Yesterday's watercraft, tomorrow's watercraft. Documenting the 20th century wooden watercraft abandoned on the banks of Basque intertidal estuaries

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Abstract: In the Basque Country there are many wooden watercraft abandoned on the banks of estuaries. They are a rich source of information for insight into not only ships and boats built in the 20th century, of which the last examples have been disappearing since the 1980s, but also they may provide information on older watercraft as they represent the last stage in ship- and boat-building rooted in the Middle Ages. Study of these watercraft has revealed interesting details that engender an understanding of the possible evolution of medieval and/or 16th century features. Hence the need to document such contemporary and abandoned watercraft is vital.

Keywords: intertidal archaeology, nautical archaeology, ethnoarchaeology, Basque Country, Bizkaia

1. Introduction

This paper will discuss abandoned watercraft in the estuaries of Bizkaia (one of the provinces in the Basque Country), as they are the last stage of wooden watercraft built there in the 20th century. They are important not only because they are part of the maritime heritage but also because they might provide a glimpse into past shipbuilding techniques, perhaps even as early as the Middle Ages.

2. Background

Basque shipbuilding is widely known due to its importance in the development of naval architecture during the Middle Ages and 16th century and shipwrecks of Basque origin have provided information that sheds light on boat- and shipbuilding in that period. Among those shipwrecks are the Newport ship (Nayling, Susperregui 2014), the Urbieta wreck (Izaguirre, Valdés 1998; Izaguirre, Valdés, Matés 1999; Izaguirre *et al.* 2001; Rieth, Izaguirre 2004; Rieth 2006), the Barceloneta wreck (Pujol i Hamelink, Soberón Rodríguez 2011; Soberón *et al.* 2012), the Orio wrecks (Izaguirre 2004a; 2004b) and the Red Bay (Grenier, Bernier 2004; Grenier, Bernier, Stevens 2007).

Regarding their location, only the Urbieta (at Gernika) and Orio (at Orio) wrecks were found in the Basque Country. Certain isolated and single timbers dated in the Middle Ages and found in the Basque estuaries should be added (Gómez Bravo, Zallo Uskola 2014; 2021; Matés Luque 2016a; 2016b) to these wrecks.

A question therefore arises: where are the remaining wrecks in the Basque Country? Their discovery awaits, either based on a proper research plan or simply by chance discovery. Meanwhile, attention should focus on the wrecks still visible in the intertidal zone in the Basque Country. Unfortunately, many people do not consider these wrecks an archaeological resource due to their 20th century provenance. Leaving their dating aside, however, their importance rests on the fact that they are still accessible and they may exhibit features which can be dated back to earlier times, as per the discussion below.

3. Wooden ships and boats

In 2017 we began surveying the estuaries, noting any type of man-made artefacts or structures (Matés Luque 2015; 2016a; 2017; 2018; 2019; 2020b; 2020c); after the first survey, further focus was accorded to documenting abandoned watercraft (Matés Luque 2019; 2020a; 2022) (Table 1). Some of such watercraft have shown interesting features.

Fig. 1 View of Mendexa I at the time of her recording in 2019. Previous photographs showed part of her sides still upright. It is clear that considerable data have been lost (photo: J. M. Matés Luque).

Fig. 2 Details of the floor frame head and futtock heel on the Mendexa I double frames. The futtock for the middle and left frames is not present but the floor frame head can be seen cut and ready to join the futtock. This joint can be seen on the right floor frame and futtock (photo: J. M. Matés Luque).

3.1. Mendexa I

This is a fishing vessel abandoned perpendicular to the riverbank, possibly in 1965 or earlier. Since its abandonment, the remains have endured considerable damage. Photographs from earlier periods show the sides still standing, but by the time of our investigation they had already disappeared (Fig. 1). This proves how important it is to immediately document these vessels so that the entirety of their features are recorded.

While documenting the timbers, an interesting feature was observed: the way in which the floor frames' head and futtock heel are connected (Fig. 2); the floor frame creates a longer frame by joining the head to the futtock heel. This feature has been observed in other wrecks.

3.2. Mendexa II

This vessel is the largest wreck recorded. Abandoned in 1978 or earlier, this fishing vessel still has some framing and outer planks in situ (Fig. 3). Although it needs to be fully cleaned to document and identify its various parts and timbers, some cleaning has been done. Some of the upper timbers have apparently collapsed on the bottom deck. Thus, the complete removal of mud to identify the upper and bottom timbers is needed so that its proper structure can be identified.

