Disc-rings made from Alpine rocks, in the social imagination of Neolithic communities

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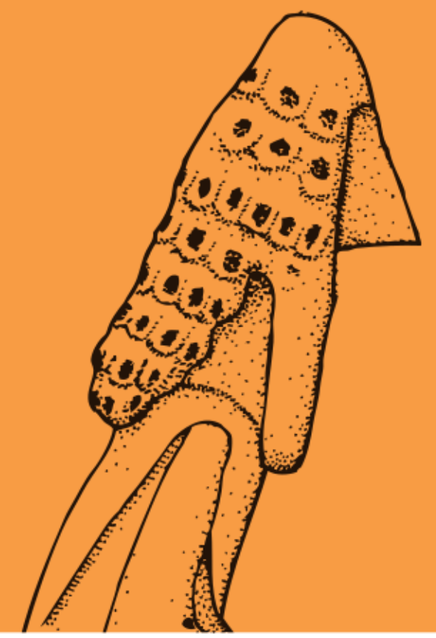
Atti del Convegno di Studi in onore di Maria Bernabò Brea

...le questioni nostre paletnologiche più importanti...

Trent'anni di tutela e ricerca preistorica in Emilia occidentale

A cura di Maria Maffi, Lorenza Bronzoni, Paola Mazzieri



ARCHEOTRAVO
COOPERATIVA SOCIALE

museo - parco archeologico
Villaggio Neolitico di Travo

Atti del Convegno di Studi in onore di Maria Bernabò Brea

Parma - Complesso Monumentale della Pilotta 8-9 Giugno 2017

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Archeotravo Cooperativa Sociale - Museo Civico Archeologico di Travo
Parco Archeologico Villaggio Neolitico di Travo

Piacenza 2019

...le questioni nostre
paletnologiche
più importanti...

Trent'anni di tutela e ricerca preistorica in Emilia occidentale

Atti del Convegno di Studi in onore di Maria Bernabò Brea

Parma, Palazzo della Pilotta: 8-9 giugno 2017

COMITATO PROMOTORE: Lorenza Bronzoni, Maria Maffi, Paola Mazzieri, Angela Mutti
PATROCINIO: IIPP - Istituto Italiano di Preistoria e Protostoria, Complesso Monumentale della Pilotta
ORGANIZZAZIONE - SEGRETERIA: Archeotravo Cooperativa Sociale, piazza Trieste 16 29020 Travo, Piacenza

Il presente volume raccoglie i contributi presentati al convegno: *"... le quistioni nostre paletnologiche più importanti..."*. Trent'anni di tutela e ricerca preistorica in Emilia occidentale, tenutosi a Parma l'8 e il 9 giugno 2017, con il patrocinio dell'Istituto Italiano di Preistoria e Protostoria e del Complesso Monumentale della Pilotta. Il convegno in prima istanza e, adesso, questo volume, vogliono essere un concreto omaggio a Maria Bernabò Brea.

Uscita di ruolo nel 2017, Maria Bernabò Brea è e resta, per tutti coloro che continuano a frequentarla e a discutere con lei di temi e problematiche inerenti l'archeologia preistorica, una figura istituzionale ed umana dai tratti inconfondibili. Funzionario archeologo della Soprintendenza Archeologica dell'Emilia Romagna per le province di Parma, Piacenza e Reggio Emilia a partire dal 1980 e, dal 1991, Direttrice del Museo Archeologico Nazionale di Parma, si è intensamente adoperata, durante tutta la sua carriera, per la tutela e la ricerca scientifica.

Durante gli anni in cui ha lavorato in territorio emiliano, il panorama delle conoscenze sulla Preistoria nei territori affidati alla sua tutela si è infatti straordinariamente ampliato e modificato.
Nel corso della sua carriera la collaborazione e il confronto con studiosi e ricercatori, italiani e stranieri, sono sempre stati gli strumenti intellettuali privilegiati, attraverso cui condurre un'analisi minuziosa e rigorosa, aperta e interdisciplinare, dei contesti archeologici.

Questo volume vuole anche essere un attestato di gratitudine a Maria, per la generosità da lei sempre profusa nei confronti di tutti i suoi collaboratori, costantemente resi partecipi di come ogni scavo archeologico, quale che ne sia la natura, rappresenti un'occasione di conoscenza unica ed irripetibile.

Lorenza Bronzoni
Maria Maffi
Paola Mazzieri
Angela Mutti

Ringraziamenti

Il comitato promotore desidera ringraziare il MIBAC e i gruppi archeologici Arkheoparma, Gruppo Culturale Quingento, Gruppo Storico Archeologico Val d'Enza, Gruppo Culturale La Minerva e le imprese archeologiche AR/S Archeosistemi, Archeotravo Cooperativa Sociale e ArcheoVea Impresa Culturale che hanno permesso la realizzazione del convegno.

Il Complesso Monumentale della Pilotta per la disponibilità mostrata.

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Inoltre, l'Ufficio Turismo del Comune di Parma e le seguenti aziende Barilla, CAMST, Cantine Due Torri, Grafiche Step, LattEmilia, Segafredo.

Programma di Convegno

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12.00 Christian Jeunesse, Samuel van Willigen, Antony Denaire, Les sépultures de type Chamblandes et la géographie des systems funéraires en Europe centrale et occidentale au 5ème millénaire.
12.15 Annaluisa Pedrotti Marcello Mannino, Omar Larentis, Caterina Pangrazzi, Tradizioni funerarie neolitiche in area veneta e trentina.

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15.00 Alain Beeching, Maria Maffi, Les cailloux parlent aussi. Apport archéologique de l'étude des pierres sur le site de Travo S. Andrea (Pc). Pietre parlanti. Apporto archeologico allo studio delle pietre del sito di Travo S. Andrea (Pc).
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15.30 Alessandro Ferrari, Giuliana Steffè, Uno schema crono-culturale per il Neolitico di un tratto dell'Italia padana centrale.
15.45 Miriana Ribero, Elisabetta Starnini, Anelloni litici italiani: nuovi dati a quarant'anni dalla prima sin-

tesi.
16.00 *Coffee break*

16.30 Pierre Pétrequin, Serge Cassen, Les anneaux-disques réguliers en roches alpines dans l'imaginaire social du Néolithique.
16.45 Claudio D'Amico, Gabriele Nenzioni, Fiamma Lenzi, L'industria in pietra levigata nel comprensorio bolognese orientale fra Neolitico ed età del Rame. Distribuzione delle testimonianze, tipologia e archeometria.
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9.45 Mauro Cremaschi, Giorgio Baratti, Federico Borgi, Filippo Brandolini, Nicolò Donati, Paolo Ferrari, Giulia Fronza, Thibault Lachenal, Anna Maria Mercuri, Elena Maini, Angela Mutti, Andrea Zerboni, La terramara di Poviglio S. Rosa: tra villaggio piccolo e villaggio grande.
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10.15 Raffaele C. de Marinis, Marta Rapi, Popolamento della bassa pianura a nord del Po tra Cremona e Calvatone.
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6) Maria Giovanna Cremona, Maria Maffi, Nicola Pagan, L'industria ceramica e litica del sito di Neolitico Recente Emiliano di Travo S. Andrea.
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Disc-rings made from Alpine rocks, in the social imagination of Neolithic communities

