5 SAMPLES OF END-OF-LIFE DEBRIS

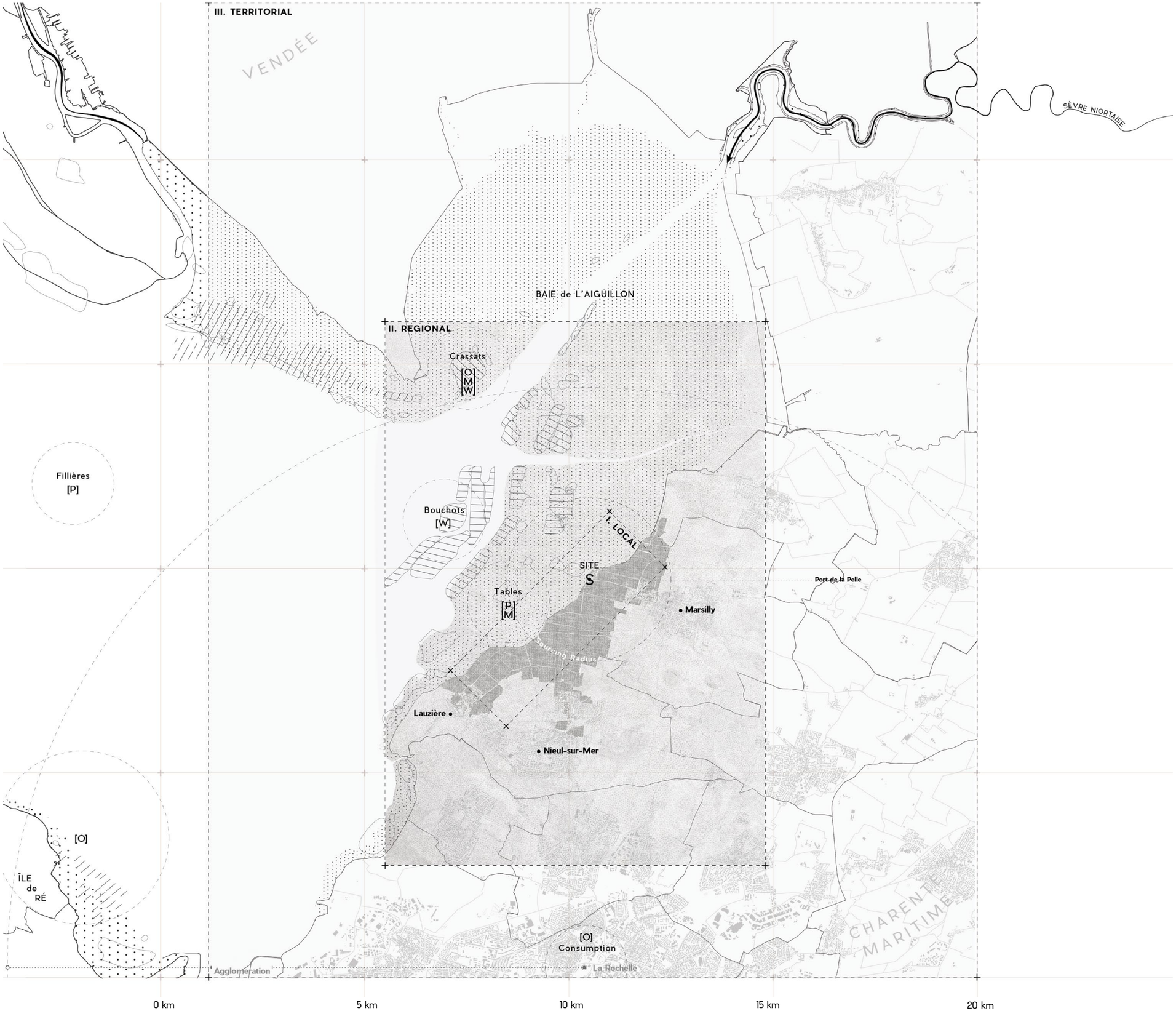
A
Pieu de Bouchot
3km from the shore

B
Huître
6km from the shore

C
Table ostréicole
0.1km from the shore

D
Maille
1.1km from the shore

E
Coupelle de captage
10km from the shore



SOURCING RADIUS & CYCLE

The deltaic nature of the 4900 hectares surrounding the site offers distinct attributes reverberating in local modes of production, and neglect. Plastic from oyster beds regularly washes up on beaches and heavier debris (wood & metal) sink before reaching the shore, as the climatic and morphological conditions (wind, current, sedimentation, siltation) around the bay enhance the loss of equipment at sea.

The different 'zones' each have their own dynamics, but they also interact with each other – not to mention their effects on human activities, and vice versa.

In this booklet, *End-of-life Debris* from the Bay de L'Aiguillon were studied from their point of collect offshore, but also from their departure point inland. Process diagrams for each were assembled from start to "end", as it stands currently. Subsequent research into their architectural potential led to the design of new diagrams that redirect their cycles towards the greatest possible reuse.

The ethos of the project is to build from and within a conscious sourcing circle in order to reconnect our habitat with its built heritage, its local trade, and its territory.

LEGEND

- interdidal zone
- river
- town
- city
- S — site
- [W] — wood
- [M] — metal
- [P] — plastic
- [O] — oysters (shells)

