X

MUSEUM NOTES, 1976*

Clive Caplan and T. G. Newman

1. TO NEPTUNE AND TO OCEANUS (fig. 1, pl. VIII)

A PAIR of altars, alike in dimension and design and dedicated to the two Roman gods Neptune and Oceanus, is displayed in Newcastle's Museum of Antiquities. The nature and provenance of the altars is not a mystery; they are inscribed on behalf of the soldiers of the Legion VI Victrix and they were dredged up[1] from the bed of the River Tyne at the site of the former Roman bridge—the Pons Aelius. There is also no doubt that the original placement and consecration took place *c.* A.D. 122 at the time that the Emperor Hadrian, with the new Governor of Britain—A. Platorius Nepos—and the men of the VI Legion were all transported across the Northern Ocean from Germany and work was begun on the Wall.[2] The meaning of the double dedication, however, has been unclear.

Richmond[3] suggested that the two altars protected the Roman bridge through the influence of Neptune over the river flood and of Oceanus over the ocean tides. Against this is the absence of any other example of a Roman bridge being protected by such a double dedication even though many were built at a comparable site—as far up-river as the flood tide would carry an ocean-going vessel. Furthermore, the suggested division of responsibility between the two water gods is dubious, for both deities presided over both fresh and salt waters.[4] Hence there is a place for a reappraisal of the reasons for the association of the two Newcastle altars, and this can begin with an outline of the place of Neptune and of Oceanus in the ancient Pantheon.

NEPTUNE The origin of the Roman Neptune was as a fresh water god of springs and streams but when his identity fused with that of the powerful Greek sea-god, Poseidon, his power grew and he inherited a maritime kingdom. Neptune took an interest in human affairs and often intervened in them. His personal supervision of maritime activity encompassed war, commerce and travel. He heard prayers and petitions, received sacrifices, and bestowed favours.

* Prepared for the press by D. J. Smith, with warmest thanks to the contributors.

[1] Museum accession nos. 1884.11, 1903.6. *AA*[2] XII (1887), 7, no. 13, XXV (1904), 133–9, pl. p. 133.

[2] S.S. Frere, *Britannia* (1967), 126, 138; B. Dobson and D. Breeze, *The Building of Hadrian's Wall* (Dept. of Extramural Studies, University of Durham; 2nd ed., 1970), 17.

[3] I. A. Richmond, *Roman Britain* (2nd ed., 1963), 197; J. Collingwood Bruce, *Handbook to the Roman Wall* (12th ed., by I. A. Richmond, 1966), 46.

[4] E.g. Dionysius of Halicarnassus I, 25, 4, "Ocean, That Sire of All Waters" and Catullus XXXI, 3, Neptune: "Liquentibus stagnis marique salso".

Altars to Neptune and to Oceanus (see Note 1)