RIASSUNTO - Gli anelloni in rocce alpine nell'immaginario sociale neolitico. In Francia anelloni in giade alpine o in serpentinite hanno circolato a grande distanza, fino sulle sponde della Manica e in Bretagna. Gli autori ne propongono uno studio tipocronologico basato sulle rocce impiegate, sulle carte di distribuzione e su una interpretazione sociale generale. Si evidenziano due origini differenti: le Alpi interne (anelloni regolari) sono state le prime ad essere sfruttate, al più tardi dal 5300 a.C.; successivamente, all'inizio del V millennio, inizia la produzione alsaziana (anelloni irregolari), che ha utilizzato ciottoli selezionati nel letto del tratto superiore del Reno. Esattamente come con le lunghe lame in giade alpine di tipo Bégude, la circolazione di questi anelloni in rocce alpine avveniva secondo l'immaginario sociale, che le ha collegate ai mondi mitologici, con rappresentazioni incise su steli monumentali e su pareti rocciose nel corso della prima metà del V millennio. Dal punto di vista cronologico, gli anelloni Blicquy-Villeneuve-Saint-Germain in scisto (d'altronde come altre produzioni, ad esempio i grandi anelloni della Francia Centrale ed Occidentale) sembrano subordinati al sistema di anelloni alpini. Per spiegare l'enorme produzione di questi anelloni in scisto nel corso di un periodo relativamente breve – circa tre secoli – gli autori propongono l'ipotesi di un utilizzo quasi monetario, il cui valore sarebbe stato basato sull'integrazione di certi anelloni particolari nel sistema mitologico. Un tale sistema di pagamento compensativo sarebbe poi crollato quando il numero di anelloni in scisto messi in circolazione aumentò eccessivamente, determinando la svalutazione del loro valore sociale.

SUMMARY - Disc-rings made from Alpine rocks, in the social imagination of Neolithic communities. In France, disc-rings of Alpine jades and of serpentinite circulated over very long distances, as far as the Channel Islands and the coast of Brittany. The authors present a typochronological study for each rock type, along with distribution maps and a general social interpretation. Two origins are identified, of which the earliest lies in the high Alps, where regularly-shaped ring-discs were made from at least as early as 5300 BC. Then, at the beginning of the fifth millennium, irregularly-shaped disc-rings were made in Alsace, using cobbles gathered from the bed of the upper Rhine. Just as with the long Bégude-type adze-heads of Alpine jades, the circulation of the regular-shaped Alpine disc-rings was driven by social imagination, which linked them to the world of myths – as shown in the representations carved into monumental standing stones and rock surfaces during the first half of the fifth millennium. From a chronological point of view, the schist disc-rings of the Blicquy-Villeneuve-Saint-Germain culture (in common with some other disc-rings, including the large examples of west-central France) appear to conform to the ideological system that had been responsible for the production of Alpine disc-rings, although they were accorded a lesser value. In order to explain the massive production of these schist disc-rings over a relatively short period, of around three centuries, the authors propose that they were used as a kind of quasi-money, whose value would have been based on the integration of certain specific examples within the mythology system. Such a system of compensation payments using these schist disc-rings subsequently collapsed when the number of such rings in circulation grew too great, thereby leading to their depreciation in social value.

Parole chiave: *Neolitico, Europa occidentale, anelloni, rocce alpine, incisioni rupestri, mitologia.*
Key words: *Neolithic, western Europe, disc-rings, Alpine rocks, rock carvings, mytology.*

Schist disc-ring bangles with a regularly-shaped hoop are considered to be reliable indicators of the Blicquy-Villeneuve-Saint-Germain (B-VSG) culture during the first quarter of the fifth millennium BC. They have been found in their hundreds in the settlements and graves of Belgium, the Paris Basin and the north-west of France, where they circulated out from production centres located on the edges of the Armorican and Ardennes massifs. However, the know-how to make them was more widely spread, since it was not just finished bangles that were released into circulation, but also sometimes blocks of raw material and unperforated discs. These could have been worked on at distances up to 200 kilometres as the crow flies from the sources of the raw material (Fromont 2013).
These stone bangles were mostly worn by women, but

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not by all women. This implies that they acted as a status symbol, as much in the world of the dead (fig. 1) as in everyday life; numerous fragments have been found in settlements (fig. 6). It is equally possible that these bangles –as with long flint blades (Bostyn 1994) – had a specific social value in transactions and in circulations of material over a moderate distance within the area of the B-VSG culture.

Bearing in mind that the 'fashion' for wearing schist bangles was relatively brief – three centuries at most – it remains to be seen what was its origin, and what were the social reasons for the rapid development of this artefact type around the turn of the sixth to the fifth millennium, and subsequently for its abandonment towards 4750 BC. Moreover, the discovery of a hoard of five large schist disc-rings at Falaise (Calvados) (Fromont 2010) allows us to propose that certain oversized examples had an ideological value over and above that of simply denoting a particular status.

In attempting to understand the process of the rise and decline of schist disc-rings – a phenomenon that must have been based on social imagination – we propose to offer other models concerning disc-rings, more specifically those of Alpine rocks, which are often associated with B-VSG schist examples (Fromont 2013, Praud 2014). These Alpine disc-rings will have been exotic objects in that culture, since they will have been imported over long distances from the western Inner Alps, or else from the upper Rhine valley. Our hypothesis is that not all disc-rings had an equal value; the value would have varied according to the relative rarity of the raw material, the investment of time in their manufacture, the distances travelled in the course of transfers and the biography of each item (Pétrequin, Cassen *et al*. 2015).

To maintain clarity of our argument, we are only taking into account the disc-rings that have been subjected to petrographic identification.

Disc-rings of regular shape mado from Jade or Serpentinite

The Alpine origin of jade disc-rings is not in question. In effect, the sole outcrops of jades (jadeitites, omphacitites and very fine-grained eclogites) that were exploited during the Neolithic are located in the Inner Alps, in the massifs of Mont Viso and Mont Beigua (Pétrequin, Pétrequin *et al*. 2012). Moreover, if one considers the distribution of all the disc-rings of jades or of serpentinites, irrespective of type (fig. 2), it is clear that the densest concentrations are those on the French side of the Alps and the Rhône valley on the one hand, and Alsace and the Belfort Gap on the other hand. We can take this as read.

The disc-rings of Alpine jades take first place. These always have a triangular-section hoop. They are the rarest objects, both in terms of their raw material (principally jadeitites, but also omphacitites and very fine-grained eclogites) and also regarding the considerable investment of time that was necessary to produce them – probably several hundreds of hours.

All the roughouts have been found in northern Italy, while the finished products were exported both southwards towards central Italy and Sardinia, and northwestwards to the valleys of the Rhône and the Saône. The sole exceptions to this distribution pattern are the examples found at very long distances from the source, at 850 km as the crow flies from Mont Viso, in Brittany and the Channel Islands. Of particular note is the hoard of three large disc-rings of jadeitite that was found at Bréhan-Loudéac (Morbihan). It is no coincidence that Brittany, and more specifically the Gulf of Morbihan, constituted a major point of attraction for Alpine disc-rings – just as it had been for the long axeheads of Alpine jades (Cassen, Boujot *et al*. 2012 ; Pétrequin, Cassen *et al.* 2012).

