A Graduated Amber Necklace, Gold-plated Rings and other objects from Cuil na bPoll, adjoining Abbeyfeale and Athea, Co. Limerick.
A Graduated Amber Necklace, Gold-plated Rings and other objects from Cnoc na bPoll, Adjoining Abbeyfeale and Athea, Co. Limerick, W.

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In the last number but one of the Journal I discussed the origin, distribution and significance of a striking group of characteristic Irish objects, the fluted gold-collars with disc terminals. The study turned out unexpectedly useful because, apart from the establishment on fairly sure grounds of a locality for the only unplaced collar, it was possible to point out that the so-called gold hat from Béarná Eile, contrary to the current opinion, in all probability survived the French Revolution and efforts are now in progress to rescue it to enrich the Continent; in addition, I have been able to determine the present resting place of the Shanagrove collar, and even obtained a friendly assurance of its eventual restoration to Ireland. It is only fair that these facts should be emphasised and that the Journal and its learned editor should receive their due acclamations for making the advances indicated possible.

The general inferences which I was able to draw from my study of the type have been strengthened by an interesting object long hidden away in a private collection, a gold disc, which shares its characteristics with the disc terminals of the collars, shields of the Longh Cuir class (more especially the British variation), the "conical" group (zadrons, trumpees, sunflower pins with conical details) and the gold-discs (detail: raised chevron ribwork): I am further encouraged to put forward the assumption that the characteristic form of the age was none other than the now well-known "encrusted" um type. In addition the contemporaneity of the sun-disc is further established: a specially useful advance seeing that these connect with the famous Truochobon Disc mounted on its horse-drawn chariot. We are thus given some light on the religious ideas of the age.1 The age in which most of our hoards (group-deposits) were deposited many of them certainly votive. This age corresponds not only to the age of the Iliad and the Odyssey in the Aegean but is also the epoch in which with something approaching clarity we can see the first blossoming into a recognisable people of the Delta. This last reminds us that Mr. Thurlow Leech in his comprehensive paper on the caldron-class above alluded to, and which he places in or about 700 B.C.2 does not hesitate to cite in connection therewith the Tuatha Dé Danann to whom the introduction of the caldron is

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2 Archaeologia, livr. p. 1, sq.
described. The objects described in this paper are referable, I believe, to the closing phases of this epoch.

During the turf-cutting season of 1928, John Connors, while at work on the moor lying south of the eastern end of the ridge called Dromodha (Drum Phadla, long ridge) and north of the main Abbeyfeale road, and adjoining the townland of Toomadaw (Dubh Sheela, black lawns) having cut away the final ends of a particular urn of turf discovered on the floor of the bog, a graduated amber necklace of about 167 beads, four gold-plated pennanular rings, one however broken, four solid bronze rings and two hollow bronze rings with transverse perforation and lateral projections. The site lies near the bog-passage.

As news of the discovery spread and there was a real danger that some itinerant dealer would acquire it, Mr. J. D. Harcourt intervened and purchased the find, or at any rate the major portion of it. It was sent up to Dublin for examination but by some curious act of neglect, was not referred to the Museum. By a happy accident the late Mr. Edward Sheehy heard of the find, visited the site and was able to recover several amber beads and two of the bronze rings which had been retained. Having acquainted his sister, Mrs. McGovern of Fitzwilliam St., Dublin, the latter kindly informed me of the discovery and deposited the objects acquired by her brother in the Museum. At the earliest opportunity I visited the district in March, 1927, hoping to study the site and recover the main part of the find. Unfortunately, recent heavy rains put the site out of bounds, but thanks to the public spirit of Mr. Harcourt I was able to accomplish the important part of my mission, and the re-associated objects now rest in the National Museum. In achieving this result the valuable collaboration of Mrs. McGovern and her deceased brother must be fully acknowledged.

