

## I.

NOTES OF A VISIT TO A TERP MOUND AT AALZUM, IN NORTH  
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Every one who is conversant with the physical conditions of Holland knows that, were it not for its huge dikes, a large part of its most fertile land would be submerged. Before these bulwarks were constructed almost the whole of Friesland must have been swampy marshes, interspersed here and there with sandbanks. At the present time these low-lying districts look, to the casual observer, as if they were a dead level; but, on closer inspection, it will be seen that there are, at more or less regular distances, certain elevations or low mounds of considerable extent, whose summits rise somewhat above the level of the dikes; so that, if the tides by any calamity had free access, these mounds would appear as so many islands scattered over the country. It is on these elevations that churches and villages are generally built, and till recently nobody seemed to think anything about their origin. A few years ago it was discovered that the interior of some of these mounds was composed of a rich ammoniacal deposit, which agriculturists found to have a high fertilising power when spread on their fields. The excavation of this substance for manuring purposes now forms an important industry, and any landed proprietor who happens to own a workable *terp*—*i.e.*, one free of buildings—is on the way to realise a small fortune. When a *terp* is to be worked they proceed thus:—A canal is dug close up to its base sufficient to admit large boats, which are then loaded with the stuff, and sent to all parts of the country. As the workings advance, the canal is also advanced, so that the boats are always close up to the diggings. In the course of these operations it was observed that bones of large animals, pottery, and other relics of human industry were occasionally turned up. By degrees these oft-repeated discoveries drew the attention of antiquaries, and Dr Pleyte of Leyden is now publishing a large illustrated work on the antiquities of Holland, in which a conspicuous place is given to the terpen mounds and their contents. It is, however, to some of the office-bearers of the Museum of the Friesch Genootschap at Leewarden, more

especially Mr C. H. F. A. Corbelijn Battaerd, its conservator, that I am indebted for the information on the subject contained in this notice. In this museum are stored up most of the objects hitherto found in the terpen mounds, and the collection, already unique of its kind, is daily and rapidly increasing, as orders have been issued that no relics are to be sold without being in the first place submitted to the authorities of the Museum.

Like most countries, the early traditions of Holland have been forgotten or ignored, and in its annals little mention is made of the terpen. In explanation of the origin and early use of the word, Dr Pleyte quotes from Oeko van Scharl a passage to the effect that one of the ancient kings of Friesland, named Adgillus, who reigned towards the end of the sixth century, had caused, on account of the ravages of an inundation which took place four years prior to his ascension, a large number of elevated places to be formed, so as to give shelter to man and beast in the event of a recurrence of this danger. These mounds were then called *terpen*.

Pliny also states (*Hist. Nat.*, xvi. 1) that the Cauci (Frisians) were in the habit of constructing artificial mounds on which they built their houses, so as to be beyond the influence of the waves and tides.

“Vasto ibi meatu, bis dierum noctiumque singularum intervallis, effusus in immensum agitur oceanus, operiens aeternam rerum naturæ controversiam dubiumque terræ sit an pars maris. Illic misera gens tumulos obtinet altos ceu tribunala extructa manibus ad experimenta altissimi aestus casis ita impositis, navigantibus similes cum integant aquæ circumdata, naufragis vero cum recesserint, fugientesque cum mari pisces circa tuguria venantur. Non pecudem his habere, non lacte ali, ut finitimis, ne cum feris quidem dimicare contingit, omni procul abacto frutice. Ulva et palustri junco funes nectunt ad praetexeunda piscibus retia, captumque manibus lutum ventis magis quam sole siccantes terra cibos et rigentia septentrione viscera sua urunt. Potus nonnisi ex imbre servato scrobibus in vestibulo domus. Et hæc gentes, si vincantur hodie a populo Romano, servire se dicunt. Ita est profecto, multis fortuna parit in poenam.”