There is, however, a chronological problem with the jade disc-rings. In northern Italy, these valuable objects are attributed to the end of the early Neolithic, around 5300–4900 BC (Micheli 2012, Pessina et D'Amico 1999, Ribero 2015, Tanda 1977), possibly continuing in use into phase 1 of the Square-Mouthed Pottery culture at Finale Ligure/Arene Candide. The example from Salernes/Fontbrégoua (Var, France) may be of similar date, since it was associated with late Cardial pottery (Pétrequin, Pétrequin *et al.* 2017c). In Brittany, by contrast, the only well-dated disc-ring is the one from Locmariaquer/Mané er Hroëck (Morbihan) (fig. 5, No. 2). This was discovered in the central chamber of a massive Carnac-type mound, which can be placed, at the latest, towards the middle of the fifth millennium (Cassen, Boujot *et al*. 2012).

The jade disc-rings are rare even in the zone of production in the Piedmont. They were certainly not 'jewellery' for everyday use, or to be worn by everyone. On the contrary, their circulation as far away as Brittany, in the Bréhan-Loudéac hoard and in the monumental tomb of Mané er Hroëck at Locmariaquer (Cassen, Boujot *et al*. 2012 ; Herbaut & Pailler 2000), indicates that these were moved around through inter-elite transfers, as 'object-signs' of high social value (Pétrequin, Cassen *et al.* 2017).

Let us continue to isolate the elements that make up the general distribution pattern of Alpine disc-rings (fig. 2) in order to understand the organisation of the

Fig. 1.Tomb 1116, Longueil-Sainte-Marie/Le Barrage (Oise, France); Blicquy-Villeneuve-Saint-Germain culture. The young female wears five bangles (3 of schist and two of limestone) on her right arm, and six (five of schist and one of limestone) on her left arm. From an Inrap excavation, D. Maréchal. Photos: L. Petit.

flow from northern Italy towards north-west Europe. Other disc-rings of regular shape and with triangular-section hoops were made of Alpine serpentinite. These are markedly more common than those of Alpine jades, because serpentinites are abundant in the Alps and it is faster to work: it takes no longer than 30 hours to make a disc-ring of this material with the due amount of care.

All the roughouts have been found upstream of the Po plain. But we should not forget, however, the famous hoard of five unfinished and unworn disc-rings found at Chambéry/La Ferme des Combes (Savoie) (Thirault 2004). We may be dealing here with the importation of Italian roughouts across the Alps. This seems likely, given that the oversized disc-rings, which are rare in northern Italy, could have been produced on the French side of the Alps, as we suspect to have been the case.

The distribution of serpentinite disc-rings with triangular-section hoops extended as far as lower Bavaria during the period 5000–4700 BC, during the period of development of the Stichbandkeramik culture (Pétre-

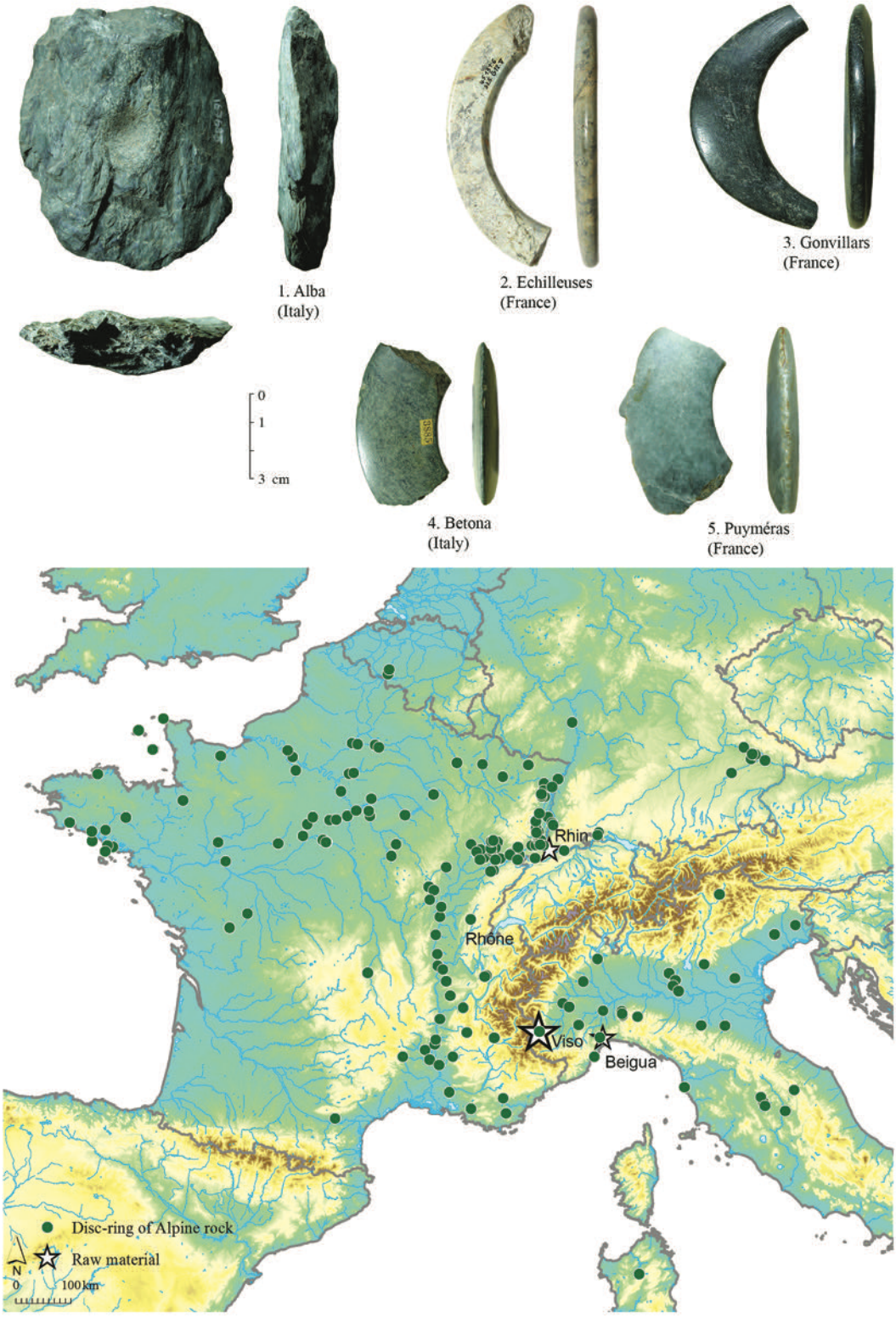


Fig. 2. Distribution of communes in which at least one disc-ring of jade or serpentinite from the Alps has been found, irrespective of type. Photos and CAD by A.M. and P. Pétrequin; cartography by F. Prodéo using basemap ESRI Data & Maps, under licence MSHE Ledoux and NASA SRTM.

quin, Pétrequin *et al*. 2017). The majority of such disc-rings were however released into circulation towards the valleys of the Rhône and the Saône, the Paris Basin (in association with the B-VSG culture) and finally Brittany, with the example from Guidel (Morbihan) (Herbaut & Pailler 2000) illustrating once again the power of attraction of the Carnac area.

