Culture. It was a characteristically independent cultural group whose worldly knowledge was based primarily upon the fundamental framework of the indigenous peoples in Ancient Tirol and Tentino around 500 BC. Similar features are house construction (recessed houses with inclined doorways) or the archeologically relevant ceramics. Previously, the cultural features distinguishing North and South Tirol, each markedly distinct, differentiated the two from one another. Characteristics of this newly formed culture are, in addition to original forms jewelry and high quality iron tools, the so called Fritzens-Sanzeno ceramic, the structural form of the Rätisch buildings and the wide spread Rätisch handwriting.

Typical features of these vessels are shallow scratched or stamped patterns and indented bottoms for small cups or vesicles and laid on trimmings as seen in the larger vessels. Settlement remains in East Tirol have been documented in Lienz-Schloßberg/Geierbichl, Kirchbichl/Lavant and the Burg in Obermauern/Virgen. Scattered findings are known from the city area of Aguntum, from Matrei/Weißenstein, Mortbichl/Assling and Burhügel/Heinfels. The burial findings, of which only cremated remains are extant, stem from Welzelach, Lavanter Kirchbichl and the partially excavated cemetery in Virgen/Untergriesach.

Like much of the territory into which the Fritzens-Sanzenzo-Culture expanded, the East Tirol area also fell into Celtic hands (Laianken tribe) around 100 BC and then later diffused peacefully and were incorporated into the Roman Empire. In order to answer detailed questions regarding the circumstances surrounding these events and their consequences for the inhabitants and organisation within the region, we are continually forced to rely on neighboring regions for comparative examples, all due to the disjointed state of research.

The residential areas in Pinzgau and Pongau were situated along the Salzach valley on Kirchhügel and Burgstall near St. Georgen. The discovery of a furnace used in the ore extraction process indicates that the inhabitants were working with iron. According to research conducted on this locality, ore was acquired in the neighboring Dientener valley. A central settlement was located with certainty on the Biberg near Saalfelden and is probably identical to the Oppidum belonging to the Celtic Ambisont. The sparse findings point to the existence of a mortarless ring wall. A standout amongst the plethora of small artifacts is a bronze deer figurine.

Another notable site is the Birgkogel near Caprun. Based upon a number of findings it is assumed that intensive and wide spread trading was taking place, especially with Italy. This settlement, dating from the late La Tène period, was enclosed by a ring wall composed of earth and stone and was at least 500m long. The economic potency of this area depended heavily upon the exploitation of iron ore reserves. A washer shaped ingot was also discovered on the Birgkogel. If one reads the graffiti painted on the walls of several homes situated on the Magdalensberg in Carinthia, then it can be assumed that these washer shaped ingots or “discoi” were exported to the south. This provides the archeological evidence necessary to prove that Noricum iron from the Salzburg mountains was being traded into the Mediterranean. Torrefying beds for iron ore found in Walchen and Uttendorf are concrete proof that the Celts were producing iron. Smelt furnaces used in conjunction with the torrefying beds were also discovered in the vicinity of the cemetery there.

Let us turn once again to the high alpine region. Particularly striking is the fragment of a gold neck ring from the Maschl pastureland (photo 15)



Fig. 15 Maschlalm, Salzburg. Celtic neckring fragment made of gold.
Illustration: A. Blaickner

that is interpreted as being a gift of thanks or in remembrance of a high ranking person. Recently, complete archeological documentation of the high altitude holy shrine on Hochtorn (photo 16)



Fig. 16 High altitude shrine Hochtorn,
Salzburg.
Photo: F. Moosleitner

clearly indicates that the routes of travel across the Tauern range were familiar to the Celts. They were utilized by bearers and their pack animals.

The Salzburg and Carinthian sections during the late La Tène period are characterized by the appearance of so called, graphite ceramics and their decorative combed pattern. Graphite is plentiful in the High Tauern and was undoubtedly the object of mining operations.

