

The Neolithic Age in the Friuli area: new results on recent researches

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ABSTRACT - With the new data available on the Friuli Neolithic period it is possible to develop our knowledge on the subject. The first group of farmers were already present in the area in the middle of the VII millennium BP and the pottery show that there were contacts with the Po Plain and Eastern Adriatic groups. Due to research carried out in Bannia-Palazzine di Sopra and in Palù di Livenza, further data was obtained regarding the recent Neolithic period of the area. The most important materials found in the recent excavations and the C14 dates available are hereby introduced.

Key words: Friuli, Early Neolithic, Recent Neolithic, Obsidian, Paleobotany

Parole chiave: Friuli, Neolitico Antico, Neolitico Recente, Ossidiana, Paleobotanica

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1. INTRODUCTION¹

The knowledge acquired on the Neolithic in the Friuli has changed in the last few years, since the meeting held at the Italian Institute of Prehistory and Protohistory in Trieste in 1990 (BAGOLINI & BRESSAN, 1994). As a result of the new excavations carried out at Fagnigola (PN), the excavation resumed at Sammar-denchia (UD) and at Palù and research in the new sites such as Piancada (UD) and Bannia (PN) - together with the field description and surveys- it is possible to define a richer and more articulate picture (FERRARI & PESSINA, 1996; CORTI *et al.*, 1997; COTTINI *et al.*, 1997).

The increasing data available for the Early Neolithic is particularly consistent, but we are also beginning to define a general, perhaps precarious outline of information on the successive phases of this period.

There are about 30 sites in the Friuli area (Fig.1) and they are mainly distributed in the lower and higher plains, with sporadic presences reaching as far as the first hills of the morainic amphitheatre of the Taglia-

mento or otherwise they go beyond the Eastern Friuli valleys. When survey was carried out systematically, a close network of settlements came to light - which mainly seem to be datable to the first phases of the Neolithic period, due to the type of lithic industries found - with sites where the materials are dispersed on a vast area of land.

2. THE EARLY NEOLITHIC

With regard to the First Neolithic, on the basis of C14 dates obtained from the laboratory of the University of Rome and from other Institutes, we can date the presence of communities of farmers in the Friuli area towards the middle of the VII millennium BP and some dates attest an even earlier period (Fig.2).

Even the new information acquired at the Edera Cave on the Trieste Karst (BIAGI *et al.*, 1993) seem to confirm this dating.

This chronology places Friuli in a precocious Neolithic area, evidencing contemporaneity with aspects of the first Early Neolithic in North West Italy and the Impressed Ware in Central Adriatic. This also allows to attribute cultural phases, which had traditionally been referred to as belonging to the Early Neolithic, to a period lasting more than a few centuries.

Another important fact acquired by the new researches is the existence of an entire agricultural economy, even at this date. It is important to note (CASTELLETTI & ROTTOLI, in this volume) that at Sammardenchia, at least five or six varieties of cultivated cereals have been confirmed, as well as some ulses. Analogous data also come from the new excavations in Fagnigola and the nearby Valer sites (FASANI *et al.*, 1994) and confirm the full diffusion of the Neolithic economy in the Friuli Plain starting from half way through the VII millennium BP.

With regard to the cultural aspects of the Early Neolithic in the Friuli area, with the elements acquired during the last few years, it is possible to separate the Fagnigola group - located in West Friuli - to the Central Friuli ones, Sammardenchia obviously being the most important.

The new excavations at Fagnigola have widened our knowledge on the pottery of the group with the findings of flask, semiovoidal vessels with a heel-foot, globular vessels with very narrow mouths, long necked glasses, small jugs, bowls with shapely outlines, vases on hollow feet and very few figulina ware (BAGOLINI *et al.*, 1993). Pottery found at Fagnigola and Valer attributed to the Fiorano culture such as small and large bowl cups with engraved decorations with a tube-shaped handle, document cultural influences which had previously only been hypothesized on the basis of the lithic industry. Excavations carried out in the last few years at Sammardenchia, in the high Friuli Plain, a few kilometres south of Udine have allowed us to collect new data on the dwelling structures. Besides a various number of cylindrical pits that are typical of Neolithic sites of Friuli (BAGOLINI *et al.*, 1993), a vast archaeological deposit came to light (structure 126) (Fig.3a) extended over an area of 350m², with the presence of very few post-holes, pebble and pits drainage systems. A 4m diameter pit (Fig.3b), 2m deep that was probably a water cistern was investigated on the southern fringe of the site. Further south an irregular pit and a few post-holes were explored.

Pottery attributable to the Danilo Culture were recovered from many of the structures. They not only feature certain syntax decorations present at Sammardenchia, such as the geometric figures and the dynamic motifs but also precise vascular shapes such as the carinate bowls and painted fragments often with evenescent decorations, as well as decorated vessels with deep spiral and curvilinear engravings coloured in red. The

finding of elements associated with the cultural aspect of Danilo, such as the two small clay, defined by Batovic as "phalloid" ceramic (BATOVIĆ, 1968) and four rhyton fragments not only represent the most western place where these categories of objects are found (MONTAGNARI KOKELJ & CRISMANI, 1993), but also give evidence as to how this Neolithic group influenced Friuli much more than was expected.