Photo: University Library, Newcastle upon Tyne

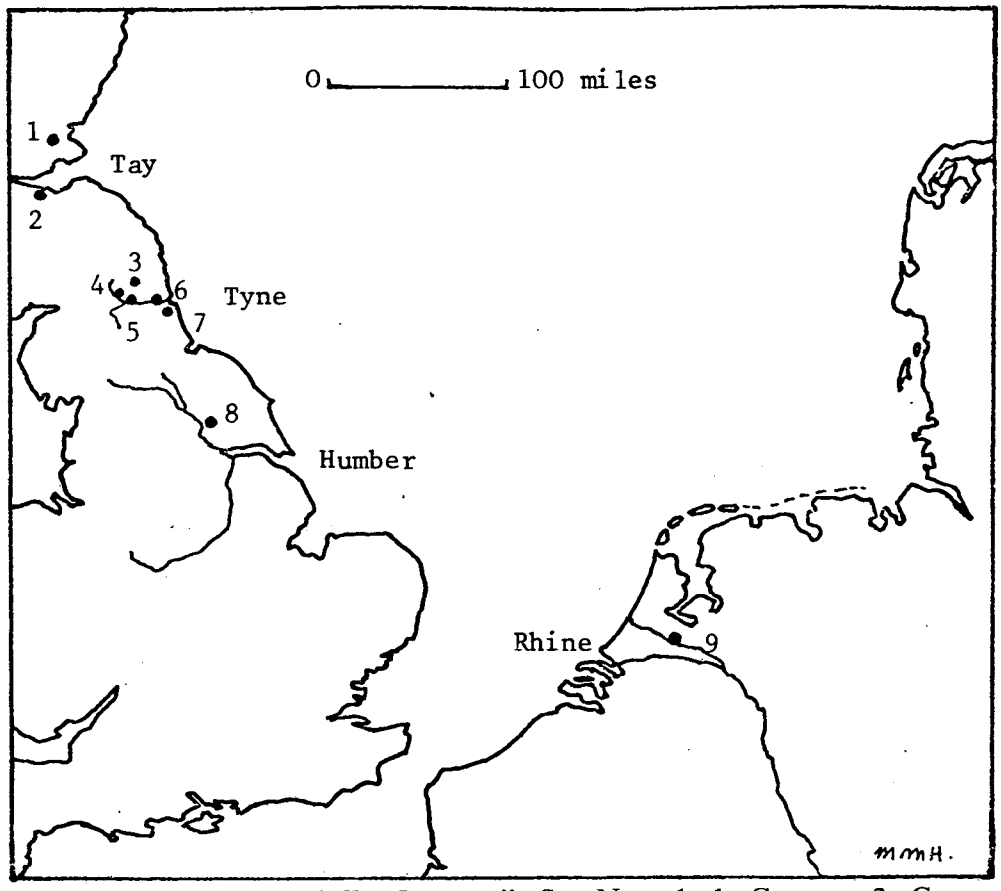

Fig. 1. "To Neptune and To Oceanus". See Note 1. 1: Carpow, 2: Cramond, 3: Capheaton, 4: Chesters, 5: Corbridge, 6: Newcastle, 7: South Shields, 8: York, 9: Vechten.

Altars to Neptune are found all over the Roman world. A second example from Roman Britain comes from Lympne,[5] erected by a commander of the British fleet in Hadrianic times. Another dedication to the god comes from Chichester from the British client king, Cogidubnus, and the guild of artisans.[6] Britain's only sculptured representation of Neptune[7] just happens to be in the Newcastle museum—a weathered fountain ornament from Housesteads on which the god reclines with his attributes of trident and dolphin.

[5] *RIB* 66. Another altar to Neptune, from Birdoswald, is in Tullie House Museum, Carlisle: *Britannia* V (1974), 462, no. 9, Pl. XLI, B; R. P. Wright and E. J. Phillips, *Cat. of the Roman Inscribed and Sculptured Stones in Carlisle Museum, Tullie House* (1975), no. 52.

[6] *RIB* 91.

[7] R. G. Collingwood, *Cat. of the Roman Inscribed and Sculptured Stones belonging to the Society of Antiquaries of Newcastle upon Tyne* (1926), no. 278; J. M. C. Toynbee, *Art in Britain under the Romans* (1964), 150.

OCEANUS Oceanus is less well known and the Newcastle altar, as a dedication to Oceanus alone, is so far unparalleled. Oceanus was a conception of the early Greeks who, in their enquiries into the nature of things, described a continuously flowing river around the circumference of the inhabited world—unlimited, uncrossable, unknowable. Euripides put it well:[8] "The horned Ocean with arms enringing, coiling around Earth endlessly." The shores of Ocean evoked myth and mystery and were the home of monsters such as Geryones, the Gorgons, and the Hecatoncheires. The stream of Ocean could be navigated only by the heroes and then only with divine aid; across that stream lay the Abode of the Dead. From the surface of the Ocean moisture ascended which fed the fires of the Sun, Moon and Stars, from Ocean all waters flowed—salt and fresh. Personified, Oceanus was the origin of all life, the father of the gods. After his cosmological activities were over he remained aloof from the affairs of gods and of men and was not generally a figure of worship.

Pindar[9] said that Ocean was inaccessible and Herodotus[10] could find no one who knew if there was a sea on the northern shores of Europe. Even so, there had been some early voyages into the Ocean of the West[11] although it was in the East that Alexander the Macedonian had the best known experience. Unwilling to admit any limit to his conquests short of the all-confining Ocean he sailed down the River Indus into the open sea (325 B.C.) and, amongst many gods, sacrificed to Oceanus himself, to Tethys his consort, and to Poseidon.[12]

THE ROMAN EXPERIENCE From this background of myth, superstition and heroic deeds the Romans had to face the reality of the Island of Britannia. It lay directly in Ocean's stream outside the *Orbis Terrarum* that they knew, a geographical aberration, a world apart. For the Romans there were barriers to journeying to Britain, both geographical and psychological.

It was Julius Caesar, claiming divine descent and afterwards deified, who first crossed these barriers. He described for his contemporaries[13] the vast and open Ocean, its storms, and its gale-force winds. His British expedition of 55 B.C. and his other exploit of that same year in bridging over and campaigning across the Rhine, astounded his countrymen.[14] It was with awe that they looked upon these violations of the natural boundaries of their earth.

