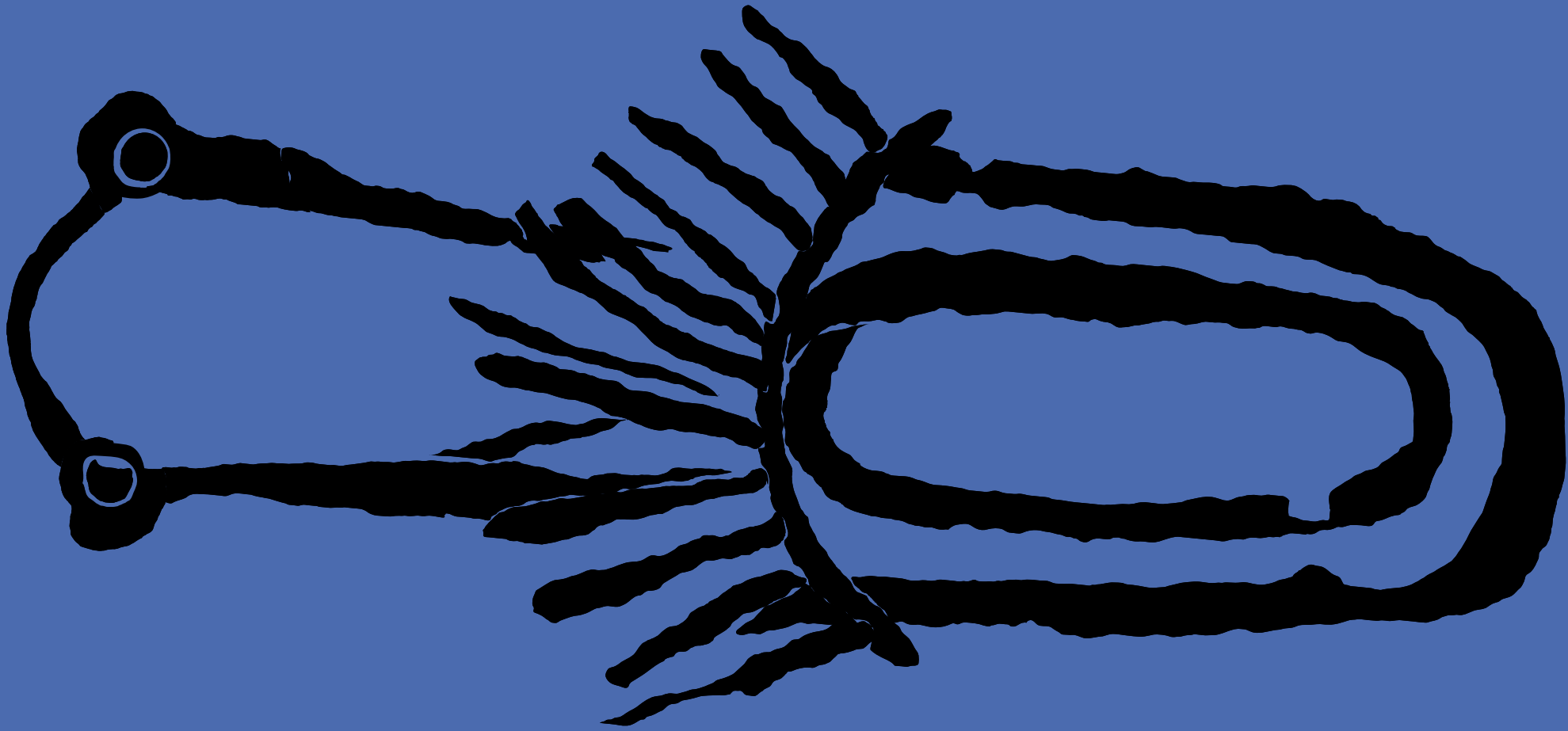

'Sleeved axehead' engraved on orthostat L11 in Gavrinis passage tomb (Larmor-Baden, Morbihan).

THE FORM OF AN AXE:

THE PROCESS OF RECONNAISSANCE AND OF MISAPPREHENDING AN IMAGE WITHIN THE NEOLITHIC ICONOGRAPHIC REPERTOIRE

Serge Cassen

Valentin Grimaud

In A. Ballmer & D. Neumann (Eds.), *Imitations, Simulations, Mock-ups and Illusions: Special Variants and Interpretations in Material Culture. Case Studies from Prehistoric Europe.* Propylaeum. https://doi.org/10.11588/propylaeum.1445.c20612

This essay is a non-conforming presentation of a motif that is well known in the Neolithic iconographic repertoire of the west of France: the 'sleeved axehead'. The identification of this 5th millennium BC motif remains an unresolved issue – just as the identification of the 'axe-plough' could have been, had it not been recognised as a sperm whale. It is now 20 years since the latter motif was deconstructed and reinterpreted as part of a painstaking study that wanted not only to approach designs in a sincere manner but also to undertake an exercise into how archaeological knowledge is constituted. The 'sleeved axehead' was one of the terms whose legitimacy was gained partly through a widespread iconographical tendency to take an ambiguous visual stimulus and make it into a clear and identifiable item, through a kind of optical illusion, and partly through its evocation of an iconic object – the axe with its polished stone axehead – which represented the Neolithic par excellence, emblematic of an agricultural way of life and of an epoch, in just the same way as the 'axe-plough' reflected the agrarian status of all these useful and practical symbols – domestic animals and tools. In this study, that symbolic tool of the Neolithic forester is metamorphosed into another legendary beast of the Ocean: the giant squid, a favourite prey and adversary of the sperm whale.

Neolithic engravings; sleeved axehead; giant squid; sperm whale

INTRODUCTION

This essay is a non-conforming presentation of a well-known motif in the Neolithic iconographic repertoire of the west of France: the 'sleeved axehead' (the sleeve being part of a composite haft). The identification of this 5th millennium BC motif remains an unresolved issue – just as the identification of the 'axe-plough' could have been, had that motif not been recognised as a sperm whale. It is now 20 years since the latter motif was deconstructed and reinterpreted as part of a painstaking study that wanted not only to approach designs in a sincere manner but also to undertake an exercise into how archaeological knowledge is constituted.

In the publication *La forme d'une Chose* (Cassen & Vaquero, 2000), an improbable instrument of everyday domestic agriculture (i.e. the 'axe-plough'), laborious and practical, was transformed into a fabulous animal, the sperm whale (*Physeter macrocephalus*) – one of Nature's wildest creatures. In the present essay, *La forme d'une Hache*, the symbolic tool of the Neolithic forester (i.e. the axe) will also be metamorphosed into another legendary beast from the Ocean, the giant squid (*Architeuthis dux*), a favourite prey and adversary of the sperm whale.

The endless game of 'Chinese whispers' between the initial form of a motif and its successive reinterpretations, including over the course of the Neolithic, is without doubt a fascinating aspect of the studies undertaken in the world of representations. Moreover, because people have been able to invent ingenious graphical solutions to the challenge of making an abstract representation of creatures as extraordinary as the sperm whale and the giant squid, we realise at what point, and to what extent, a non-conforming figure can depart rapidly from its original model. The terms 'resemblance' and 'imitation', versions of a concept deriving from the Latin word *conformitas,* do not operate according to fixed norms, procedures or standards. In reality, non-conformity is the norm in this symbolic world, creating a gap between the reference object and one or more of its representations. Herein lies the difficulty in participating in this domain of investigation, and the ease with which attempts are ridiculed...

While we shall not be describing the *chaîne opératoire* that has led us to our new interpretations of these engraved symbols in this article, we have to underline how important it is to our research to adopt an appropriate technical approach to the subject matter, ensuring the reproducibility of our results, and at the same time to bear in mind the iconographic schemes within which the motifs are found. We cannot resolve an archaeological enigma without achieving a good spatial resolution in setting out our data.

Let us now review the elements of the *corpus*.

THE *CORPUS* AND ITS CHRONOLOGICAL ELEMENTS

Just five sites, with a series of five objects, are involved. One is in Finistère and the others are in Morbihan; all are in coastal locations (Fig. 1). We begin by describing the engraved stones, putting them back into the context of the funerary architecture which must have 'animated' them and tracing the sequence in which the designs were engraved. Each graphic unit will be tested and interrogated against what we know about the repertoire of Armorican iconography. Out of this analysis there will emerge the image of a cephalopod, a mythical animal and the 'consort' of the sperm whale.

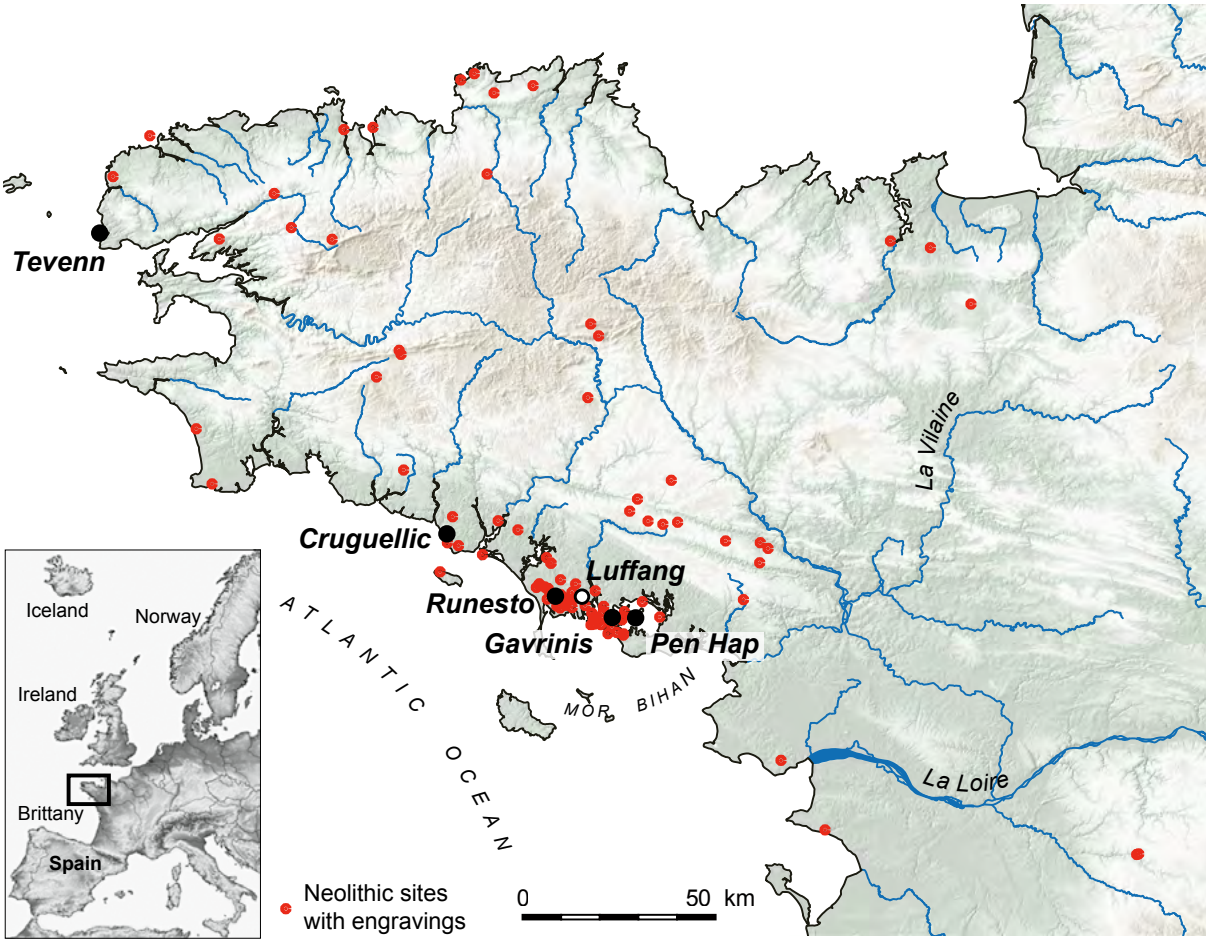

Fig. 1. Distribution of Neolithic engraved slabs in western France. Location of the five funerary sites containing the engraving of the so-called 'sleeved axehead' *(Hache-engainée)* and location of the tomb of Luffang with its so-called 'octopus'. Smaller map shows the main places where giant squid were historically observed, from Iceland to the northern coasts of the Iberian Peninsula.

THE STANDING STONE OF TEVENN

The Kermorvan isthmus (Le Conquet, Finistère) was a special location during the Neolithic. A stone row is recorded on the ridge that leads to the tip of the peninsula (La Poix de Fréminville, 1832, p. 250) and P. du Chatellier listed four long, low barrows (Chatellier, 1903). Fieldwork by M. Le Goffic has enabled the identification of one of these funerary monuments (18 x 14 x 0.5 m), in the middle of which stood a standing stone between 2–3 m in height, with a sunken rectangular cist 4 m to the west. (The plan is reproduced in Pailler, 2007, fig. 143).

The engraved standing stone that is the object of our attention (Fig. 2) was discovered in 1916 at Tevenn by P. Montfort and G. du Plessix (Plessix, 1918; Devoir, 1917). It was lying at the north-west extremity of a low, 1 m-high barrow similar to the aforementioned examples, with its basal part still embedded within the sediment of the barrow. The stone had thus clearly been erected at this place during the Neolithic. The engravings on the side facing the ground had been relatively well preserved, thanks to the collapse of the stone. At the centre of the barrow was a cist, its walls formed by slabs laid edgeways. The interior of the cist (measuring 1.2 x 0.5 m) produced nothing except for 'small, formless bits of pottery' (Plessix, 1918, p. 8). While we cannot say any more about the pottery, it is nevertheless possible to say that this architectural form (i.e. the long, low barrow) is characteristic of the 5th millennium BC, before the development of passage tombs (Boujot & Cassen, 1992).