Furthermore, at Sammardenchia the presence of Danilo elements appears to be more varied in the typology of the material than in Trieste Karst; where in the local Vlasca group - even though they are strongly tied to this Adriatic culture - there are no classes of materials documented at the present time. The query is raised as to the geographic routes along which relationships could have developed between the Central Friuli sites and the coastal area of the Croatia.

Other more generic eastern elements found in this site, common in other cultural aspects of the Neolithic Po Plain, are the clay figurine that in some cases differ in typology such as the specimen that seems to be holding a baby at her breast. On the one hand there are "eastern" components and on the other there is a constant presence of Fiorano elements at Sammardenchia (Fig.4). In many structures fragments of typical small bowl shaped cups with engraved decorations that are often imported appear - on the basis of C14 chronology - already in the more ancient pits "eastern" pottery and the Po type ones are often associated in the same structure. Among these imported materials, of particular interest is the fictile production that had been defined as "fioranoide": the shape and the decorations of these sherds remind us of the Po Plain culture types, but are more elaborate in their own personal way. With regard to the lithic industry, the new data on Sammardenchia suggest the survival of certain elements - the rombooids and microburins - even at the beginning of the VI millennium BP, as can be seen in the findings of the large pit (Fig.5).

There is new data on the Early Neolithic of the Friuli from Piancada di Palazzolo, situated on a paleo-peak of the Stella river, a few kilometres from the present banks of the lagoon. Research has defined an articulate situation in this village. The remains of the Neolithic materials and traces of the sub-structures are present on a very vast surface area (FERRARI & PESSINA, 1996).

In the locality of Bosco Nogali two partly preserved flint workshops were identified. Thousands of decortication flakes and hundreds of microburins were found. There was no ceramic material whatsoever and the few implements present suggest that these ateliers date back to the Early Neolithic. There are also a few pits, small trenches and irregular shaped pits. Domestic animals were found in structure 1, a subcylinder

shaped pit, from which the dating 6750 BP was obtained.

During the 1994 researches the remains of a burial came to light (now being studied by Francesco Mallegni) of a female individual of about five years old. The bad preservation of the finding does not allow to define the original position of the body, which seems to have been placed on one side. A C14 date of 6330 BP was obtained from a bone fragment. The human remains were covered by a pile of *Cerastoderma edule* shells, perhaps connected to a funeral ritual. Next to this burial - which probably caused its partial destruction - a Neolithic trench came to light containing domestic animals at the bottom (cattle, pigs and sheep/goat) (PETRUCCI & RIEDEL, 1996). The trench probably outlined part of the Neolithic dwelling.

It is not possible at the present time to give a definite dating to this structure, as no sherds were found and the lithic characteristics were poor, but the date could range from the end of the VII to the beginning of the VI millennium BP.

The exploration of an area further North (in the locality of Latteria) - that is still being studied - refers to the Early Neolithic. Of particular interest is the probable structure of combustion consisting of a slab of fired clay. This structure is concave circular shaped, the diameter is about 80-100cm and it is placed on a large cylindrical pit.

A fragment of a small spout of a square mouth pottery along with foliate lithic implements were found in one of the explored pits. This is the first time that cultural aspects of the Middle Neolithic are confirmed - by means of an excavation context - in the Friuli area. This suggests that the Piancada area was occupied over a long period.

3. THE RECENT NEOLITHIC

With regard to the Square Mouth Pottery, the remaining sites are attributable to the recent aspects of this tradition. Sites (Fig.1) are abundant in Western Friuli, including Bannia-Palazzine di Sopra (COTTINI *et al.*, 1997) situated in the low Pordenone Plain, Palù di Livenza (CORTI *et al.*, 1997) surveyed by the Soprintendenza per i B.A.A.A.S. of Friuli-Venezia Giulia and San Tomè di Dardago (PETTARIN *et al.*, 1997) at an altitude of 496m a.s.l. along the Artugna valley pass. These sites supply data on the environment surrounding the sites, on the economy, on the choice of settlements, on the cultural aspects and chronology.

The forest development is similar to the one in

the First Neolithic sites with abundant deciduous oak trees, ash trees, hazelnut trees and pomoideae (COTTINI *et al.*, 1997). There are slight differences in Palù di Livenza, probably due to the particular environment that it is situated in (CORTI *et al.*, 1997).

There are few badly preserved carpological remains from Bannia that, however, attest agricultural and harvesting activities. The documentation on Palù di Livenza is very rich and there are five different types of cereals and various remains of wild fruit (CORTI *et al.*, 1997; CASTELLETTI & ROTTOLI, this volume).

With regard to the faunal remains at Bannia, it would seem that only domestic animal remains are present: ox, goat/sheep, pigs (COTTINI *et al.*, 1997), while at Palù wild animals prevail, such as deer, wild boars and roe deer (CORTI *et al.*, 1997). These differences suggest the diverse environments: the first site is situated in the lowlands with ample areas to deforest, the second is near the Carniche Alps in a area of spring waters; there are no dates on San Tomè di Dardago that is situated in an area that suggests hunting activities (PETTARIN *et al.*, 1997).

Even the dwelling structures seem to adapt to the environment: at Bannia, subquadrangle pits and a more complex structure consisting of a depression where seven pits had been dug out, came to light (Fig.6).