There was still fear of the Ocean a hundred years later when Claudius' troops, intended for the conquest of Britain, at first mutinied (A.D. 43) and refused to campaign outside the limits of the known world.[15] And even though, after the conquest, crossing

[8] Euripides, *Orestes*, 1377; and also Catullus LXIV, 31, "Oceanusque, mari totum qui amplectitur orbem".

[9] Pindar, *Olympia* 3, 44–5, *Nemea* 4, 69–70.

[10] Herodotus IV, 46.

[11] Himilco and Hanno the Carthaginians, Euthymenes and Pythias the Massaliotes, Polybius of Megapolis in Arcadia, and Eudoxus of Cyzicus. For details see Rhys Carpenter, *Beyond the Pillars of Hercules* (Delacorte Press, N.Y., N.Y., U.S.A., 1966).

[12] Diodorus Siculus XVII, 104; Arrian, *Indica* XVII.

[13] Caesar, *Gallic War* III, 9, "In vastissimo atque apertissimo Oceanus"; *ibid.*, III, 13, "Quod tantas tempestates Oceani tantosque impetus ventorum sustineri".

[14] Velleius Paterculus, *Hist.* II, 46, 4–5, "In Britanniam traiecisset exercitum, alterum paene imperio nostro ac suo quaereus orbem"; Lucan, *Pharsalia* III, 73, "Ut vincula Rheno Oceanoque daret!"; Catullus XI, 9, "Gallicum Rhenum horribilesque ultimosque Britannos".

[15] Dio Cassius LX, 19.

the Channel (*Fretum Oceani*) must have become almost commonplace, the wonder of travelling to Britain never entirely disappeared. Writers from Catullus to Claudian spoke of the terrors of the Ocean—"monster-haunted, raging waves, treacherous tides"— and of the isolation of the British Island—"in unknown seas" and "totally sundered from our world".[16]

THE NORTHERN OCEAN Such anxieties as there were about travel to Britain would be magnified by the impact of a journey across the North Sea, away from the short Channel crossing and out of sight of land. Yet, the northern passage across the *Oceanus Septentrionalis* (also known as the *Oceanus Germanicus*) was well travelled.

The military advantages of this direct link between the mouth of the Rhine and eastern England, and the Humber and Tyne Valleys were clear. The two potentially threatened frontier zones would be directly and strategically connected. On two known occasions this route was used to transfer reinforcements speedily across the hazards of the open sea to the Tyne—Hadrian's expedition of A.D. 122, and that of *c.* A.D. 155 in the time of Antoninus Pius.[17] The Caledonian campaign of Septimius Severus (A.D. 208–11) with its massive logistic effort also relied on this Northern Sea lane, with military construction concentrated in north-east Britain at South Shields, Corbridge, Cramond and Carpow.[18]

Merchants too would travel to and fro.[19] The military zones were large markets, sea transport was efficient in spite of its hazards, and less competition would be found than in the south of the province. The orator Aristides spoke of the hundreds of private citizens who crossed to Britain on various errands[20] and several inscriptions have been found in the Rhineland recording activity in trade with Britain.[21]

THE NEPTUNE–OCEANUS DEDICATION The theme of this discussion of sea-gods and ocean journeys may now clearly be stated.

Individual Romans or armies would look with trepidation upon a North Sea voyage.

They would pray and make supplications to the gods before their departure, and make thanks-offerings and fulfill their vows upon safe arrival.

The gods chosen to be at the centre of this religious activity?—Neptune and Oceanus!

[16] Horace, *Odes* I, 35, 31, "In ultimos orbis Britannos"; *ibid.*, IV, 14, 45, "Te [Augustum] belluosus qui remotis obstrepit Oceanus Britannis" (cf. Rufus Festus Avienus, *Ora Maritima* 103); Virgil, *Ecl.* I, 67, "Et penitus toto divisos orbe Britannos"; *Poet. Min.* IV, 539; *Anth. Lat.*, Riese, I, 426, "Quam fallax aestu circuit Oceanos"; Seneca, *Apocolocyntosis* 12, "Ille Britannos ultra noti litora ponti"; Tacitus, *Annals* XI, 20, "Qua incerta Oceani vitarentur"; *ibid.*, XII, 24, "Quanta violentior cetero mari Oceanus"; Julius Firmus Maternus, *De Errore Prof. Relig.* 28, 6, "Tumentes ac saevientes undas"; Claudian, *De Cons. Stilicho.* III, 148–9 (of Rome), "Nec stetit Oceano remisque ingressa profundum, vincendos alio quaesivit in orbe Britannos"; Claudian, *Cons. Manlius* 51, "Et nostro diducta Britannia mundo".

