

PROGRESS AND ACHIEVEMENTS OF THIRTY YEARS OF RESEARCH INTO EARLY PREHISTORY IN SLOVENIA

FRANCE LEBEN

Inštitut za arheologijo SAZU, Ljubljana

To present and assess archaeological activities in the discovery, excavation and interpretation of sites and material from pre-metal, prehistoric periods in Slovenia is a difficult and awesome task, especially because there are so many investigators on the one hand, and on the other so many different ways are employed for making chronological and cultural classifications of the material. In this Jubilee issue of *Arheološki vestnik* I shall try to present the most realistic picture possible of the work done and results achieved in our investigations into the Neolithic and Eneolithic periods since the last war. I began this task reluctantly, aware that I was bound to tread on people's toes and get many things wrong. In order not to go too far astray, I will list together and summarize existing facts and only roughly try to provide a more objective interpretation on the basis of the most recent discoveries and evidence of material at home and abroad.

Before we come to a survey of the results, a short statement on the beginnings of research into Slovene Neolithic must be made. These were planned by Josip Korošec and were directed and guided by him until his death. After he came to Slovenia, and especially when he became professor and head of the Department of Archeology at Ljubljana University and Director of the Section for Archaeology in the Slovene Academy of Sciences and Arts (SAZU), he found time for research into all the aspects of this period. He started his first excavations at Ptuj castle, then turned to the lake dwellings of the Ljubljansko barje marsh (Blatna Brezovica, Resnikov and Maharski prekop), he discovered Drulovka, and at the same time studied the already excavated material from Ajdovska jama and Predjama, and finds from the caves from the Karst region round Trieste, Vinomer and Križevci in Croatia. Through these discoveries and results he proved the existence of the then almost unknown Neolithic period of Slovene prehistory, and at the same time initiated interesting discussions on the rise, development and decline of Neolithic and Eneolithic cultural groups in Slovenia and its neighbours. His teaching was audacious. It led to swift decisions and definitions. Unfortunately such haste often led to inexact interpretations and superficial written work. The late J. Korošec, whose personality was flamboyant, lived and worked intensively, and just as intensively and precipitately made decisions and tried to prove them. This short record of the discoverer and researcher into the Eneolithic in Slovenia would be out of place here if we omitted to mention that Korošec was the architect of the Archaeological Map of Slovenia and founded *Arheološki vestnik* of which he was the editor during its first ten years.

There would be no sense in this survey in trying to mention or describe all the sites. These are recorded, with bibliography and finds, in the book *Arheološka najdišča Slovenije* (*Archaeological sites in Slovenia*) which was published in Ljubljana in 1975. Here the Neolithic and Eneolithic map is marked with 341 sites with a list of settlements, cave sites, cemeteries and isolated finds. We shall only look at these sites which have been most thoroughly investigated and those which offer enough material for a relative and absolute chronological classification; taking into consideration the typological circumstances of finds, such as their place in horizontal and vertical stratigraphy. During the last thirty years a considerable amount of such material has been discovered in Slovenia and many papers have been written about it — we shall cite the main works in the text. It is a fact, however, that as yet we have not excavated even the smallest site which could answer all the essential questions on the life of its inhabitants either in the Neolithic, transitional or Eneolithic ages, down to the Early Bronze Age. To seek the answers to these questions should be one of the first tasks a coordinated programme of research by Slovene prehistorians.

It is not easy to plan any overview in a chronological and regional order. We shall try to frame this within the Slovene geographical regions, starting with Styria where excavations were first undertaken in a scientific and systematic fashion. We shall briefly describe and document the main characteristics of the sites with the aim of obtaining a comparative chronological picture of events, which may give the reader an insight into this period of Slovene prehistory. Finally we will try to form a uniform evaluation of the cultural heritage of this period in Slovenia and compare it with the knowledge gained by workers in neighbouring countries.

We must start with Ptuj castle. Excavations of the Illyrian settlement there in 1946 and 1947 uncovered a heterogeneous prehistoric culture (*J. Korošec, 1951*) which, although mixed, showed distinct separate typological groups. At that time the discoverer assigned these first and oldest finds to Slavonian culture. After a renewed revision and interpretation of the earliest prehistoric culture from Ptuj castle *J. Korošec (1965)* rejected his original classification and included it in the Alpine facies of the Lengyel culture, which was already recognised at that time, chronologically at the end of the Neolithic and into the transitional period.

S. Pahič (1973) provided a general framework and survey of other Neolithic sites and chance finds in northeastern Slovenia. He classified everything within a uniform period and within one cultural group which was supposedly spread over the southeastern, sub-Alpine region, thereby stressing that local variants in material culture did not express such characteristics as would warrant their being grouped in a separate cultural variation.

He collected and amended his own chronological and cultural observations from excavations of the remains of Eneolithic dwellings around Zreče in the Dravinja valley (*Pahič, 1955, 1956*). Here it should be mentioned that classification of the earliest excavated material from Rifnik (*Bolta, 1962-63*) should be adapted to the Slovene Eneolithic scheme as the typological similarities between its pottery and finds from Ajdovska jama and Drulovka permit the material to be placed somewhere in the middle of the Eneolithic period. The last sondages undertaken on Pavlovski vrh also cleared up the question of where previous chance finds (*Tomanič-Jevremov, 1973*) came from. Rough vessels, especially the furrowed ornamentation on better quality pottery — a combination of obliquely incised cuts and droplike pits — place the probable settlement to the period at the end of the Eneolithic and beginning of the Bronze Age.