TALKING TRASH, TAKING (IN)ACTION

NEW PRODUCTS

END-OF-LIFE PRODUCTS

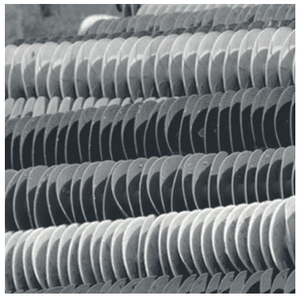
a. PIEU DE BOUCHOT

b. HUÎTRE

c. TABLE

d. MAILLE

e. COUPELLE



5 SAMPLES OF INTERTIDAL DEBRIS

Pieu de Bouchot
Wood

Fig. a

Huître
Shell

Fig. b

Table ostréicole
Metal

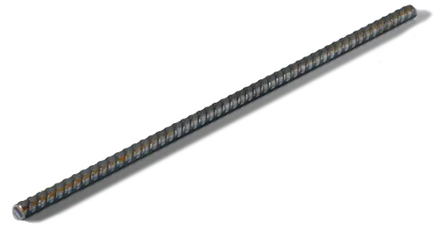


Fig. c

Maille | Coupelle
Plastic

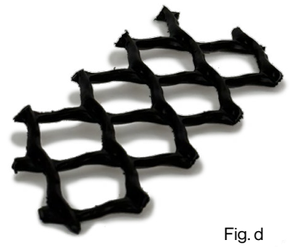
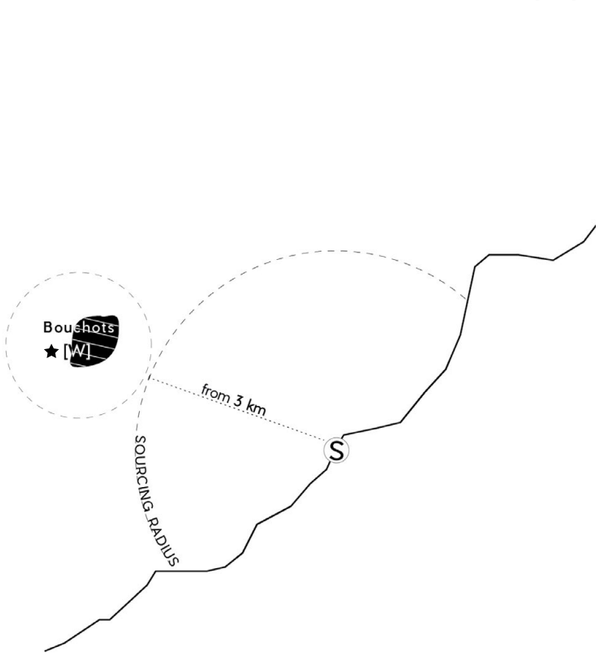
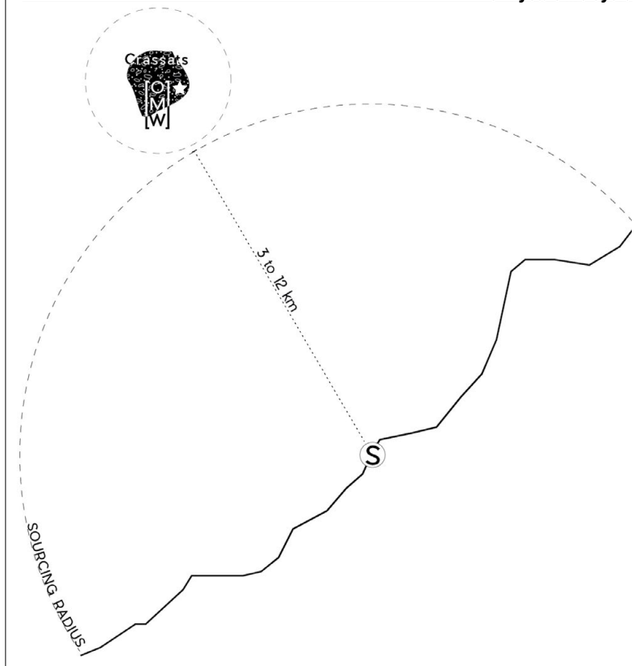


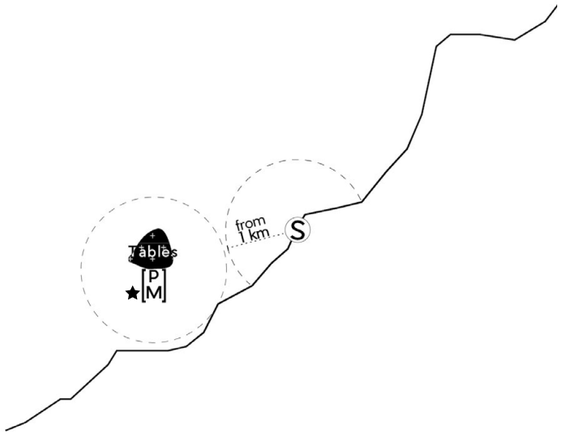
Fig. d

Fig. e

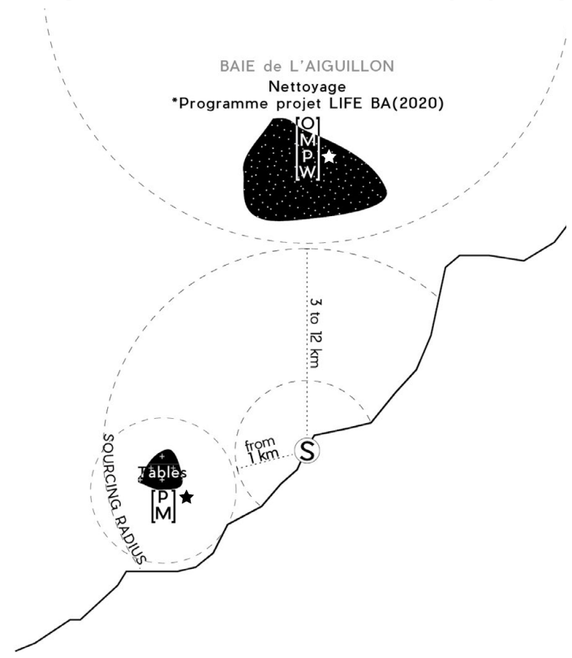
Material	**[W] wood - oak**	**[O] oyster shell - calcium carbonate**	**[M] metal - iron**
Dimensions	**L 2-8 m; D 0.17-.35 m**	**(mature) H 8-10 cm; L 2-5 cm; W 2-3 cm**	**(entire table) H .4 m; L .3 m; W .5 m**
Amount	**200 to 350 units/line of 100m**	**1400 tons/100 ha**	**hundreds (44 kg/unit)**
Primal function	**oyster support**	**nutritive (insides)**	**support oyster bag**
Anchorage	**2m underground**	**elevated above water or suspended below**	**lies on silt surface**
Status (before abandonment)	**renewed every ~ 6 yrs**	**3-4 years life cycle**	**yearly moving to prevent siltation**