Mr Dirks, president of the Friesch Genootschap, as early as 1871, at the International Congress at Bologna, characterised these mounds as analagous to the terramara beds in Italy—“Ce sont des terramars

historiques;”<sup>1</sup> but it remained to Professor Pigorini of Rome to show that they were identical as regards internal structure. This he did in 1881, after a visit to one at Aalzum, which was then being excavated, when he showed that there was a circumscribing dike, and, although no actual piles were then visible, he was informed by the proprietors that they had been occasionally met with. From the stratified arrangement of their contents, he concluded that the deposits were due to pile dwellings, and had accumulated under conditions precisely similar to the terramare, in regard to which he is such a distinguished authority. The excavations at Aalzum are still going on, and I can conceive no better means of making you acquainted with the nature and structure of these remarkable deposits than by detailing the facts which came under my own cognisance during a visit I made to the same spot this summer, under the guidance of my excellent friend Mr Battaerd.

The terp lies about a mile to the north of the town of Dokkum, some 12 miles from Leewarden, and 4 or 5 from the seashore. In approaching the locality there was little to attract special notice beyond the usual Dutch scenery—canals, rich meadows, herds of splendid cattle, and here and there some well-cultivated corn fields. In front a slight elevation could be discerned crowned by a small church in the midst of a clump of trees, and surrounded by neatly hedged meadows and cornfields. As we advanced towards this church we entered on a sloping road as if raised on a dike, but on each side the land was perfectly flat, and bearing here a splendid crop of beans, and there an equally promising crop of wheat. “These fields,” said Mr Battaerd, “were formerly part of the terp mound, from which however the fertilising stuff has been removed, but the road was left undisturbed, so that we are now actually walking on a portion of its surface.” By and by we came in sight of heaps of clayey stuff in the midst of which were to be seen the masts and rigging of three boats. “That clayey stuff which you see deposited in irregular heaps,” said Mr Battaerd, “is the surface soil, which is of no commercial use, and must be wheeled off before the valuable deposits can be got at. This superficial layer is 3 or 4 feet thick, and contains no antiquities.” At last the actual workings were reached, and we found ourselves in front of a perpen-

<sup>1</sup> *Inter. Cong. d'Anthr. et d'Arch. prehist.*, session v. p. 212.

dicular section some 15 or 18 feet high, from which men and women were busily engaged in loading the boats lying close by. Uppermost in my thoughts was the paramount question of the existence of upright piles in these settlements—which it will be remembered Pigorini had not actually seen, but inferred that they must have been present when the deposits were accumulating. Great was my delight when, at the very first glance, my eye detected an undoubted pile of oak just in face of the cutting. Close by it I soon found another; and as we moved along numbers were observed, some soft and yielding, scarcely offering any resistance to the spade, and others of oak, very hard in the centre, but more decayed on the outside, than those I have been in the habit of seeing in mossy bogs and lake mud. Of those seen in the section some penetrated deeper than others. At a little distance lay a heap of oak beams, which had been removed from the trenches. One of these I measured, and found it to be 4 yards in length and about 6 to 8 inches thick. Upon inquiry, I ascertained that some of these beams were found lying horizontally about half-way down in the stratified stuff. Those who, like Professor Pigorini, are acquainted with the structure and features of the terramaras of northern Italy will not be surprised at the comparative rarity with which piles are met with in the terpen mounds, because of the rapidity with which timbers, when buried in dry earth, decay and disappear altogether, leaving in many cases no trace behind them. This fact was strikingly shown by Chierici, who produced positive evidence of the former existence of piles in the upper strata of some of the terramare, by showing that the holes left by the piles, after the wood had completely disappeared, had become subsequently filled up by infiltrated material which then assumed and retained the actual form of the original piles. In short, natural casts of them were accidentally formed, and thus disclosed and substantiated the important fact of their existence, which otherwise might never have been suspected. To the soundness of this deduction I have myself unconsciously contributed by an observation I made some years ago while digging at the crannog of Lochspouts, and which being recorded, I may perhaps be allowed here to quote:—

“One day I was greatly puzzled by finding what was evidently the portion of a birch-tree, from 6 to 9 inches in diameter, quite flat, and with scarcely any

wood left inside the thick bark. In no instance previously had I seen the evidence of pressure on logs of this size ; but after carefully considering the point, it was ascertained that such effects occurred only in the upper portion of the mound, and above the log pavement, when the wood had been exposed to atmospheric influences, so that when the woody fibres rotted away, the flattening of the bark was easily produced. All the logs found buried in water or mud retained their original dimensions, and showed no traces of having yielded to superincumbent pressure" (*Ancient Scottish Lake Dwellings*, p. 273).