[17] *RIB* 1322 = *ILS* 9116.

[18] Frere, *op. cit.*, 172–3.

[19] M. P. Charlesworth, *Trade Routes and Commerce of the Roman Empire* (2nd ed., 1926), 219.

[20] Aristides, *Orat. Aegyptiacae* XXXVI, 91.

[21] *CIL* XIII, 634, 7300, 8164a, 8973.

This is the reason for the association of the two Newcastle altars. Neptune and Oceanus were the very two gods whose approval and protection would be needed for travel across the North Sea. Nowhere else within the bounds of the Roman Empire did ships voyage across Ocean's stream. In no other place was there a need to propitiate both Neptune and that otherwise distant deity, Oceanus.

THE OCEANUS CULT The existence of an Oceanus cult among travellers across the *Oceanus Septentrionalis* is confirmed by the physical evidence. Of the meagre epigraphical and representational traces of Oceanus surviving to the present day, most do come from the shores of the Northern Ocean, from the termini of the travellers in the rivers—near the sea.

In lower Germany from Vechten near the mouth of the Rhine two inscriptions are recorded, to Ocean and Rhine,[22] and to Neptune, Ocean and Rhine.[23] From York we remember the Pilot of the Legion VI Victrix[24] whose duties may well have been transoceanic rather than riverine; and the inscription of Demetrius[25] whose invocation to Oceanus and Tethys probably reflects his voyage from the Rhine rather than the suggested western isles Agricolan expedition. The altar in Bordeaux erected by M. Aurelius Lunaris,[26] a merchant of York and Lincoln, has a figure of Oceanus upon its side. At Cramond on the Forth, where there was activity during the Northern Wars of Severus, there was an altar to Oceanus,[27] since lost. On the coinage of the Mint of Rome Oceanus appears only twice, on the occasions of the Imperial journeys of Hadrian and Severus to the British Northern Frontier zone—A.D. 122 and A.D. 209.[28]

Lastly we may speak of the Tyne Valley where in addition to the Newcastle altar there is a statue of Ocean from Chesters,[29] now in the Chesters Museum, and the Capheaton handle.[30] The latter is a silver handle from a vessel used in religious services. It was found near the road from High Rochester towards the sea in 1747 and is now in the British Museum. Upon it are displayed those gods who bless the produce of the countryside and the trade routes along which it travels. There is Diana, protectress of the countryside, flanked by a traveller and a shepherd, Mercury god of commerce, giver of wealth, and protector of the traveller, Bacchus and Ariadne of the vintage, and at the base a river-nymph and Oceanus reclining.

This piece illustrates the theme of our discussion. The wellbeing and prosperity of the North Country depended upon the beneficence of the Ocean which washed its shores. Those who lived and worked by the Ocean fringe, and those risking their lives

[22] *CIL* XIII, 8810 = *ILS* 9266.
[23] *CIL* XIII, 8811.
[24] *RIB* 653.
[25] *RIB* 663; cf. A. R. Burn, *Agricola and Roman Britain* (1962), 120–2.
[26] *JRS* XI (1921), 101–2.
[27] J. Horsley, *Britannia Romana* (1732), Book II, p. 204, XXVIII, pl. p. 192.
[28] H. Cohen, *Médailles Impériales* (2nd ed., 1880–92), Hadrian 1109, Severus 530.
[29] J. M. C. Toynbee, *Art in Roman Britain* (1962), no. 30, Pl. 36.
[30] M. Rostovtzeff, *The Social and Economic History of the Roman Empire* (2nd ed., 1957) 230, Pl. XL, 3; *JRS* XIII (1923), 99–101; Toynbee, *op. cit.*, no. 105, Pl. 122.

by sailing over the sea, would wish to insure themselves by performing acts of religion in the name of the Ocean god.[31]

It is this cult of Oceanus, a particularly Romano-British phenomenon, which explains the singular association of the Neptune–Oceanus altars at Pons Aelius.

Roll on, thou deep and dark blue Ocean—roll!
Time writes no wrinkle on thine azure brow—
Such as creation's dawn beheld, thou rollest now.

From "Childe Harold's Pilgrimage" by Lord Byron

CLIVE CAPLAN, M.B., B.S. (Dunelm).