The recording of the engravings was undertaken using a technique known as ICEO (*Images compilées sous éclairages obliques/Compilation of obliquely-lit images*) while the morphology of the decorated slabs was extracted from a 3D photogrammetric model (Cassen & Grimaud, 2017). The design features just a single motif, which has been described since the 19th century as 'sheathed dagger' or 'sleeved axehead'. The motif is in relief: much of the surface of the stone around the motif had been lowered by means of regular picking.

THE CRUGUELLIC ORTHOSTAT

The passage tomb of Cruguellic (Ploemeur, Morbihan) was constructed on a slope overlooking the sea. The type of tomb has traditionally been termed 'double-transepted tomb' (L'Helgouach'h, 1965) and this is the most westerly example, the others mostly located between the Carnac region and Basse-Loire. The cairn is almost square, revetted by drystone walling.

Two granite slabs (W4 and E7) have an engraved design, interpreted in each case as being derived from the 'shield' motif – a motif known in the repertoire of passage tomb iconography (Le Roux, 1975, p. 538).

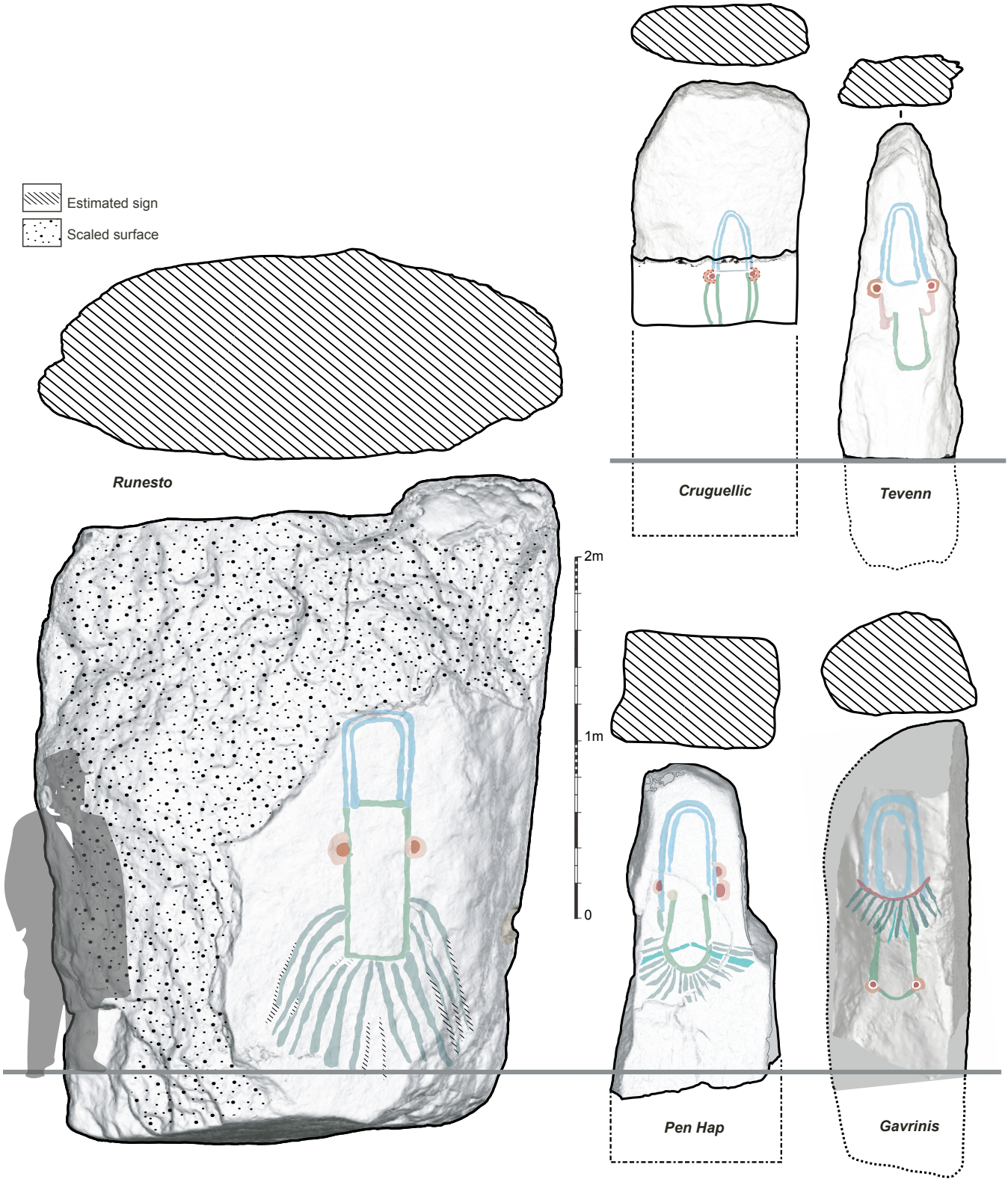

Fig. 2. Inventory of 'sleeved axehead' motifs engraved on stelae.

Slab W4, which is of principal interest to our study (Fig. 2), is intact in its upper part but its lower part has clearly been truncated across the design, as a photograph taken when part of the stone broke off makes clear (Le Roux, 1977). Unsurprisingly, two lines have been recorded as belonging to a single motif; no other design could be detected on the upper part of the stone, despite a careful search (Cassen & Grimaud, 2020). The design is complete and it resembles the 'buckle' that is generally visible at the top of representations of the 'axe-plough' and of the 'sleeved axehead'.

Three large motifs from the Armorican repertoire were identified on slab E7 (Fig. 3): two examples of the crook-shaped throwing-stick, a hafted axehead, with the axehead at right-angles to the haft, and a sperm-whale in the act of spouting. The whale is similar to that depicted on the capstone of the tomb of Kercado (Carnac), where one part of its disc was recently detected at the extremity of the head. The presence of a protruding penis is, moreover, an important point of comparison (Cassen et al., 2018). It should be noted that slab E7 was re-erected at the beginning of the 1970s, but orientated inversely to its current position in the restored monument; in other words, the whale motif had been upside down when the stone was originally erected in the tomb during the Neolithic.

Transepted passage tombs are found along the whole of the southern coast of the Armorican Massif, and they date to the threshold between the 5th and 4th millennia BC (L'Helgouac'h et al., 1989). The ceramic and lithic assemblages from these monuments date to the Middle Neolithic and, unsurprisingly, are characteristic of the Auzay-Sandun culture. The Cruguellic tomb was reused during the Late Neolithic and the Beaker period (Le Roux, 1978; Cassen & François, 2009).

The chronological information obtained from the artefacts cannot be taken as proof of when the engravings were made; they can only provide pointers. The two engraved stones were erected side by side in the centre of the tomb, and this positioning must be deliberate. But one of the motifs (the 'axe-plough') is presented upside-down while the other (the 'sleeved axehead') is not only interrupted by a break but also remains partly concealed by the way the orthostat was (re)-erected (in prehistoric times). These obvious signs of re-use thus indicate that we are dealing with two important standing stones that must have been taken from another, earlier, context. These stones must have retained considerable evocative power for them to be positioned so intentionally within the tomb.

THE CAPSTONE OF RUNESTO

The tomb of Er Roh at Runesto (Plouharnel, Morbihan) is a large cist under a 165 m long barrow. Two polished axeheads and a chisel were discovered, of which one of the axeheads is large and made of jade, while the other is of fibrolite. This assemblage, which is exceptional with regard to funerary

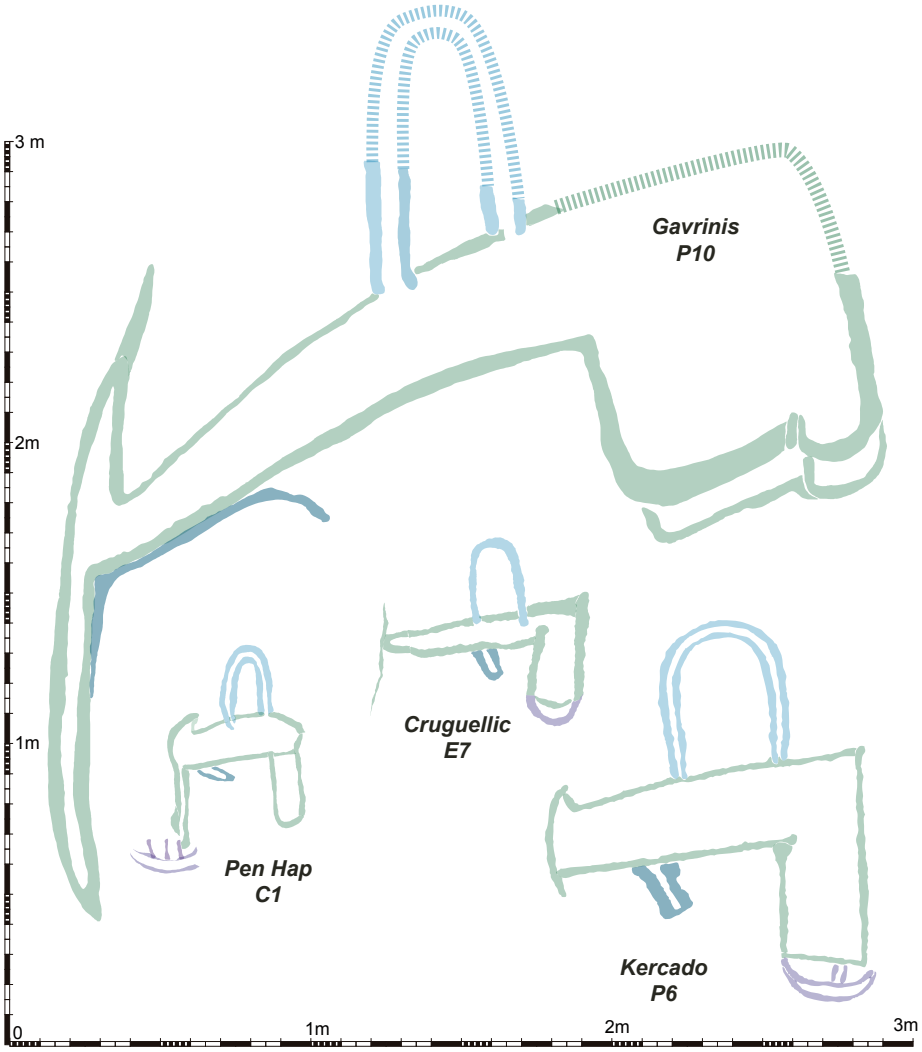

Fig. 3. Some engraved designs of sperm whales in Morbihan, with their 'loop' at the top (the blow), comparable to that shown on the 'sleeved axehead' design.

contexts in the north of France, is different from the normal hoards of axeheads and other items that were deposited in the passage tombs of Brittany, Normandy and Poitou-Charentes.

It was because there seemed to us to be a functional relationship between barrows and engraved standing stones (albeit a theoretical relationship, back in 1996) that we undertook exploratory prospection work at this monument and discovered the engravings (Boujot et al., 2000). In contrast to the signs engraved on the vertical walls of the cist, those on the damaged capstone were left out of our survey as they could not be interpreted.

The recent study undertaken at Runesto focused on decrypting the designs on the capstone (Cassen et al., 2021). Starting with photogrammetric 3D modelling, a total geometry of the stone was produced before undertaking a precise description of the monolith (Fig. 2). Then the ICEO recording of the capstone's lower face – the surface with the engravings – was superimposed on a corpus of 120 images, virtually lit at progressive azimut-

hal angles of 0° to 345°, and at an inclination varying between 0° and 25°. The resulting image goes far beyond that recorded in 1996 and revolutionises our perception of the design. In effect, it reveals the presence of the rare 'sleeved axehead' motif, sufficiently distinctive as to be immediately recognisable. The greatest surprise was to come, however, from the unexpected presence of 'straps' extending from one end of the design.

If we assume that the capstone had once stood upright, then the orientation of the design (if one assumes that it had matched that of the Tevenn orthostat) leaves little undecorated space below for the stone to have been set into the ground – at least to modern eyes. We know, however, that quite a few standing stones in the west of France had not been set deeply into the ground, and the very flat, stable base of the Runesto slab, around 1m wide, could have allowed the stone to stand upright by the force of its own gravity, like several others in the region.

The typology and the nature of the polished axeheads found in the tomb can be revised, thanks to the work of *Projet JADE*. One large axehead is made of Alpine rock, and the other – also of a remarkable size – is of fibrolite from Finistère, sawn from a block. The chisel that accompanied them is of flint from an unknown source (Pétrequin et al., 2012; Cassen et al., 2012; Pailler, 2012). This assemblage is thus unusual within the tombs of northern France, although it is not of the same quality as the famous assemblages of Alpine and fibrolite artefacts found in the classic Carnac tombs (Mané er Hroëck, Tumiac and Mont Saint-Michel). The grave goods from Runesto are more reminiscent of those found in the notable but less extraordinary long monuments such as Mané Hui (Carnac) and Er Grah (Locmariaquer). In any case, the Runesto assemblage does not resemble the grave goods that are normally found in passage tombs. Consequently, it seems most likely that Runesto was built during the second half of the 5th millennium.