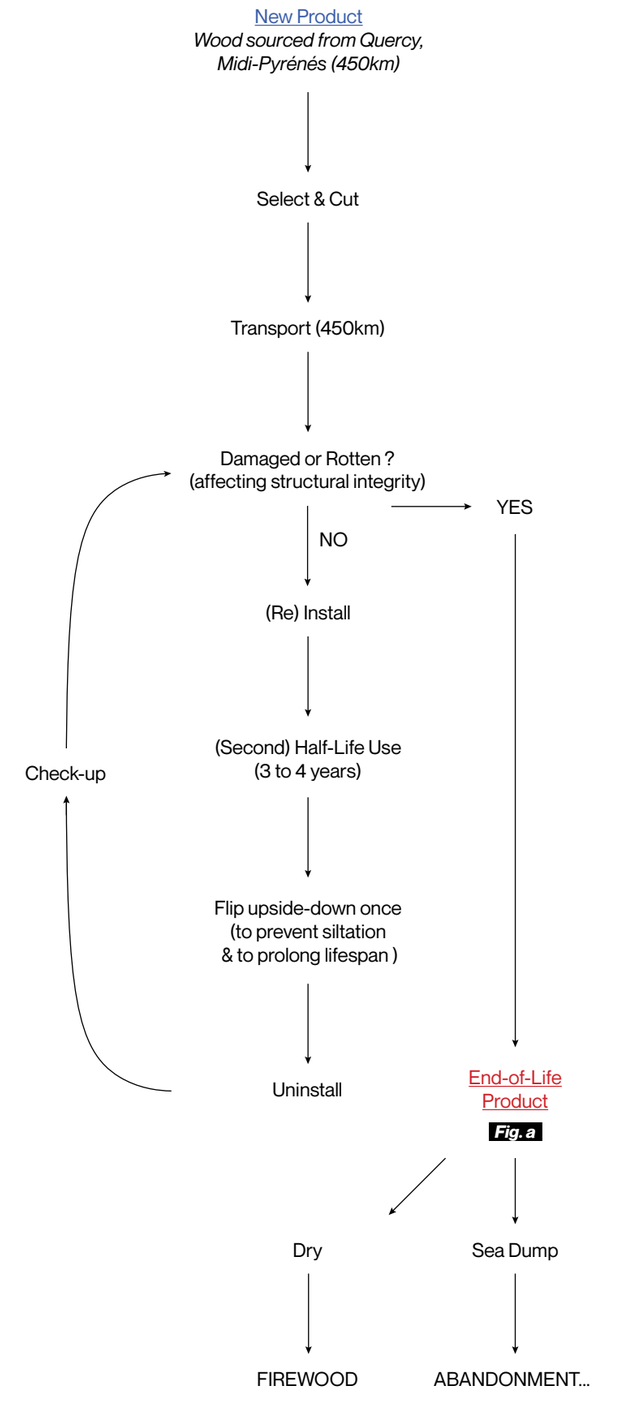
[P] plastic - biosourced (sometimes)H 1.2 m; L .5 m; W .05 m	**[P] plastic - PVC H 1.5 m; D .15 m**
3 per table	**dozens per table**
oyster bag (for growth)	**oyster seeding support**
elevated on table	**elevated on table**
yearly cleaning	**yearly cleaning**



*Figures c-d-e: sample fragment shown

4 LIFE CYLES OF INTERTIDAL DEBRIS

Pieu de Bouchot
Wood



Huître
Shell

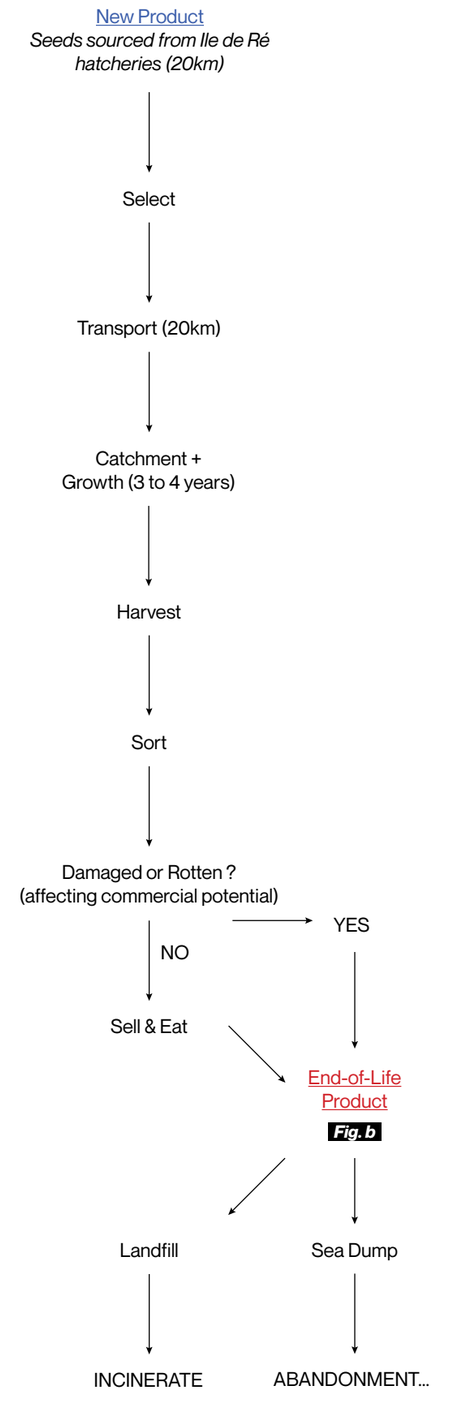
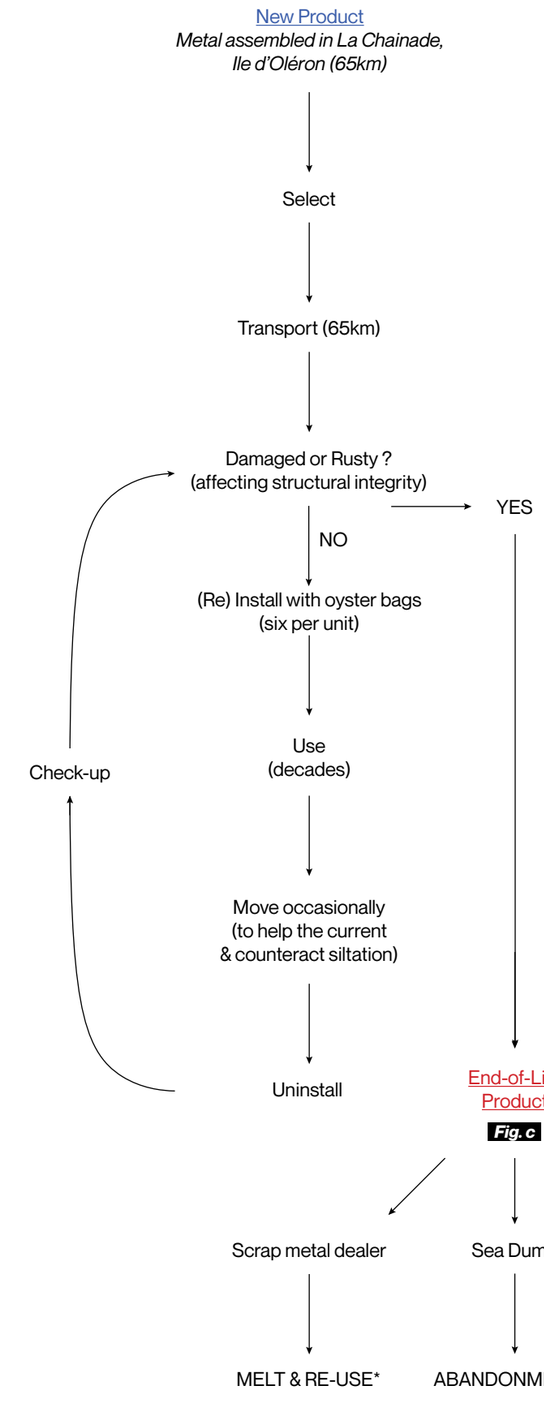
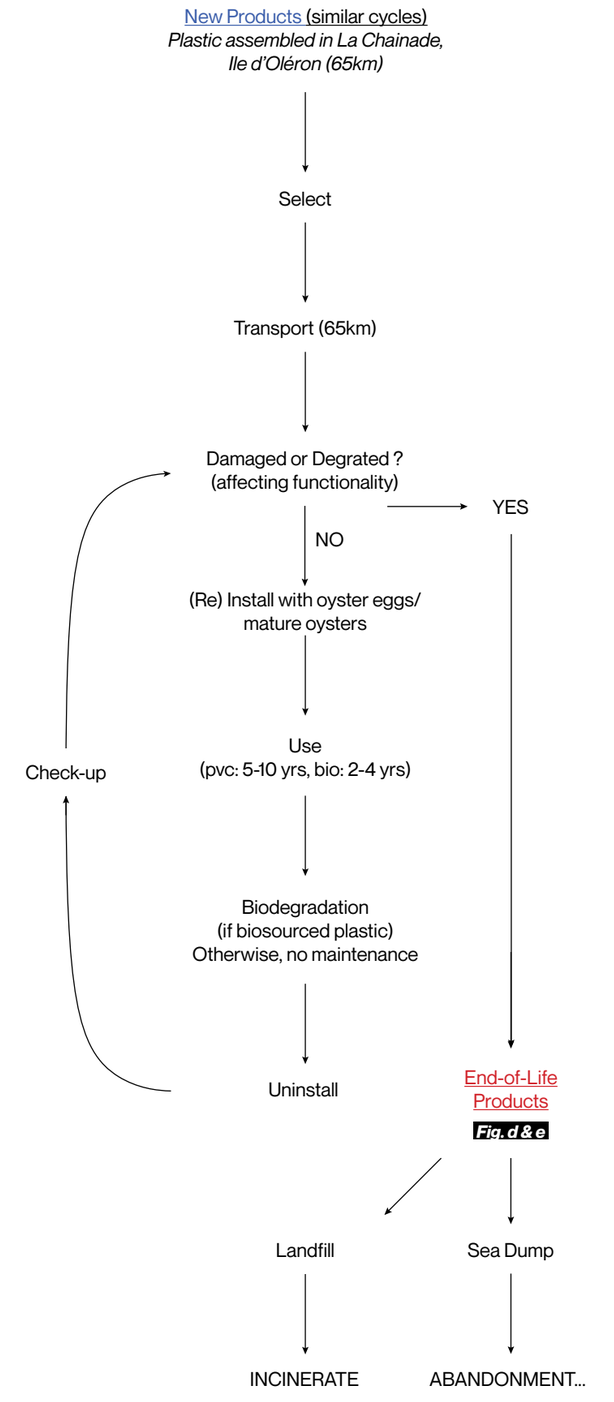