S. Pahič (1976) now presented a unified classification for four previously known sites in western Slovenske Gorice, and thus assigned Andrenci, Spodnji Duplek, Spodnji

Porčič and Vumpah to the decline of the Lengyel level or to early Eneolithic. Other sites within Slovenia which also belong here are Ajdovska jama, Drulovka, Resnikov prekop and Ptuj castle as well as sites in southern Austria.

Prehistoric remains from Ajdovska jama (also called Kartuševe jama) near Nemška vas in the lower Posavje (Sava region), excavated before the war by S. Brodar were collected by J. Korošec (1953) who at that time assigned most of them to a late-Neolithic group of the Alpine facies of the Lengyel culture. Although he attributed the oldest material to the Neolithic period on the basis of the pottery forms, he judged some kinds of ornamentation to be of a later origin. Looking at the whole, the finds can be attributed to the early Eneolithic period, as they represent a good selection of material characteristics of the Lasinja cultural complex (*Dimitrijević, 1961, 22 f.; Leben, 1973 b*). Later and final investigations into the finds from four occupation levels uncovered new proof of Neolithic and Eneolithic habitation and of the use made of caves (*P. Korošec, 1970; 1975*). The deepest level revealed elements of supposedly Moravian painted pottery, the next two, significant components of the Adriatic-Mediterranean culture. The uppermost level displayed the material culture of the early Eneolithic with many of those foreign elements which appear over the whole area of expansion of the Alpine phase of the Lengyel culture in the south-eastern Alps (Pöls-hals-Strappelkogel type, Lasinja and Balaton groups, Boleraz type and pottery with furrowed cuts — *Furchenstichkeramik*); according to P. Korošec.

P. Korošec and M. Uršič (1965) began to study and interpret the pre-war material from Jermanova (Ajdovska) jama in Pijavško. They classified the earliest pottery to the later phase of the Alpine facies of the Lengyel culture in Slovenia or attributed it to the typological complex of finds from nearby Kartuševe (Ajdovska) jama and from Resnikov prekop on the Ljubljansko barje — the concluding phase of the Ig I horizon. Looked at as a whole these finds are typical representatives of the south-eastern Eneolithic culture and only a few elements show typological characteristics of its later phase (*Leben, 1973 a, 153*). Jugs with band handles are a distinctively later element, whose origins must be sought in the Baden culture; another element, which does not belong in the narrow classification of the pottery found in Jermanova jama either, is an ornamentation feature of hatched triangles. This technique of ornamentation is evidence of the later Eneolithic period, as it represents a typical method of decorating pottery in the late stages of the Lengyel culture — especially of the Boleraz type where it existed along the edge of the Carpathian plain at the same time as classically grooved pottery.

The cave Levakova jama long ago produced a piece of Eneolithic pottery, decorated with encrusted furrowed cuts which was mixed up in the cave with other, later finds (*Leben, 1969, 28*). Pieces of a jug with a handle, decorated in the same way, were excavated from the cave a few years ago (*Guštin, 1976, 267 f.*). The form and motif, whereby an incised triangle was bordered by droplike pits, was ascribed by the so-called Lubnik-style; i. e. to the B type of pottery from the Kevderc cave, belonging, according to chronological and cultural interpretation, somewhere in the second half of the Eneolithic (*Leben, 1973 a, 152*). However, the decorated jug from Levakova jama is later and probably belongs to the sphere of Vučedol pottery. If we compare it with the finds from Kevderc, however, then it is a classic example of the C-style or latest pottery from that site. A similar decoration is found more often in post-Vučedol pottery on the Ljubljansko barje; elsewhere it is expressed by the Višnjica type

Retz-Gajary cultural group, which appears as a substratum of the Eneolithic (Lasinja), Ljubljana and late Vučedol cultures (*Dimitrijević, 1967, 6*). Its relative chronology places it at the end of the Eneolithic and beginning of the Bronze Age — phase A-1 (according to Reinecke).

Otherwise, Eneolithic finds from south-east Slovenia, coming almost exclusively from cave sites, have already been documented in outline (*Leben, 1969*) with the omission only of the latest interesting chance finds from settlements in the open (Movernava vas, Zorenci and Pusti gradec in Bela Krajina and results from the excavations in the caves Veliki zjot near Vinica and Ciganska jama near Kočevje whose prehistoric legacy is still being studied. Here we should only mention that pottery from Veliki zjot is mostly Eneolithic comb ware (*Leben, 1974 b*) while in Ciganska jama highly decorated pottery testifies that this was a very early prehistoric settlement and appears to belong to the Eneolithic period (Lasinja type) and the beginning of the Bronze Age (Višnjica type).

The first more extensive excavations in the north-western region of Slovenia took place on the rocky promontory above the river Sava at Drulovka near Kranj. J. Korošec (*1960 a*) uniformly linked the material finds of the prehistoric settlement with the finds already known from Lower Carniola and Styria (Ajdovska jama, Ptuj castle, Zreče, Zbelovo) which at that time he had assigned to the end of the Neolithic and transitional period; many Lengyel elements are evident in the forms of this group. Of Drulovka, J. Korošec (*1960 a, 49*) more clearly stated that, on the basis of later pottery elements, the settlement had existed throughout the whole Eneolithic period up to the beginning of the Bronze Age.