THE STANDING STONE OF GAVRINIS

Orthostat L11 in the passage tomb of Gavrinis (Larmor-Baden, Morbihan) is located at the junction between the passage and the funerary chamber. It is engraved on both faces – the side facing the passage and the side facing the chamber (Fig. 4). A trial excavation of the back of the stone (i.e. the side abutting the cairn), undertaken as part of the work necessary to the modern restoration of the monument, revealed that a third face had been engraved. The motif consists of two long radiating arcs extending from a curvilinear base, below which are 13 splaying lines and, extending beyond these, a subtrapezoidal figure flanked by two circles – in other words, the famous 'sleeved axehead' (Le Roux, 1982; Le Roux, 1985b; Le Roux, 1992). The design is mostly executed in relief, rather than being made with narrow lines. One notes the presence of sunken 'cupmark'-like features, symmetrically arranged at the angular corners of the 'axehead' and surrounded by a kind of

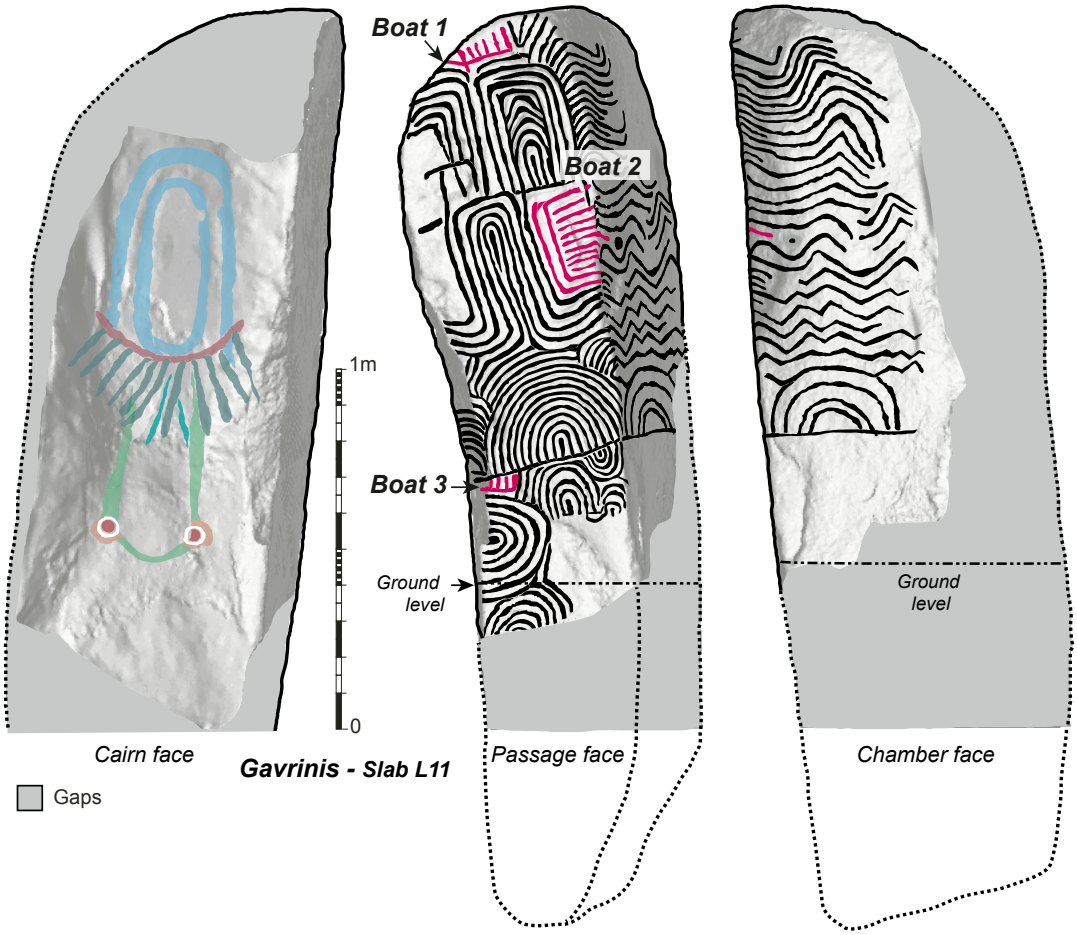

Fig. 4. The three engraved faces of orthostat L11 in Gavrinis passage tomb (Larmor-Baden, Morbihan): the 'sleeved axehead' on the hidden side; enclosed in concentric signs, three boats with crew on the side facing the passage.

circular, raised 'crown'. The resulting effect is disconcerting, because it leaves the viewer wondering what is really significant: the circle in relief, or the circular hollow that it surrounds? Doubtless it is not a case of 'one or the other', since the efficacy of the representation must have played on this confusion or on this visual 'hook'.

Without describing the ensemble of signs on the two 'wall' faces of the stone, let us underline the presence of the 'boat with crew' motifs which are hard to make out, discreet, and overshadowed by the surrounding motifs (Fig. 4). One is at the top of the composition, sailing along an imaginary line, and with a probable rudder; another is at the bottom, its top bounded by a horizontal line with multiple concentric arcs above it. A third is located around the centre, but is shown vertically, along the crest of the stone, where a dominant person stands in the midst of a crew of eight people. The figure of this dominant person starts on the adjacent side of the stone. As we shall see, this maritime environment is no stranger to a hidden figure...

The orthostat L11 is once more, and very clearly, a re-used stone – re-used when the passage tomb was built around 4000 cal BC (Cassen et al., 2014). The engraving of the 'sleeved axehead' was, incidentally, retained during the Neolithic, during the preparatory slab-dressing work undertaken on the future orthostat; but its positioning in the structure of the tomb suggests that it had lost its meaning somewhat, in the minds of the tomb-builders: they abandoned, or were otherwise disinterested in the motif. Thus, in order to research the 'origin' of this orthostat, we have to look at least as early as the second half of the 5th millennium.

Let us remember that the capstone that abuts L11 has a sperm whale design on its upper surface (Fig. 3), and that this had come from a standing stone forming part of the alignment that included the Grand Menhir at Locmariaquer, well dated to c. 4500 cal BC (Le Roux, 1984; Cassen et al., 2009).

THE ORTHOSTAT OF PEN HAP

At the end of a 65 m-long barrow containing several 'little tombs' (Mahé, 1825, p. 108), the passage tomb of Men Houzigianet, known as Pen Hap, is one of the best-known and most commonly illustrated monuments from the Morbihan – probably due to the perfect fit between its current physiognomy and Épinal's image of the iconic Breton dolmen. The capstone of the chamber is impressive, resting horizontally on its orthostats that seem smaller than they really are, due to their being embedded within the mass of the mound.

It is monolith C1 (Fig. 2), and its engravings on two sides (internal and external), that has attracted the attention of observers, notably members of the Lukis family who first recorded the designs (but did not publish the results) between 1854 and 1869. The drawings published by L. Davy de Cussé, in his 1865–1966 inventory, may be the result of work undertaken during the preceding years. Whatever was the case, no accurate interpretation accompanied any of these drawings. For the external side of C1, it was necessary to await the arrival of the concept of the 'axe-plough' at the beginning of the 20th century (Le Rouzic & Keller, 1910) before a relationship became established in the scientific community between that term and that figure. Clearly our own modern perspective is far removed from that agrarian image, and to us it seems that the best interpretation of the design, within its broader context, is as a whale (specifically, a sperm whale: Cassen & Vaquero, 2000). We shall return later to the recognition of an axe on the internal face of this orthostat.

This passage tomb has produced few archaeological finds. We only have the plan of the structure in order to evaluate its architectural type, as a passage tomb with a short passage and a quadrangular chamber, characteristic of the beginning of the 4th millennium BC. While the design on the side of orthostat C1 facing the chamber is that of the 'sleeved axehead', the

design on the opposite face – with the 'axe-plough' – must have been partly obscured by the cairn, even if one envisages that the cairn was low, not reaching as high as to cover the capstones. The predominant interpretation is that this is a re-used older standing stone, integrated secondarily into the tomb (L'Helgouac'h, 1997).

To summarise: at all these sites, from Finistère to Morbihan – and despite the paucity of dating evidence – all elements point towards the 'sleeved axehead' as being invented and used around the same time as the major motifs known from the standing stones in the region (sperm whale, bird, hafted axehead, throwing-stick, etc.), that is, the 5th millennium BC.

THE HISTORICAL INTERPRETATION OF THE MOTIF

The excavation of the barrow of Tevenn at Conquet (Finistère), and the description of the engraving on a standing stone set into its end, is no doubt responsible for the popularity of the motif. The same image and the same name were to be repeated many times without any serious discussion: 'a dagger in its sheath' (du Plessix, 1918, p. 6) or, again, 'sleeved axehead' (Le Goffic, 2009). G. du Plessix offered, by way of comparison, images of bronze daggers with their hilts, along with halberds and axes, taken from a work by A. de Mortillet, and of an anthropomorphic stele from Italy that included a metal dagger, from a publication by J. Déchelette. However, it was A. de Mortillet who was the first to suggest, in Brittany, the idea of an 'axehead in its sleeve' when discussing the similar design found in the passage tomb of Pen Hap (Mortillet, 1894, p. 273). E. Patte agreed wholeheartedly with this interpretation and 'easily recognised this weapon on the standing stone of Penhap' (Patte, 1921, p. 187), adding that the representation was of a metal weapon. St-J. Péquart and Z. Le Rouzic went on to repeat the use of the term without contesting it (Péquart et al., 1927). G. de Closmadeuc limited his description to naming the sign as 'axe-shaped' ('asciforme' in French) – as opposed to 'celt-shaped' ('celtiforme') – even though it seemed to him that it could be the representation of some kind of instrument, or of a hafted axehead (Closmadeuc, 1873). In a radical departure from the aforementioned interpretations, R. Minot saw the Pen Hap design as being a 'circular idol in a double arch with a necklace, its eyes accentuated' (Minot, 1964, p. 89, translated to English by the authors). For E. Shee Twohig, the Tevenn 'dagger' seemed hard to make out at first sight, with its excrescences on the sides. She argued that, by contrast, if the design was anthropomorphic, these lateral features could thus be 'eyes' (Shee Twohig, 1981, p. 189), thereby reprising the earlier interpretation by R. Minot without however mentioning that researcher. But, finally, the 'dagger' hypothesis seemed the most satisfactory. With the excavation and restoration of Gavrinis, the case was

re-opened, thanks to the discovery of a new motif on the back of the L11 orthostat there. At Gavrinis, as at Pen Hap, *'the most plausible interpretation seems to be the representation of a polished stone axehead in its hafting sleeve'* (Le Roux, 1985a, p. 30, translated to English by the authors; Le Roux, 1998, p. 32; Le Roux, 2010, p. 20; Gouézin, 2015, p. 105). The parental relationship with the sperm whale design was recognised since the engraving of the Pen Hap type, visible on the front of the stone, is considered to be a contraction of the 'axe-plough' design engraved on the back (L'Helgouac'h, 1997, p. 113). So, finally, there was agreement that the design was a *'large axehead, perhaps a prestige item, held in some sort of sleeve (perhaps intended to be an ostentatious feature)'* (Laporte & Le Roux, 2004, p. 105, translated to English by the authors).

FROM GRAPHIC UNITS TO THE SEMIOTIC ASSEMBLAGE

To our eyes, the 'sleeved axehead', whether as a genuine object or as a concept, is as scarcely credible as was the 'axe-plough' (e.g. Cassen, 2005, p. 330; Cassen & Grimaud, 2017). Its interpretation, which was in need of better images of the five known engravings (at Tevenn, Cruguellic, Runesto, Gavrinis and Pen Hap), can now be constructed on a more solid empirical basis. Let us return to the graphic unit that constituted the origin of our intuition.

In effect, the 'sleeved axehead' shares with the 'axe-plough' the same geometrical line that is easily recognised: a sort of long double arc at the top of the motif (which can be regarded as a double line, if one counts the individual hollows that define it, or as a single line, if the arc that stands in relief was the intended design). If the observer accepts the interpretation of the 'axe-plough' design as a whale (Cassen & Vaquero, 2000), and if this elongated 'buckle' is actually the representation of the spray that emerges from a whale's blow-hole, then the same sign engraved at the top of the 'sleeved axe' must represent the same kind of thing: a jet of gas or liquid, which spurts out in a fountain (Figs. 2–3).

Two possibilities thus present themselves for developing the interpretation of the 'sleeved axehead':

- either it is a representation of a whale, but depicted from a different point of view, or according to a different graphical and symbolic set of conventions;

- or it represents another thing, and by 'thing' we are playing on the word *la cosa*, being the word used in Galicia (Shee Twohig, 1981; Rodriguez Casal, 1992) to denote a Neolithic engraved sign which we think also depicts a whale. Let us say it is a 'being' that has, within its vital energy, this ability to gush out a gas or a liquid.

It is the latter interpretation that we are adopting, since the first would seem to be too redundant: why present two representations of the same animal? The two images do need to be kept separate, for the good reason that the cetacean/sperm whale and 'sleeved axehead' designs have been found in association with each other in the same findspot or the same stone in two cases (i.e. 40% of the *corpus*). At Pen Hap they appear on opposing faces of the same orthostat, while at Cruguellic, they appear on the only two decorated orthostats inside the passage tomb, placed beside each other in the centre of the tomb.

As regards the other stones with the 'sleeved axehead' design, all we can say about the Tevenn standing stone is that its other face had been engraved, but sadly the surface is too worn for anyone to make out the shape of the design today. As for the Runesto slab, the fact that the surface is missing from a large area to the left of and above the design makes it impossible for us to know whether there had been any further motifs; there is enough space for a large motif. The structural opposition that can be seen at Pen Hap and Cruguellic can thus be confirmed when we build on our new discoveries.

Finally, the 'sleeved axehead' shares with the sperm whale design a fundamental trait, which is its size in relation to the stone and in comparison with other juxtaposed signs. The sperm whale is always, in the Morbihan, shown at a size that is larger than the animals and objects that serve to bring to life, along with the sperm whale design, a symbolic scene. Indeed, at Pen Hap and Cruguellic, the sperm whales and 'sleeved axeheads' are of identical size. Thus, we must consider whether this enigmatic motif has a similar semiotic 'force' to that of the famous 'axe-plough'.

We therefore need to seek out a being that 'spouts' like a whale, and that was regarded by Neolithic people as being an equivalent creature to a whale.

There is just one animal that fulfils these prerequisites, and that is the cephalopod (from the Greek *Képhalê*, meaning 'head' and *podes*, meaning 'feet': that is to say 'feet-at-the-head'), and more specifically the giant squid, which is the favourite prey of the sperm whale. (In Europe, it is called *Architeuthis dux,* from the ancient Greek *teuthis/τευθίς*, meaning 'calamary' or 'cuttlefish' and the Latin *dux*, 'leader'). Support for this interpretation comes from the images of the engravings at Pen Hap and Runesto which show splaying lines that resemble the squid's arms and tentacles; the Gavrinis engraving also has this feature, but shown in a different anatomical position.