There is a certain homogeneity in the materials used in the lithic industry, mainly flakes, wide flakes consisting mainly of microlithic features. Scrapers and Foliates prevail especially in the San Tomè di Dardago site (Fig.7).

The ceramic material allows to identify two distinct chronological periods. The total absence of Lagozza Culture elements, the presence of materials decorated with deep zigzag grooves and the finding of an ornate fragment already seen on decorations at Belforte Gazzuolo (MN) (ANGHINELLI & ANGHINELLI, 1976) allow to identify an ancient period of the "Incisioni e Impressioni" style of the Square Mouth Pottery at Bannia. Whereas at Palù di Livenza and at San Tomè di Dardago disgregating elements of the Square Mouth Vase Pottery and of Lagozza can be identified. This association can also be found in some Eastern Veneto sites such as Colmaggione di Tarzo (TV) (BIANCHIN CITTON, 1994) and Cornuda (TV) (BIANCHIN CITTON & PEDROTTI, 1987).

The radiocarbon dating available up till now for Bannia and partly for Palù di Livenza confirms this theory (Fig.2). The C14 dates of the first site seem to be higher than those of the Palù di Livenza (VITTI, 1995; CORTI *et al.*, 1997). While the dating referring to the Late Neolithic of Palù corresponds to the dates available for this cultural period in Northern Italy, the Bannia dating of half way through the VI millennium BP seems to be much more ancient.

4. RAW MATERIALS

The data of the raw materials (flint, obsidian and greenstone) suggest the existence of long-distance exchange connection as early as the first phases of the Neolithic, which continue after this period. Most of the Neolithic industry is made of alpine flint. Flint from local sources found 100km away, is almost exclusively used at Fagnigola, Piancada and Bannia. At least 50% of flint is used in the lithic industry at Sammardenchia (FERRARI & PESSINA, 1996; FERRARI *et al.*, 1998). Greenstone covered a longer distance. More than 70% of the greenstone at Sammardenchia came from sources in the Western Alps (D'AMICO, this volume).

Obsidian elements can even be found in Early Neolithic contexts, such as the Lipari specimens and one Carpathian specimen (RANDLE *et al.*, 1993) at Sammardenchia and more sporadically in Late Neolithic contexts (such as S. Tomè di Dardago). Some artefacts made of hyaline quartz are found in this site.

SUMMARY - At the present time there are about 30 Neolithic sites in the Friuli area. The first communities of farmers and breeders of Friuli already appear towards the end of the first half of the VII millennium BP. This date has often been confirmed by C14 dates. The poly-cereal farming is an important role in the economy of these groups. Horticulture is less important while there is little information on other activities such as the rearing of animals. Raw materials are also exchanged: Lessinian flint, greenstones from the Western Alps and sometimes Lipari and Carpathian obsidian. With regard to the cultural relationships, the Fiorano culture is the most emphasized one, which was probably directly involved in the exchange of certain materials. This picture, already defined at the beginning of the 90's, is now being completed by the discovery - at Sammardenchia near Udine - of Danilo elements (specimens of ceramic "phalloid" and perhaps of rython), which were previously attested only to the end of the Trieste Karst, and of clay figurines typologically different to the ones known today in the Po area. Another very important site is Piancada near Palazzolo della Stella. A burial and some pits date back to the more ancient phase of the Piancada, while the larger pits refer to a more recent phase. These larger pits yielded fragments of Square Mouth Pottery and foliate lithic industry with flat faces and a trench with faunal residues. The Destra Tagliamento area yielded the most elements attributable to the Middle and Late phase of the Neolithic Age. Excavations carried out by the Soprintendenza Archeologica regionale at Palù di Livenza, the recent research at Bannia-Palazzine and the discovery of new site areas provide, for the first time ever, chronological information as to paleobotanical and faunal aspects, raw materials, pottery, and lithic industries. The overall picture of these Neolithic phases suggests the development of cultural aspects in the Friuli area similar to those of the nearby Veneto territory that are culturally characterised by the presence of materials referring to the various phases of the Square Mouth Culture.

RIASSUNTO - Le presenze neolitiche ad oggi note in area friulana sono circa una trentina. Le prime comunità di agricoltori-allevatori del Friuli compaiono già verso la fine della prima metà del VII millennio BP, dato ormai supportato da numerose misure C14. Nell'economia di questi gruppi gioca già un ruolo importante la policerealcoltura e, in misura minore, l'orticoltura, mentre restano scarsi i dati su altre attività quali l'allevamento. Sono inoltre attivi scambi di materie prime: selce lessinica, pietre verdi delle Alpi Occidentali e, più rara, ossidiana lipariota e carpatica. Per quanto riguarda la trama delle relazioni culturali, spicca il ruolo avuto dalla cultura di Fiorano, probabilmente direttamente coinvolta nella circolazione di certi materiali. Questo quadro, definitosi già agli inizi degli anni Novanta, viene ora ad essere completato dal rinvenimento - a Sammardenchia presso Udine - di elementi Danilo (esemplari di ceramica falloide e forse di rython), prima attestati solo fino al Carso triestino, e di statuette femminili in terracotta di tipologia diversa da quelle ad oggi note in area padana. Un altro sito neolitico di notevole importanza è Piancada presso Palazzolo della Stella. Alla fase più antica di Piancada è databile una sepoltura e qualche struttura a pozzetto, mentre a quella più recente parrebbero riferibili alcuni grandi pozzetti, che hanno restituito frammenti di vasi a Bocca Quadrata e una industria litica con foliati a faccia piana, e un fossato con scarichi di faune. Per le fasi piene e avanzate del Neolitico è la Destra Tagliamento l'area più ricca di scoperte. La ripresa da parte della Soprintendenza Archeologica regionale degli scavi nel già noto sito di Palù di Livenza, le recenti ricerche a Bannia-Palazzine e la scoperta di nuove stazioni di superficie rendono per la prima volta disponibile un