Some years ago discoveries in the Kevderc cave on Lubnik brought something new in the ornamentation and forms of pottery into the material culture of early Slovene prehistory. Because these new elements of prehistoric pottery production were completely unknown in Slovenia before that time, we began by classifying the finds from Kevderc to the early Bronze Age: in a wider sense to the Slavonian cultural circle and more precisely to the later (Ig II) stage of the Ljubljansko barje culture (*Leben, 1963, 231*). The discovery and true classification of similar material from Slovenia and neighbouring lands forced us to recognise that the finds from Kevderc were older. From the standpoint of relative and absolute chronology we classified them in the south-eastern Alpine Eneolithic culture, with three stylistic groups (*Leben, 1973 a, 151; 1973 c*). Pottery of style A belongs to the early Lasinja stage, or early Eneolithic; style B belongs to the middle Eneolithic and is mainly represented by the new Lubnik type of Lasinja pottery; style C must be ascribed to the end of the Eneolithic and beginning of the Bronze Age with elements of an already degenerate Vučedol pottery. Again there was another unsuccessful comparison: the equating of the finds from Kevderc with those from Predjama and lake dwellings at Notranje Gorice or with the Ig II phase of the Ljubljansko barje culture (*P. Korošec, 1974*). A classification of finds into the A-2 phase of the Bronze Age (according to Reinecke's scheme) is quite acceptable for Predjama and Notranje Gorice, while, as we can see, the pottery from Kevderc is different.

The Karst region, or Slovene Littoral, also offers some significant material. Although Italian colleagues working in the field of prehistoric finds from the Trieste region have a different interpretation, it is clear that here we have some characteristic

material from pre-metal periods as well (*J. Korošec, 1960 b; P. Korošec, 1956; Leben, 1967; 1973 a*). Western Slovenia offers a modest and poorly documented choice of Eneolithic and Early Bronze Age remains, exclusively in Karst caves. They mostly consist of certain pieces of pottery from Podganja jama cave near Coljava, finds from the lowest, prehistoric deposits in Tominčeva jama and Roška špilja caves which open on to the Velika dolina part of the Škocjanska jama cave system (*Leben, 1974 a*).

A completely new discovery of the last few years was the Trhlovca cave, which opens up in the Karst district between Divača and Lokev. Systematic excavations which began in 1977 revealed material of great importance to our knowledge of the past of the Karst region (*Leben, 1979*). In the overhang, which was possibly the entrance, Holocene and Pleistocene sediment layers were trapped and these became thicker and thicker from the east towards the west wall and present us with a prehistoric stratification almost three metres thick, documented with occupation levels and finds from the Iron Age backwards. For the first time we could describe more accurately the history of the Karst on the basis of finds and for the first time could speak about finds from the late Stone Age in Slovenia. The Neolithic finds from Trhlovca can be incorporated in the material already discovered in the Trieste Karst region; the results of our investigations more clearly define the whole typological and cultural picture. The significance of Trhlovca lies in the fact that the pottery, especially from two of the lowest prehistoric layers, displays those characteristics which set them at the end of the middle and into the later Neolithic. The forms of vessels and decoration of incised triangles are evidence of an Adriatic cultural element which in the Slovene Littoral was fashioned as the Trieste type of the Danilo culture and the Karst type of Hvar culture (*Leben 1973 a, 146 f.*).

Further mention must be made, in Western Slovenia, of part of the legacy of Predjama which was excavated at Jama cave below Jamski grad (*J. Korošec, 1956*). The majority of the prehistoric pottery belongs to the end of the Early Bronze Age and is the most distinctive selection of the Littoral type of Bronze Age ware, contemporary with the most recent pottery production from the lake dwellings of the Ljubljansko barje (Blatna Brezovica, Notranje Gorice). Among the material from Predjama there were two pieces which dated to the very beginning of the Bronze Age (*P. Korošec, 1956, 369*). As much by their form as by their technique of ornamentation, with furrowed cuts, in line and triangular motifs, do these two pieces recall the pottery of the Ljubljana culture, which represents in the Ig lake dwellings a local type of the late phase of the Vučedol cultural group. On the basis of central Slovene sites (Resnikov prekop, Kevderc, Ptuj castle, Ajdovska jama) *P. Korošec (1973, 178 f.)* tried to re-interpret the material from Predjama, and to establish an earlier origin for some finds, i. e. to regard them as some variant of the Alpine phase of the Lengyel culture. However, up to now the pottery has not revealed anything concrete, while the typology of the stone implements is not decisive enough for such a cultural transfusion, as individual forms of arrows or hammers can be preserved far into the metal age.

For an outline knowledge of early prehistory in Slovenia we must briefly evaluate the results and the present state of excavations of lake dwellings on the Ljubljansko barje, which deserve a special place in this survey, because of the problems this kind of settlement present, as well as the cultural heritage they have left. We can divide the discoveries on the Ljubljansko barje into two groups: those dwellings which have been more or less thoroughly excavated and those places which have been included in

the archaeological and topographical system of marsh dwellings by virtue of small soundings made or chance finds discovered. In the first group we include Deschmann's lake dwellings, the Resnikov and Maharski canals, Notranje Gorice, Blatna Brezovica, Na Partih, Kamnik pod Krimom and Preserje (Sivčev canal); the second group comprises Borovnica, Bevke, Plešivica, Vnanje Gorice and eight points in Ljubljana itself (Mali graben, Špica, between Špica and Čevljarski bridge, under the Prule bridge, Rožna ulica street, Orlova cesta road, Jarčev travnik near the botanical garden and the brick works at Vič).