The present non-existence of piles in many of these terpen mounds is therefore no proof that they have not formerly existed; and indeed it is difficult to account for the horizontality and regularity of the beds on any other hypothesis. While I was wandering about scrutinising the excavations, wondering at the distinctness of the varied strata, and picking up mussel shells, bits of bone, and fragments of pottery that were here and there sticking out in face of the section, my friend Mr Battaerd was deeply occupied by examining a heap of large skulls of cattle and other animals which lay withering in a sunny corner. Having joined him at his osteological study, I found that among these bones was the head of an urus of great size, with splendid horn cores, which he considered the finest that had yet found its way to the museum. The relic-finders were now asked to produce their treasures, and I soon saw that they were pretty well distributed among the boat-loaders and the diggers. Mr Battaerd now assumed the functions and demeanour of a judge, and having put a reasonable, and to all appearance satisfactory, value on the antiquities, he paid the finders accordingly. On this occasion he very courteously gave me the opportunity of securing some of the smaller objects, with the exception of one or two rare bronze objects which he retained for the museum. These are now before you on the table, from which you can form a fair idea of the character of these remarkable remains. [See list and description on p. 95.]

The land close to the brink of the section, and extending over a considerable portion of the mound, was occupied by growing corn, and owing to this and the difficulty of defining its exact limits, its dimensions can only be approximately stated. The proprietors, Messrs W. and J Bierma, obligingly accompanied us, and one of them assured me it could not be less than 300 or 400 yards in diameter. Its greatest height above the

water level in the canal was about 18 feet, but of course the level-of canal water is considerably lower than that of the open sea. The commercially valuable stuff, as already mentioned, commenced some 3 or 4 feet below the surface, and continued without interruption to within a few feet of the canal water. It was in the intermediate portion that the relics were found, but their exact position, especially of the smaller objects, was seldom determined, as it was generally after the stuff had become broken up by its transport into the boats that they were found.

The stuff was distinctly stratified, forming layers of varied thickness, from a finger breadth up to 3 or 4 inches or sometimes more, which in some instances could be continuously traced for long distances. Sometimes they shelved out altogether, and others commenced. Here a bed of fibrinous matter, in which quantities of the partly decomposed fibres of flax were readily recognisable; there, a thickish deposit of a brownish glutinous stuff like peat. Charcoal and ashes permeated the whole, and appeared here and there as distinct layers. Clay and sand were also mixed with the deposits, and assumed occasionally the form of distinct beds. Having so far satisfied ourselves as to the structural arrangements of the mound, and the disposition of its contents, we walked up to the church, which is but a short distance from the workings. This small edifice is surrounded by a burying-ground, and among the grave-stones are some ancient looking ones. Mr Battaerd informed us that it dates as far back as the eleventh century.

It is calculated that there are altogether about 150 of these mounds in North Friesland alone, and that of these about the half have been more or less examined, some being now entirely cleared away. They are also to be found in the province of Groningen and other parts of Holland. Dr Dirks states that the town of Leewarden is built on two terpen mounds (*International Congress d'Anth. et d'Arch.*, 1871, v. session, p. 212); and Dr Pleyte has reason to believe that the town of Leiden also reposes on similar deposits.<sup>1</sup>

<sup>1</sup> Dr Hartmann describes similar mounds in the low-lying districts at the mouth of the Elbe, called "Dithmarschen," where they go under the name *Wurthen*. According to this author, they are constructed like the fascine structures of Switzerland, or the Irish crannogs, and he strongly combats Pigorini's opinion that the

The remains of human industry collected from the terpen mounds are very varied and numerous. In the Museum at Leewarden there are two rooms exclusively devoted to this class of antiquities, all of which are well exhibited. The following notes will give some idea of the contents of this collection :—

1. The prehistoric remains, commonly so-called, such as stone implements, &c., are only feebly represented, but occasionally they do turn up, and in this respect the terpen mounds resemble the Scottish and Irish crannogs.