The same feature of a joined floor frame head and futtock heel, as already documented in the Mendexa I, has been observed.

Fig. 3 General view of Mendexa II (photo: J. M. Matés Luque)

3.3. Mendexa III

Lying flat next to Mendexa II, it was chosen to ascertain whether the timbers from Mendexa II had collapsed outwards or they belonged to a different vessel. The removal of mud revealed that it was indeed a different vessel. The stempost was identified several days later, several meters forward from the main structure. Unfortunately, the wreck was covered midships by an overturned small (and contemporary) boat which needs to be documented and removed before Mendexa II's midship can be cleaned. Because it is small and positioned further inside the creek than Mendexa II, Mendexa III seems to be older than Mendexa II.

Again, double frames were found, although their size is not long enough to confirm the joining of frame head and futtock heel.

3.4. Mendexa IV

Found while cleaning Mendexa III, this is a clinker-built boat lying on its side; several oval copper sheets (similar to a military dog-tag) and copper nails were recovered. It was also covered by the same overturned modern boat that covered Mendexa III, thus interfering with the full documentation of the other and more interesting vessels.

It is worth mentioning that this is the first clinker-built boat excavated, albeit partially, during our research and it dates to the 20th century[1]. The interesting feature about this vessel is that it proves that the clinker-built tradition had not disappeared by the 19th century, as was always assumed, based on the introduction of the carvel tradition to the Basque Country in the late Middle Ages.

3.5. Lekeitio I

This is a large flat-bottomed river barge (Fig. 4). Its importance rests on the fact that it may be the only wooden barge left since the latter were supposedly made redundant by iron barges, mainly in Bilbao at the end of the 19th century (Odriozola Oyarbide, 2002: 133). Tool marks were observed on some timbers, which suggested that it was mainly built with hand tools. This may suggest that it is old, perhaps dated to the end of the 19th century. The high number of limber holes at the bottom of the floor timbers indicate that it may have had a water pump.

A question arises as to how such an immense barge ended up on this riverbank if the river course is narrow. Does it mean that it was used when high tides were active so more water allowed a wider course to navigate up the estuary? And are there any other wooden river barges waiting to be found? If they existed, they would be a very important archaeological resource to understand river navigation and ancient boat-building.

Fig. 4 Lekeitio I at nearly low tide. The prow is still buried (photo: J. M. Matés Luque).

3.7. Ondarroa I

Documenting this vessel was difficult; its position in the lower part of the estuary did not allow sufficient time for cleaning between high and low tide (Fig. 5). Moreover, the deposits were full of debris (bricks, concrete, plastic…) which formed a rather hard surface that required the use of a pick. Water from the sediments on the upper part of the riverbank found its way down to the wreck; once such debris was removed, very liquid mud appeared. This made excavation difficult since mud and water could not be entirely removed, which prevented us from recognizing and documenting the timbers. A different approach to excavation is needed, since its bottom part is still covered by debris;

[1] Clinker boat- and shipbuilding in the Basque Country was supposed to have disappeared during the 19th century or earlier. However, another clinker-built boat was excavated in 2022 in a beach in Getxo, about 42 km away across the province from Mendexa IV (Matés Luque 2023). This vessel is also discussed herein.

proper cleaning will help to identify its timbers and features. Having said that, its frames are also double and the floor frame head and futtock heel are joined to create a frame as in Mendexa I.

Additionally, it is the only vessel for which a name has been determined. It might be a Mediterranean vessel called *Santa Fe*; however, there is a mismatch between the date when the archive shows its final and working year and aerial photographs which show it abandoned on the riverbank. Thus, is the floor frame head and futtock heel feature a component of the Mediterranean style or was it only used in northern Spain? More archival research and fieldwork are needed to find out whether it is indeed the Mediterranean *Santa Fe* or the Atlantic *Santa Fe*.

Fig. 5 View of Ondarroa I as the tide comes in. This makes excavating it difficult due to the short time between high and low tide (photo: J. M. Matés Luque).

3.8. Gorrondatxe boat

Although this vessel was not abandoned on any estuary but on a beach, it is worth presenting here (Fig. 6). This is a recently excavated small clinker-built boat (Matés Luque 2023). Found on the Gorrondatxe beach (Getxo) by the late provincial archaeologist, Mikel Unzueta, he asked us to confirm whether the small visible timber protruding from the sand was a wreck or just a post for different use (for instance, a beach hut). The many visits performed at different times showed no difference regarding the timber exposure, since the hard sand which covered it had not been removed nor exposed any other part of the original timber or further timbers. Therefore, an excavation was done; on the first day, it was clear that it was a clinker-built boat, possibly abandoned in the 1960s or 1970s. A full excavation was completed in the following days, in two stages, nearly six months apart.