On this hill of the (bog) holes is situated between Atha and Abbeyfeale in west County Limerick adjoining the Kerry border. It is mostly bogland but much has been reclaimed. It comprises the townland of Coole West (O.S. Sheet 35), situated in the Barony of Shannan. From this summit the Shannon and part of County Clare can be seen to the north and the Killarney mountains to the south-west. In its present state it is largely unfracturable but in the late Bronze Age towards the dawn of the early Iron Age before a worsening of climate which set in about 700 B.C., the bog that summit may well have been occupied by a folk deriving most of its sustenance from the chase or the breeding of cattle. The special area at the time the deposit was made may have been a lake which the growth of peat has gradually eliminated. Until however the study of these conditions initiated by Fortman and proceeding slowly in Northern Ireland have advanced considerably, the reconstruction of a

1 I accept the view that the T. D. D. reality a Cúlth a theoroy, represent an actual invasion of a people with a similar culture such as Forrer has described. Their location in our principal iron district seems to me to indicate a later epoch (A. G. B.) and the find suggests the need for more developed character of the theory in question. At the date cited above this was only evolving and anthropomorphisation had hardly been achieved. The amber and sandal woods are undoubtedly solar. The data available regarding the Cross Cranch monument (use of gold plate) suggest a con-

section (of the gold work of the Currennty burial); the location of the site stands in with this (M. Costain).
particular terrain before the invasion of the moors in relation to a particular epoch must remain a matter of conjecture. Conjecture in this instance seems to demand the existence of a laugh on the expanse of Cooraclough landscape, and Mr. Hartnett, who is a careful observer and who has on several occasions examined the area, gives to me to understand there is nothing in the physical features of the locality against this.

Evidence of early habitation is not altogether lacking. About 400 yards from the site is a north-south direction is the townland of Cool West (O.S. Sheet 65) remains of an ancient palisade were discovered. This consisted of oak stakes about three feet long, two lines square in section, shaped like a boot peg and set about two feet apart. The extent in either direction was never determined and it is to be hoped that Mr. Hartnett may be able to watch future cuttings with a view to determining this as well as the general character of the construction. The depth at which they were found (10 feet) was appropriately that at which the beehives were found. In association with these burial mounds, the remains of an ancient stone causey were discovered adjacent the palisade. It consists of an arc of boulders and Mr. Hartnett suggests that it may extend for about a mile in an easterly direction, patches of the old road being noted at different points. The depth assigned to this is 12 feet. A hill, also in the immediate vicinity is called Knocknaght (Knock as Leach), the hill of the grave), which may offer other possibilities in the same direction.4

4 Hartnett, J. D., communication 22/9/32. Mr. Hartnett recorded (9/6/32) that Captain Hugh, chief of the Redmonds or White Boys in Denmark had his camp here in 1531-2, and that the chief dictated from there to the King of England. He was here in 1522 and 1522 at Limerick. He was also here in the Fall of 1566. He was there in 1569, and Edward III. within a half mile of this spot and, in this connection, Mr. Hartnett points out that one of the Earl of Desmond fought with Edward at Limerick Hill.

are indications of the direct contact of a pure bronze with a later iron civilization to be sure, but on the whole, the indications are that the historical Celtic pioneers landed in a poorly populated country, their predecessors having been wiped out by the diseases that excessive moisture induces (malaria, influenza) or emigration. In addition to the southward breaking bands which we fancy initiated the Celtic conquests in Europe, one might postulate the landing of groups from these islands in Western and North Western France as adding to the movement. To prove this new view, archaeological evidence of no uncertain kind should be adduced but this is outside the scope of the present article. One may, however, mention the practice of carrying the dead to Britain (1) attributed to the Celts of the Channel seafoils of France which certainly points to a northward movement from Britain at least. Ammonium Maritimum, discussing Celtic origins (v, 9, 2), and relying largely on Trianconne of Alexandria says: The Druids record that in fact part of the population was indigenous but others had come from the most remote islands and the regions beyond the Rhine. On the other hand the presence both in Ireland and Britain of socketed axes of square section considered as a Rutilian type shows that this movement north-westwards has also to be accounted for. It may be recalled also that our legendary history makes provision for the cessation of several old populations by plague. The position we face is one in which is analogous to that provided by the failure of the megalithic civilization to develop logically, perhaps from the same cause or causes. The problem may be put aside for the moment.