Table ostréicole
Metal



Maille & Coupelle
Plastic



*Only the metal cycle has a large-scale, regional revalorisation process

WOOD PILE *CYCLE ALTERATION* EXAMPLE

Existing Cycle

New Product
Wood sourced from Quercy, Midi-Pyrénés (450km)

Select & Cut

Transport (450km)

Damaged or Rotten ?
(affecting structural integrity)

MAYBE — *if abandonned* → End-of-Life Product *Fig. a*

NO

(Re) Install

(Second) Half-Life Use
(3 to 4 years)

Flip upside-down once
(to prevent siltation
& to prolong lifespan)

Uninstall

Check-up → Damaged or Rotten ?

X

End-of-Life Product
Fig. a

Dry

Sea Dump

FIREWOOD

ABANDONMENT...

Remodelled Cycle
For Valorisation

End-of-Life Product
Fig. a

Remove & Transport onshore

Preserved in anoxic environment* ?
(under the silt)

NO — YES

Dry — Dry

FIREWOOD

YES

Permanently Damaged ?

NO → Process

Char with fire
(Shou Sugi Ban)

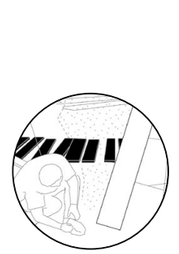
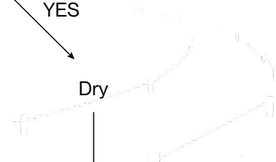


Fig. f

DESIGN PRODUCTS
landscape, architecture,
product design

Fig. g

Re-insert for use
(x years)



*In the Baie de l'Aiguillon, siltation is 1.4 cm per year on average.

OYSTER SHELL *CYCLE ALTERATION* EXAMPLE

Existing Cycle

New Product
Seeds sourced from Ile de Ré hatcheries (20km)

↓

Select

↓

Transport (20km)

↓

Catchment + Growth (3 to 4 years)

↓

Harvest

↓

Sort

↓

Oyster Damaged or Rotten ? (affecting commercial potential)

CERTAINLY — *if abandonned*

↓ NO

Sell & Eat

X

End-of-Life Product
Fig. b

Landfill — Sea Dump

INCINERATE — ABANDONMENT...

Remodelled Cycle
For Valorisation

End-of-Life Product
Fig. b

↓

Remove & Transport onshore

↓

Free of organic substance ?

NO — YES

Clean → Heat & Dry

↓

Grind
(D: 0.5 to 16mm)

↓

DESIGN PRODUCTS
landscape, architecture, product design, nutrients

Fig. h

↓

Re-insert for use
(x years)

REMODELLED END-OF-LIFE PRODUCTS

a. PIEU DE BOUCHOT

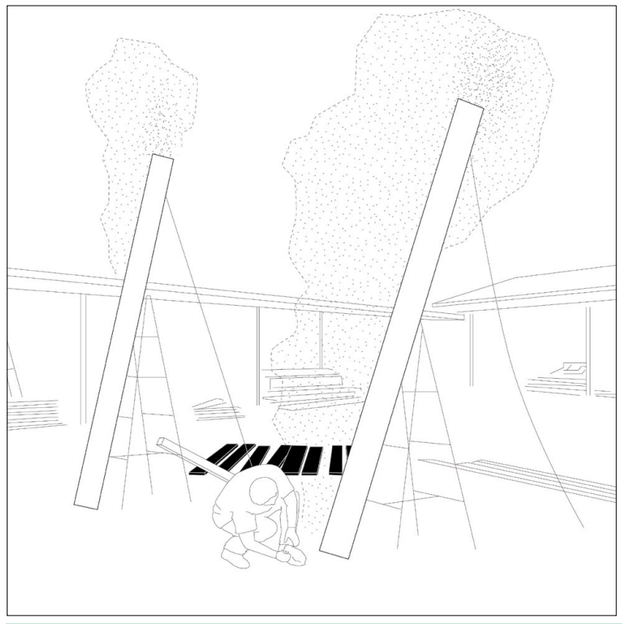
b. HUÎTRE

c. TABLE

d. MAILLE

e. COUPELLE

Fig. f EXTERIOR PLANKS



Charring wood (Yakisugi technique) to increase the resistance to insects, mould and decay