Let us review the inventory of graphical elements that constitute the motif, bearing in mind that these elements – like the ones we developed in our interpretation of the 'axe-plough' – are displayed in an anatomical whole that allows us to identify the subject, the wild animal.

THE JET (OF GAS OR WATER)

The 'buckle' is easily recognisable on all the motifs that constitute the *corpus* of 'sleeved axeheads' (Fig. 2). These two long, concentric lines, rounded at the top, are in other respects identical to the ones shown extending from the back of the sperm whale. In our argument, they consequently represent a rush of air or a jet of liquid, and while from a distance it is not easy to distinguish between gas and liquid being sprayed out from a whale's blowhole, in the case of cephalopods, they clearly eject water when they enter the air.

Even though the actions differ, the effects are similar. Whales come to the surface to refill their lungs with air through a natural process of breathing out then breathing in; cephalopods spurt out seawater with a siphon in order to propel themselves along (or upwards). This phenomenon is well known among those who hunt octopus, cuttlefish and squid, and one can find on the Internet various impressive video clips showing the power and scope of these water jets (see for example the Giant Humboldt Squid caught in the Strait of Juan de Fuca, near Vancouver Island: fishn2gthr4ever, Link at the end of the bibliographical references). This is a similar phenomenon to that of the ejection of the famous ink (composed of melanine, mixed with mucus), which makes the animal hard to see while it hides itself (the ink also contains enzymes that hinder the sense of smell of the aggressor: Soufi-Kechaou, 2011).

The most spectacular examples of these jets have already been recorded in literature and reported in the press. In 1875, not far from Boffin Island, close to the coast of Connemara, in the west of Ireland, the capture of a giant squid was the occasion of a report by the Royal Irish Constabulary, which stated: '[...] *the prey was partly subdued and the curragh was able to follow the monster easily. That which remained of the ten large arms flailed around in the air and the water in the most dangerous manner, but in vain. The trunk of the mutilated beast was floating by the side of the dinghy, occupying the full length of the vessel; at its end,* it emitted successive jets of a liquid [our emphasis] *which darkened the sea for several fathoms all around'* (Heuvelmans, 1958, p. 351, translated to English by the authors).

In 1923, the New Caledonian daily newspaper La France Australe mentioned several sightings near to Freycinet island, reporting on large jets of water emanating from several huge animals; these had first been thought to be porpoises. One of them *'frequently emitted a jet of smoke'* and *'At times it projected its two long tentacles above the surface, and sometimes it ejected*

water or water vapour [...]' (cited by Heuvelmans, 1965, translated to English by the authors). This set of characteristics, which clearly demonstrates the difficulties of describing the phenomenon, allows us to identify the animal as a giant squid.

Very few illustrators have been able to draw the animal at this precise moment, because the brief sight of a jet is rarely visible, or is only seen when the animal is captured, and it is necessary to be present to produce a detailed portrayal. Images have only really entered the public sphere since the development of the portable phone has enabled this instantaneous process to be captured. One can, however, cite a representation of a giant squid in the book of Hans Egede (a Danish missionary, 1686–1758), published in 1788, which shows one of these great animals 'blowing' on the surface of the Sea of Norway (Fig. 5).

This expulsion is accounted for by the manner in which cephalopods swim, by means of expanding their mantle, thereby filling it with water, and, with a brutal contraction of their whole body, propelling themselves along by the siphon of water that is contained in the cavity. As the siphon is orientated in the same direction as the arms, the direction of movement is backwards. Once arrived at its destination, the animal relaxes, opens the edge

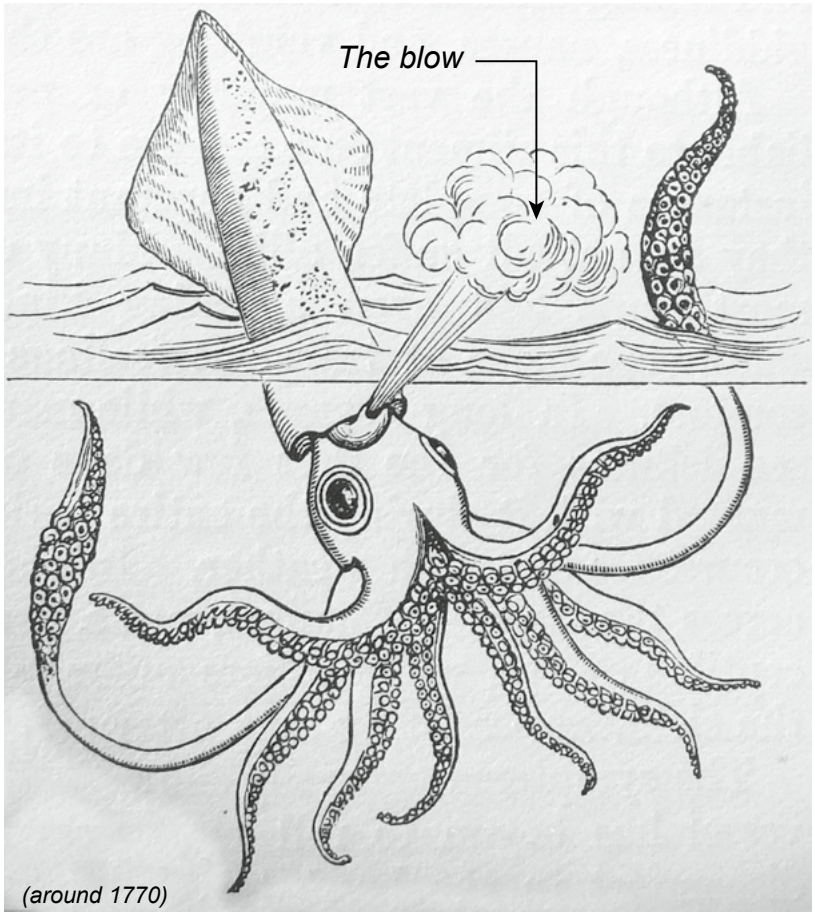

Fig. 5. Image of a giant squid blowing on the surface in the Norwegian Sea.

of its funnel so that it is engulfed anew with water, and expels the water once more using its siphon. This suite of rhythmic contractions makes it go backwards jerkily, by virtue of it being a true system of jet propulsion (Anderson & Grosenbaugh, 2005).

Thus, it is this liquid 'breath' that the Neolithic engraver wanted to signify, shown projecting upwards towards the top of the representation of the 'sleeved axehead'.

THE HEAD AND THE EYES

The head and the eyes are evidently indissociable, but while the eyes cannot help but attract attention by their astonishing presence, the head – in accordance with the definition of this class of cephalopods – seems to the casual observer to disappear into the body.

It is once more interesting to return to ancient accounts to understand how people construct their descriptions of a rare animal. In his *Historia de gentibus septentrionalibus* written in 1555, Olaus Magnus, when discussing *'horrible monsters that are found off the coast of Norway'* (book XXI, chapter 5, cited by B. Heuvelmans in 1958 in a French translation of 1561, translated to English by the authors), reports large cephalopods as having *'a square head, full of spikes on every side, and long horns that resemble the roots of a tree that have just been pulled up; it is 10 or 12 coudées* [6 to 7 m] *long. Their colour is black; they have mighty eyes'*. The description of the head shape as being rectangular, contrary to the anatomical reality, recalls the way in which it is depicted on the engraving from Runesto. As we shall see, it is the monster as described by Olaus Magnus that was subsequently to be depicted as the *Kraken*.

Even more than the head, it was the eyes that exercised this kind of fascination over all the witnesses, without fail – and this is also the case with modern illustrators (Fig. 6). Thus, on the coast of the Netherlands, when a 'marine monster' was pulled from the sea at the end of 1661, between Schevelingen and Catwick, it was its eyes that were the centre of attention: *'Between the mouth and the star* [sic] *can be found the eyes which, when the fish was alive, had an appearance so frightening that they struck fear into the beholder'* (Heuvelmans, 1958, p. 230, translated to English by the authors).

During the 19th century, the relative rarity of encounters perpetuated this idea about people being dumbstruck by the petrifying gaze of the animal. The British writer F. Bullen, who embarked on a whaling ship in 1875, returns to this familiar sentiment in a famous tale, The Cruise of the 'Cachalot': *'The eyes were very remarkable from their size and blackness, which, contrasted with the livid whiteness of the head, made their appearance all the more striking. They were, at least, a foot in diameter, and, seen under such conditions, looked decidedly eerie and hobgoblin-like'* (Bullen, 1898, p. 144). Its eyes are indeed extraordinary. But we now need to separate the two

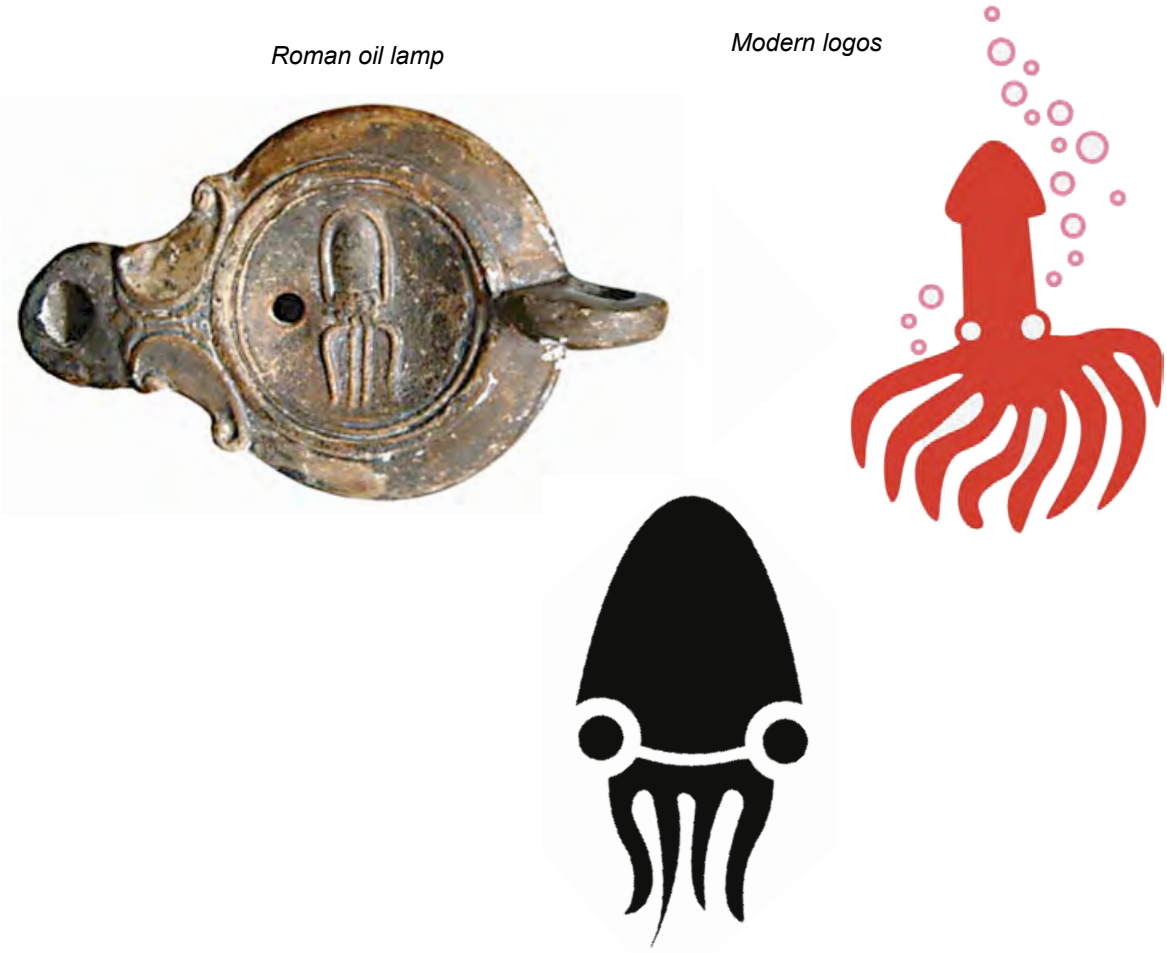

Fig. 6. Roman oil lamp (1st century; Knickerbocker Collection); two logos with a squid model.

orders in the class of cephalopods. In effect, creatures belonging to the octopoda order (including octopuses) do not possess such large organs of vision as to attract much attention from humans; the eyes are relatively small and have eyelids that allow them to be closed. It is the decapoda order creatures (cuttlefish and squids) which are singled out by their unusually large eyes, notably the giant squids which possess the largest eyes of any animal: 27 cm in diameter (for the eyeball), and with pupils 9 cm in diameter (Nilsson et al., 2012; Rosa et al., 2017). Thus, the lateral circular bosses, located at the base of the jet on the engravings of Pen Hap, Cruguellic and Tevenn, at the mid-point of the body at Runesto and at its end at Gavrinis, signify the protruberant eyes of a cephalopod.

THE ARMS AND THE TENTACLES

The necessary distinction that has to be made between creatures belonging to the octopoda and decapoda orders also applies to the question of arms and tentacles:

- Octopuses possess eight arms ('octopodes' being Greek for 'those with eight feet'), so named because they are used not only as a means of locomotion but also have a prehensile function. All the arms are the same length and are covered with suckers. The body is bag-shaped and possesses no internal skeletal structure.

- The squid and the cuttlefish, members of the decapoda order (decapodes, 'those with ten feet'), also possess eight arms, but they also have two tentacles (also known as 'whips'). The tentacles are longer and more spindly than the arms, and they only have suckers at their flat, spatulate ends (as opposed to the arms, which have suckers along their whole length). On the cuttlefish, the two tentacles are retractable, and when at rest they are sheathed. The animal can roll them out suddenly, like whips, to catch a prey.