NOTES

1- Each author contributed in an equal way to the present work

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certo numero di dati su aspetti cronologici, paleobotanici e faunistici, sulle materie prime, sulle ceramiche e sulle industrie litiche. Il quadro che comincia a delinearci per queste fasi del Neolitico vede lo sviluppo in area friulana di vicende culturali sostanzialmente simili a quelle del vicino territorio veneto e culturalmente caratterizzate dalla presenza di materiali riferibili a varie fasi della Cultura dei Vasi a Bocca Quadrata.

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Fig. 1 - Neolithic presence in Friuli: 1) Ragogna; 2) Biarzo; 3) Ziracco; 4) Orzano; 5) Prepetto; 6) Buttrio; 7) Sammardenchia; 8) Palmanova; 9) Strassoldo; 10) S.Giorgio loc. Sgobitta; 11) S.Giorgio loc. Fontanive; 12) Muzzana loc. Bosco Comunale; 13) Muzzana loc. Bonifica; 14) Carlino Villabruna; 15) Piancada Bosco Nogali; 16) Piancada Fraidia; 17) Nogaredo al Torre; 18) S.Giovanni di Casarsa; 19) S.Vito al Tagliamento; 20) Valer; 21) Fagnigola; 22) Molin Nuovo; 23) Pradamano; 24) Rubignacco; 25) Bannia-Palazzine di Sopra; 26) S.Tomè di Dardago; 27) Palù di Livenza

Sito	US	Laboratorio	BP non cal	a.C. cal. 1 sigma	Bibliografia
Valer (PN)	strutt. 1	Bln-4432	6400+-200	5520-5086	Fasani et al., 1994, p. 111
	strutt. 1	Bln-4431	6504+-59	5445-5342	Fasani et al., 1994, p. 111
	strutt.2	Bln-4436	6557+-71	5565-5433	Fasani et al., 1994, p. 111
Fagnigola (PN)	strutt. 4	R-1545	5760+-160	4793-4403	Bagolini e Biagi, 1990, pp. 12-13
	strutt. 1	R-1544a	6050+-90	5069-4836	Bagolini e Biagi 1990, pp. 12-13
	strutt. 21	R-2551	6483+-74	5444-5325	Alessio et al., 1996, p. 39
	strutt.30	R-2539	6540+-70	5521-5388	Alessio et al., 1996, p. 42
	strutt. 19	R-2538	6545+-70	5581-5387	Alessio et al., 1996, p. 39
	strutt.27	R-2554	6548+-85	5566-5383	Alessio et al., 1996, p. 42
	strutt. 23	R-2550	6570+-75	5565-5433	Alessio et al., 1996, p. 42
Sammardenchia	strutt. 126/q. e6	R-2736	5884+-58	4571-4461	Pessina e Rottoli, 1996, p. 88
	grande pozzo	R-2930	5770+-57	4715-4536	inedito: Improta com. pers.
	grande pozzo	R-2920*	5797+-64	4764-4546	inedito: Improta com. pers.
	strutt. 129	R-2935	5801+-68	4770-4546	inedito: Improta com. pers.
	strutt. 142	R-2937	5867+-54	4795-4701	inedito: Improta com. pers.
	strutt. 145	R-2934*	5875+-69	4828-4689	inedito: Improta com. pers.
	pozz. g-h/2-3	R-2931*	5958+-63	4916-4779	inedito: Improta com. pers.
	strutt. 117	R-2733	6028+-46	4947-4847	Pessina e Rottoli, 1996, p. 88
	strutt. 114	R-2735	6068+-53	5052-4910	Pessina e Rottoli, 1996, p. 88
	strutt. 1/1986	Bln-3373	6120+-60	5197-4941	Bagolini et al., 1987, p. 412
	strutt. 118	R-2743	6170+-57	5216-5006	Pessina e Rottoli, 1996, p. 88
	strutt. 88	R-2548	6513+-70	5471-5341	Alessio et al., 1996, p. 45
	strutt. 37	R-2549	6525+-55	5448-5388	Alessio et al., 1996, p. 45
	strutt. 101	R-2545	6535+-75	5521-5346	Pessina e Rottoli, 1996, p. 88
	strutt. 87	R-2547	6570+-74	5569-5434	Alessio et al., 1996, p. 47
Plançada		OZB-654	5869+-71	4823-4633	inedito: Tuniz com. pers.
	q. F1	OZC-209	5940+-70	4909-4730	inedito: Tuniz com. pers.
	q. F1-2	OZC-210	6060+-60	5052-4863	inedito: Tuniz com. pers.
	q. E3	OZB-950	6240+-80	5263-5067	inedito: Tuniz com. pers.
	q. F2	OZB-949	6280+-80	5280-5086	inedito: Tuniz com. pers.
	sepoltura	OZC-211	6330+-50	5289-5241	inedito: Tuniz com. pers.
	q. E4	OZB-948	6410+-70	5432-5269	inedito: Tuniz com. pers.
	strutt. 1	R-2705	6751+-108	5691-5525	inedito: Improta com. pers.
	sepoltura	OZB-653	8115+-92	7235-6851	inedito: Tuniz com. pers.
Bannia	strutt. 1/us 1	GrN-22172	5670+-90	4809-4685	Cottini et al., 1997
	strutt. 8/us 1	GrN-22832	5580+-90	4498-4342	inedito: van der Plicht, com. pers.
	strutt. 8A/us 2	GrN-22833	5600+-80	4508-4351	inedito: van der Plicht, com. pers.
	strutt. 10/us1	GrN-22834	5630+-90	4541-4357	inedito: van der Plicht, com. pers.
	strutt. 6/us 1	GrN-22835	5600+-80	4520-4348	inedito: van der Plicht, com. pers.
	strutt. 7/us 1	GrN-22836	5560+-80	4464-4339	inedito: van der Plicht, com. pers.