From a chronological point of view, the situation is exactly the same as for the disc-rings of Alpine jades: examples that are mostly of modest size were made in northern Italy until the end of the sixth millennium, and from the beginning of the fifth millennium roughouts were probably taken across the Alps to the French side for finishing there. It is there that outsized examples, with very wide hoops, are common. Nevertheless, there is no definitive proof that triangular-section serpentinite disc-rings were used after the end of the B-VSG culture – an observation that needs to be regarded with caution, however, given the small number of examples from well-dated contexts.

Serpentinite disc-rings with a regular section and a wide hoop are rare in northern Italy, with just a single example known from a secure context, at Pozzuolo del Friuli/Sammardenchia (Friuli-Venezia Giulia), dating to the end of the sixth millennium or the very beginning of the fifth (Pessina & D'Amico 1999). In the Paris Basin, by contrast, most such disc-rings are associated with the B-VSG culture. The persistence of this object type is, however, demonstrated in Brittany: the example from Pleuven/Pen Houat Salaün (Finistère) was found with pottery similar to Cerny type pottery (Nicolas, Marchand *et al*. 2013). Likewise, in the Morbihan – operating always as a pole of attraction – several disc-rings with broad hoops have been found in the graves that are seen as the forerunners of the earliest giant Carnac mounds. These have been associated with large repolished adze-heads of Bégude type, made from Alpine jade. With its four serpentinite disc-rings and its two Bégude type adze-heads, the "hoard" of Quiberon/Fort Saint-Julien is the best-known of these probably funerary assemblages (Cassen, Boujot *et al*. 2012, Herbaut & Pailler 2000). We propose to date such finds before 4500 BC, pre-dating the classic Carnac mounds such as Carnac/Saint-Michel, with that monument being well dated to the middle of the fifth millennium by three radiocarbon dates (Cassen, Boujot *et al*. 2012). The chronological overlap (at least partial) between the use of disc-rings with triangular-section hoops and those with quadrangular-section hoops is thus established, even if the latter appeared somewhat later than the former. However, before now it has been difficult to understand the significance of the difference between disc-rings with triangular-section hoops (which are essentially Italian and Alpine) and those with quadrangular-section hoops (which are above all concentrated in the Paris Basin and Brittany).

With regard to this question, the serpentinite disc-rings with narrow hoops are particularly interesting. These are most commonly found in B-VSG contexts between the Loire and Belgium (Fromont 2013). The six examples from the female grave XLV of the cemetery at Worms/Rheingewann (Rhineland-Palatinate, Germany) illustrate the privileged links between this area and the Paris Basin, rather than with the Alpine producers.

Out hypothesis, already set out elsewhere (Pétrequin, Cassen *et al*. 2015), is that wide-hooped, triangular-section disc-rings could have been repolished, once they had arrived in the Paris Basin, in order to make them conform more closely in their diameter and cross-section to the regional norms of the schist disc-rings of the B-VSG culture. This hypothetical process of repolishing can be seen even more clearly in the case of the irregularly-shaped disc-rings of Alsatian type.

Irregular-shaped disc-rings of Alsatian type

The characteristic feature of the so-called Alsatian-type disc-rings of irregular shape is the use of flat cobbles, more or less oval in outline. Their shape was either left unchanged or only minimally modified, except for the creation of a central circular perforation (fig. 2, No. 3). These objects are therefore easy to identify, even as fragments. Most are of serpentinite gathered from the alluvial sediments in the upper Rhine towards Basel. Just one small production centre is known, at Bad Säckingen (Baden-Württemberg, Germany); all the stages of roughing out are represented here, together with sandstone files and polishing stones.

These Alsatian disc-rings have often been found in Grossgartach and Rössen culture contexts, in the form of fragments when found in settlements and as complete objects, deposited as pairs, in certain female graves. This attests to their use throughout the first half of the fifth millennium BC (Jeunesse 1995).

The distribution of these irregularly-shaped disc-rings had previously seemed to be limited exclusively to Alsace, Lorraine and the Belfort Gap, with a sole example having travelled as far as Corent (Puy-de-Dôme, France) (Jeunesse 1995). As a result of the systematic study of disc-rings that was carried out as part of Projet Jade 2, however, the situation has changed: the number of examples has doubled, in particular in the north of Franche-Comté, while twenty or so examples show that they had travelled as far as the Paris Basin and the Loire valley, some 600 km from the bend of the Rhine at Basel, in a westerly direction (Pétrequin, Pétrequin *et al*. 2017b).

Furthermore, we have demonstrated that at least five serpentinite disc-rings of regular shape with quadrangular-section hoops had resulted from the repolishing (probably in the Paris Basin) of irregular-shaped Alsatian disc-rings, in order to adapt them to the norms of the typical schist disc-rings of the B-VSG culture. The aforementioned example from Guidel (Morbihan, France) leaves no doubt that this was the case. As with the Alpine disc-rings, the repolished Alsatian examples are all situated in the Paris Basin and beyond, to the west. The furthest-flung example is that from Lannion/Kervouric (Côtes-d'Armor), discovered in a B-VSG context and dated to 5002–4840 cal BC, some 840 km from the bend of the Rhine as the crow flies (Juhel 2015).