Several internal patches appeared. They consisted of 12 copper nails divided into four columns. The first three patches were thought to be repair patches, but after the appearance of the fourth it was clear that they were too many repair patches for such a boat. Besides, they were placed in a regular pattern so that intent when placing them at the time of its construction was clear. Such patches might represent a boat-building style. More small clinker-built boats are needed to confirm this style.

The interesting fact about this boat is that it is the second clinker-built boat found (see Mendexa IV above) which supports the idea that this boat-building style did not disappear despite the introduction of the carvel style in the Basque Country back in the 15th century.

Fig. 6 View of the Gorrondatxe boat fully excavated, with the sea washing over the beach. This is the second modern clinker-built boat found, dated to the late 19th or early 20th century and abandoned or wrecked in the 1960s or 1970s (photo: J. M. Matés Luque).

4. Conclusion

Besides these wrecks, some others or the remains thereof were also recorded[2]. The wrecks presented here are those which exhibit certain noteworthy features. This demonstrates the importance of documenting wrecks even if they date to the 20th century.

[2] There is a bottom section of a vessel in the middle of the protected zone in the River Lea, large enough to provide interesting details. Unfortunately, the Environment Agency forbade us from approaching it on foot, since apparently, the *Zostera noltii*, an endangered seagrass which covers the wreck (and is present in the area), could be affected. A solution to access the wreck without damaging the seagrass should be found. The recording of this wreck will provide new features to document which will be extremely useful in our research.

For example, the joining of floor timber heads and futtock heels might be a 20th century evolution of the dovetail joint, a common feature of the so-called Ibero-Atlantic shipbuilding tradition ((Loewen 1998; 2007; Alves 2001; Oterling 2004; Grenier, Bernier and Stevens 2007). Such evolution since the 16th century may be due to an easier way of shaping frames and joining them head to heel, since carving the dovetail joint using an adze requires more expertise, and time, than using a saw to prepare frames of similar shapes and dimensions.

It is clear that new data is needed to support this statement; older wrecks, dated between the 16th and 20th centuries, are needed to support this hypothesis, i.e., the dovetail joint evolved, albeit slowly, into the head and heel double frames observed in the 20th century wrecks.

As archaeologists, we tend to focus on old watercraft to understand past societies. By documenting such watercraft, our intention is to understand the people who built, used and, sometimes, died in them. As a general rule, the older they are, the more interesting they become, since it is supposed that less data is available for older times and, therefore, they provide us with a glimpse into an unknown period to complete our knowledge on ancient shipbuilding.

Unfortunately, some people tend to think that recent watercraft are widely known so there is no need to document 20th century watercraft. This statement is misleading. In the Basque Country, the fishing fleet began to disappear when European fishing policies from the 1980s supported the dismantling of "old wooden fishing ships and boats" and/or the sinking of many of them beyond the continental shelf, in the Capbreton submerged canyon. Many Basque wooden vessels were, therefore, intentionally destroyed or sunk[3]. A few fishing boats are held in museums or are maintained and restored by associations; this provides an opportunity to admire the watercraft which once were the nation's pride. Unfortunately, in this process, some vessels which were 'saved' were, later, destroyed due to poor maintenance on dry land[4].

Fortunately, there are several books and articles containing photographs and drawings which are good sources of information on traditional Basque vessels (Astui Zarraga 1984; 2012; 2023; Apraiz Zallo 1997; 1998a; 1998b; 2000; Erkiaga Laka 2001; Cayuela Camarero *et al*. 2007; Pueyo 2008). However, it is insufficient to simply have a collection of old photographs which show many of these vessels in their heyday; we should not consider this enough just because photographs are available. Archaeology relies not only on external photographs but also on the documentation of all available details. Therefore, unless a full set of photographs, drawings, plans or sketches had been done before a wreck disappeared, there is truly a loss of data from an extraordinary machine which will no longer be available to us. This is, therefore, why it is so vital that those remains in the intertidal zone do not suffer a similar 'second' oblivion.

Currently a great deal of enthusiasm can be found in the small associations[5] which restore, maintain and even build small traditional wooden boats. Additionally, some important fishing vessels held in museums, such as the *Nuevo Antxustegui*,[6] *Ortube*, and *Mariñel*, are fortunately being restored.