Fig. 2 - The radiometric dates available for the Early Neolithic in Friuli

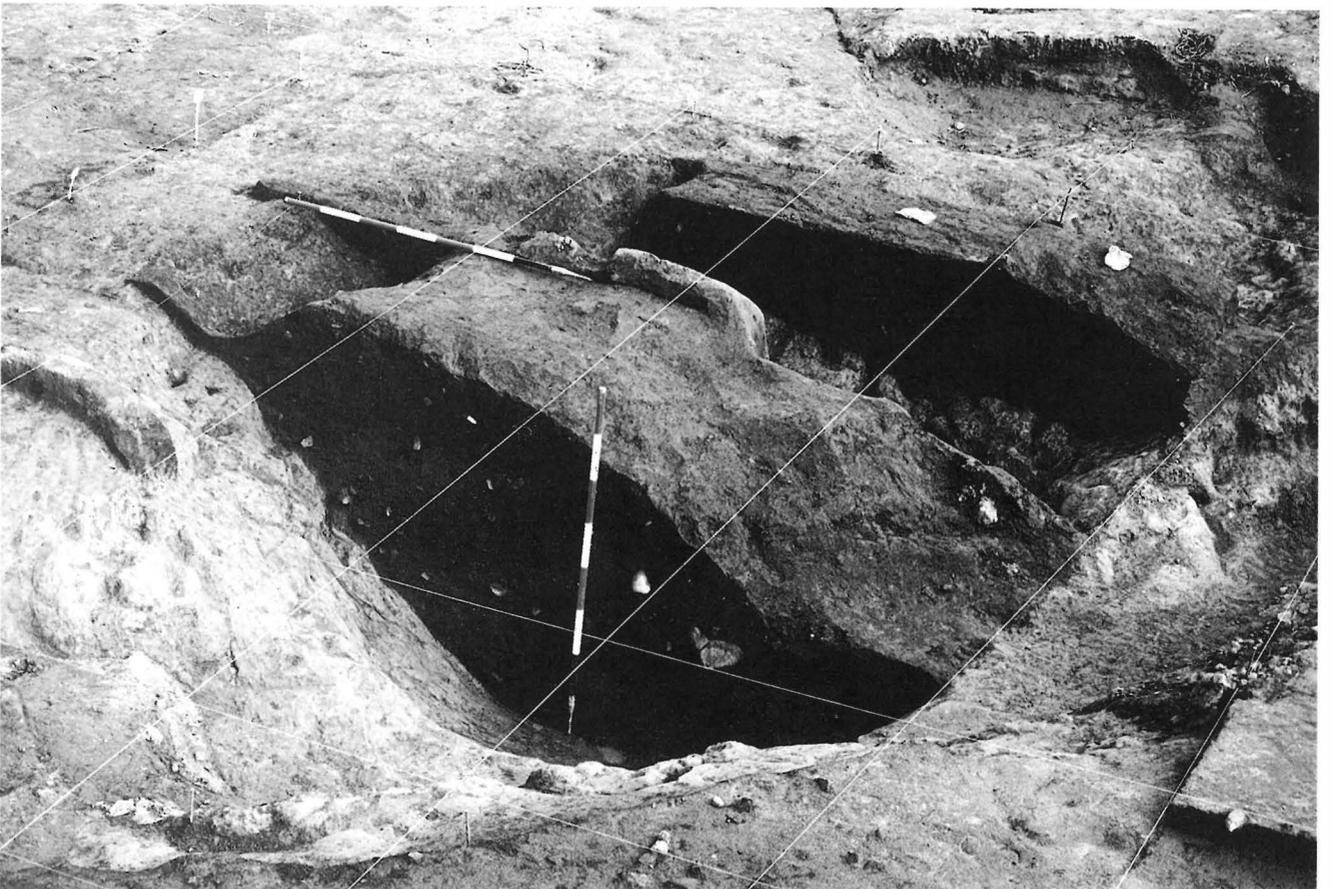


Fig. 3 - Sammardenchia of Pozzuolo in Friuli. Structure 126 (above) and the large shaft (below) during excavation