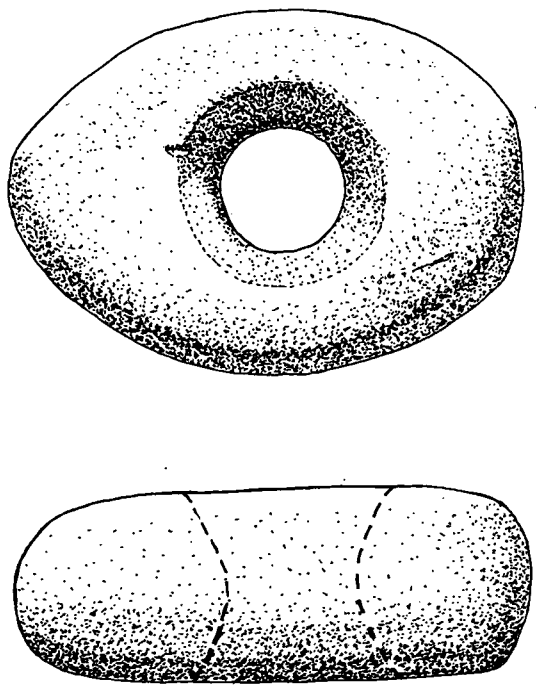

Fig. 2. Mace-head from Fairnley Farm, Cambo (¾). See Note 2. Drawn by Mary M. Hurrell.

[31] The theme is further underlined by the later history of the site. Resettlement under the Normans saw a new bridge on the old Roman piers and a new fortification on the northern bank of the river. A town grew up around the new castle whose premier church—now the city's cathedral—was dedicated to St. Nicholas. It was St. Nicholas on whom in Christian times the mantle of the Greek and Roman sea-gods had descended. He was the Patron Saint of sailors; hagiography depicted him with the anchor-symbol of Oceanus; and many English seaports had a chapel to him built on a hill overlooking the harbour, a landmark, and a place in which to pray and give thanks. The medieval citizens and mariners of Newcastle also, therefore, sought divine protection for their lives and property on the sea—for them, the dedication to Saint Nicholas, for the Romano-Britons, that to Neptune and Oceanus.

2. A STONE IMPLEMENT FROM FAIRNLEY FARM, CAMBO, NORTHUMBERLAND (fig. 2)

The illustrated stone implement (fig. 2) was found on the 23rd June 1975, among stones picked from a recently ploughed field (NZ 003883). Thanks are due to the Anderson brothers, of Fairnley Farm, who noticed it, and to the National Trust, for its presentation to the Museum of Antiquities at Newcastle (1975.22). A facsimile has been made by Mr. V. Horie, for display at Wallington.

The implement is made of a fine gritstone, and measures 91 × 65 mm, and is 35 mm thick; it has a gently rounded hourglass-shaped hole through its centre, with a minimum diameter of 23 mm. Though it is not possible to achieve any sort of polished surface on such a stone, it is otherwise carefully shaped and smoothed, and its shape is reminiscent of that of an early battle-axe:[32] its softly rounded curves, however, preclude its having been intended as an axe—indeed, it shows no sign of use of any kind. It may be described as a hammer, though in its careful shaping and apparent lack of use it is more akin to Early Bronze Age "mace-heads" than to the rough pebble-hammers such as are illustrated, for instance, by Evans.[33]

T. G. NEWMAN, M.Phil.

3. THE JET NECKLACE FROM KYLOE, NORTHUMBERLAND (fig. 3)

In order that the incomplete jet necklace found at Kyloe in 1927[34] might be reconstructed for display it was necessary to attempt to determine its original form. The necklace was recognized when found as being of the crescentic type. It consisted of the usual six spacer plates and forty-seven more or less complete barrel-shaped or fusiform beads varying in length from 12 mm to 24 mm. In addition there were: a cylindrical toggle measuring 14 × 8 mm; a fusiform but flattened bead, 22 mm long, with a hole bored through one of the flattened sides into the main hole through the bead; a small triangular plate, or bead, 18 mm long and 12 mm wide at the broad end, with one hole entering at the apex and opening as two at the base of the triangle. The spacer plates comprised: two triangular terminal pieces, one 58 mm long and the other 48 mm, each pierced by four holes running in from the back and opening at the edge of the plate; two smaller rhomboids, 44 mm × 18 mm and 42 mm × 18 mm, each bored with four holes at the shorter edge, opening as five on the longer; two larger and less well preserved rhomboid plates, 54 mm × 22 mm and *c.* 56 mm × 20 mm, each bored with five holes, opening as eight.

The necklace was reconstructed by Parker Brewis[35] in the shallow curve usual before Craw's work on the Poltalloch necklace[36] showed that the crescent form had entirely encircled the neck of the wearer, with the terminal spacers linked by a toggle at the

[32] F. E. S. Roe, *P.P.S.* 32 (1966), 199–245; *ibid., Trans. D. & G. Soc.* 44 (1967), 57–80.