Penannular rings of one kind or another are one of the "staples" of the later stage of the Irish Bronze Age. A special class known, perhaps erroneously, as ring-money is peculiarly well represented here. These are cylindrical bars of gold or of copper plated over and bent to the circular shape. The penannular rings found at Knock na Boll roughly correspond to this type but there are well defined differences. One ring is of the normal type (the circular cross-section), though of slightly wider calibre (diameter of interior space wider in relation to the thickness of the ring). The other decorated rings represent in essence cylindrical bars bent to give a plano-lenticular cross-section. The coils of all four are of the same width: a completely superfluous feature. Again, while a few of the ordinary ring-money class are decorated with incised patterns in an unexplained technique (the transverse bands constituting the ornamentation being silver in colour), a linear pattern is impressed on the two other rings of this small group. This pattern is a trefoil or a chevet crown provided with a base-line and a central ribbing, rather suggestive of the gold-lace embrittlement on the side of a commissionaire. The circular-sectioned ring has a similar but simpler ribbing also at the terminals. The stout ring is on the other hand pitted all over with pendants. The sum of the decorative details and the fluted shape of three of our rings brings the group into relevance with the class denominated bullae by Armstrong (Catalogue) the characteristic forms of which are heart-shaped pendants enclosed in gold with geometric and other decoration. A sub-class are penannular and of a form suggesting that of three of our rings, but more bulbous and massive. Although more
create the specialised treatment of the terminals is also a characteristic of these annular bracelets. It is at the moment the most obvious point to regard our rings as bridging a gap in the evolution of the annular form in the Plain "ring-money" class to the annular bracelet class, but although they fill this function remarkably well in accordance with my usual practice regarding this history of ornament in this epoch (Borassus Iron Transition) the less ornate objects in this style are later rather than earlier: we may compare the replacement of the top-heavy but highly ornamental urny type of the decorated type placed over incised ornament by the less ornate spherical vase of Hallstatt times with similar simple linear motives. It may be remarked, however, that a bulb found with a socketed bronze axe and interlocked rings (a very late BA type) in Kinness Bog, Co. Armagh, was quite plain except for side strips ornamented with the bracteate pattern in some of our gold collars.

The bracelet class is characterized like our rings and certain of the "ring-money" pendants by a coring of base metal, designated by Armstrong as lead. As I was unable to determine the metal composing the coring of the Cnosus and Poll rings by X-ray examination, I submitted them to Professors A. G. G. Leonard, of the College of Science, U.C.D. A very interesting inquiry resulted in which Mr. P. F. Whelan, also of the College, collaborated, their joint report appearing in the Proceedings of the Royal Dublin Society (vol. 10, No. 7). The essentials are here excerpted: The dark spectra of cadmium and gold were photographed, using a Hilger one-prism quartz spectograph (No. 5) and the distance of the more prominent and sharply defined lines from a standard line (Cd5: lambda 4799.9) were measured with a Hilger micrometer reading to 1/100,000 inch. These distances were plotted against the wave-lengths of the lines in international Angstrom units (5), on paper ruled to every 1/100 inch measured on the plate, and 1/10 inch to each Angstrom unit of wave-length. By reference to the curve thus obtained, the wave-length of a line, whose distance from Cd5 on the plate had been determined, could be found. Owing to the partial exposure of the base metal cores, no difficulty was experienced in passing an electric discharge between two cores.6

The dark spectrum was photographed, and showed the presence of tin. A well-defined tin line was photographed as standard, the lines were measured, and by reference to the interpolation curve, the wave-lengths recorded. From wave-length tables they were then completely identified. In addition to the tin spectrum the more persistent lines of copper and lead were detected. The base metal forming the core of the ring is therefore, tin in a very pure form, with traces only of copper and lead. It is interesting to note that this metallic tin was actually pure than that in a pair of "pure" tin electrodes used for comparison purposes. In this connexion Whelan has also observed a remarkable degree of purity in a metallic tin sheet.