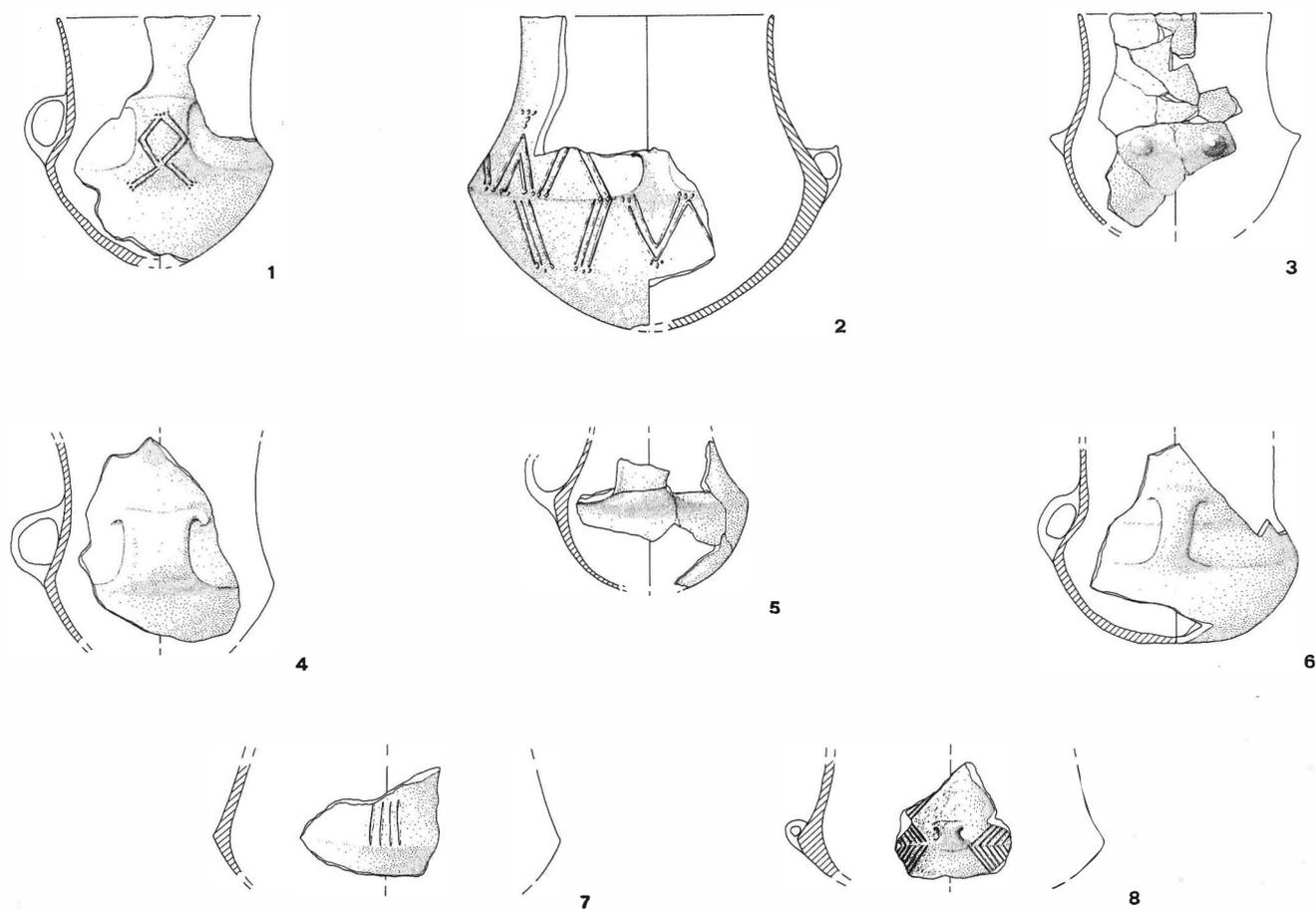


Fig. 4 - Sammardenchia di Pozzuolo in Friuli: Fiorano ceramics and "fioranoide" types (1/3 natural size; drawing by S. Salvador)