Excavations undertaken by K. Deschmann in the years 1875 and 1877 at Kepje, beside the Parti canal and at Parti on the river Ižica near Ig produced material for the so-called Ig group. The finds from Deschmann's excavations of a hundred years ago were studied and published in a catalogue by P. and J. Korošec (1969) who divided them according to their chronological and cultural characteristics into two groups: Ig I and Ig II. According to their conclusions the group Ig I belongs to the Slavonian culture at the point where elements of the Alpine phase of the Lengyel culture were widespread; the group Ig II is parallel to the cultural groups which originated at the beginning of the Bronze Age in western Yugoslavia, i. e. in an area south of the first group. Chronologically speaking Ig I falls into the first developmental phase of the Slavonian cultural circle, while group Ig II belongs to the later phase. At the same time the group Ig I is chronologically parallel with the Baden culture at the point when later cultural elements, characteristic of group Ig II were already beginning to advance into the Slavonian region. Outside this region group Ig I shows obvious close connections with the Neusiedl-Retz and Mondsee pottery in Austria, and the Jevišovice C horizon in the Carpathian basin, i. e. the cannellated pottery. Group Ig II corresponds to the cultural horizon of the Vučedol group (Vučedol, Sarvaš, Várhegy) and to a greater or lesser extent to the distribution of Litzengeramik (corded ware), partly to certain forms of the Oggau-Loretto, Wieselburg, Gáta and Kisapostag types; westwards it corresponds to the Remedello and Polada cultures and to the bell beaker culture. If we summarize the chronological and cultural interpretation of Deschmann's Ig lake dwellings, we can say that the group Ig I belongs to the earlier Eneolithic while group Ig II belongs to the later Eneolithic and Early Bronze Age.

The first excavations after the war on the Ljubljansko barje were undertaken by J. Korošec beside the Lipovec canal near Blatna Brezovica. The monotonous material culture was characteristic of life in the lake dwellings towards the end of the Early Bronze Age (J. Korošec, 1963) which at the same time means that this was one of the most recent lake dwelling settlements in the marsh.

For his next excavation J. Korošec decided on the Resnik canal near Ig. This was a lucky strike as he discovered the hitherto oldest settlement on the Ljubljansko barje (J. Korošec, 1964). He placed it in the transitional period between the Neolithic and Eneolithic although he believed that the finds were later than those from Drulovka and from Ajdovska jama. Z. Harej (1975) corrected Korošec's definition to some extent with the discovery of new finds and reassigned the lake dwellings to the earlier Eneolithic or to the pre-Baden horizon of the Alpine phase of the Lengyel, Lasinja and Balaton cultural group.

Soundings made around Ig uncovered lake dwellings beside the Maharski canal. Several years of systematic excavations indicate that perhaps at last we can look forward to the complete excavation and documentation of a lake dwelling site on the Ljubljansko barje (Bregant, 1975; 1976). Results achieved to date prove that life in

this lake dwelling was contemporary with those dwellings at Blatna Brezovica and Notranje Gorice, although with an older cultural tradition. Analysis of the pottery finds reveals earlier typological components in some forms which developed from the basic characteristics of the pottery of the Alpine phase of the Lengyel culture — the influence of the nearby lake dwelling beside the Resnik canal, while the decoration used reveals a more modest, local taste.

New finds from the lake dwelling at Notranje Gorice, which has been known for a long time, have greatly increased our knowledge of this site (Harej, 1976). On one side it is confirmed that the settlement flourished at the end of the Early Bronze Age and that its relative chronological position is firmly fixed at the end of the life of Deschmann's lake dwelling near Ig, i.e. to the last period of group Ig II. On the other side we suddenly perceive, just as at Maharski canal, that the pottery from this lake dwelling with its characteristics of older Eneolithic, reaches to the Alpine phase of the Lengyel cultural group and Baden derivatives.

We also obtained new finds and data from the lake dwelling at Parti on the river Ižica (P. Korošec, 1964). The heterogenous material from the partly destroyed site on the river bed does not represent any chronological or cultural unity. From a typological viewpoint the finds belong between the Alpine facies of the Lengyel culture and the Ig I and Ig II Groups; at the end of the Eneolithic, therefore, according to present chronological and cultural interpretations of the marsh lake dwellings.