Such efforts are welcome and noteworthy, as it shows a clear desire to keep a legacy alive. In recent years, the Basque Government has been supporting such efforts with an annual subsidy for those who apply and fulfil the requirements.[7]

While these different initiatives are welcome and supported, many wooden watercraft are still abandoned on the banks of estuaries in the Basque Country. They are a rich source of information for insight into not only ships and boats built in the 20th century, of which the last examples have disappeared after being replaced by fibreglass and metal vessels, but also to understand older watercraft, as they represent the last step in ship- and boat-building with roots in the Middle Ages. Changes on joining the timbers and many other features (yet to be identified) may be there, still buried under the mud of the abandoned wrecks. Their documentation will help archaeology when old wrecks are found, recorded and researched.

For example, the two small clinker-built boats suggest that such a style never disappeared. This may be related to the fact that small vessels were still built in that style, a tradition maintained by small boat builders, while bigger vessels were built in the carvel style. Furthermore, the first nautical sporting events in the Basque Country in the last quarter of the 19th century somehow helped keep the clinker style alive for a time until the full carvel style was adopted for nautical racing (Aguirre 2009: 12–15).

Hence, the final statement is that it is important to document the abandoned wrecks now that they are still available

[3] Other than a few random photographs, they were not documented properly before such sinking or destruction.

[4] For instance, the fishing ships *Lucia* and *Playa de Ondarzabal*.

[5] Among them are Itsas Egurra Haizean, Beduola Elkartea, and Euskal Bateleroak Elkartea.

[6] This vessel suffered considerable problems until its reconstruction began. Prior to that, a 3D recording was done in case of its destruction (Matés Luque, Moral Goirigolzarri 2017). Luckily, it is enjoying a second lease on life in the Bilbao Maritime Museum mainly thanks to the input of its owners and friends of such supporting team and the leadership of the Maritime Museum to restore her.

[7] So far, this subsidy has been ongoing for the last 5 years, so this is a remarkable effort which has to be acknowledged. The subsidy rules for 2024 can be seen in BOPV 14 June 2024. https://www.euskadi.eus/web01-bopv/es/bopv2/datos/2024/06/2402891a.shtml (last accessed on 6 October 2024).

and form a structure. If we allow time and the environment to devastate them before they are properly documented, they will collapse, fall apart and disappear. Then it will be too late to document anything. If this happens, what will future archaeologists think of us? We had the opportunity but did nothing. We hope that our current efforts to document such a variety of vessels in the intertidal zone will add new information to our current knowledge.

Vessel name	Type	Town	Date of abandonment (by)	Length	Width	Height
Mendexa I	Fishing vessel	Mendexa	1965	8.1	2.64	
Mendexa II	Fishing vessel	Mendexa	1978	16.74	4.45	1.56
Mendexa III	Fishing vessel	Mendexa	Before Mendexa II	11.61	1.68	
Mendexa IV	Boat	Mendexa	After Mendexa III	1.34	1.02	
Lekeitio I	River barge	Lekeitio	1956	13.35	5.1	
Lekeitio III	Fishing vessel	Lekeitio	1965			
Lekeitio X	Fishing vessel	Lekeitio	2011	4.9	3.55	
Lekeitio XI	Fishing vessel	Lekeitio	2011		3.8	2.08
Ondarroa I (Santa Fe)	Fishing vessel	Ondarroa	1965	14.85	4.6	
Ondarroa II	Small boat	Ondarroa	1985	6.86	1.75	
Ondarroa III	Unknown	Ondarroa	Unknown			
Gorrondatxe	Auxiliary boat	Getxo	1970´s	4.8	1.89	

Table 1 Main details of the vessels excavated and/or documented (adapted from Matés Luque 2020: 318; those in bold are presented herein).

Acknowledgements

I would like to thank the different bodies and organizations which have supported us since the beginning of our research. I first want to thank the Basque Government, the first body to have faith in this project. This continued with support from the Bizkaia Regional Council and, later, the Institute of Nautical Archaeology (Texas, College Station). This project would have not been possible without the help of many friends and colleagues who helped by getting dirty and removing mud and documenting the timbers. My deepest gratitude goes to all of them. Without their friendly help, this task would have never been possible. Special thanks are due to the late Mikel Unzueta, the former provincial archaeologist, for his constant support to these maritime projects. Final thanks are also due to the unknown referee whose comments improved this paper. Nevertheless, responsibility for any eventual errors rests solely with the author.

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