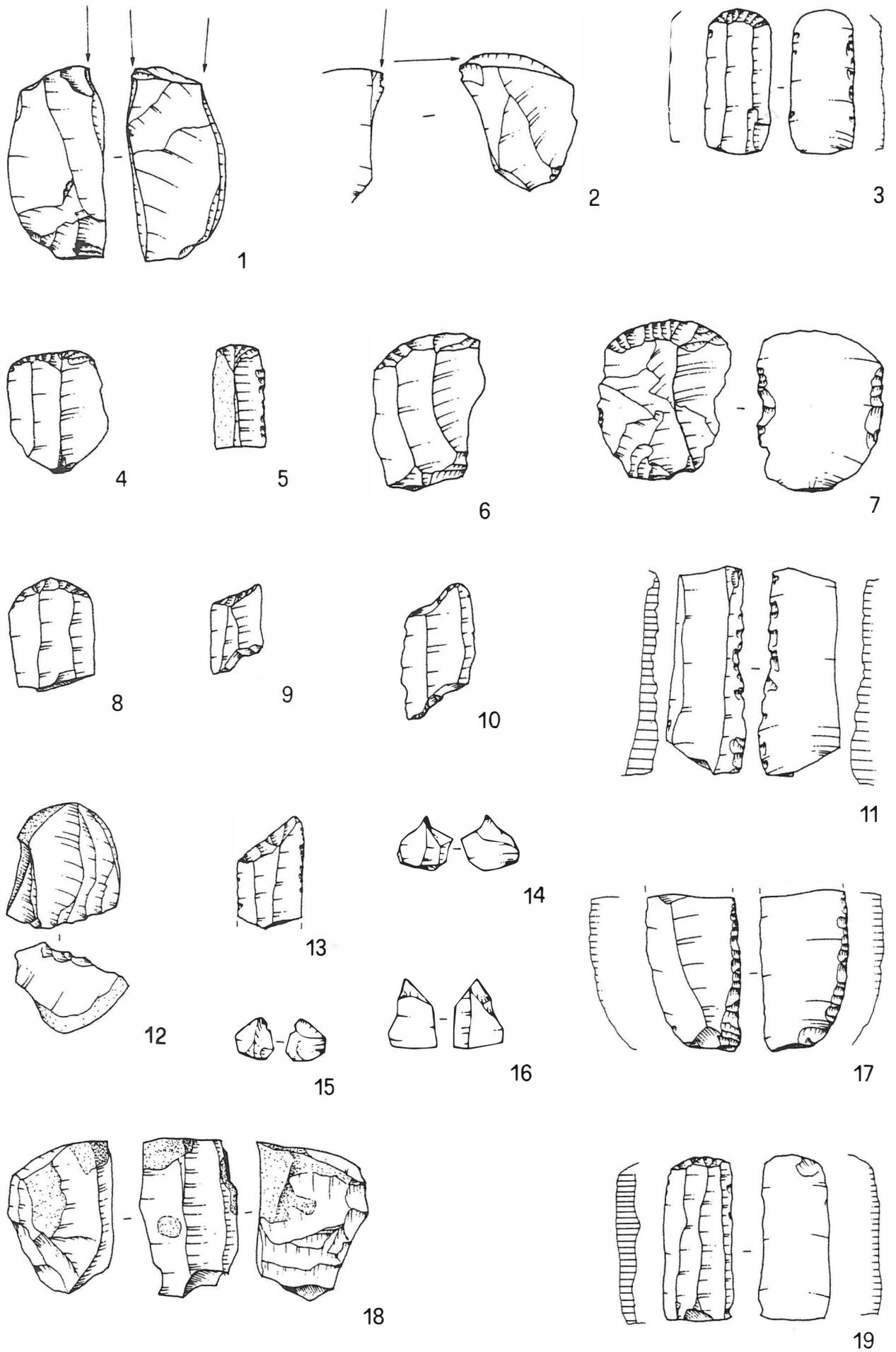


Fig. 5 - The lithic industry of the large pit of Sammardenchia (2/3 natural size; drawing by A. Fragiaco)



Fig. 6 - Structure 8 of Bannia-Palazzine di Sopra after excavations.