[33] J. Evans, *Ancient Stone Implements* (1897), 228.

[34] P. Brewis, *AA*[4] V (1928), 26–29.

[35] *Ibid.*, Pl. XII.

[36] J. H. Craw, *P.S.A.S.* LXIII (1928–29), 154–89.

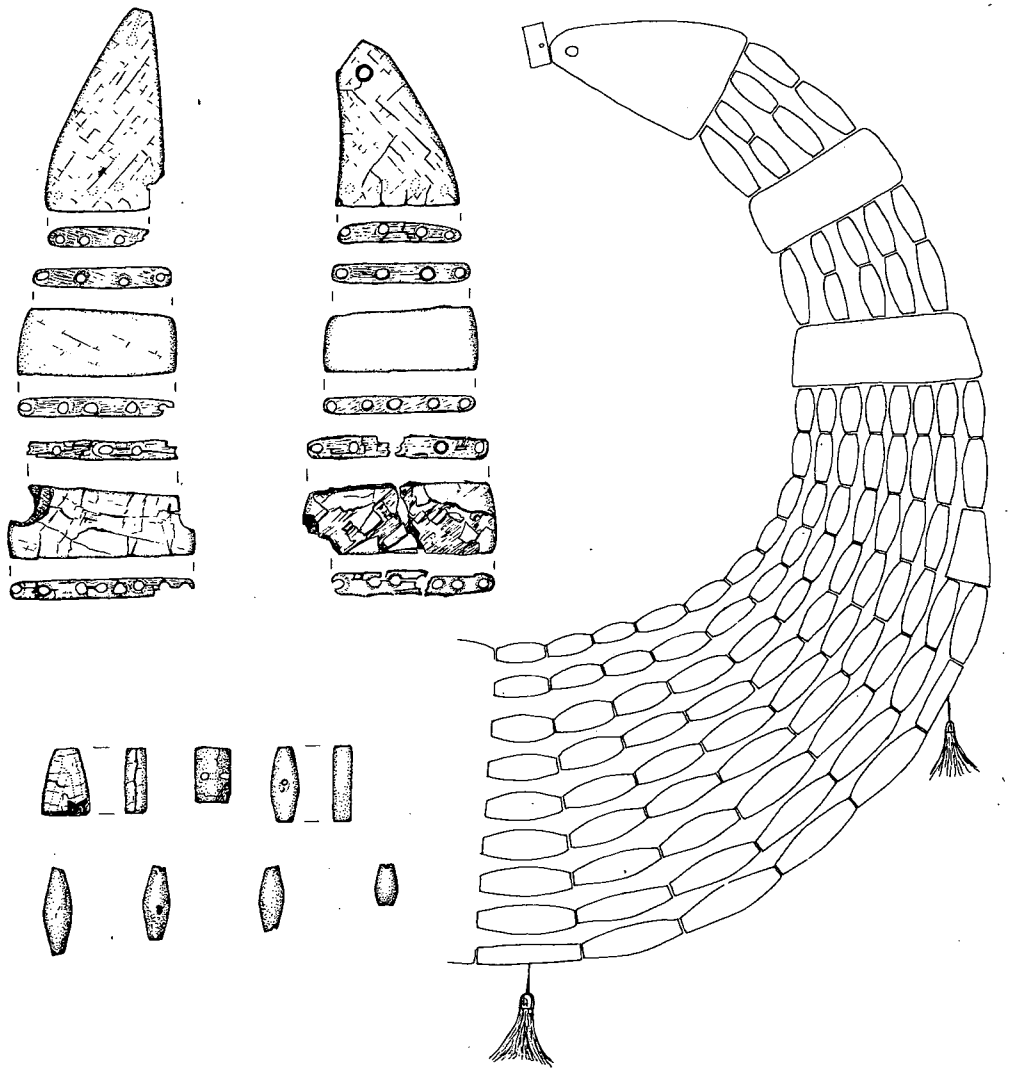

Fig. 3. The Kyloe Necklace ($\frac{1}{2}$): Spacer plates, triangular plate, toggle, side-bored bead, fusiform beads, and suggested reconstruction. See Note 3.
Drawn by T. G. Newman.

back, and the vast majority of the barrel-shaped beads lying over the chest, rather than strung round the neck. Also, Brewis' reconstruction of the Kyloe necklace is inelegant in that the three unusual beads (i.e. toggle, small triangle, and side-bored bead) are strung together willy-nilly as a pendant at the centre point of the necklace, even though the marks of wear on the beads will not admit such an arrangement. Craw pointed out[37] the real purpose of the cylindrical toggle as a fastener at the back of the neck, and this is confirmed by the fact that the wear on it matches the wear on one of the triangular terminal plates, which has a hole bored through its thickness at the apex and to which the toggle was clearly attached.