The area that is now East Tirol and Carinthia belonged to the kingdom of Noricum during the 2nd century BC. For the Romans this meant having a slew of Gaelic tribes in the alpine territory. A written agreement known as the *hospitium publicum* existed between Rome and Noricum in which two tribal sovereigns are mentioned by name (Voccio, Cincibulus). In the 1st century BC, Noricum succeeded in building up a certain economic power position, one whose foundation was firmly set in Noricum iron. Craftsmen were capable of manufacturing and selling products of steel like quality. A byproduct to these developments was the evolution of an indigenous coin mint that produced small and large silver pieces (tetradrachmen) in approximately 70 BC.

A better understanding of the spiritual world and the gods, who no doubt were the objects of offerings at the holy shrines situated near the mountain passes, is afforded by the well known places of worship discovered in Carinthia. Included on the list of Noricum's heavenly powers are Noreia the fertility goddess, Latobius the god of war, Grannus the god of healing, Vocretanus the god of lightning, Belenus the god of light and Smertrius the god of the underworld.

15. The Early and Middle Period of the Roman Empire and the Late Classic

The traces of Roman existence in East Tirol, outside of Aguntum and Lavant are almost completely relegated to a scientific gray area. It is however, obvious that alone Rome had a tight grip on the reigns of control in our virtually inaccessible outlying valleys. The main interest of this once dominant power was certainly the acquisition of mineral resources (iron, copper, silver) and their export to every corner of the empire. Evidence to substantiate this however, primarily due to the form

change that mines underwent as a result of continued mining during the Middle Ages and Modern times, has vanished or remains to be unearthed.

The establishment of a municipality in Aguntum was followed by the crystallization of a main, centrally located district east of Lienz characterized by a string of nameless Roman villas, thoroughfare stations and villages, all of whom fell under its administrative jurisdiction. Because of where they are situated some Roman ruins, like those below the St. George church in Kals, are thought to be associated with the administrative business of the mining operation.

Cemeteries in the East Tirolean section of the national park remain a seldom find. An urn burial dating from the 2nd century AD near St. Nikolaus in Matri and a body buried in a lime kiln dating from the 1st century AD near Thal/Assling are two rare exceptions.

The beginning of the 4th century AD witnessed the first signs of christianizing throughout the entire area, even though evidence for early Christian churches in the difficult to access high altitude valleys does not yet exist.

Written documentation relating to the alpine region ceases for hundreds of years following the end of Roman authority in the 5th century AD. In this case we are again reliant upon pick and shovel research, although town and field names and written records help us to better understand the settlement history of this area.

Archeological research in all three park sections focusing on this time period is still in its infancy. A number of burial grounds are known, however, the extent of the excavation was almost always restricted to a small sample dig, most often than not, the portion coincidentally unearthed by construction workers. In the majority of cases the circumstances prevent accurate estimations or objective opinions regarding population numbers, ethnicity, social differences, anomalous burials etc.

16. Eastern Goths

As discussed previously in the chapter on the Roman Empire, the territory that comprises the national park was part of the Noricum province. In the 5th century AD however, the southern portion, at the time under eastern Goth authority, was newly organized and the town of Teurnia near St. Peter in Spittal, Carinthia made the

administrative center for Noricum domestic affairs in 511 AD. In 489 AD, the Romans, mostly those of lower and middle class, who did not follow the Germanic military chief Odoaker back to their homeland in Italy, stood as of then under Gothic authority.

The death of their superlative king, Theoderich, in 526 was followed by the rapid demise of Gothic supremacy north of the Alps. Filling the power vacuum are the Franks who at this point controlled all of Noricum's alpine foreland. The re-conquering of Italy, lead by Kaiser Justinian from 534-555 resulted in the immigration of one or the other Byzantine soldier and dignitary to our area. The re-annexation would prove to be ephemeral. The Lombards, a Germanic tribe, were already on the march southwards with the intent of conquering Italy.

17. Bavarians and Romans

Burials belonging to Bavarian immigrants have yet to be found within the East Tirolean or Carinthian sections of the Hohe Tauern National Park. Solitary finds in Lienz like the single edged striking sword (sax) made of iron or a Frank throwing axe (franziska) document the use of Merowinger weapons in the region.