2. Perforated loom-weights, both conical and flat; spindle-whorls in great numbers, and often ornamented with finger marks or circular grooved lines; some curious clay objects, triangularly shaped and flat, perforated with three holes, one at each angle—sometimes these holes are perpendicular to its surface, and sometimes parallel to it.

3. *Pottery* is generally coarse, forming vessels of various shapes and sizes, generally with ears, but a few with handles; many fragments of Samian ware; a few vases have traces of coloured stripes; some lids of vessels with handles, and ornamented with dots.

4. *Bone implements* consist of combs of varied forms, constructed of plates riveted together with iron rivets, and ornamented with circles, lines, dots, and curvilinear figures; remarkable long combs; pins, buttons, &c.; skates, hoes, knife handles, one or two bones of the foot of an ox are covered with concentric circles, apparently for ornamentation.

4. *Beads*, blue, green, and variegated; also glass slag.

5. *Metal Objects*.—Bronze dishes, one a tripod with handle; Roman fibulæ, and figures of men and animals, the hand of a Roman bronze statue, &c.; some three or four double spirals; a small shears, and bracelets with clasps—all in bronze; some iron shears and hammers, and bridle bits, iron slag. A leaden bar weighing 17 kilogrammes, having three crosses on it (xxx), found at Achlum.

terpen mounds in Friesland were ever pile-dwellings. He believes the latter to have been formed after the manner of the Holstein *wurthen*, a kind of composite system which he calls *Packwerkbaw* (see *Ueber die alten Dithmarscher Warthen und ihren Packwerkbaw*, p. 20). According to Dr Tergast of Emden, similar mounds, which go under the name of *Warfen*, exist in the province of the East Friesland (*Die heidnischen Alterthümer Ostfrieslands*).

6. *Coins*.—Anglo-Saxon coins abundant; at Hallum 180 sceattae were found in a little jar. Also Byzantine money, in gold: Roman imperial money, generally in silver, but sometimes in gold: Frankish money. The proprietors of Aalzum found a few in this terp of silver, having the inscription DOBESTATVS MON . HLOTHARIVS . IMP, which defines their date to be between 840 and 855 A.D. (see *Proceed. Friesch Genootschap*, 1886-7, p. 12).

7. *Wooden Objects*.—Small spades, exactly like our modern implements used by children while amusing themselves on the sea-shore. Large casks with three iron hoops, some 7 feet high, and having a square hole one-third from the top. These have been found in many terpen mounds, usually at regular intervals of 8 to 10 yards; they are supposed to have rested in water while the tops were exposed. One 6 feet high was deposited inside a vat 3 feet high, and its highest point was over two yards below the surface of the mound.

8. *Nondescript Objects*.—Canoes, and small paddles; cock spurs; egg shells, some whole, of the domestic fowl and goose; sea urchins; amber; amorphous vivianite; débris of flax in large quantities. One curious object was a flute made of the shank-bone of an animal. One small fictile dish had four legs, and a few others consisted of three cups attached. At Aalzum were found, when I visited the mound, a mitten and head cap of coarse cloth, like a felt wide-a-wake; the mitten had no separate fingers, only one for the thumb. In the terp called *Beetgum* there was found an urn like those from the dolmens of the Drenthe, containing burnt bones. Human skulls are sometimes found, but these may have been due to secondary burials. At Aalzum a grave was found containing a body, and with it a beautiful fibula having mosaic of variegated glass and amber of the Merovingian period.

9. *Osseous remains*, representing the following animals:—horse, several varieties of oxen (*Bos taurus*, *primigenius*, *longifrons*, *brevifrons*), cat, dog, sheep, wild pig, deer, roe and fallow deer.

Of considerable interest are the human skulls, and other remains of the four-horned sheep.