If we analyse the results of the intensive excavations carried out on the lake dwellings of the Ljubljansko barje, we can see a considerable increase in our knowledge and more variation in the material remains found. However it is evident that a new approach must be sought as soon as possible to amend and supplement chronological interpretations to some extent. The most urgent task would be to prepare a uniform horizontal and vertical stratification of the sites. Present opinions seem somewhat unclear, rather old-fashioned and more or less subjective. The Ljubljansko barje calls for united work, modern methods of excavation and coordinated typological and statistical study of the material. Because of the locality and type of building of the lake dwellings, it would be necessary to consider even more carefully the scientific data, the geological conditions and formation of the terrain, the lake formation, the sedimentation and hydrology of the marsh as well as geomorphological events in the Atlantic and sub-Boreal periods. At the same time it would be vital to compare material remains and architectural elements with similar, contemporary settlements in the sub-Alpine and Alpine regions of neighbouring countries. With such an approach to research it may well emerge that during the period when the marsh lake dwellings flourished there existed at least three characteristic cultural phases with their stages of development. A three-stage chronological ladder, which P. Korošec (1973, 192) postulated for the Eneolithic period in Slovenia, is suitable only for the cultural development and relative chronology of the lake dwellings of the Ljubljansko barje. For the sake of continuity a recapitulation is appropriate at this point: *the oldest stage belongs to the declining Lengyel group and the earliest appearance of the Slavonian group; the middle stage is characterised by elements from the already formed Slavonian group; the latest stage comprises elements of the so-called Ig II group.*

It is understandable that analyses from other natural and technical sciences are necessary and welcome for a clear cultural and economic picture of an archaeological site. Certain results, be they of anthropology, osteology, pedology, xylotomy, and anthracotomy, spectrographic analysis or thermoluminescence help archaeology, espe-

cially the archaeology of prehistory, and indicate or confirm the right approach. The method of determining age with the help of radioactive carbon is, however, not the best aid to prehistory.

So, too, on the Ljubljansko barje these analyses have not been a great help. They have confirmed the relative chronological interrelationship of the sites but have caused confusion in the absolute dating of the sites. It would thus be advisable for prehistorians together with physicists and other experts who deal with C-14 analyses to determine a time x , or zero, for the starting point of absolute dating. This kind of analysis of the piles from several lake dwellings has shown too great an age (*Bregant, 1976, 93*). If we take the resulting year of 3906 B. C. for the Resnik canal, then according to archaeological absolute chronology we come into the middle Neolithic period! There are two explanations for this. Either the people of the lake dwellings may have used wood which was then already 2000 years old to build their settlements with, or the year obtained is valid from today and not from the beginning of the Christian era, as only this way do we get an almost exact absolute age of this lake dwelling. The difference obtained of 735 years (considerably more with dendrological calibration) between two analyses from the lake dwelling beside Maharski canal is already unacceptable from the point of view of a unified cultural classification. These are not a few years in which just a few generations with the same material culture might live, but centuries which would not only outlast all the cultural groups on the marsh but also without doubt would transform this or any other prehistoric period.

Mention should still be made of a similar example from elsewhere. A thousand year difference between the absolute archaeological classification and radioactive carbon dating within vegetation zones — 3000/2500 B. C. — is known from the almost contemporary site of Bisamberg-Opullendorf in Lower Austria (*Ruttkay, 1976, 300*). There the mere presence among the finds of pottery elements of the second and third phases of the Balaton cultural group, together with the combed decoration of pottery, demands a classification of the site within the late Eneolithic. We could enumerate more such examples but let it suffice to mention the work in which Miložić (*1967*) proved the senselessness of trying to determine absolute chronology with the help of this method for the late Stone Age in south-eastern Europe. The fact is that prehistory will have to continue making use of established and at present more reliable comparative stratigraphical and typological-chronological methods for an accurate as possible determination of relative and absolute chronologies.

As a conclusion to this survey of the results of thirty years of investigation into early prehistory in Slovenia we must try to gain a perspective of the relations between our sites and other cultural groups which established themselves at this period over the sub-Alpine world. With regard to the classification of Slovene material a whole series of thoughts, opinions and conclusions have already been written. In general the literature reflects two labels, which designate essentially one and the same material production, founded on the basis of Lengyel and Baden derivations: the Alpine facies of the Lengyel culture and the Lasinja culture (*J. Korošec, 1958; 1960 a, 47; Dimi-trijević, 1961, 22; Leben, 1973 b*). Inside and outside this cultural circle there still appear the names of local types, variants and stages. In Slovenia the Škocjan-Lasinja group and the Kevderc-Hrnjevac type; in southern Austria the Styrian-Carinthian late Neolithic is a term used, and this is composed of the südinneralpine Jungsteinzeit, spätneolithischer Stil, Pölshals-Strappelkogel, Retz-Neusiedl (*Modrijan, 1973 a; 1973 b*)

and in recent times the new name Kanzianberg-Brezje type has appeared (*Ruttkey, 1976, 299*), which however, brings nothing new into the Eneolithic material culture of the sub-Alpine world. Around this nucleus in neighbouring areas circle groups of a post-Lengyel horizon. Thus in the central Danube region are the Retz-Gajary and Balaton cultures, two groups of combed and cannulated pottery, the Jevišovice B-C and Boleraz groups and the Münchshöfer cultural group north of the Alps.