It is not known for how long the Bavarians occupied the Pinzgau area. The cemetery in Kaprun, which may possibly be linked to these people, unfortunately, did not produce one single grave good that may have helped clarify this point. The state archeology assumes however, that even previous to the middle of the 7th century AD, descendants of this Germanic tribe regularly settled in the mountainous areas of this region. Above all the passes leading to the south that crossed through Tauern area were probably controlled by the Bavarians in the later part of the 6th century BC.

18. Slavs

It was alluded to in the beginning that there is much evidence to suggest that the word Tauern is Slavic in origin. The word Korntauern (Korn = Slavic root) also originates from this linguistic group, a language that was still spoken in certain parts

of the country up until 1500. All three sections of the national park were settled by Slavs in the 6th century AD and at around the same time, a fact that is substantiated by the existence of similar field names.

The customary Slavic burial practice up until the 8th century AD in eastern Europe was cremation, followed by the placement of the ashes in simple ceramic urns without the inclusion of gifts, traditional clothing elements or jewelry. These types of early burials belonging to immigrant generations can also be expected in Noricum. A grave containing cremated remains was discovered in a Roman cemetery in Oberlienz, Lamprechtgarten. Burials dating between the 7th-9th century AD are graves containing entire, uncremated bodies. They are resting, stretched out on their backs, looking to the east and with the arms extended, parallel to the body. The use of boards and coffins has been repeatedly documented in archeological studies. Burial grounds containing jewelry from the 8th-10th century AD have been recorded in Mitteldorf, Virgen, Matrei/St. Nikolaus, Zedlach and Glanz (photo 17).

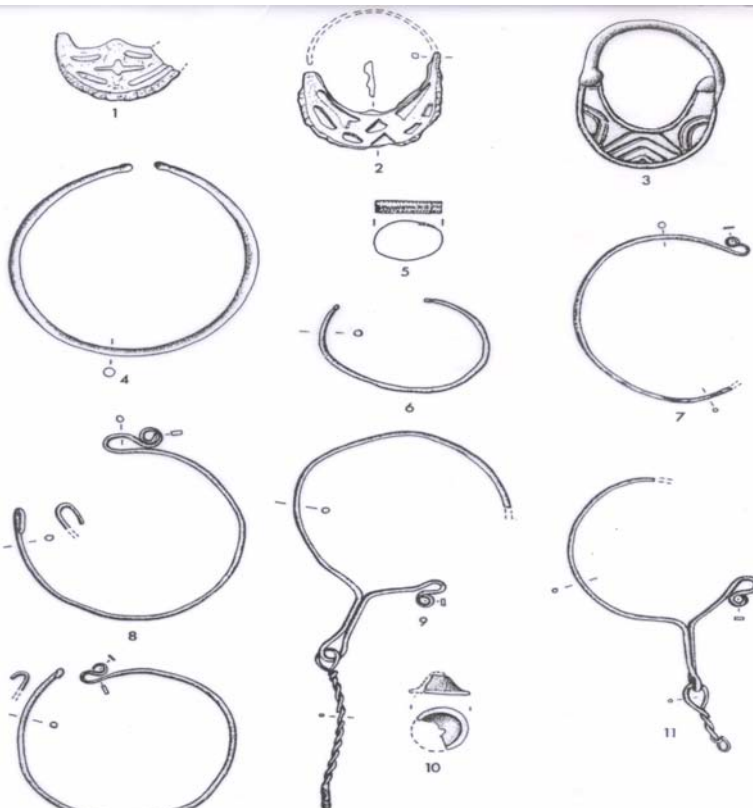


Fig. 17 Jewelry recovered from graves dating between the 8th – 10th century AD in East Tirol. Illustration: M. Schick

Settlement pattern findings, with the exception of churches, remain absent from the record.

19. Upper Middle Age and Modern Times (11th -15th century AD)

Only several of the most important routes of passage during the Classic period had paved surfaces. Outside of these were numerous unpaved paths traveled only with pack animals and not suited for wagon traffic. In the early part of the Modern era, there existed just such a path through the Hohen Tauern that ran north to south and, although wagons were not able to travel on it, connected the main trading centers with Nuremberg and Venice.