- In the scientific literature, the term 'arm' is used to refer to the eight 'sessile arms' (i.e. arms that are directly attached, without a peduncle), while 'tentacle' is reserved for the two 'pedunculated arms'. One can add that these anatomical differences relate to the very different biotopes occupied by these different orders of animal. The octopus mostly lives on the seabed, being a bottom-dwelling (benthic), animal, and is always on the lookout for its prey. The squid, in contrast, moves around in the water, being an open-sea (pelagic) swimmer.

What, then, do these observations bring to bear on our understanding of the Neolithic representations in question?

- No arms figure on the Tevenn specimen, nor are there any on the Cruguellic engraving, although here the breaking-off of the lower part of the motif prevents us from being categorical on this point.

- By contrast, 13 arms are shown on the Runesto specimen, with two possible additional arms in the middle and at the bottom of this set.

- Eleven arms can be made out at Gavrinis, with an additional two at the centre; the latter extend down further than the others (by an additional 3 cm, with the others averaging 8 cm long).

- The representation at Pen Hap has 20 arms, of which two are longer than the others, joining them at the centre of the body.

We have to admit that none of these numbers of arms corresponds to those actually present on either octopoda or decapoda. Nevertheless, it could be argued that these totals go far beyond the eight possessed by an octopus, thereby demonstrating that it was a squid or a cuttlefish that was represented by such a proliferation of limbs. Moreover, the presence of two con-

vergent lines, which are longer than their neighbouring lines, on the specimen of Pen Hap and also on the Gavrinis example, could effectively be representing the two tentacles possessed by decapoda – an anatomical feature that is always visible on a dead specimen of the animal.

BEHOLDING THE GIANT SQUID: BEACHINGS, FISHING, AND SPERM WHALES

From writing about the dead animal – whose situation allows us to examine it, to look at its relaxed organs and to comprehend the creature – let us turn to the living animal and the various different opportunities that are afforded to witness it, both now and in the past (Roper et al., 2015).

Beachings are rarely documented in the history of spottings since the animal is most often, and universally, recycled as bait for fishing. In Europe, an Icelandic chronicle (the *Annals of Björn Jónson of Skardsa*) for 1639 contains the earliest detailed account of a beaching of what was indubitably a giant squid, on the northern coast of the island (Heuvelmans, 1958, p. 228).

Today, not far from Brittany lie the Galician and Asturian coasts in Spain, from where many accounts and reports of beachings have come (Guerra et al., 2011; Guerra et al., 2004). The beasts are up to 5 to 10 m in length and weigh over 200 kg, and they attract visitors from far and wide, to such an extent that a museum was created in 2010 – the Centro del Calamar Gigante de Luarca, Asturias (Giant Squid Centre, Luarca, Asturias) – and is due to re-open over the summer of 2021, as a way of informing and entertaining a public that is fond of these encounters with fabulous beasts. There is nothing similar to that Centre in Brittany, where such beachings tend not to make it into local gazettes; the shallower sea around the Breton coast are not conducive to the arrival of giant squids, or to their hunting by sperm whales. Nevertheless, fishers can encounter them, although they do not always report their sightings. For an account of a viewing of a live giant squid – and one that does not portray the animal as a marvel – we must go back to 1802, in the South Pacific, around Tasmania, where one was encountered during a French expedition. F. Peron, who joined the team as a naturalist, reported: *'This day* [9th January 1802]*, we spotted, among material floating in the sea, not far from our ship, an enormous example of the Sepiidae, probably from the genus Architeuthis, the size of a barrel; it moved noisily among the waves, its long arms spreading over their surface, moving about as though they were enormous reptiles* [...] *Without doubt it is to an animal of this species that Dom Pernetty confidently attributed dimensions that are truly prodigious and a weight so great that it could overcome a boat by clasping its arms along the ropes, toppling and sinking it* [...] *A childish tale, no doubt, and a revolting exaggeration, but one which finds its source in the appearance of several monstrous animals of this type'* (cited by Heuvelmans, 1958, p. 284, translated to English by the authors).

At the same time, in effect, one encounter was to make a permanent impression on the public, influencing Jules Verne in his famous *Twenty Thousand Leagues Under the Sea* (1869). The naturalist P. Denys de Montfort, in his Histoire naturelle des mollusques (Natural History of Molluscs), published in 1802, faithfully recounted certain encounters between voyagers and giant squids around Africa, and he uncritically accepted the illustration of one such event painted on an ex-voto in a chapel at Saint-Malo in Brittany. The text deserves to be reproduced here: *'We have seen, in the chapel of Saint Thomas – a saint whom the sailors of this country invoke at times of extreme danger – an ex-voto or tableau showing the imminent danger of destruction faced by a boat of this port, inundated off the coast of Angola* [...] *all of a sudden, in fair weather and in full daylight, a monster of the deep, of an enormous size, rose up from the waves, causing them to froth over a large area, and passed over the deck of the boat, attaching itself to the cabin and took over the wheel and the masts, right up to their summits, using its long and terrifying arms* [...] *the monster made the boat lean over until it was nearly on its side, and going down into the abyss* [...] *With mighty swings of the axe and with the blades of their sabres, the sailors were finally able to chop off the arms of this horrible creature* [...] *and with the vessel no longer dragged onto its side nor being in imminent danger of being sunk, it regained its equilibrium* [...]' (Denys de Montfort, 1802, p. 271, translated to English by the authors). The scientific community cast a sceptical eye on such reported dimensions, and the resolution of the zoological problem was to be held back by this account.

However, each new spotting served to confirm the existence of an animal that had hitherto been unknown or poorly known. There were accounts from the 1850s in Denmark; then another in 1861, of a sighting between Tenerife and Madeira in 1861. The detailed account of that sighting by Lieutenant F. M. Bouyer, commander the of the French despatch steamer *Alecton* – *'I recognised the giant octopus, whose contested existence had seemed to be relegated to the domain of fables'* (Bouyer, 1867, p. 21, translated to English by the authors) – was accredited by the consul of France, and it served to change the opinion of the Academy of Sciences in Paris. Finally, in 1873, numerous successive beachings in Newfoundland permitted people to examine and measure the creatures. But there was still resistance to accepting the existence of this creature, and notably concerning the paternity of the genus (*Architeuthis*) which the Danish naturalist J. J. Steenstrup introduced in 1856: this was received in incredulous silence. Then, suddenly, everybody wished to ensure a little immortality: in 1874, S. Kent tried to impose the term *Megaloteuthis* to describe the squids of Newfoundland (Heuvelmans, 1958, p. 333), while others proposed *Megateuthis* – a term that resonates with our Armorican megaliths...

Whalers had already been aware of the existence of these improbable animals for centuries, having encountered them while hunting for sperm whales. In 1804, B. de Lacépède confirmed their existence while investiga-

ting the alimentary system of these whales; in particular he pointed out the presence of squid beaks in the whale intestines, some of a considerable size (Lacépède, 1804, p. 385). Sailors found the remains of these giant molluscs when butchering and emptying out whale carcasses. When they speared a whale, the agony of the animal gave rise to terrible vomiting, and brought to the surface of the sea gigantic tentacles, visible to all.

Writers who joined whaling ships were to witness these squids, either in the form of regurgitated meals or as remains in the entrails of sperm whales. It was as a result of this that news of their existence diffused out to the public. The first such writer was Herman Melville, author of the glorious book *Moby Dick*, who dedicated a whole chapter to the terrible giant squid: *'So rarely is it beheld, that though one and all of them declare it to be the largest animated thing in the ocean, yet very few of them have any but the most vague ideas concerning its true nature and form notwithstanding, they believe it to furnish to the sperm whale his only food* [...] *At times, when closely pursued, he will disgorge what are supposed to be the detached arms of the squid; some of them thus exhibited exceeding twenty and thirty feet in length'* (Melville, 1851, p. 310).

It was these remains of meals that provided information on the size of the squids that nobody had yet seen as living creatures. Before 1985 – when full protection was granted to the sperm whale by the International Whaling Commission – it was possible to see, on butchery sites in the Azores, 'mouths' of squids weighing 200 kg and exceeding 10 m in length (Joubin, 1895). The earliest illustrations of such creatures date to the 1970s (Fig. 7), but it was not until 2009 that the first undersea photographs were taken, close to the Ogasawara islands (Japan). These provided a glimpse of a meal eaten by a female sperm whale, accompanied by her offspring; she was tearing to bits a squid that measured around 9 m.

The battles between sperm whales and giant squids (the latter belonging to the most widespread genus *Architeuthis*, or to the genus *Mesonychoteuthis*, the 'colossal squid' of the Australian ocean) had long sparked the imagination, not least of the sailors who witnessed them on the surface of the sea, with the toothed jaws of the whale intertwined with the cephalopod's tentacles, held on by their suckers (Fig. 8). Let us remind ourselves that the sperm whale was adapted to this kind of hunt, its lower jaw being armed with ivory teeth some 10 cm long and its upper jaw having sockets into which the teeth meshed. Three sperm whale teeth were deposited with a human body in one of the cells of the Neolithic passage tomb of la Planche à Puare on l'île-d'Yeu (Vendée), a tomb with a typically Armorican plan, and a rare example of where bones have been preserved in the acidic environment of the metamorphic geology, thanks to the presence of marine sand in the tomb (Baudouin, 1907; Cassen & Vaquero, 2000).

To sum up: in Europe, the giant squid remained a fabulous animal for a long time, because it was so hard to spot. The crews of sail boats had the

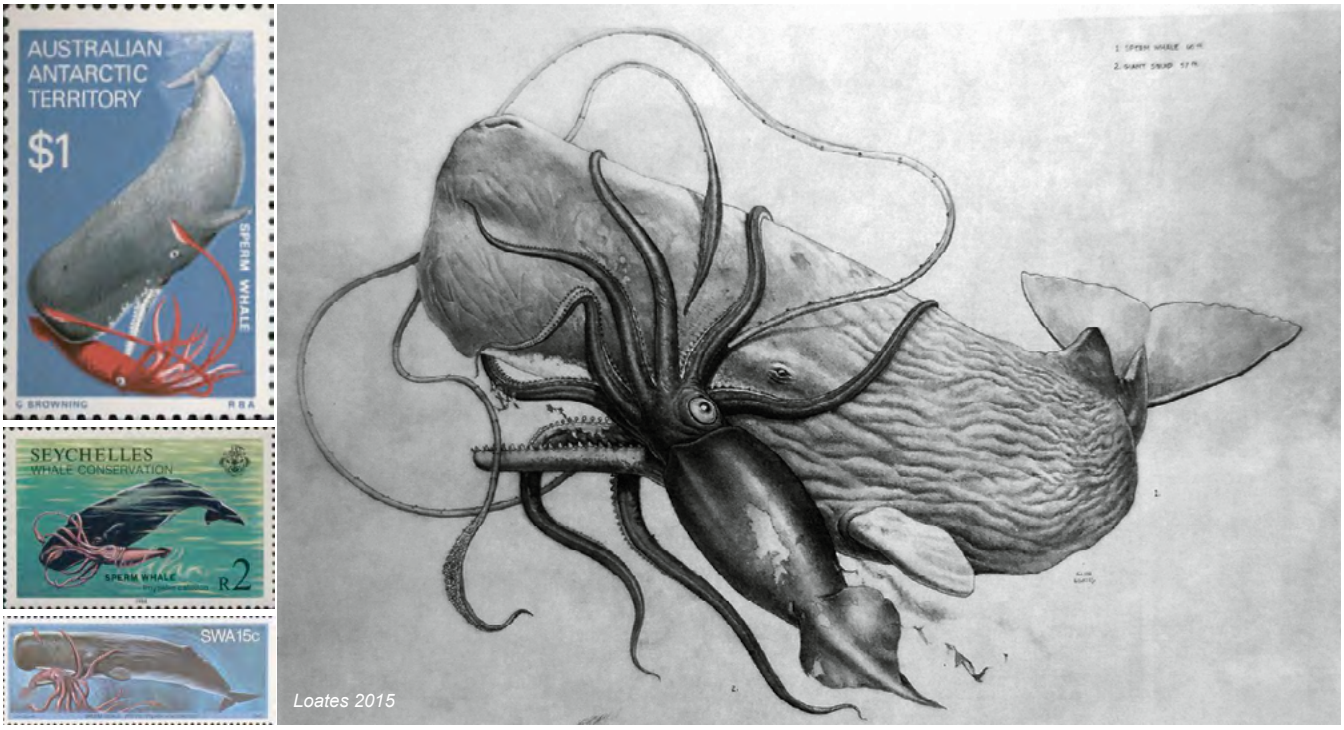

Fig. 7. Stamps (Australia 1973, Seychelles 1984, Namibia 1980) showing the fight between sperm whales and giant squids. Artist's representation illustrating this confrontation.