In our Eneolithic excavations there is still much that is undecided, as direct formal components, stemming from the Neolithic pottery of the Adriatic cultural circle or from the most recent developmental phase of the Danilo culture, are being sought only in a few sites (*Bregant, 1974*) of the central Slovene Eneolithic group (Drulovka, the lake dwellings of the Resnik canal and on Parti, Ajdovska jama, Ptuj castle, Brezje), although here and in other sites strong influences of the Lengyel tradition can be felt. Particular circumstances make comparisons in the direction of the Adriatic difficult. There are only uncertain similarities on the one hand, and these can be more or less refuted on the other by a considerable time span, without any transitional cultural phase and the great geographical distance, without any intermediate points. The similarity of some forms in the continental Eneolithic zones (e. g. pieces of vessels with spherical upper parts, semispherical and biconical bowls, high concave feet and some decorative elements — sheaves of slanting, incised lines in various combinations) is more probably the expression of an autochthonous production, which fashioned, or even copied some earlier forms. Also because of the rougher quality and decoration the possibility of a direct adoption is almost excluded. The fact is that in Slovenia such formal components are found in the sites of the Adriatic-Littoral zones (*Leben, 1973 a, 147*), but the material is dated exclusively to the middle and late Neolithic. In the south-eastern Alpine region the Adriatic Neolithic expansion is stratigraphically and materially established in the Trhlovca cave in the Karst district.

Š. Batović (*1973*) concerned himself to a considerable degree with Neolithic and Eneolithic influences from the Adriatic in the region of the south-eastern Alps. He also established that Adriatic Neolithic penetrated into the Slovene Littoral via Istria and left visible traces there, especially in the middle Danilo and later Hvar phases. He was inclined to the idea that elements of later Adriatic Neolithic influenced Eneolithic cultural groups in Slovenia, western Croatia, Austria and Hungary. Although he saw a Lengyel element in the Lasinja culture, he rejected it as a variant of Lengyel on the grounds that it was composed of local elements and strong Adriatic features; the same applies to the Alpine facies of the Lengyel culture. Both cultural groups, allowing for the fact that the Lasinje group is a trifle later, should be closely linked and had a similar development; the late Neolithic Adriatic group exerted an influence on each, though by different routes — on the Alpine facies via Istria and on the Lasinja culture via Lika region.

The links between Bosnia and Slovenia are also interesting (*Benac, 1973*). In earlier prehistoric periods the Alpine region must have been a special cultural province, as in the Neolithic period there cannot have been cultural links between the two regions. In the Eneolithic period, however, northern Bosnia was linked with the Lasinja culture, which began to spread out from its homeland over neighbouring regions. The wave first swept over the Alpine region — Lasinja phase A — and then in Lasinja phase B reached the mountainous districts of northern Bosnia. Settlement areas in Bosnia show that the first or older horizon of Eneolithic mountain sites (*Žeravica, 1978*) belonged to a pure Lasinja group and by the relative chronology in Bosnia this

horizon would represent the later period of the third phase of the Baden cultural complex.

It is an interesting fact that features from Slovene Eneolithic sites have been observed in the region around lake Balaton. N. and R. Kalicz (1974) distinguished three directions of cultural influence in the Eneolithic and transitional periods; among them one which can be closely compared with the Alpine region. Among the material found in the western Hungarian and Croatian Balaton-Lasinja group a considerable number of Alpine, even western European, cultural features were to be found, brought there via the Slovene region. Only N. Kalicz (1973) divided the Balaton group into three broad types on the basis of pottery typology, methods of burial, the remains of buildings and also by territorial grouping. The later two (types II and III) are interesting for Slovenia at that time, where strong influences of Alpine Eneolithic can be felt. Thus we have material proof that the Balaton group took over part of the characteristics of our Lasinja culture as it could not have penetrated that far from the Adriatic.

We can therefore ascribe the cultural heritage of Slovenia, western Croatia and southern Austria after the Neolithic period to a kind of Eneolithic society which expressed a unity of form and decoration even in its pottery production; it united features of the early Baden and late Lengyel cultures with local elements (Alpine facies — Lasinja — Ig I). Some deviations of typology and decoration can be explained in this material culture as special local development and as variants of other, stronger cultural influences. Perhaps a uniform label "sub-Alpine Eneolithic culture" might encapsulate the whole region and time, the content and extent which we have essentially tried many times to evaluate (*Leben*, 1973 b, 194; 1977, 94).

The picture of knowledge about early prehistory in Slovenia is thus broadly sketched out but we are a long way from thinking that everything has been covered. For this reason we have already selected new points for our coordinated archaeological research programme which will in all probability supplement the picture of the beginnings, course and decline of the Neolithic and Eneolithic cultures in Slovenia.

Literature

- Batović, Š., 1973, Odnos jadranskog Primorja prema području jugoistočnih Alpa u neolitu i eneolitu (Die Beziehungen des adriatischen Küstenlandes zum Gebiet der südöstlichen Alpen im Neolithikum und Äneolithikum). *Arheološki vestnik* 24, 62—127. Ljubljana.
- Benac, A., 1973, O odnosima Bosne i Slovenije u neolitskom dobu (Über die Beziehungen zwischen Bosnien und Slowenien im Neolithikum). *Arheološki vestnik* 24, 31—37. Ljubljana.
- Bolta, L., 1962-63, Neolitska naselbina na Rižniku (The Neolithic Settlement at Rifnik). *Arheološki vestnik* 13—14, 287—291. Ljubljana.
- Bregant, T., 1974, Elementi jadransko-mediteranske kulturne skupine v alpskem faciesu lengyelske kulture (Elemente der adritisch-mediterranen Kulturgruppe in der alpinen Fazies der Lengyel-Kultur). *Situla* 14—15, 35—43. Ljubljana.
- 1975, Kolišče ob Maharskem prekopu pri Igu — raziskovanja 1973. in 1974. leta (Der Pfahlbau am Maharski Kanal — Forschungen aus dem Jahren 1973 und 1974). *Poročilo o raziskovanju neolita in eneolita v Sloveniji* 4, 7—114. Ljubljana.
- 1976, Prispevek biološko-tehniških disciplin k proučevanju kulture Ljubljanskega barja (Beitrag der biologisch-technischen Disziplinen zur Erforschung der Laibachermoorkultur). *Godišnjak* 13, 85—96. Sarajevo.
- 1978, Arhitektura kolišč Ljubljanskega barja (Die Architektur der Pfahlbauten des Moors von Ljubljana). *Materijali* 14 (Prilep 1976), 53—65. Beograd.