Fig. g PILE FOUNDATIONS

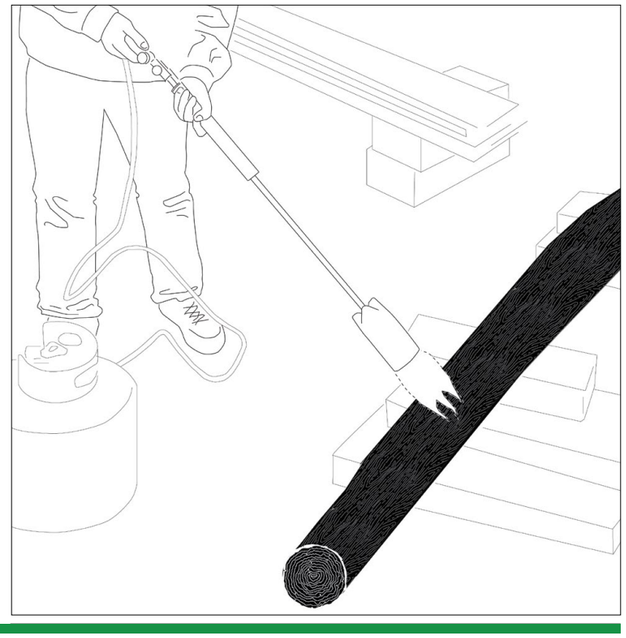
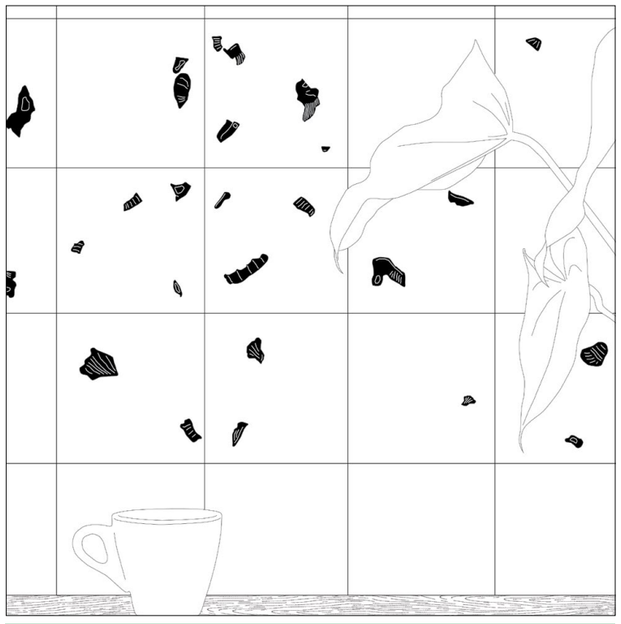


Fig. h INTERIOR WALL PANELS & FLOORING



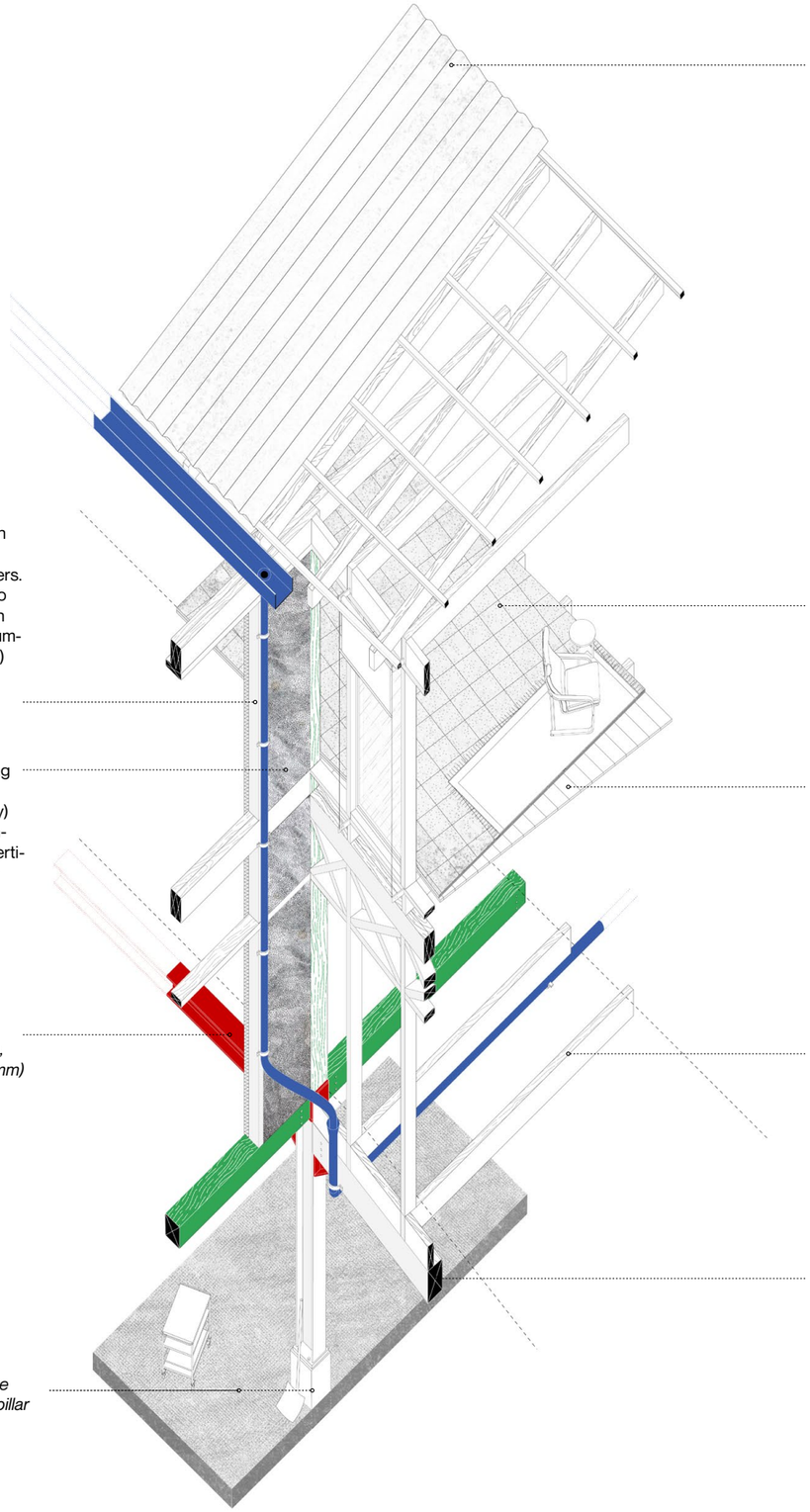
Shell agregate terrazzo & tiles

Fig. i A LARGER EXTRACTION DEVICE

Knitting old oyster nets together

addition
[R+1, R+2] **HOUSE**

existing
[R] **FACILITY**



a. corrugated .42mm bmt cobblestone roofing (1.2x1m)

b. oyster shell terrazzo resin screed (15mm)
Fig. h

c. double span wood subflooring (h:38mm, w:147mm l:1780mm)

d. oak joists 910 c.c. (145x20mm)