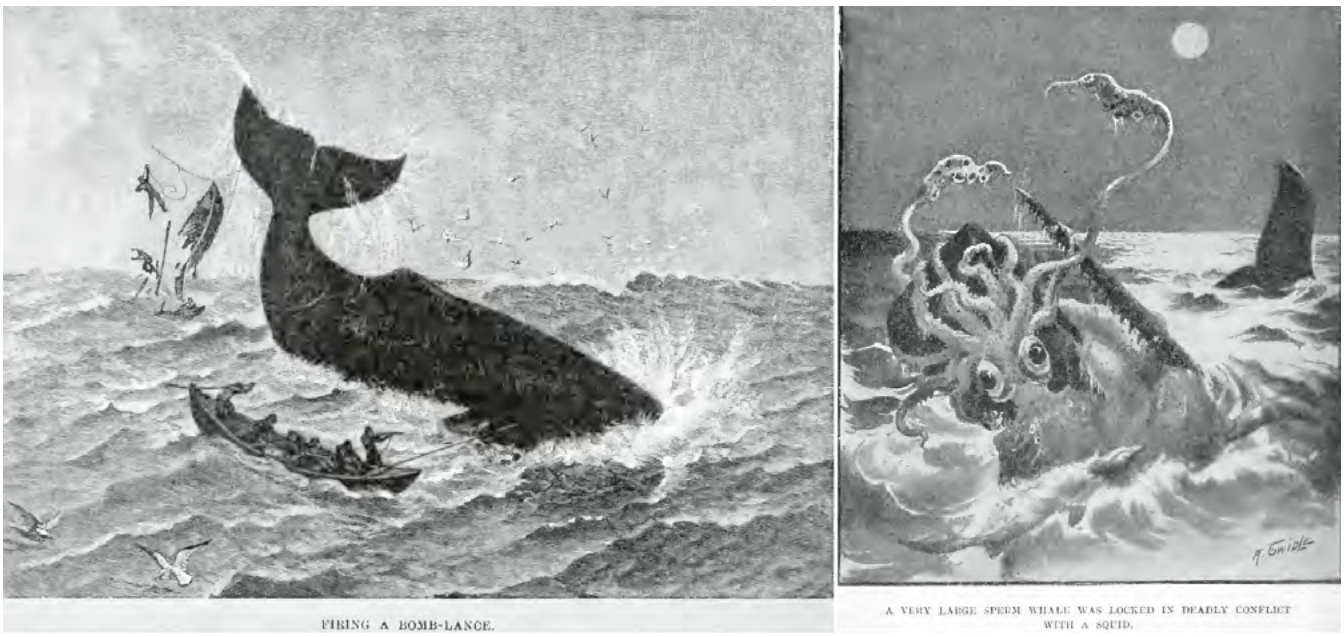

Fig. 8. Images taken from F.T. Bullen's book *The Cruise of the 'Cachalot'. Round the World after Sperm Whales* (1898). On the left, the sperm whale hunt; on the right, the confrontation between a sperm whale and a giant squid *('A very large sperm whale was locked in deadly conflict with a squid')*.

opportunity and the time to observe these molluscs, either on the surface of the sea as they were dying, or in the jaws of a sperm whale, its principal predator. Fortunately, a few officers and writers were able to report on these remarkable sightings. Beachings also gave rise to reports, although in Brittany there are no such reports in the recent past; it is only along the North Sea coast that reports go back to medieval times. Today, the coast of north-west Iberia is progressively enriching our understanding of the ecology of an animal that remains poorly understood.

THE MYTHICAL ANIMAL

Thus, the contours of the 'true' animal are becoming increasingly better known, and the foundations of our hypothesis appear to be growing firmer. We would like to discuss the traditional ways in which these creatures were depicted – often in an idealised form – to see how individuals or social groups conceptualised them. Octopuses and squids play a prominent role in non-historical tales of imaginary events, and they are often portrayed as beings that symbolise physical forces or else metaphysical or social generalities. Sadly, lack of space precludes a review of two versions of these allegorical expressions of an abstract idea rendered in graphic form: the myth of Scylla and that of the Kraken, two mythical representations of the giant squid.[1]

Let us stay, then, with the interpretations of megalithic designs that have been made by our archaeological colleagues since the beginning of the 20th century because here, too, we can see in play a kind of origin myth. Traditionally, origin myths underpin people's ritual actions and, more generally they inform the courses of action and thought processes by which people make sense of the world (Ricœur, 1960). Despite our own desire to undertake a scientific study, we as archaeologists are not immune from wanting to understand better our place in the world...

It was in 1905 that C. Keller presented his idea: *'I believe I have found the significance of an engraved, sunken design on the third upright on the left, at the point of inflection of the angled passage tomb at Lufang (in Crach commune). This design, of a type named 'shield-shaped' by Dr de Closmadeuc, would seem to be a representation of an octopus (octopus vulgaris), a marine animal that is figured on numerous objects of various kinds (standard weights, pots, metal plaques, engraved stones and coins) that have come from excavations in Greece and in the Greek islands over the last 30 years* [...] *one is led to believe that the three angled passage tombs of the Morbihan where one finds this design or others of the same type must have been constructed during the Metal Ages, and decorated according to the design of an object, probably a vase, imported from Greece'* (Keller, 1905, p. 239, translated to English by the authors).

1 The reader is referred here to the forthcoming volume presenting a corpus of the engraved signs at Gavrinis.

Louis Siret latched onto this marine creature image and proceeded to generalise its application across the iconographic repertoire of the Morbihan. His inventory of 'signs derived from octopuses, personifying the ocean' (Siret, 1913, pl. A) described the quadrangular figure at the base of orthostat 6 at Mané Lud (Locmariaquer) as 'the long arm of a squid', and claimed to see the same figure in the crook signs and the 'U'-sign on the small standing stone at Mané er Hroëck, in the same commune. The sites that demonstrated this marine creature imagery par excellence were of course Luffang with its octopus (Fig. 9) and les Pierres Plates (Fig. 10).

Annoyed by this evident mixing-up of signs that were poorly illustrated, and by an over-generalisation of an idea, J. Déchelette quickly critiqued both the image and the hypothesis: *'M. Siret has sought to explain this particularity, but in doing so he has presented an interpretation that is unacceptable, in his desire to assimilate the said idols to the Mycenaean octopus. Above the eyes of the supposed octopus, he claims to see the four pairs of arms of that marine animal'* and *'in reality, what we have here is a representation of a tattooed or painted design on a body'* (Déchelette, 1908, pp. 597, 611, translated to English by the authors). For Déchelette, only a form of facial decoration could account for all the observed details.

Déchelette's standing was such that the scientific community abandoned Siret's interpretation. G.-H. Luquet went on to demolish Keller's proposition by his insistence that the designs were representations of human figures (Luquet, 1910). But the friends of C. Keller, Z. Le Rouzic and St-J. Péquart, took exception to this. Péquart et al.'s *Corpus des signes gravés* re-stated Keller's interpretation, slightly modified: *'The engraving commonly called 'the Lufang octopus' would seem to us, despite claims to the contrary by several archaeologists, the representation of a cephalopod'* (Péquart et al., 1927, p. 23, translated to English by the authors). Their discussion of the location of the tombs in question offered a coherent theory: *'The fact that all the angled passage tombs are found on or near the sea naturally suggests to us the hypothesis that the builders of these monuments belonged to maritime societies, descended from a clan whose totem was originally the marine creature whose stylised image we see depicted on the stones'* (ibid., p. 30, translated to English by the authors). To these tombs dating to the final Neolithic, Z. Le Rouzic proceeded to add Gavrinis and the design that he discovered on its capstone P2: *'This figure is placed exactly above the axis of the gallery, as if surveying its entrance. This design is undeniably one of the forms of stylisation of the Octopus, a fertile and fecund goddess, emerging from the water and guarding and protecting the tombs'* (Le Rouzic, 1935, p. 130, translated to English by the authors). Our own recording of this design has identified flying birds and nested throwing sticks (Fig. 11), but no 'sleeved axehead'.

Henri Breuil was another commentator who contradicted Keller's proposition: *'Exceptionally, a motif the same as that at Lufang had been considered – through some kind of Oriental mirage – as an image of the Octopus;*

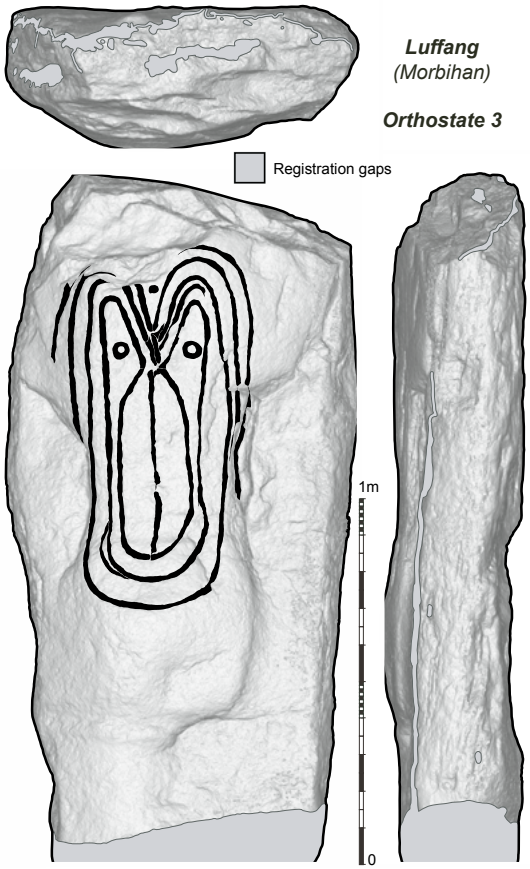

Fig. 9. Orthostat 3 from the Luffang angled passage tomb (Crac'h, Morbihan) and the engraving interpreted as an octopus or cephalopod by C. Keller (1905), L. Siret (1912), St-J. and Z. Le Rouzic (1927).

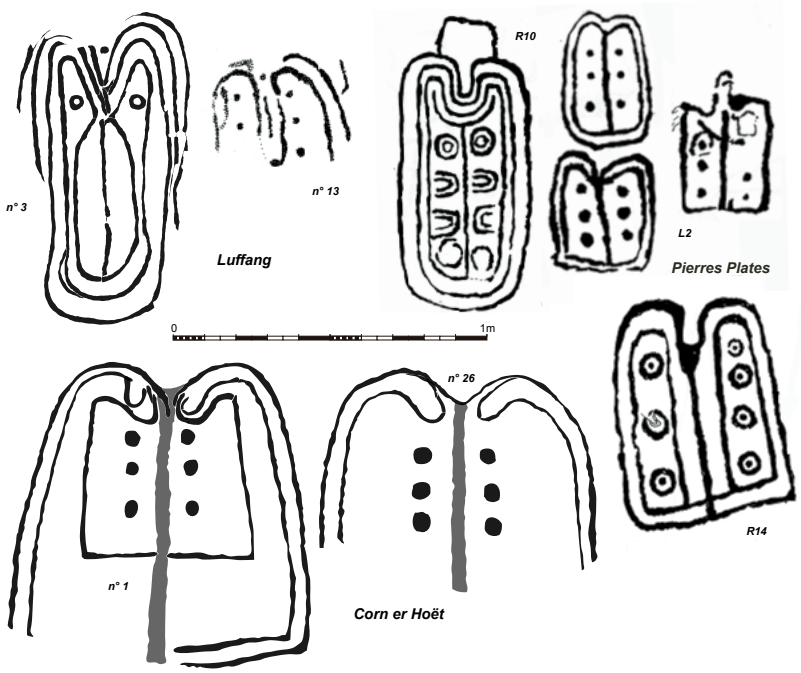

Fig. 10. The 'octopus' on orthostat 3 of Luffang (Crac'h, Morbihan), compared to the slabs in the tomb itself and in other tombs in the region.

but it is necessary to return to the ensemble of these designs, which incontestably show a signification of a human, despite its conventional [sic] *character'* (Breuil, 1936, p. 294, translated to English by the authors). Elizabeth Shee Twohig admitted, à propos slab L13 at Luffang, *'a very strong impression of anthropomorphism'* (Shee Twohig, 1981, p. 181). The final refutation of Keller's interpretation of the motif was by Jean L'Helgouac'h: *'It is not surprising that such and such specific characteristics could be interpreted in that way, without taking into account the ensemble of elements of this art. One thinks here of the 'octopus' of Luffang* [...] *where the characteristics of a cephalopod have been accentuated by the commentator; this figuration possesses exactly the same characteristics as all the others, from Goërem, from Bono or from Pierres Plates'* (L'Helgouac'h, 1998, p. 364, translated to English by the authors). To L'Helgouac'h, all these motifs are none other than the representation of an anthropomorphic 'idol', of which the only unclear element is the sex (L'Helgouac'h, 1998, p. 268). It is thus this last term, 'idol', which won the vote and is still used today.

Despite the successive ins and outs of the archaeological research that has been undertaken on the so-called cephalopod in these tombs that are characteristic of the end of the Neolithic, we must bear in mind that that interpretation persists and remains very popular with the public. It appears in tourist leaflets and booklets, in archaeological guides, in journal articles, on postcards, and on the Internet – where a Google search for 'poulpe de Luffang' ('the Luffang octopus') throws up 8790 entries, as opposed to just 1390 entries for 'l'idole de Luffang' ('the Luffang idol') (Google search on 1st June 2021). All these media perpetuate this belief, probably because it is an attractive image, supposedly portraying an always enigmatic animal, found in a context that is ontologically mysterious – the context of 'megalithism'. Mysterious and not problematic, since a problem is something that one encounters, which bars the route; it is a complete entity facing me. In contrast, a mystery is something in which I find myself engaged, and whose essence is such that it does not appear as a whole thing before me (Marcel, 1935).