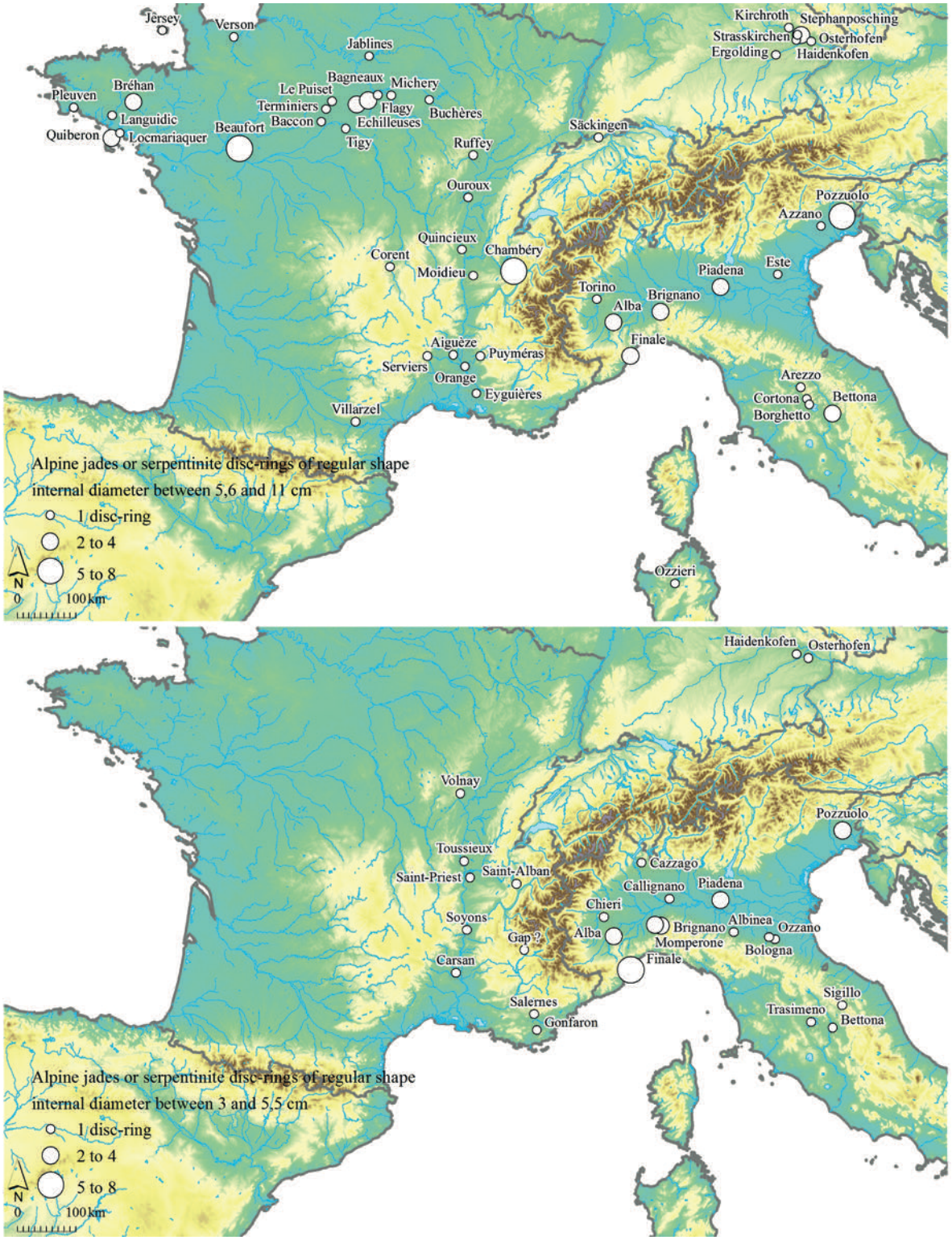


Fig. 3. Distribution of disc-rings of Alpine rocks, by internal diameter. Top: diameters over 5.6 cm; bottom: diameters below 5.5 cm. Documentation by P. Pétrequin, cartography F. Prodéo using basemap ESRI Data & Maps, under licence MSHE Ledoux and NASA SRTM.

An east-west circulation of gender symbols

The approach developed above thus allows us to follow the circulation of Alsatian disc-rings (from the Rhine) on the one hand, and of Alpine disc-rings (from the Inner Alps) on the other.

As for production, while the time required to make an Alsatian disc-ring of moderate size is relatively short – of the order of 20 hours – finding the flat serpentinite cobbles was harder, since these are rare in the alluvial deposits of the Rhine. It is thus the rarity of the raw material, rather than the investment of time in their production, that gave the Alsatian disc-rings their value.

The raw material for the Alpine disc-rings was also serpentinites, but rarely in the form of fluvial cobbles. Primary outcrops at high altitude were certainly exploited, as well as secondary sources, in the form of large blocks with rounded edges, from which slabs were extracted (fig. 2, No. 1). Despite the abundance of serpentinite in the Alps, rocks that were good for flaking and hammering are somewhat rare, contrary

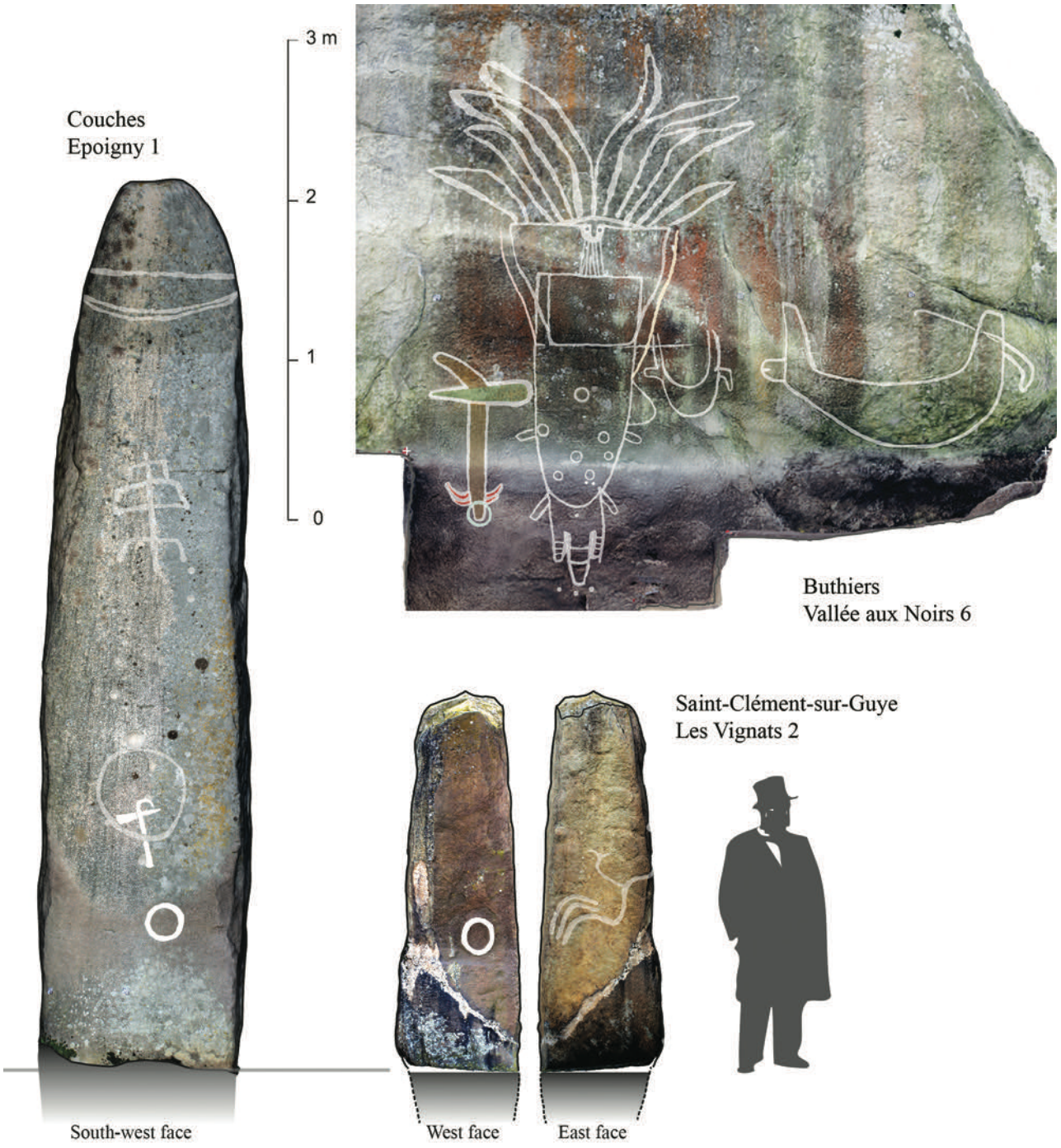


Fig. 4. The stelae of Epoigny 1 (Couches, Saône-et-Loire, France) and Les Vignats 2 (Saint-Clément-sur-Guye, Saône-et-Loire, France).Top right: the engravings on the Rocher de la Vallée aux Noirs (Buthiers, Seine-et-Marne, France). Drawings and modelling by S. Cassen and V. Grimaud.

to expectations. Likewise, slabs of jadeitite are wholly exceptional and these will have had to be gathered at altitudes of between 1700 and 2400 m in the Mont Viso massif (Pétrequin, Pétrequin *et al*. 2012). With the Alpine jade disc-rings, then, their value will have derived from the fact that it was necessary to undertake expeditions up to the impressive mountain range in order to obtain the raw material, and also from the incredible investment of time that was necessary to produce a single disc-ring of jadeitite or of omphacitite.