As far as the general pattern of the necklace is concerned the Kyloe beads will easily follow the Poltalloch reconstruction but do not seem to admit of the star, or net, pattern used in the lower half of that necklace, which was suggested by the Burgie Lodge Farm necklace.[38] The star-pattern is formed of three strings of barrel-shaped beads, linked together by other similar beads at right-angles: the Kyloe beads, however, exhibit wear at the ends which is sufficiently oblique to suggest that they have been strung together in a curve, but on none of them is it possible to suggest that they met at right-angles. The Poltalloch arrangement would result in such wear on most, perhaps all, of the barrel-shaped beads, except those between the spacer plates.

Thus it becomes necessary to visualize the Kyloe necklace as more like that from Masterton, Pitreavie,[39] in consisting of multiple strings of beads. At Masterton there were no spacer plates, but there was no room for doubt that the beads had been arranged in five strings, resting on the wearer's breast and shoulders but not forming the crescent shape which seems to be demanded whenever there are spacer plates of the Kyloe type. At Kyloe, the most obvious number of strings to suggest is eight, for there are eight holes at the lower edge of the larger rhomboid spacer plates. This would create the rather pleasing effect of a regulated mass of beadwork, and would also obviate the difficulties of the Poltalloch "fringe" of seven beads, where the spacer plates are used to increase the number of strings from three to seven, only to have them reduced to three again, leaving four of the "fringe" beads awkwardly in the air.

In order to maintain the crescent shape of the Kyloe necklace—that is, to maintain a shape that increases regularly in width from the ends to the middle—it is necessary to allow the strings of beads to get wider and wider apart as they get further from the spacer plates. Such an arrangement is again permitted by the wear on the beads, for only five of them have patches of rubbing on their sides, and it may be suggested that these were five of the sixteen beads placed next to the eight-hole spacer plates, where they would be closely jammed together. This is in marked contrast to the Masterton necklace, where almost all the beads showed signs of wear on the sides, indicating that the five strings must have been held in close contact with each other throughout their length.

The smaller triangular plate may well have been used in forming the crescent shape of the Kyloe necklace, and it is clearly desirable to include it in the design, rather than assume that it belongs to a smaller, separate necklace, for which there is no

[37] *Ibid.*, 168.
[38] J. G. Callander, *P.S.A.S.* L (1915–16), 204.
[39] A. S. Henshall, *P.S.A.S.* XCVI (1962–63), 145–54.

good evidence or parallel. Similar small plates have been found in association with other crescentic necklaces, notably two at Tayfield, Fife,[40] where they are regarded as terminals at the back of the neck, and as many as four at Assynt.[41] Craw suggests[42] that these plates could have been used somehow "for connecting the extra beads of the fringe with the main strings." At Kyloe, however, the evidence seems to be against a fringe, and another use must be found, consistent with the wear on the small triangular plate, which shows, clearly at the one hole at the apex and faintly at the two holes at the base, that it was strung between other beads with ends like those of barrel shape. The best suggestion seems to be that the small triangle was one of a pair, and that they were fitted into the beadwork as shown (fig. 3) in order to add an extra string of beads at the widest part of the crescent, making nine in all. In this way the crescent shape could be formed without spacing the strings of beads too widely, thus destroying the aesthetic effect of a solid mass of beadwork. Even so, the beads must have been sufficiently far apart not to rub, one string on another.

One other bead remains to be fitted into the design, the flattened barrel bead with the hole bored in its side. Such beads do not seem to be any more common than the small triangles, but two were found at Lunan Head, and one at Hill of Roseisle.[43] Two were also found with the fragmentary necklace at Pluscarden,[44] and were regarded by the excavator as the result of poor workmanship in boring the main hole through the beads. The Kyloe bead, however, seems to be deliberately fashioned, for, while it is possible to insert a needle in one of the end apertures and see it emerge from the side hole, it is a very tight fit, and the needle thus positioned does not conform to the line of any part of the bored hole. Moreover, the flattened sided bead may have been chosen for the side-hole because it would lie steady while the work was carried out—though there is another bead in the Kyloe necklace which has flattened sides but does not have a side hole.