- Dimitrijević, S., 1961, Problem neolita i eneolita u sjeverozapadnoj Jugoslaviji (Problem des Neolithikums und Aeneolithikums in Nordwestjugoslawien). *Opuscula archaeologica* 5, 5—87. Zagreb.
- 1967, Die Ljubljana-Kultur. Problem des Substrats, der Genese und der regionalen Typologie. *Archaeologia Jugoslavica* 8, 1—26. Beograd.
- Guštin, M., 1976, Poročilo o izkopu kulturnih slojev v Levakovi jami (Bericht über die Ausgrabung der Kulturschichten in der Höhle Levakova jama). *Arheološki vestnik* 27, 260—282. Ljubljana.
- Harej, Z., 1975, Kolišče ob Resnikovem prekopu — II (Der Pfahlbau am Resnik-Kanal II). Poročilo o raziskovanju neolita in eneolita v Sloveniji 4, 145—169. Ljubljana.
- 1976, Kolišče v Notranjih Goricah (Der Pfahlbau in Notranje Gorice). Poročilo o raziskovanju paleolita, neolita in eneolita v Sloveniji 5, 85—117. Ljubljana.
- Kalicz, N., 1973, Über die chronologische Stellung der Balaton-Gruppe in Ungarn. Symposium über die Entstehung und Chronologie der Badener Kultur, 131—165. Bratislava.
- Kalicz, N., R. Kalicz-Schreiber, 1974, Die Möglichkeit der Parallelisierung in der äneolithischen und frühbronzezeitlichen Chronologie zwischen Norditalien und Ungarn. *Preistoria Alpina* 10, 179—190. Trento.
- Korošec, J., 1951, Predzgodovinska naselbina na Ptujem gradu (A Prehistoric Settlement on the Castle Hill of Ptuj). Dela 1. razreda SAZU 6. Ljubljana.
- 1953, Kulturne ostaline v Ajdovski jami pri Nemški vasi (Kulturreste in der Höhle Ajdovska jama bei Nemška vas). Razprave 1. razreda SAZU 3, 45—107. Ljubljana.
- 1956, Arheološke ostaline v Predjami (The Archaeological Remains at Predjama). Razprave 1. razreda SAZU 4. Ljubljana.
- 1958, Eine neue Kulturgruppe des späten Neolithikums in Nordwestjugoslawien. *Acta Archaeologica Acad. Sc. Hungaricae* 9, 83—93. Budapest.
- 1960 a, Drulovka. Zbornik filozofske fakultete 3. Ljubljana.
- 1960 b, Neolit na Krasu in v Slovenskem Primorju (The Neolithic Age in the Slovene Karst Area and in the Slovene Littoral). *Zgodovinski časopis* 14, 5—34. Ljubljana.
- 1963, Prazgodovinsko kolišče pri Blatni Brezovici (Der Pfahlbau bei Blatna Brezovica). Dela 1. razreda SAZU 14. Ljubljana.
- 1964, Kulturne ostaline na kolišču ob Resnikovem prekopu odkrite v letu 1962 (Die im J. 1962 entdeckten Kulturüberreste im Pfahlbau am Resnik-Kanal). Poročilo o raziskovanju neolita in eneolita v Sloveniji 1, 25—46. Ljubljana.
- 1965, Neo- in eneolitski elementi na Ptujem gradu (Neolithische und äneolithische Elemente auf dem Ptujski grad — die Burg von Ptuj). Poročilo o raziskovanju neolita in eneolita v Sloveniji 2, 5—53. Ljubljana.
- Korošec, P., 1956, Nekaj novih podatkov o slavonski kulturi na področju jadranske obale (Einige neue Angaben betreffend die slawonische Kultur im Bereiche der Adriaküste). *Arheološki vestnik* 7, 369—383. Ljubljana.
- 1964, Poročilo o površinskih najdbah novega kolišča na »Partih« pri Igu (Bericht über die Oberflächen-Funde in den neuen Pfahlbauten auf »Parte« bei Ig). Poročilo o raziskovanju neolita in eneolita v Sloveniji 1, 47—55. Ljubljana.
- 1970, Kult mrtvih v Ajdovski jami pri Nemški vasi (Problem of the Cult of the Dead in Ajdovska jama near Nemška vas). *Adriatica praehistorica et antiqua*, 123—126. Zagreb.
- 1973, Eneolitik Slovenije (L'énéolithique en Slovénie). *Arheološki vestnik* 24, 167—216. Ljubljana.
- 1974, La fine dell'Eneolitico e gli inizi dell'età del Bronzo nella regione delle Alpi sudorientali. *Preistoria Alpina* 10, 67—72. Trento.
- 1975, Poročilo o raziskavah v Ajdovski jami 1967. leta (Bericht über die Forschungen in der Ajdovska-Höhle im J. 1967). Poročilo o raziskovanju neolita in eneolita v Sloveniji 4, 170—209. Ljubljana.
- Korošec, P., J. Korošec, 1969, Najdbe s koliščarskih naselbin pri Igu na Ljubljanskem barju (Fundgut der Pfahlbausiedlungen bei Ig am Laibacher Moor). *Arheološki katalogi Slovenije* 3. Ljubljana.
- Korošec, P., M. Uršič, 1965, Neolitske in eneolitske ostaline iz okolice Krškega (Neolithische und äneolithische Funde aus der Umgebung von Krško-Gurkfeld). Poročilo o raziskovanju neolita in eneolita v Sloveniji 2, 55—71. Ljubljana.