The number of Alpine disc-rings that entered circulation was much higher than the number of Alsatian disc-rings that were produced. Their distribution is also much wider, extending from northern Italy to Brittany. And it is in and around the Paris Basin that we find the overlap area between the distributions of the Alsatian and the Alpine types.

In comparing the distribution of Alpine disc-rings with that of the large adze-heads of Bégude type made from Alpine jades – both dating generally to the end of the sixth millennium and the first half of the fifth – we can

see that their diffusion was virtually identical, with the outer limits of their circulation corresponding to the area fringed by:
- Britain and Ireland (which were not yet affected by Neolithic colonisation);
- Germany, which received hardly any Alpine artefacts before the expansion of the Michelsberg culture from 4300 BC;
- central Europe and the Balkans, whose inhabitants had developed their own system of social valuables, with copper being the prime element (Pétrequin, Pétrequin et al. 2017a);
- the Iberian Peninsula, which only received a small number of large Alpine adze- and axeheads (and no disc-rings); the distribution of Alpine imports follows the Atlantic coast, towards the sources of variscite (Cassen, Boujot *et al*. 2012); and
- southern Italy and Sardinia, where small jadeitite axeheads were the preferred import.

It should be noted that these limits of the distribution of early Alpine artefacts do not really correspond to the cultural entities that prehistorians of the Neolithic have defined, mainly on the basis of ceramic styles. Instead, they correspond to the forms of social imagination –ideological concerns, in other words – that constituted the basis of societies. We have already addressed this question in our study of polished adze- and axeheads of Alpine jades (Pétrequin, Cassen *et al*. 2013).

Even though the evidence clearly shows that the artefacts made from Alpine rocks were gendered – with disc-rings being female and adze- and axeheads being male, as can be seen in their presence in female and male graves (Pétrequin 2017) – there has not been a single case, anywhere within the distribution area, where an Alpine disc-ring has been found in close association with a Bégude-type adze-head in an early context. It is not until an advanced phase during the fifth millennium where we find an association between female object-signs (i.e. the disc-rings) and male object-signs (axeheads), in the earliest (monumental?) graves in the Carnac series around the Gulf of Morbihan, for example at Quiberon/Fort Saint-Julien and at Locmariaquer (Cassen, Boujot *et al*. 2012). Thus it was in the Morbihan – an important pole of attraction for Alpine jades – where the physical synthesis of the male- and female-gendered Alpine object-signs occurred.

Disc-rings and status symbols

We now have to address the questions that present themselves in order to understand the value, the meaning and the social significance of disc-rings of Alpine rocks. Were these just individual items of jewellery? Were they worn every day or were they only worn on ceremonial occasions and used as grave goods? And how are we to explain the long-distance circulation of Alpine and Alsatian examples, while those of schist seem to have circulated only over regional exchange networks, moving just 200–250 km as the crow flies?

It is first necessary to establish whether the Alpine disc-rings were intended to be worn as arm-rings, above the elbow, as suggested by the female grave at Jablines/Les Longues Raies (Yvelines, France) (Bulard, Degros *et al*. 1993). With regard to the Italian examples, Roberto Micheli (2012) proposed that they were worn in this way. In order to demonstrate this, Micheli presented a correspondence diagram between the interior diameter of 67 Italian examples and the width of the lower epiphysis of the humerus of 21 individuals belonging to the VBQ (Square-Mouthed Pottery) culture. (It should be noted, however, that no stone disc-ring has been found in a grave in north Italy. Moreover, Micheli excluded the extreme values for the diameters – something that introduces the suspicion of bias.)

Among the Italian disc-rings, at least eight are of extremely small dimensions, with an interior diameter of between 3.3 cm and 4.0 cm – in particular those found at Alba, Brignano Frascata and Finale Ligure/Pollera (fig. 3, bottom) (Ribero 2015). We therefore feel justified in proposing that in addition to disc-rings that were adapted to human morphology (fig. 3, top), there were others, very small ones, that were destined to be used simply as pendants or else to be attached to clothing. Our hypothesis is supported by the seven representations of rings that figure on the torso of the 'plumed' anthropomorphic figure engraved on the rock surface at Buthiers/La Vallée aux Noirs (Seine-et-Marne, France) (fig. 4, top right) (Cassen, Grimaud *et al*. 2017a). Moreover, on this same panel, a larger ring is shown on top of (or engaged with) the proximal end of a crook-shaped haft for a large polished axehead.

Thus it would appear that not all disc-rings were 'functional' pieces of jewellery for the arm, especially since their engraved representations are associated with mythological figures. One could object that it is impossible to determine, from these representations, what rock had been used for the disc-rings (which are often large). Nevertheless, their association with representations of axeheads which, typologically, can only be of Alpine rock constitutes a strong reason to suppose that the disc-rings had also been of Alpine rock.

1. Ouroux-sur-Saône (France)

2. Locmariaquer (France)

3. Saint-Micaud (France) La Pierre aux Fées 1

Fig. 5. 1. Outsized disc-ring of serpentinite from Ouroux-sur-Saône (Saône-et-Loire, France); 2. large axehead found with its butt placed through the hoop of a disc-ring, both of jadeitite, at Locmariaquer/Mané er Hroëck (Morbihan, France); 3. Engravings on the standing stone at Saint-Micaud (Saône-et-Loire, France), showing the association of a disc-ring and a polished axehead. Photos and CAD by S. Cassen, V. Grimaud, L. Lescop (No. 3) and A.M. and P. Pétrequin.

Let us return to the disc-rings of medium size, whose polish on the interior of the hoop shows that they had been worn for a considerable time – despite the evident discomfort that would have been caused by certain oversized examples, or by those of very irregular shape. These non-ergonomic examples would have limited the movement of the arms and would probably have restricted (or prevented) certain activities by the women wearing them.

Noting the low frequency of finds of stone disc-rings in funerary assemblages, one could regard these 'bangles' as the personal jewellery of certain socially distinctive women and as markers of their high status (Bulard, Degros *et al*. 1993; Micheli 2012; Praud 2014). Once again we have to evaluate the weight of this social convention, which would have been based on imaginary beliefs that would have been shared by all and probably regulated by men.