MARVELLOUS CONCLUSIONS

Historians and philosophers of science have often said that we are not capable of describing an unknown animal without dealing with it bit by bit, and appropriating these bits to a creature that we already know. In the absence of any points of comparison with our personal worlds, one sees in the creatures of the ocean counterparts of terrestrial creatures: spiders,

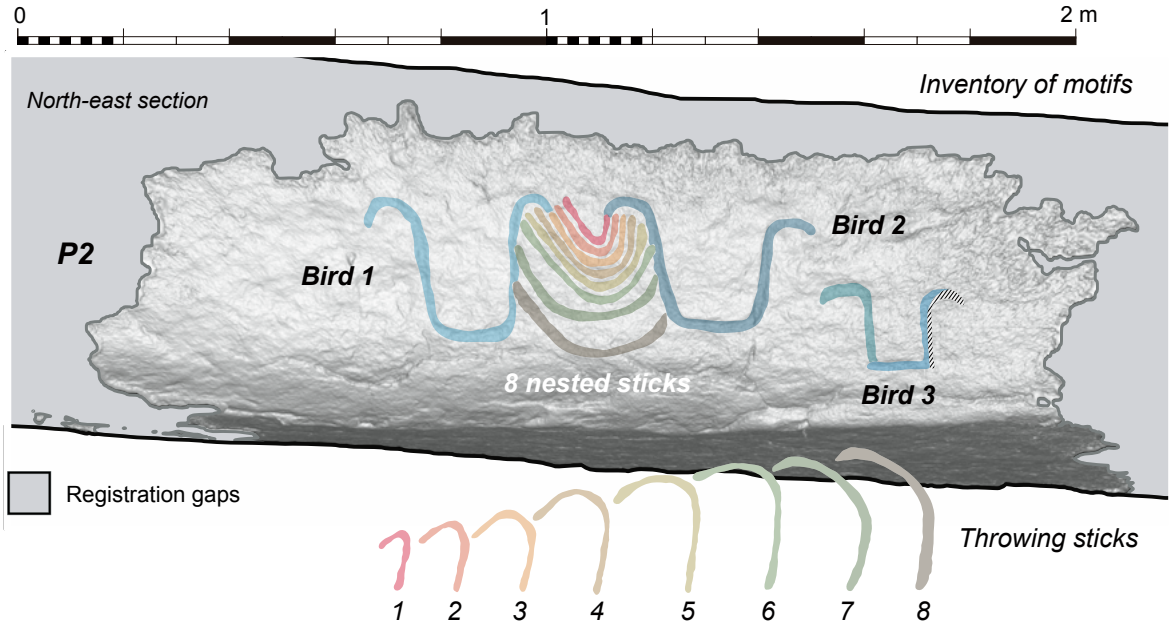

Fig. 11. The P2 roof slab in Gavrinis passage tomb (Morbihan). Three birds and eight throwing sticks, which Z. Le Rouzic interpreted as an octopus in 1935.

hares, calves, pigs, dogs, wolves, bears, horses, men and women...: *'this method, by definition, produces a heterogeneous monster'* (Heuvelmans, 1958, p. 33, translated to English by the authors). The same is probably true of our attempts to identify an unknown graphic representation from the distant past. The 'sleeved axe' forms part of this vocabulary. That term has gained legitimacy partly from its having resulted from a widespread pareidolia (i.e. a kind of optical illusion, a tendency to see forms or patterns in seemingly random marks – and here to take an ambiguous visual stimulus and attribute to it a clear and identifiable object), and partly because it conjures up an uncontested object, representing the Neolithic par excellence: the polished axehead, emblematic of an agricultural way of life and of an epoch. In just the same way the term 'axe-plough' reflected the assumed agricultural status of all these useful and practical signs – domestic animals and tools. However, what is truly astonishing, in its strange and extraordinary character, is that during the first third of the 20th century, people should see one kind of cephalopod (i.e. the octopus) in the motif called 'the shield', engraved on several stelae and on the walls of several tombs dating to the end of the Neolithic, whereas we, today, are identifying an 'other' cephalopod – the giant squid – on earlier stones, and among another famous assemblage of signs that are considered, by modern researchers, to depict an axehead in its sleeve. And while the early 20th century interpretative current was a minority view (C. Keller, Z. Le Rouzic, M. Péquart), how is it that marine animals that are as hidden away and as rarely sighted as octopuses, cuttlefish and squids came to appear on the symbolic scene as reconstruc-

ted by archaeologists? To the extent that we now find it impossible to see squids or octopuses in these figures that are so specific, dating between 3500 and 3000 cal BC – the 'shield', 'buckle', 'divinity' figures (L'Helgouac'h, 1993; a 'human face' as the ultimate evolution of this interpretation, cf. Laporte & Le Roux, 2004, p. 113) – we remain intrigued and perplexed, unable to explain the phenomenon.

Let us consider that, in explaining how we substitute one form for another in an image, we are dealing with a spontaneous kind of subconscious deliberate mistake. According to Sigmund Freud (2015), such subconscious deliberate mistakes are 'psychic acts' that fulfil an unconscious desire in the observer. Likewise, a slip of the tongue can be a conflict between the conscious intention to say the right thing and an unconscious urge to say the contrary. It constitutes a hidden admission. It is not a case of a simple distraction or an act of chance; a slip of the tongue reveals a precise, repressed feeling or opinion – the object of internal resistance which, as with all repressed urges, waits for the right moment to express itself openly (Saint-Jacques, 1963). In the same way, in literature, a form of words that interrupts the discursive flow signals the arrival of a different way of expressing ideas, emanating from a different discourse, parallel to that which is in the process of being enunciated (Fenoglio, 2003). In our discipline of archaeology, we can use the concept of a subconscious deliberate mistake to explain the tension between a conscious desire to see one thing in a design, and another, unconscious, urge which makes that person see another thing in that design, despite their better judgement. We have already evoked this phenomenon in our discussion of the interpretation of the famous Neolithic 'mother goddess' in the Morbihan – a phallic sign, in our opinion – where the vocabulary and the kind of words employed to describe the design by those who see a mother goddess are paradoxically virile and masculine (Cassen, 2000, p. 657).

Whatever the case may be, we stand by our own structural coherence in our interpretation of the so-called 'sleeved axehead' design, in contradistinction to the incoherence of earlier interpretations of this motif, emphasising the following elements of the design:

- the so-called 'buckle', an elongated design at the top of the motif: identical to that seen on the sperm whale design, this must signify a cause and/or an effect that is similar;

- the exaggerated circular lateral protuberances, which constitute a strong element of the graphic assemblage: we regard these as eyes, as did R. Minot, who, in 1964, was the first person to recognise this feature as eyes;

- the divergent lines, placed on just one side of the motif. This is unique within the Armorican repertoire, and it makes no sense unless it is inter-

preted alongside the aforementioned two features. It could be seen as a fringe adorning an object, or as arms or feet, or fur or hair, on a being; we see it as arms and tentacles.

These three correlated elements of the composition signify the cephalopod – one that ejects water and ink, one that watches with its large eyes, one which touches and grabs with its arms and tentacles. And since the motif at Pen Hap and at Gavrinis has two limbs that are longer than the others, the presence of these two tentacles identifies the creature as the giant squid rather than the octopus – the decapod, not the octopod. Indeed, it is only the giant squid that is the favourite prey of the sperm whale, comparable to it in size and in the depth of water in which it swims, unlike the octopus with its small eyes, lurking in the rocks of the shore. Here is the coherence of this non-conformist portrait; here are the images of the two gigantic 'blowers', the sperm whale and the giant squid.

ACKNOWLEDGEMENTS

We thank Ariane Ballmer for her kind invitation to us to contribute to this session and for her immediate acceptance of our proposition on the subject of the ‘sleeved axe’. Once again, Alison Sheridan has undertaken the delicate task of translating the original text from French; we are very grateful to her.

BIBLIOGRAPHY

Anderson, E. J., & Grosenbaugh, M. A. (2005). Jet flow in steadily swimming adult squid. *The Journal of Experimental Biology, 208*, 1125–1146. https://doi.org/10.1242/jeb.01507

Baudouin, M. (1907). Découverte de dents de cachalot dans un dolmen de l'Ile d'Yeu (Vendée). *Bulletin de la Société préhistorique française, 4*(2), 120–122. https://doi.org/10.3406/bspf.1907.11525

Boujot, C., & Cassen, S. (1992). Le Développement des premières architectures funéraires monumentales en France occidentale. In C.-T. Le Roux (Ed.), *Paysans et Bâtisseurs. L'émergence du Néolithique atlantique et les origines du Mégalithisme. Actes du XVII^e colloque interrégional sur le Néolithique, Vannes 1990* (pp. 195–211). Association pour la diffusion des recherches archéalogiques dans l'ouest de la France.

Boujot, C., Cassen, S., & Defaix, J. (2000). La pierre décorée du caveau et les gravures régionales nouvellement découvertes. In S. Cassen, C. Boujot, J. Vaquero (Eds.), *Eléments d'architecture (Exploration d'un tertre funéraire à Lannec er Gadouer, Erdeven, Morbihan. Constructions et reconstructions dans le Néolithique morbihannais. Propositions pour une lecture symbolique)* (pp. 279–298). Association des publications chauvinoises.

Bouyer, F. (1867). *La Guyane française: notes et souvenirs d'un voyage exécuté en 1862–1863*. Hachette & Cie.

Breuil, H. (1936). La figure humaine dans la décoration des chambres mégalithiques du Morbihan. *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres, 80*(4), 292–299.

Bullen, F. T. (1898). *The Cruise of the 'Cachalot'. Round the World after Sperm Whales* (reprint 1906). D. Appleton and Company.

Cassen, S. (2000). La Forme d'une déesse. In S. Cassen, C. Boujot, J. Vaquero (Eds.), Éléments d'architecture (Exploration d'un tertre funéraire à *Lannec er Gadouer, Erdeven, Morbihan. Constructions et reconstructions dans le Néolithique morbihannais. Propositions pour une lecture symbolique*) (pp. 657–681). Association des publications chauvinoises.

Cassen, S. (2005). Pigeon-vole! Re-connaissance d'une gravure armoricaine du Ve millénaire. *Bulletin Société Préhistorique Française, 102*(2), 299–334. https://doi.org/10.3406/bspf.2005.13110

Cassen, S., & François, P. (2009). Classements et diagnoses de la production céramique à la Table des Marchands. In S. Cassen (Ed.), *Autour de la Table. Explorations archéologiques et discours savants sur des architectures néolithiques à Locmariaquer, Morbihan (Table des Marchands et Grand Menhir)* (pp. 491–567). Laboratoire de recherches archéologiques, CNRS, Université de Nantes.

Cassen, S., & Grimaud, V. (2017). La stèle de Tevenn, dite de Kermorvan (Le Conquet, Finistère). *Bulletin de la Société Archéologique du Finistère, 145*, 17–28.

Cassen, S., & Grimaud, V. (2020). Nouvelles gravures néolithiques dans la tombe à couloir de Cruguellic (Ploemeur, Morbihan). *Bulletin Société d'Archéologie et d'Histoire du Pays de Lorient, 40*, 53–71.

Cassen, S., & Vaquero Lastres, J. (2000). La Forme d'une chose. In S. Cassen, C. Boujot, J. Vaquero (Eds.), *Eléments d'architecture (Exploration d'un tertre funéraire à Lannec er Gadouer,Erdeven, Morbihan. Constructions et reconstructions dans le Néolithique morbihannais. Propositions pour une lecture symbolique)* (pp. 611–656). Association des publications chauvinoises.

Cassen, S., Boujot, C., Dominguez Bella, S., Guiavarc'h, M., Le Pennec, C., Prieto Martinez, M. P., Querré, G., Santrot, M. H., & Vigier, E. (2012). Dépôts bretons, tumulus carnacéens et circulations à longue distance. In P. Pétrequin, S. Cassen, M. Errera, L. Klassen, A. Sheridan & A. M. Pétrequin (Eds.), *Jade. Grandes haches alpines du Néolithique européen. Ve et IVe millénaires av. J.-C.* (pp. 918–994). Presses Universitaires de Franche-Comté; Centre de Recherche Archéologique de la Vallée de l'Ain.

Cassen, S., Boujot, C., Grimaud, V., Celo, O., Chaigneau, C., Obeltz, C., & Vigier, E. (2021). *Carnac. Récit pour un imagier*. Laboratoire de recherche Archéologie et Architecture, Université de Nantes.

Cassen, S., Grimaud, V., Lescop, L., Marcoux, N., Oberlin, C., & Querré, G. (2014). The first radiocarbon dates for the construction and use of the interior of the monument at Gavrinis (Larmor-Baden, France). *PAST, The Newsletter of the Prehistoric Society, 77*, 1–4.

Cassen, S., Grimaud, V., & Paitier, H. (2018). Les monolithes gravés dans la tombe à couloir néolithique du Mané er Groez à Kercado (Carnac, Morbihan). *Gallia Préhistoire, 58*, 87–138. https://doi.org/10.4000/galliap.795

Cassen, S., Lanos, P., Dufresne, P., Oberlin, C., Delqué-Kolic, E., & Le Goffic, M. (2009). Datations sur site (Table des Marchands, alignement du Grand Menhir, Er Grah) et modélisation chronologique du Néolithique morbihannais. In S. Cassen (Ed.), *Autour de la Table. Explorations archéologiques et discours savants sur des architectures néolithiques à Locmariaquer, Morbihan (Table des Marchands et Grand Menhir)* (pp. 737–768). Laboratoire de recherches archéologiques, CNRS, Université de Nantes.

Du Chatellier, P. (1903). La pointe de Kermorvan, en Ploumoguer, ses monuments, pierres à cupules. *Bulletin Société Archéologique du Finistère, 30*, 90–128.

De Closmadeuc, G. (1873). *Sculptures lapidaires et signes gravés des dolmens dans le Morbihan.* Imprimerie de Lamarzelle.

Davy de Cussé, L. (1865–1866). *Recueil des signes sculptés sur les monuments mégalithiques du Morbihan relevés et réduits au pantographe* (2nd ed.). Imprimerie J. Galles.

Déchelette, J. (1908). *Manuel d'Archéologie préhistorique et celtique: Vol. 1. Archéologie préhistorique*. Librairie Alphonse Picard et fils.

Denys de Montfort, P. (1802). Histoire naturelle, générale et particulière des mollusques: animaux sans vertèbres et a sang blanc. In G. L. Leclerc de Buffon (Ed.), *Histoire naturelle, générale et particulière* (new ed. by C. S. Sonnini, Vol. LIII–LV). Imprimerie F. Dufart. https://doi.org/10.5962/bhl.title.51804

Devoir, A. (1917). Note sur la stèle gravée du Téven de Kermorvan (commune de Ploumoguer, Finistère). *Bulletin Société Archéologique du Finistère, 44*, 1–7.

Egede, P. (1788). *Efterretninger om Grønland, uddragne af en Journal holden fra 1721 til 1788*. Kongelige Baisenhuses Bogtrykkerie af Hans Christopher Schrøder.