- Leben, F., 1963, Materialna kultura in izsledki arheoloških izkopavanj v Kevdercu in Lubniški jami (La civilisation et les résultats des fouilles archéologiques dans les grottes Kevderc et Lubniška jama). *Acta carsologica* 3, 215—251. Ljubljana.
- 1967, Stratigrafija in časovna uvrstitev jamskih najdb na Tržaškem krasu (Stratigraphie und zeitliche Einreihung der Höhlenfundstätten auf dem Triester Karst). *Arheološki vestnik* 18, 43—109. Ljubljana.
- 1969, Arheološka podoba dolenskih jam (Die Höhlenarchäologie von Dolenjsko-Unterkrain). *Naše jame* 11, 25—40. Ljubljana.
- 1973 a, Opredelitev neolitske in eneolitske keramike iz jamskih najdišč jugovzhodnega alpskega prostora (Die Zeitstellung der neo- und äneolithischen Keramik aus den Karsthöhlen des Südostalpenraumes). *Arheološki vestnik* 24, 145—160. Ljubljana.
- 1973 b, Zur Kenntnis der Lasinja-Kultur in Slowenien. Symposium über die Entstehung und Chronologie der Badener Kultur, 187—197. Bratislava.
- 1973 c, Pomen lubniških izkopavin za slovensko prazgodovino (Die Bedeutung der Höhlenfunde vom Berge Lubnik für die Urgeschichte Sloweniens). *Loški razgledi* 20, 19—28. Škofja Loka.
- 1974 a, Jamska arheologija matičnega krasa (Höhlenarchäologie des klassischen Karstes). *Acta carsologica* 6, 243—256. Ljubljana.
- 1974 b, Veliki zjot pri Vinici. Varstvo spomenikov 17—19, 182—184. Ljubljana.
- 1976, Ein Abriss der Jungsteinzeit auf dem Karst. *Jahresschrift für mitteldeutsche Vorgeschichte* 60, 23—30. Berlin.
- 1977, Abriss der Vorgeschichte in den Karsthöhlen des Südostalpenraumes. *Proceedings of the 6th International Congress of Speleology VI*, 91—99. Praha.
- 1979, The First Adriatic Neolithic in Slovenia. *Archaeologia Iugoslavica* 17, 1976, 3—7. Beograd.
- Miložičič, V., 1967, Die absolute Chronologie der Jungsteinzeit in Südosteuropa und die Ergebnisse der Radiocarbon — (C 14) — Methode. *Jahrbuch des Röm.-German. Zentralmuseums* 14, 9—37. Mainz.
- Modrijan, W., 1973 a, Die kulturelle und chronologische Einordnung des Neo- und Äneolithikums in Kärnten. *Arheološki vestnik* 24, 128—134. Ljubljana.
- 1973 b, Die kulturelle und chronologische Einordnung des Neo- Äneolithikums in der Steiermark. *Arheološki vestnik* 24, 137—142. Ljubljana.
- Pahič, S., 1955, Prazgodovinska seliščna najdba v Zrečah (Urgeschichtliche Fundstelle in Zreče). *Arheološki vestnik* 6, 258—263. Ljubljana.
- 1956 Neolitske jame v Brezju pri Zrečah (Neolithische Siedlungsreste in Brezje bei Zreče). *Arheološki vestnik* 7, 227—241. Ljubljana.
- 1973, Najstarejše seliščne najdbe v severovzhodni Sloveniji (Die ältesten Siedlungsfunde in Nordostslowenien). *Arheološki vestnik* 24, 12—30. Ljubljana.
- 1976, Seliščne najdbe v zahodnih Slovenskih Goricah — Andrenci, Spodnji Duplek, Spodnji Porčič, Vumpah (Siedlungsfunde in den westlichen Slovenske Gorice). *Poročilo o raziskovanju paleolita, neolita in eneolita v Sloveniji* 5, 29—83. Ljubljana.
- Ruttikay, E., 1976, Beitrag zum Problem des Epi-Lengyel-Horizontes in Österreich. *Festschrift für R. Pittioni I*, 285—319. Wien.
- Tomanič-Jevremov, M., 1973, Eneolitska naselbina na Pavlovskem vrhu pri Ormožu. Ormož skozi stoletja (Ormoški zbornik 1), 20—31. Maribor.
- Zeravica, Z., 1978, Naselja lasinske kulturne grupe na području sjeverne Bosne (Les agglomérations du groupe culturel de Lasinja sur le territoire de la Bosnie du nord). *Materijali* 14 (Prilep 1976), 91—102. Beograd.