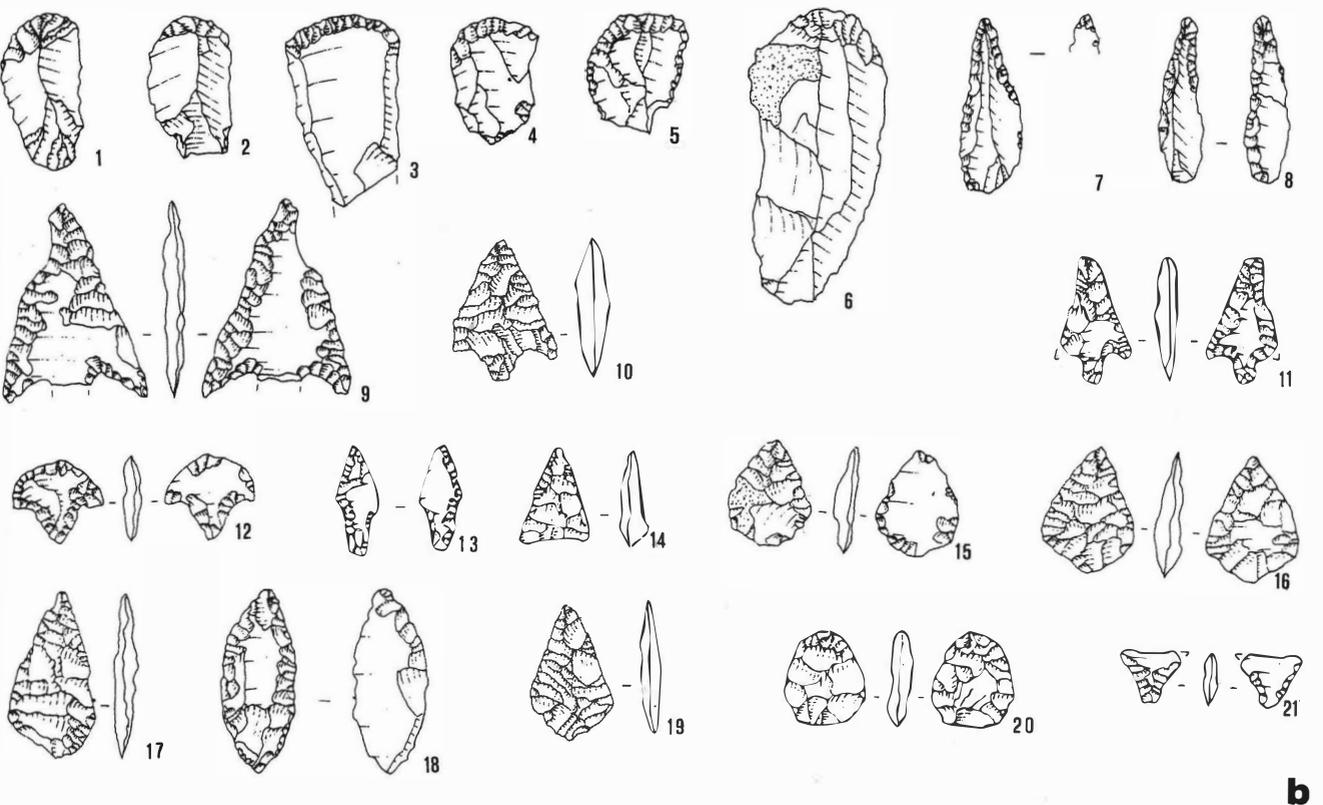
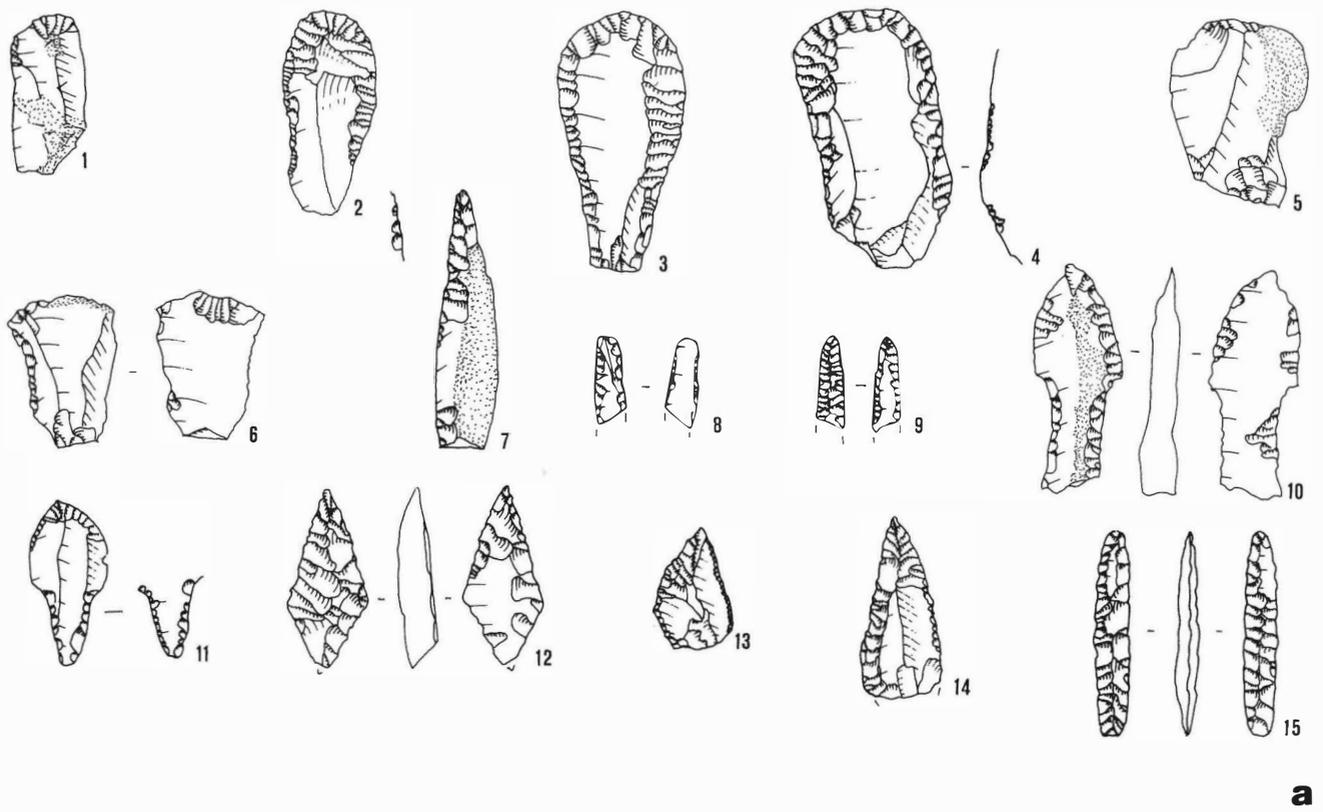


Fig. 7 - The lithic industry of Bannia-Palazzine di Sopra (A) and of S. Tomè of Dardago (B) (2/3 natural size)