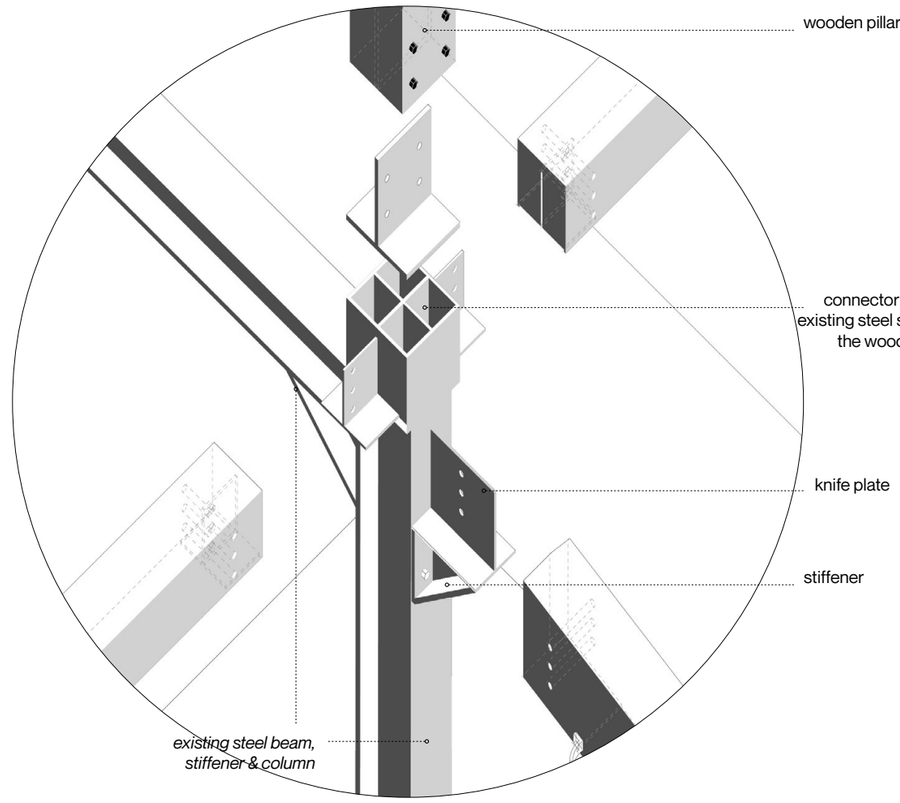
e. oak beam (h:300mm, w:210mm l:5000mm)
Fig. f

f. 15mm whitewash finishing coat. Vapour & air barriers. Rigid wood fibre to support projection and insulation (Flumroc 1 (H105) panel) Wood frame 145x60mm

g. Hemp wool filling (50 kg/m3, 0.046 W/m.K @ 10°C dry) NF EN 12667 standard, COFRAC-certified value. 150mm R.tot=3.7

h. existing steel I-beam (h:300mm, w:280mm l:6700mm)

i. existing concrete slab (h:150mm) & pillar (300x320mm)