The wear on the side-bored bead shows that it was incorporated in a string with other beads at either end, but there is no sign of a bead having abutted against the side hole. There is some indication, though, that a string had passed through the side hole at an angle at about 30°. This suggests that the bead was in the outermost string, and had a light pendant or plume suspended from it. The angle of the string indicates that this bead was to one side of the crescent, and it becomes necessary to postulate a corresponding bead, on the other side, and perhaps a similar one centrally placed at the lowest part of the crescent.

The main objection to this suggested reconstruction would seem to be the large number of barrel-shaped beads required for its completion—195 is the most likely number, as in fig. 3. Since only forty-seven, and fragments of a few others, were found at Kyloe, this means that some three-quarters of the beads were missing when the necklace was deposited. This in itself would be of no consequence, as most of the necklaces so far found have been even more meagrely represented, some by

[40] J. Berry, *P.S.A.S.* VIII (1868–70), 411–12.
[41] G. Mackenzie, *Archaeologia Scotica*, III (1831), 49–50.
[42] J. H. Craw, *loc. cit.*, 169, n. 6.
[43] W. Galloway, *P.S.A.S.* XII (1876–78), 288–300.
[44] A. S. Henshall, *P.S.A.S.* XCVIII (1964–65), 320.

as little as one plate and one bead. The difficulty lies rather in the fact that the highest number of barrel-shaped beads hitherto recorded was only 140,[45] and very few indeed have more than 100. Of course, if most of the necklaces were strung according to the Poltalloch model the number of beads required is very much smaller. Here Craw proceeded on the assumption that the necklace was pretty well complete, and achieved the reconstruction by using only the 110 beads available.[46] This, though, presents a difficulty opposite to that posed by the suggested Kyloe design, for the 140 beads from Balcalk cannot readily be squeezed into the Poltalloch design.

It would seem equally possible that some, at least, of the other necklaces might have been strung similarly to the pattern arrived at here for Kyloe, and that such necklaces were invariably in a dilapidated condition by the time they came to be buried with their owners. The wear on the beads in itself suggests either a long or an intensive period of use, and on one of the Kyloe terminal plates an oblique hole evidently broke and was replaced by a hole bored straight through the plate until this in turn broke, leaving the design impossible to complete. This breakage need mean the loss of only one bead, but it may be argued that if the jet components might get broken so might the strings, resulting in loss of beads, and the eventual elimination of whole rows. It also has to be assumed, of course, that spare parts were not readily available, and this may be borne out by the unsuccessful repair of the Kyloe terminal plate. It is also notable that of the eight holes opening from the larger rhomboid spacer plates, four on each are very worn but four hardly worn at all. This may simply reflect the differing tensions on the strings, but it may also indicate that only four strings saw prolonged use. If this were reduced to two by the time of the burial the number of beads actually found might be regarded as reasonable. Most of the necklaces would seem to have disintegrated entirely before their remains were deposited with their owners.

Many of the Kyloe barrel-shaped beads display a slight nick at one end which could have been the result of the wear, either of stitches holding the beads onto a backing, or of threads holding the strings of beads in a fixed relation to one another, though not bringing them into contact. There is clearer evidence for this use of the beads at Masterton,[47] where the wear on the sides of the beads indicated that the five strings had been held together, forming a solid block of beadwork. There, too, the recorded positions of the beads as found suggest decoration on the front of a garment, rather than a necklace, for the beads would not reach round to the back of the wearer and there is no means of terminating the five strings or of neatly reducing their number: instead, they seem to stop abruptly at the top of the shoulders of the wearer. Thus it is possible that the term "necklace" is not strictly appropriate, and that what we really have are the beadwork yokes of ornamental clothing. This hypothesis may be supported by the association, in Yorkshire and Derbyshire,[48] of crescentic "necklaces" with numbers of V-bored jet buttons: at

[45] At Balcalk, Tealing: J. Sturrock, *P.S.A.S.* XIV (1879–80), 260–2.

[46] J. H. Craw, *loc. cit.*, 164–165.

[47] A. S. Henshall, *loc. cit.*, 148.

[48] J. R. Mortimer, *Forty Years' Researches.* (1905), 166; T. Bateman, *Ten Years' Diggings* (1861), 24, 46, 66, 228.

Over Haddon[49] as many as thirty-nine. Both Bateman and Mortimer illustrate these buttons strung together as part of the necklace, but they would make much more sense as studs sewn in patterns on a tunic. Perhaps their wearers should be visualized, in this sense at least, as forerunners of the Pearly Kings?

T. G. NEWMAN, M.Phil.

[49] T. Bateman, *op. cit.*, 46.