Following the institutionalization of county governments by Karl the Great, officials were now responsible for security along the most heavily traveled and important thoroughfares. This phenomenon is seen reoccurring later as well. This is how the Felbertauern, with the aid of aristocracy like the noblemen of Lechsgemünd or the noblemen of Felben who also built their castles along this route (Burg Mittersill, Felberturm, Weißenstein, Lengberg), was protected by the Kaiser during the 11th – 12th century. At the beginning of the 13th century the archdiocese Salzburg sought, and were successful in acquiring, this route and the judicial body responsible for it and responded by building out the infrastructure (castles and markets) along the thoroughfare.

Archeological research and structural analysis of buildings over the past few years has been focused on churches, whereby, documentation of early Christian and early Middle Age predecessors to these later structures stood at the forefront of the effort. With respect to Middle Age research, one of the positive aspects was that the Roman and Gothic phases also received ample attention. Church excavations that yielded diverse information about the buildings and which also produced many small artifacts were conducted in Matri in East Tirol, (St. Alban, St. Nikolaus) and Kals, (St. Georg). In addition, castle research has posted innumerable successes with the examination of structures in Weissenstein/Matri in East Tirol/Rabenstein, Virgen and Walchen in Pongau. The attempts at researching domiciles belonging to the inter-alpine inhabitants and not just these one time defense positions can at best be

described as timid. The archeological and structural analysis of these houses that are characterized by cantilevering floor and ceiling beams that jut beyond the outer facade of the building is still at its beginnings. Equally inadequate is the effort to research the associated work buildings like sheds, stalls and storerooms.

The skeletal remains that are frequently uncovered by road construction crews in the Virgen valley are often reported as being plague burials that date from the 14th -17th century, even though no C14 tests are conducted to establish a date or grave artifacts found that could both give positive affirmation of this claim. Masked under a false identity, these skeletons could well belong to the Roman population from the 4th -5th century AD who buried their dead without grave gifts.

20. Alpine Pasture Economy

One of the central themes for the national park's state history would have to be alpine pasture (alm) life and the economic strategies in these high mountain meadows. In comparison to places like the Salzkammergut, Switzerland and Slovenia, this area of research has received very little attention. Recently abandoned or vacated alms, when studied in conjunction with other sciences, are guaranteed to produce new revelations. This pertains to the entire time span between the area's "Neolithification" in 4000 BC, where the initial intensive use of the alms occurred, to the 20th century, a time that witnessed the marked reduction in alm utilization. There are a whole row of questions to be posed, for example, how the hay necessary for the stock's winter feed supply was reaped on the steep grass slopes, a practice that probably traces its roots back to the Roman Empire.

The starting gun for modern alm archeology was sounded in August 2002 with the alm excavation project "Beilstein" south of Obergurgl, North Tirol which is situated at 2,117m above sea level. According to the example in Beilstein and others in Switzerland, it was shown that the so called Rätisch construction method, with an entrance corridor attached to the north side of the structure (for comparison see chapter on La Tène Period), was used well into the late Middle Age.

Similar to the pollen analysis results gathered by Bockhart (see chapter on Neolithic period), the data collected from Beilstein indicate a certain amount of pastoral activity beginning in the first half of 5th millenium BC.

Research to date seems to indicate, with good probability, a continuous utilization of many of our alms from the New Stone Age until modern day, although preliminary analysis of the pollen profile shows that a number of pauses in usage can be expected.