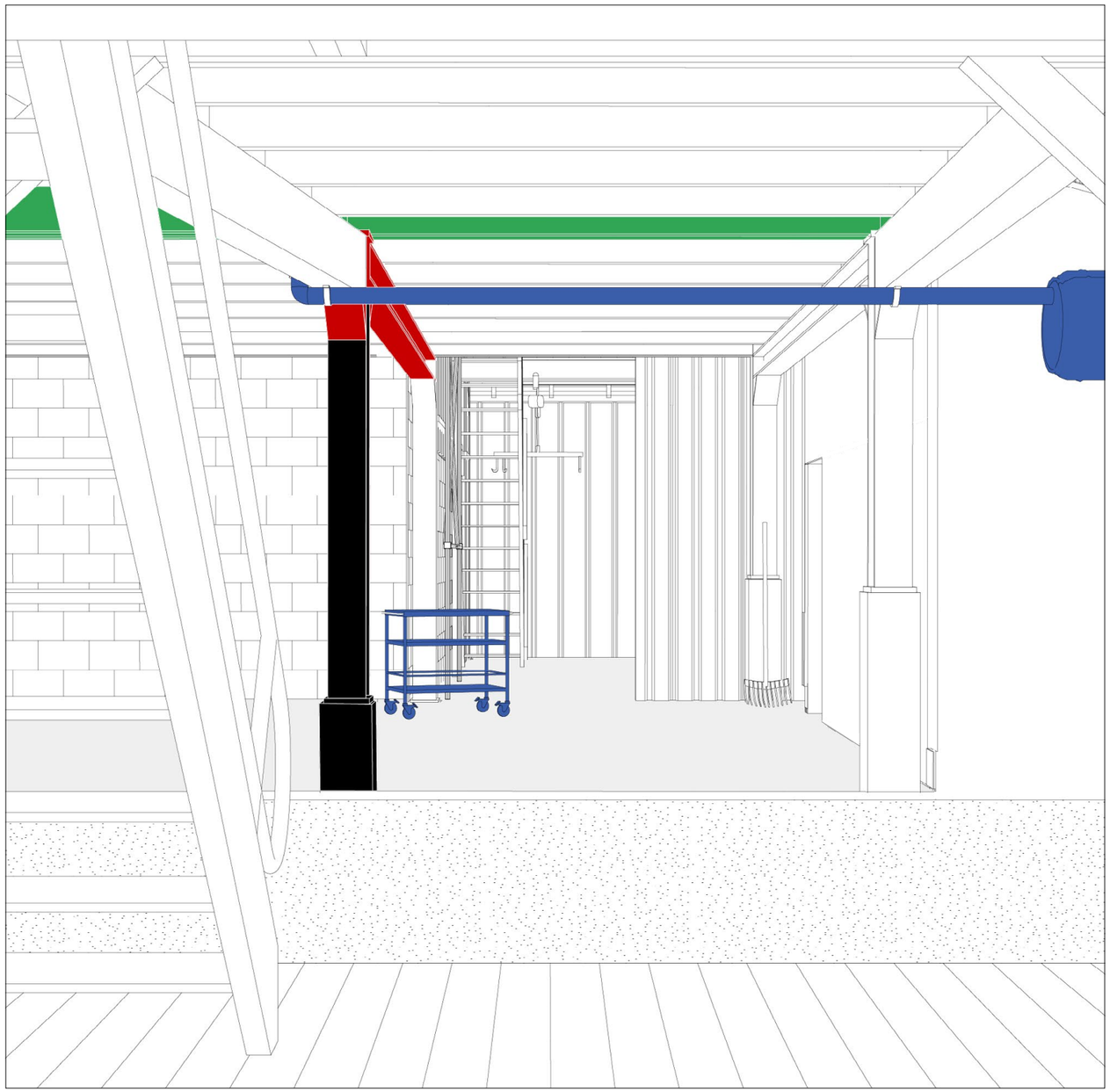
wooden pillar

connector between the existing steel structure and the wooden structure

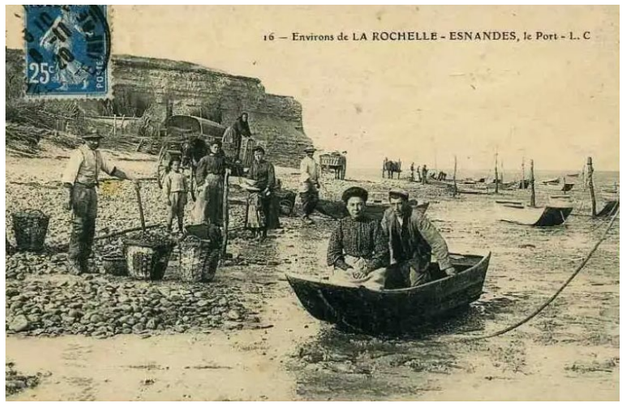
knife plate

stiffener

existing steel beam, stiffener & column

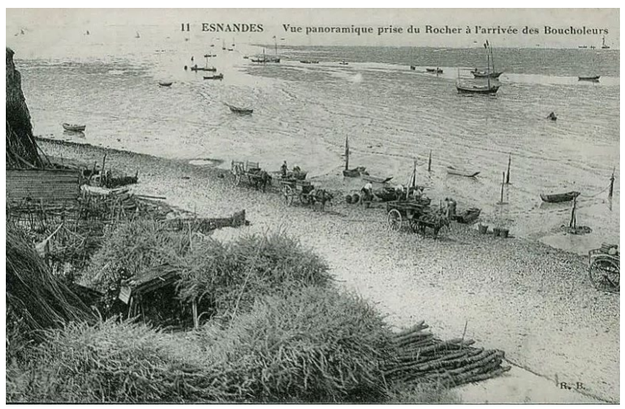


[1] Vue générale d'un parc aux huitres. A.A Ambulances ou caisses ostréophiles
(D'après une photographie)

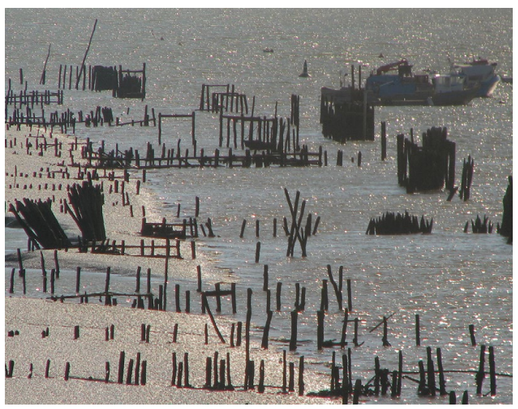


[2] Le Port d'Esnandes, Environs de LaRochelle. L.C.

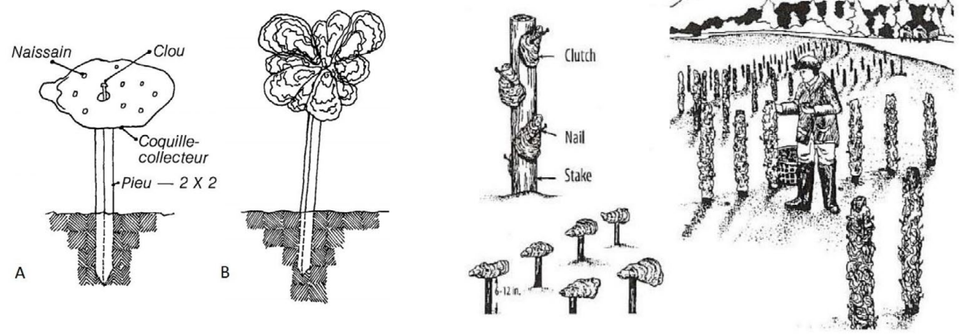
[4] Photographie "d'ambulances " d'huitres dans le Bassin d'Arcachon. 1909



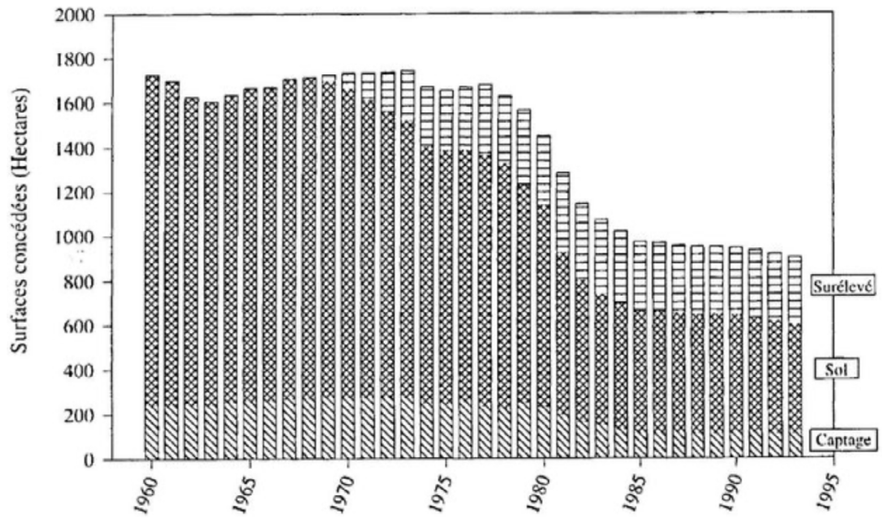
[3] Esnandes. Vue panoramique prise du Rocher à l'arrivée des Boucholeurs.