The imaginary world of alpine disc-rings

There can be no doubt that it was men in Piedmont, on the French side of the Alps and in Alsace, who made the disc-rings, and made the polished stone adze- and axeheads. Men would have conceived of and created female symbols as a mark of status, and it would have been women who wore the disc-rings – rather than the men (that would have constituted an inversion of the genders). But there is an unusual association, noted in the 'funerary' deposit at Quiberon/Fort Saint-Julien (Morbihan) (Cassen, Boujot *et al.* 2012): this grouped together two long highly polished adze-heads of Bégude type (i.e. male signs) and four large disc-rings (female signs). And the find from the grave at Locmariaquer/Mané er Hroëck (Morbihan) allows us to clarify the meaning attributed to this funerary association between opposed gender-specific signs. Among other exotic object-signs of an extraordinary richness, the butt of a very long Carnac-type axehead of Alpine jade had been placed through the hoop of a jade disc-ring, 'penetrating' it. The scene had been completed by the placing of two variscite pendants, testicle-like, at the base of the axehead (Cassen, Boujot *et al*. 2012). This leaves no doubt as to the meaning: we have interpreted this as an illustration of the ideal reproduction of society in which an exceptional man, buried under a gigantic mound, controlled the imaginary copulation between a male signs and a female signs (Pétrequin, Cassen *et al.* 2013, Pétrequin 2017).

Furthermore, the recent study of engravings on standing stones and boulders in Brittany, in the Gâtinais, in Burgundy and in south-west Switzerland (Cassen, Grimaud *et al.* 2017b) shows that several representations of rings were integrated within the different mythologies of these regions, along with Alpine jade axeheads. And the examples of associations between rings and unhafted or hafted axeheads are not uncommon, as can be seen for example at Saint-Micaud/La Pierre aux Fées (Saône-et-Loire, France) (fig. 5) and at Couches/Époigny 1 (Saône-et-Loire) (fig. 4), not forgetting Buthiers/La Vallée aux Noirs (Seine-et-Marne) (fig. 4). Among the mythological scenes, the disc-ring could constitute the sole and centrally-placed representation on a standing stone, at Saint-Clément-sur-Guye/Les Vignats 2 (fig. 4). Thus, representations of disc-rings were not inferior to those of polished axeheads. These two object-signs were often undissociable, as was the case of the disc-ring and the axehead in the chamber at Mané er Hroëck.

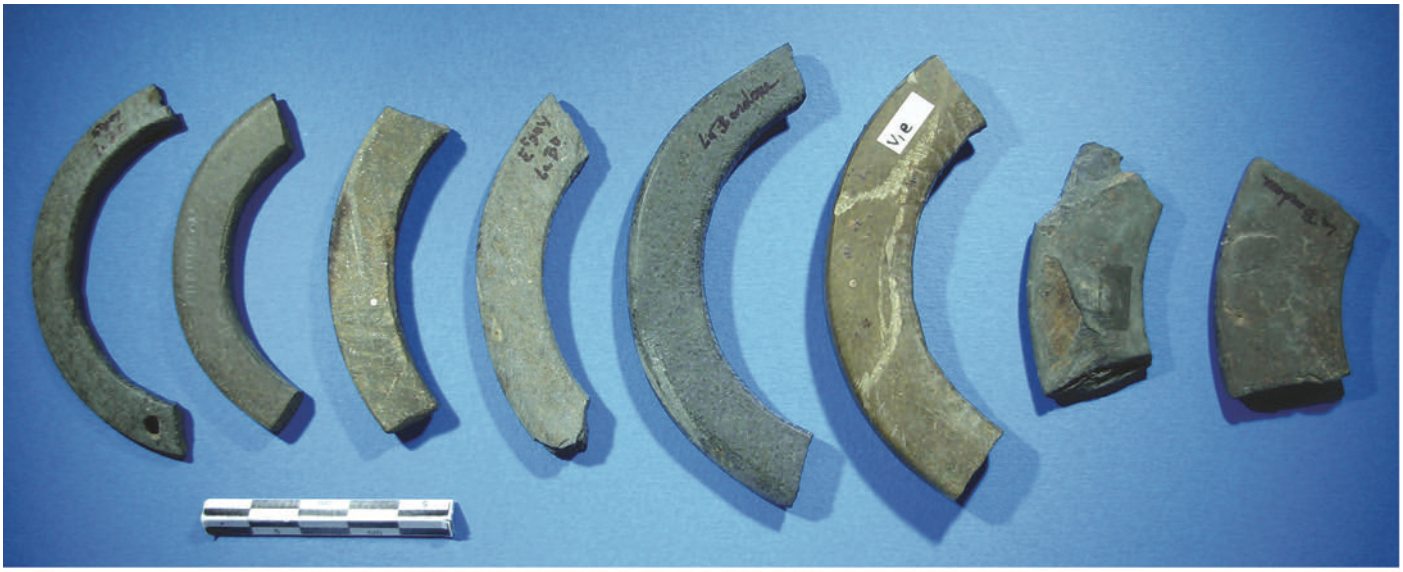
It is to this belief system that we choose to attribute certain large disc-rings of serpentinite, such as the magnificent example dredged from the Saône at Ouroux-sur-Saône (Saône-et-Loire, France) (fig. 5, N° 1).

So, the integration of Alpine disc-rings within a belief system rich in mythology and religion allows us to explain the dynamic of their transcultural circulation over nearly a thousand kilometres as the crow flies.

What role was played by the schist disc-rings in the Blicquy-Villeneuve-Saint-Germain

There still remain many gaps and uncertainties in our proposed scenario, because so few disc-rings of Alpine rock have been found in well-dated contexts. Nevertheless, we can draw the following conclusions regarding the disc-rings from the high Alps:

- The earliest examples appeared in Impressed Ware contexts on the Tyrrhenian coast during the sixth millennium BC, in the form of regularly-shaped disc rings with a triangular section, made from limestone. These are much more numerous in this geographic zone than in the Cardial of southern France;
- from 5300 BC at the latest, people in north Italy began to make regular-shaped disc-rings with triangular-section hoops out of Alpine rocks (jades and serpentinites) extracted from the Inner Alps. This disc-ring production was particularly intense during the last three centuries of the sixth millennium, and it may have continued during the first phase of the VBQ (Square-Mouthed pottery) culture;
- the earliest disc-rings to be exported across the Alps towards Burgundy will certainly have travelled during the most intense phase of production in Italy, and before secondary production centres on the French side of the Alps were established, making disc-rings of ser-



Region of Fontaine-la-Gaillarde (France)