21. Medieval and Early Modern Mining

Once again it was mining that blossomed in the early stages of the modern era and attracted people to the alpine region. Archeological findings are available from “Im Blindis” above St. Jakob in Deferegggen, East Tirol. The miners union erected houses, a blacksmith shop and an ore separation area for the miners who worked the seven mine shafts. The size of the mining facility is, at 35 x 9m, quite extraordinary considering that the mine is located at 2300m above sea level. An excavation conducted in 1991 yielded illuminating information regarding the life and work of the miners here in the 16th and 17th century. Clothing pieces, shoe fragments (leather heel, crampons) and table cutlery (knife and fork) used in consuming their meals are some of the objects that have been recovered. Working the damp tunnels often resulted in illnesses and the medicine bottles found indicate that the miners attempted to treat their afflictions. Personal effects and practical objects (tobacco pipe, carrying belt) were also discovered during the excavation. Over 500 iron objects that were manufactured in the blacksmith shop were also found and in good condition. Grindstones and whetstones were used to keep the tools sharp. Research on precious metal mining in the late Middle Age and early Modern era was conducted by an interdisciplinary science group studying the mining territory of the Bockhart valley in Pongau and came up with a number of interesting results. The dig report and the artifacts both afforded insight into a mining operation that was abandoned in the 2nd half of the 16th century, from the point of ore collection to its subsequent refinement. Also, information on social and material aspects of the miners like the lifestyle and working conditions could be addressed. The archeological investigation concentrated on a mine, an ore processing area and as

was the case in “im Blindis”, particularly on the miner’s house with living quarters and working areas, as well as a blacksmith workshop (photo 18).

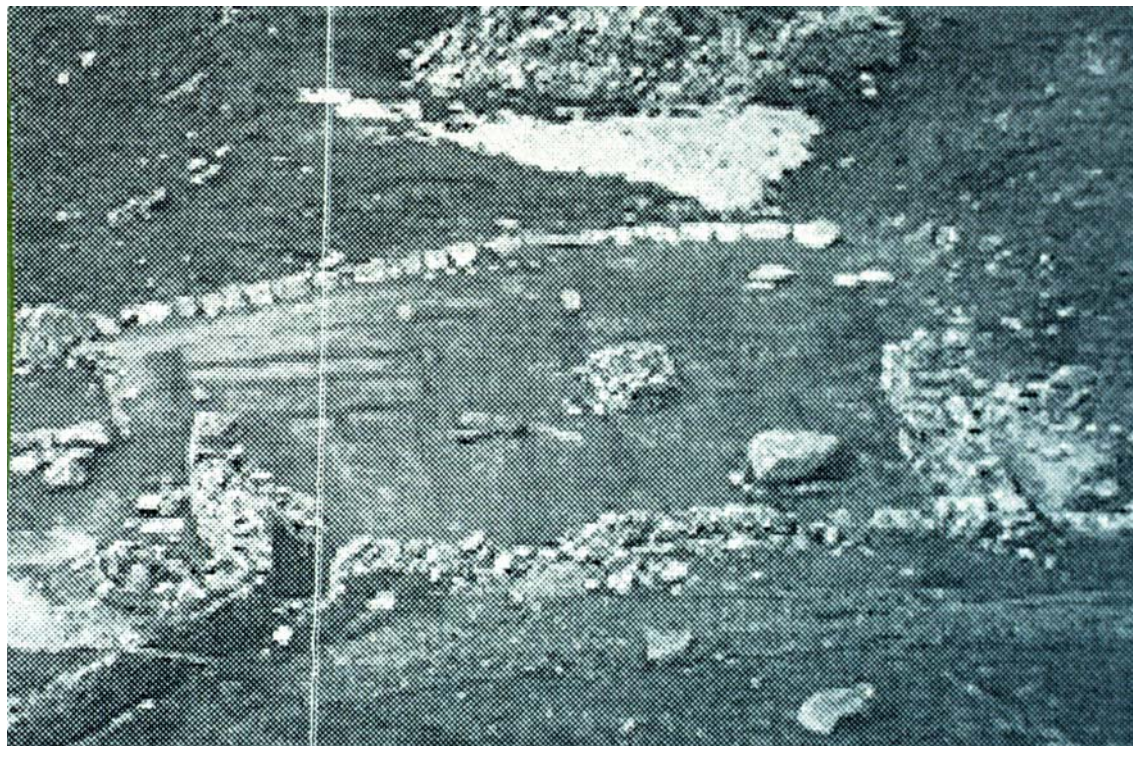


Fig. 18 Bockhartsee mountain territory, Salzburg. Miner ‘ s house. Photo: B. Cech