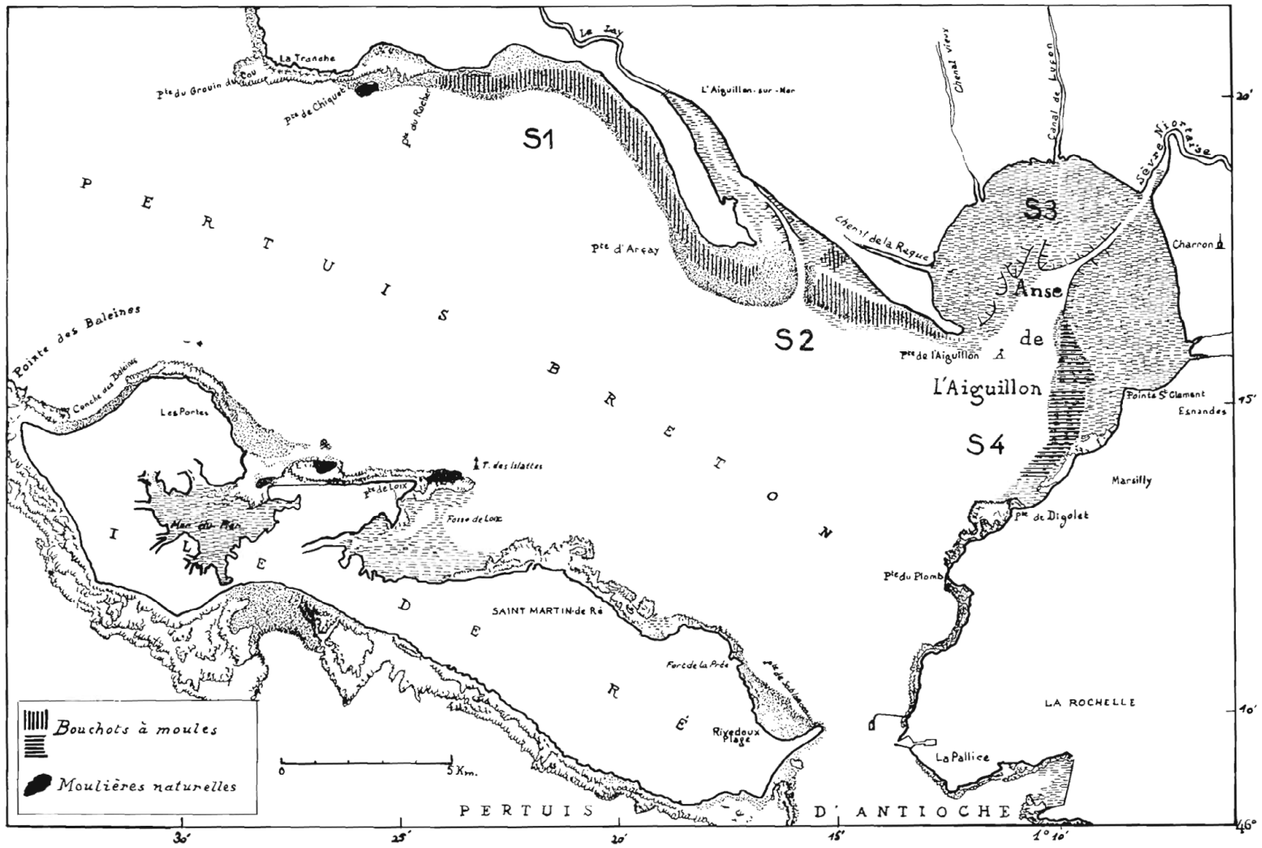
[5] Débris. Littoral charentais après la tempête Xynthia en 2010.



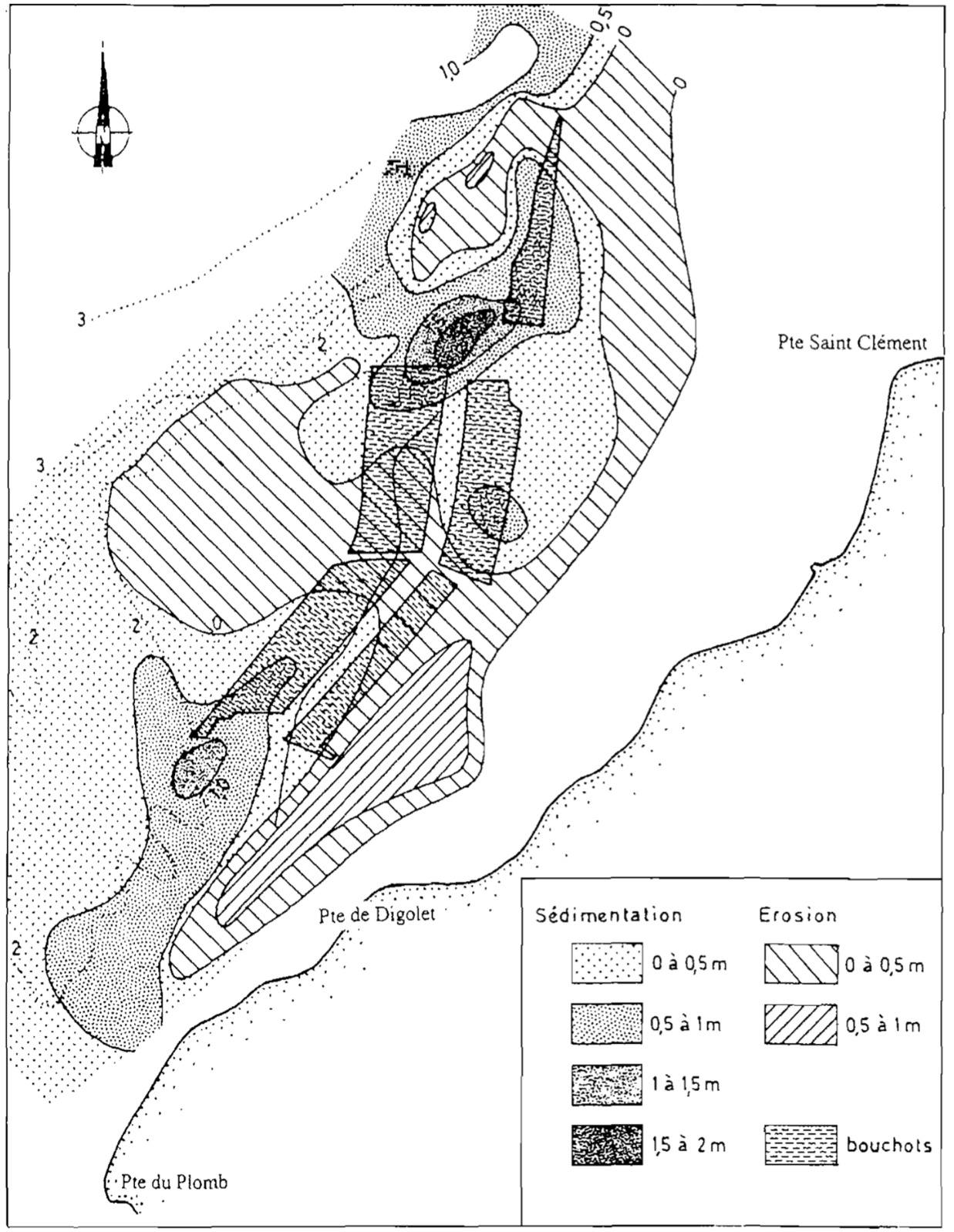
[6] Technique de culture sur pieux. A. Une à une. B. En groupe. 1981.



[7] Evolutions des surfaces condédées dans les différents modes d'exploitations dans le Bassin d'Arcachon. Bouchet et al., 1997.



[8] Le pertuis Breton : Carte générale des installations myticoles et des gisements naturels.



[9] Evolution de la sédimentation entre 1959 et 1984 autour des bouchots de Marsilly

Home, with what remains
A sorting-house as a form of occupancy right
PDM 2023 <Hervé Laurendeau>
[processual document #1]

Under the direction of
Jo Taillieu
Yves Pedrazzini &
Axel Chevroulet

EPFL
2023