Fenoglio, I. (2003). Graphie manquée, lapsus écrit: un acte d'énonciation attesté. *Langage et Société, 103*, 57–77. https://doi.org/10.3917/ls.103.0057

Freud, S. (2015). *Introduction à la psychanalyse* (S. Jankélévitch, Transl.). Éditions Payot & Rivages. (Original work 1917)

Gouézin, P. (2015). L'intégration des pierres dressées à l'air libre dans les espaces sépulcraux de l'ouest de la France: le département du Morbihan. In P. Bueno Ramírez & R. Barroso (Eds.), *ARPI 03 extra 2015. Homenaje a Rodrigo de Balbín Behrmann* (pp. 96–110). Edición Área de Prehistoria, Universidad de Alcalá

Guerra, A., González, A. F., Dawe, E. G., & Rocha, F. (2004). Records of giant squid in the north-eastern Atlantic, and two records of male *Architeuthis* sp. off the Iberian Peninsula. *Journal of the Marine Biological Association of United Kingdom, 84*, 427–431. https://doi.org/10.1017/S0025315404009397h

Guerra, Á., González, Á., Pascual, S., & Dawe, E. (2011). The giant squid *Architeuthis*: An emblematic invertebrate that can represent concern for the conservation of marine biodiversity. *Biological Conservation, 144*(7), 1989–1997. https://doi.org/10.1016/j.biocon.2011.04.021

Heuvelmans, B. (1958). *Dans le sillage des monstres marins: Vol. 1. Le Kraken et le poulpe colossal*. Librairie Plon.

Heuvelmans, B. (1965). *Le Grand Serpent-de-Mer. Histoire des bêtes ignorées de la mer. Le problème zoologique et sa solution*. Librairie Plon.

Keller, C. (1905). Le poulpe de l'allée couverte du Lufang (Morbihan). *Revue mensuelle de l'École d'anthropologie de Paris, 15*, 239–244.

Lacépède, B. G. E. de la Ville (1804). *Histoire naturelle des cétacés*. Plassan.

de La Poix de Fréminville C. P. [called Chevalier de Fréminville] (1832). *Antiquités de la Bretagne. Monuments du Finistère*. Lefournier et Deperiers.

Laporte, L., & Le Roux, C.-T. (2004). *Bâtisseurs du Néolithique. Mégalithismes de la France de l'Ouest*. La maison des roches.

Le Goffic, M. (2009). L'art gravé a l'air libre durant la prehistoire et la protohistoire en Bretagne (France). In R. Balbín Behrmann, P. Bueno Ramirez, R. González Antón & C. Arco Aguilar (Eds.), *Grabados rupestres de la fachada atlántica europea y africana. Rock Carvings of the European and African Atlantic Façade* (pp. 27–44). BAR Publishing. https://doi.org/10.30861/9781407306193

Le Roux, C.-T. (1975). Bretagne. *Gallia Préhistoire, 18*(2), 511–539.

Le Roux, C.-T. (1977). Bretagne. *Gallia Préhistoire, 20*(2), 407–432.

Le Roux, C.-T. (1978). Le mobilier du dolmen de Cruguellic en Ploemeur (Morbihan). *Bulletin de la Société préhistorique française, 75*(9), 281–285.

Le Roux, C.-T. (1982). Nouvelles gravu res à Gavrinis, Larmor-Baden (Morbihan). *Bulletin de la Société préhistorique française, 79*(3), 89–96. https://doi.org/10.3406/bspf.1982.5367

Le Roux, C.-T. (1984). À Propos des fouilles de Gavrinis (Morbihan). Nouvelles données sur l'art mégalithique armoricain. *Bulletin Société Préhistorique Française, 1*(8), 240–245.

Le Roux, C.-T. (1985a). *Gavrinis et les îles du Morbihan. Les mégalithes du golfe*. Ministère de la Culture.

Le Roux, C.-T. (1985b). New excavations at Gavrinis. *Antiquity, 59*(227), 183–187. https://doi.org/10.1017/S0003598X00057240

Le Roux, C.-T. (1992). The Art of Gavrinis presented in its Amorican context and in comparison with Ireland. *Journal of the Royal Society of Antiquaries of Ireland, 122*, 79–108.

Le Roux, C.-T. (1998). L'art de Gavrinis. *Dossiers d'Archéologie, 230*, 28–35.

Le Roux, C.-T. (2010). *Gavrinis*. Éd. J. P. Gisserot.

Le Rouzic, Z. (1935). Carnac. (Restaurations faites dans la région). Nouvelles découvertes dans le dolmen de Gavrinis. (Commune de Larmor-Baden). *Bulletin Société Préhistorique Française, 2*, 128–131. https://doi.org/10.3406/bspf.1935.6279

Le Rouzic, Z., & Keller, C. (1910). *Locmariaquer. La Table des Marchand. Ses signes sculptés et ceux de la pierre gravée du dolmen de Mané-er-H'roëk*. Èt. A. Barbier.

L'Helgouac'h, J. (1965). *Les Sépultures mégalithiques en Armorique (dolmens à couloir et allées couvertes)*. Laboratoire d'Anthropologie Préhistorique de la Faculté des Sciences de Rennes.

L'Helgouac'h, J. (1993). Du schématisme au réalisme dans la figuration anthropomorphe du mégalithisme armoricain. In J. Briard & A. Duval (Eds.), *Les représentations humaines du néolithiques* à l'âge du fer. Actes du 115e *Congrès National des Sociétés Savantes. Avignon 1990* (pp. 9–19). Éd. CTHS.

L'Helgouac'h, J. (1997). De la lumière aux ténèbres. In J. L'Helgouac'h, C.-T. Le Roux & J. Lecornec (Eds.), *Art et symboles du Mégalithisme européen. Actes du 2*ème *Colloque International sur l'Art Mégalithique, Nantes, juin 1995* (pp. 107–124). Association pour la diffusion des recherches archéologiques dans l'ouest de la France.

L'Helgouac'h, J. (1998). Les grandes transformations du IIIe millénaire. In P.-R. Giot, J. L'Helgouac'h & J.-L. Monnier (Eds.), *Préhistoire de la Bretagne* (pp. 345–428). Éditions Ouest France Université.

L'Helgouac'h, J., Le Gouestre, D., & Poulain, H. (1989). Le monument mégalithique transepté de La Joselière (ou du Pissot), au Clion-sur-Mer (Loire-Atlantique). *Revue archéologique de l'ouest, 6*, 31–50. https://doi.org/10.3406/rao.1989.932

Luquet, G.-H. (1910). Sur la signification des pétroglyphes des mégalithes bretons. *Revue de l'École d'Anthropologie de Paris, 20*, 224–253.

Magnus, O. (1555). *Historia de gentibus Septentrionalibus*. Imp. Libraire, G. M. Viotti.

Mahé, C. (1825). *Essai sur les Antiquités du département du Morbihan*. Imprimerie Galles.

Marcel, G. (1935). Être et avoir (Journal métaphysique 1928–1933). Éditions Montaigne.

Melville, H. (1851). *Moby-Dick; or: The Whale*. Harper & Brothers, R. Bentley.

Minot, R. S. (1964). Sur les Gravures mégalithiques du Morbihan. *Bulletin Société Polymatique du Morbihan,* 89–98.

de Mortillet, A. (1894). Les figures sculptées sur les monuments mégalithiques de France. *Revue Mensuelle de l'École d'Anthropologie de Paris, 4*, 273–307.

Nilsson, D.-E, Warrant, E., Johnsen, S., Hanlon, R., & Shashar, N. (2012). A Unique Advantage for Giant Eyes in Giant Squid. *Current Biology, 22*(8), 683–688. https://doi.org/10.1016/j.cub.2012.02.031

Pailler, Y. (2007). *Des Dernières industries à trapèzes à l'affirmation du Néolithique en Bretagne occidentale (5500–3500 av. J.-C.)*. BAR Publishing. https://doi.org/10.30861/9781407300825

Pailler, Y. (2012). L'exploitation des fibrolites en Bretagne et ses liens avec les productions alpines. In P. Pétrequin, S. Cassen, M. Errera, L. Klassen, A. Sheridan, & A. M. Pétrequin (Eds.). *Jade. Grandes haches alpines du Néolithique européen. Ve et IVe millénaires av. J.-C.* (pp. 1168–1193). Presses Universitaires de Franche-Comté; Centre de Recherche Archéologique de la Vallée de l'Ain.

Patte, E. (1921). Gravure du dolmen de Penhap (Morbihan) représentant un poignard. *Revue anthropologique, 31*, 185–187.

Péquart, M., Péquart, St-J., & Le Rouzic, Z. (1927). *Corpus des signes gravés des monuments mégalithiques du Morbihan.* Éd. A. Picard.

Pétrequin, P., Cassen, S, Gauthier, E., Klassen, L., Pailler Y., & Sheridan A. (2012). Typologie, chronologie et répartition des grandes haches alpines en Europe occidentale. In P. Pétrequin, S. Cassen, M. Errera, L. Klassen, A. Sheridan & A. M. Pétrequin (Eds.), *Jade. Grandes haches alpines du Néolithique européen. V^e et IV^e millénaires av. J.-C.* (pp. 574–727). Presses Universitaires de Franche-Comté; Centre de Recherche Archéologique de la Vallée de l'Ain.

du Plessix, G. (1918). Découverte d'une pierre gravée dans les landes de Kermorvan. *Bulletin de la Société Archéologique de Nantes, 58*, 3–11.

Ricœur, P. (1960). *Finitude et culpabilité. Vol. II, La Symbolique du mal*. Éd. Aubier-Montaigne.

Rodríguez Casal, A. A. (1992). Éléments symbolico-funeraires dans le Mégalithisme galicien. In C.-T. Le Roux (Ed.), *Paysans et Bâtisseurs. L'émergence du Néolithique atlantique et les origines du Mégalithisme. Actes du XVII^e colloque interrégional sur le Néolithique, Vannes 1990* (pp. 213–222). Association pour la diffusion des recherches archéalogiques dans l'ouest de la France.

Roper, C. F. E., Judkins, H., Voss, N. A., Shea, E., Dawe, E., Ingrao, D., Rothman, P. L., & Roper, I. H. (2015). A compilation of recent records of the giant squid, *Architeuthis dux* (Steenstrup, 1857) (Cephalopoda) from the Western North Atlantic Ocean, Newfoundland to the Gulf of Mexico. *American Malacological Society, 33*(1), 78–88. https://doi.org/10.4003/006.033.0116

Rosa, R., Lopes, V. M., Guerreiro, M., Bolstad, K., & Xavier, J. C. (2017). Biology and ecology of the world's largest invertebrate, the colossal squid (*Mesonychoteuthis hamiltoni*): a short review. *Polar Biology, 40*, 1871–1883. https://doi.org/10.1007/s00300-017-2104-5

Shee Twohig, E. (1981). *The Megalithic Art of western Europe*. Clarendon Press.

Siret, L. (1913). Étude comparative des signes symboliques représentés sur les monuments ou objets des temps protohistoriques. In W. Deonna (Eds.), *Congrès international d'anthropologie et d'archéologie préhistoriques. Compte-rendu de la XIV^e session. Genève 1912* (pp. 1–8). Imprimerie Albert Kündig.

Soufi-Kechaou, E. (2011). *Bioréacteur enzymatique couplé à l'ultrafiltration pour la valorisation des co-produits issus des industries de la pêche. Application à la seiche Sepia officinalis*. [Doctoral dissertation]. Université de Nantes, Discipline Sciences Biologiques – Génie des Procédés.

URL Link
fishn2gthr4ever. (2009, September 19). *Juan de Fuca Strait, between Vancouver Island (Canada) and the Olympic Peninsula (USA)* [Video]. YouTube. www.youtube.com/watch?v=QH-fzVxCY2g

LIST OF ILLUSTRATIONS

Frontispiece: S. Cassen and V. Grimaud.

Fig. 1: S. Cassen and V. Grimaud.

Fig. 2: S. Cassen and V. Grimaud.

Fig. 3: S. Cassen.

Fig. 4: S. Cassen and V. Grimaud.

Fig. 5: After Egede, 1788.

Fig. 6: Share Icon.net; Teilzeitheld designer; All under Creative Commons licence.

Fig. 7: Stamps under Creative Commons licence; Illustration after G. Loates in Roper et al., 2015.

Fig. 8: After Bullen, 1898.

Fig. 9: S. Cassen and V. Grimaud.

Fig. 10: Luffang 3 and Corn er Hoët after S. Cassen and V. Grimaud; the others recorded by Shee Twohig, 1981.

Fig. 11: S. Cassen and V. Grimaud.

ABOUT THE AUTHORS

SERGE CASSEN

Research Laboratory for Archaeology and Architecture, University of Nantes / French National Centre for Scientific Research (CNRS), Nantes, France

https://orcid.org/0000-0001-7543-8267

After completing a Master's degree in Precolombian Anthropology in Bogotá, Colombia, and another in Social Anthropology at Berkeley, USA, in 1986 Serge Cassen obtained his PhD in Anthropology, Ethnology and Prehistory at the University of Paris-Sorbonne under G. Bailloud, its topic being the Neolithic societies of the 4th millennium BC between the Loire and the Gironde. He joined CNRS in 1991 and has focused on studying the funerary and symbolic monuments in the west of France, and in particular the engraved representations and objects of social value.

VALENTIN GRIMAUD

Research Laboratory for Archaeology and Architecture, University of Nantes, Nantes, France

https://orcid.org/0000-0002-6368-3641

After completing a Master's degree in Architecture at the École Nationale Supérieure d'Architecture, Nantes, Valentin Grimaud obtained his PhD in Archaeology at the University of Nantes in 2015. The subject was the re-investigation of a well-known archaeological site – the passage tomb of Gavrinis (Larmor-Baden, Morbihan) – using an array of information obtained since the discovery of the monument and applying techniques of 3D recording, focusing in particular on the megalithic art. He has been a post-doctoral researcher at the University of Nantes since 2016 on S. Cassen's project *Corpus of Neolithic engraved signs*.