22. High Altitude Mountain Lakes as a Food Resource

A not too small number of high mountain lakes located within the three national park sections were utilized in prehistory (see chapter on Mesolithic Period) and during the Middle Ages. These bodies of water along with the previously discussed glaciers promise to be the wellspring of archeology in the future. Here is an example of a success story in East Tirol. The Obersee, on whose shores Mesolithic silex and rock crystal implements were found, is situated on the west end of the Deferegggen valley at 2,016m above sea level, very near to Staller’s saddle, the point from which, if one travels the route southward, leads into the Antholzer valley. On the north shore at a depth of approximately eight meters the remains of a dugout (photo 19)



Fig. 19 Obersee, St. Jakob in Deferegggen, East Tirol. Recovery of an late Middle Age Dugout. Photo: T. Reitmaier

could be localized. Recovered in 1999, only half of the wreck remained preserved and measured 3.10m in length and 0.75m in width. Radiocarbon analysis on a wood sample revealed a date of 10th-11th century AD. A precise date of 1080 AD however, was achieved with the additional aid of a dendrochronological examination that focused on the tree rings of the stone pine wood that was used to construct the boat hull. Historical associations and relationships indicate that the Obersee dugout is connected with the feudal fishery controlled by the Brixen diocese. Not as well documented are boats of stone pine found in the high altitude Grünwald lake at 1900m above sea level, in the Salzburg section of the Hohe Tauern.

In addition to manmade ponds in the valley, mountain lakes were exploited to ensure the supply of fresh fish, above all to monasteries and the homes of nobility, as a welcome delicacy and indispensable food during fasting periods. It is assumed that net fishing was practiced at altitudes of up to 2,800m. Thanks to its simple, yet, ingenious construction and design, the dugout remained in use into the 20th century AD.

23. Closing Remarks

Nearly 10,000 years of settlement history in the Hohe Tauern were covered at high speed. While working with this topic it became apparent that the Hohen Tauern National Park territory is a virtually inexhaustible reservoir for posing historical questions and as a basis for new and ongoing research projects, both of which often concern the adaptive process the inhabitants of this area underwent as they reacted to and coped with this unique environment.

Included here are the travel routes throughout the mountain range, the exploitation of mountain resources and last but not least the agricultural use of the high altitude areas over a period of thousands of years. The reciprocal relationship between hunting, alpine pasture economics, mining and travel, with all its potential for catastrophe, should be examined in a broader context.

There is much to indicate that economically favorable localities in the Hohe Tauern National Park were settled and occupied during the Neolithic period, albeit sparsely, and remain so today. Due to the topographical conditions combined with strategic and social handicaps and in view of the ever growing pressure exerted by a continual increase in population numbers, no other alternative was available.

There remains much to be done. Interdisciplinary projects (state history, geology, archeology, building analysis, field name research etc.) should take preference, because only through a correlated effort is it possible to present an even halfway adequate reconstruction of the occurrences that took place so long ago. A potential project is the mapping out of specific field names, for example, Palfen = rock cornice and the archeological investigation of the locations within the area. In order to expound upon the aforementioned example, the sites of Feglitz-Palfen near Huben in East Tirol or Weber-Palfen and Lukas-Palfen near Bruck on Mnt. Großglockner are worth bringing up, although in the case of the later, a prehistoric presence has already been established by way of archeological study reports and the discovery of pertinent artifacts. The same goes for the Slavic word "Petsch" or "Pötsche" which means rock cave or cave under the rocks, that afforded shelter to shepherds and

hunters. Such niches and rock shelters called “Steinscherben” in Kals slang, were used well into the 19th century, as a picture from the Dachstein area illustrates (photo 20).



Fig. 20 Dachstein territory. “Steinscherben” in high mountain territory.
Painting by Wenzel Kroupa (1825 – 1895).

For people, the Hohe Tauern was neither an inhospitable region for settlement nor an insurmountable barrier. Their natural resources meant sufficiency and gain, the passes assured community and connection, and above all they provided an open door through the mountains, a door which has remained open until this day.