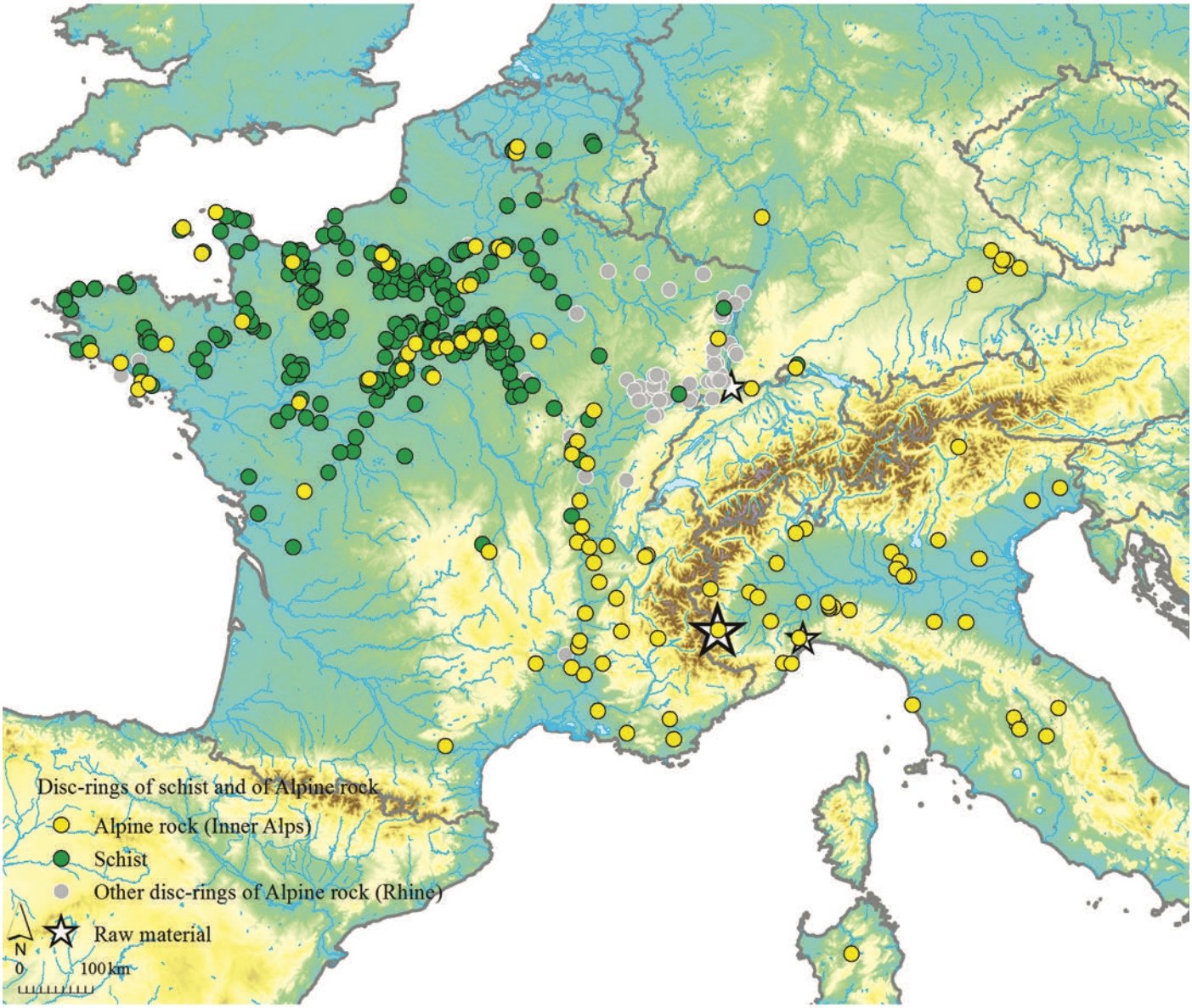


Fig. 6. Top : Schist disc-rings from Fontaine-la-Gaillarde region (Yonne, France). Bottom : comparative distribution of disc-rings of rocks from the high Alps and of schist bangles of the Blicquy-Villeneuve-Saint-Germain culture. Photo by P. Pétrequin, cartography F. Prodéo using basemap ESRI Data & Maps, under licence MSHE Ledoux and NASA SRTM.

pentinite that were often oversized, and with wide hoops;
- the production of disc-rings of Alpine rock finally declined rapidly before the middle of the fifth millennium.

And concerning the people who made Alsatian-type disc-rings, gathering serpentinite cobbles from the alluvial deposits of the Rhine, we can say:
- The earliest well-dated disc-rings belong to the beginning of the Grossgartach culture, around 4900–4800 BC, but there are signs that production began at the very end of the sixth millennium;
- production and exportation continued in a regular fashion during the whole of the first half of the fifth millennium, only dying out when the large cultural entity known as the Rössen finally disintegrated.

As with the large polished adze-heads of Bégude type made of Alpine jades, the Alpine disc-rings (from all the Alpine sources) were mostly drawn westwards and north-westwards, towards the Channel coast and Brittany, with a remarkable concentration in the Paris Basin (fig. 1). This privileged westerly circulation – that is to say, in opposition to influences from central Europe and the Balkans – was responsible for the integration of disc-rings into the religious and mythological belief systems associated with Alpine jades. Expansion of disc-rings in other directions was blocked by the contemporary and concurrent mythologies elsewhere (Pétrequin, Pétrequin *et al*. 2017a). Thus the disc-rings became associated with representations engraved on monumental standing stones and on rock outcrops, on the one hand, and on the other hand with the funerary rites accorded to the exceptional (male) personages buried in the earliest Carnac-type mounds around the Gulf of Morbihan. A little after the middle of the fifth millennium, the disc-ring – a female object-sign – was to disappear from the iconographic systems and the grave goods of the Carnac area, while the long polished axehead of jade was to become the male object-sign par excellence, shortly before the expansion of the Michelsberg culture in north-west Europe and the colonisation of Britain and Ireland.

From a chronological point of view, the schist disc-rings of the Blicquy-Villeneuve-Saint-Germain culture appear to be subordinate to the Alpine disc-rings. They appeared later than the early Neolithic Italian disc-rings and certainly disappeared well before the production of Alsatian-type disc-rings began to decline. It thus appears that several thousand schist disc-rings were produced over a relatively short period, from around 5000 to 4700 BC. They circulated in large numbers in the B-VSG culture and its affiliates (Fromont 2013). The vigour of the B-VSG system and the demand for bangles was so great that Alpine and Alsatian disc-rings continued to be drawn to the Paris Basin and Brittany, and were appropriated through repolishing, to adapt them to the quadrangular hoop section that was the B-VSG norm. This repolishing is a phenomenon that we have also observed with certain axeheads of Alpine jades: they were repolished in the Paris Basin before passing along and being repolished again in the Gulf of Morbihan (Pétrequin, Cassen *et al*. 2012). In contrast to the dynamic of the Alpine disc-rings that were circulating over long distances, the cycle of production of schist disc-rings was short and intense: hundreds of examples whose raw material could be identified were made in small production centres, whose area of distribution overlapped (Fromont 2013). And let us not forget the production of disc-rings in Brittany, which had an impact that was not negligible (Herbaut, Pailler 2000).

With such a large number of disc-rings in circulation in the B-VSG culture, then, a contradiction appears: on the one hand, these objects often occur in such large numbers that they cannot have been regarded solely as status symbols, and on the other hand, their relative rarity in female graves tends to suggest that they were indeed used as status symbols. To resolve this conundrum, the most plausible hypothesis is to consider most of the schist disc-rings of the B-VSG as a kind of quasi-money, whose value would have been based on the integration of certain specific examples within the mythological belief system. (This way of valuing disc-rings has already been seen in the case of the Alpine disc-rings.) To produce, to give, to exchange and to accumulate schist disc-rings (which were considered to be female symbols) would therefore have been the means of regulating social relations and the circulation of women and goods. This system of compensatory payments would have collapsed when the number of disc-rings released into circulation became too great, leading to a depreciation in their social value (Pétrequin, Cassen *et al*. 2015).

However, in order to avoid the current desire to explain everything in purely economic, measurable terms – against all the anthropological evidence in tribal (and modern) societies to the contrary – we emphasise the rise in power of male symbolism in the Morbihan towards the middle of the fifth millennium as a way of accounting for the collapse in the production and circulation of disc-rings and bangles (Pétrequin, Pétrequin *et al*. 2017a).

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