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AMBER NECKLACE, GOLD PLATED RINGS AND OTHER OBJECTS

sacrificed to Medieval or possibly Roman date, on exhibition in the Shrewsbury Museum (J. Inst. Metals, 52, 1929).

We need not here reproduce the tables giving the observations in detail (see J. Inst. Metals, 52, 1939) and the further progress of the examination may be briefly stated. In order to determine the foreign metals present in the gold sheet, a photograph was taken of the core with a long slit, superimposed on a spectrum of the gold sheet with a short slit. The same thin line was used as standard, and the distances of the short lines not coincident with long lines, and of such thin lines as would assist identification, were measured. When identified, it was seen that several silver lines and a few copper lines of great persistence were present. The gold sheet contains, therefore, silver and a trace of copper.

The amber composing the beads is of Baltic origin, no doubt from the Jutland shore, not only on account of its relative proximity, but also because according to the favoured view) Scuoland (B. Prussia) amber did not come into extensive exploitation till Roman times. In shape they are mainly discoid with rounded corners; the larger beads are still more rounded, and by long use have become adapted to one another, giving them a more or less pear-shaped section, although, this shaping is such an obvious convenience in a necklace of larger beads as to leave open the possibility of intentional adaptation—reminding us of Dr. Wheeler's comment on two beads from St. Athan's, Glamorgan, "these like the jet bead from Llancreyddo, are wedge-shaped in such a way as to fit closely into a necklace" (Preh. and Rom. Wales, p. 181). However, the first view is preferable and it correct points to a long period of use. The lignite bead shows a similar deviation. Jet and lignite ("black amber") substances of a kindred fossil character, substituting amber in regions where they are plentiful and amber rare, and the association is one of some interest. The amber beads vary in diameter from 1/4 inch to a fraction of an inch. Some of the larger ones show a transverse cut across the perforation; this was applied before performing to prevent the drill slipping (Runck) or for the purpose of limiting the danger of splitting or cracking in the process. A similar feature occurs in early Egyptian beads, becoming a distinctive feature of faience beads of the XII Dynasty (Reck).

The gold-cased rings which are probably also to be regarded as beads are as we have seen decorated, in one case with painted in the other with a simple linear design: this was applied in all cases with a pointed tool merely to impress the metal, but with sufficient pressure to leave the tin also marked: thus the decorated specimen still preserves the original design.

Diameter and weights of the Gold-cased Rings:

1. | inch | weight 13 dwt. 12 grs.
2. | inch | weight 9 dwt. 7 grs.
3. | inch | weight 9 dwt. 14 grs.
4. | inch | weight 5 dwt. 17 grs.

* This is the view of Mr. H. E. Mackay, the leading authority in these islands on this difficult class of antiquities.
It may be inferred that the gold-casting in the last two instances weighed about a pennyweight.

The four single bronze rings are of a type common in hoards of the Late Bronze Age and are usually regarded as harness rings. In the present instance two show considerable evidence of wear as one part of the interior while the other show little or no wear, indicating on either hand asymmetrical use whatever that may have been.

The two hollow-rings with axial projections are no less characteristic of late Bronze Age group-finds. Their use is somewhat indefinite, but they have been found in the following conjunctions:

(a) With links of bronze mail (perhaps gladii, bulbacii or the like): how a strap of bronze is passed through the openings to link the sections of mail (set in sets of two or more rings of the calibre of the plain bronze rings above mentioned).

(b) As separate elements in diverse hoards, and many separate finds are known. A notable hoard from Glendal in the Baronet of Omyeg in County Limerick may be specified. It comprised a socketed-bronze ax, bronze ring similar to the four above-mentioned, two of the type under discussion but with the projections expanded to form a trumpet-end, and a large hollow-arm or arche-ring made of plait-metal, representing a class characteristic of Hallstatt.

An old theory to the effect that these peculiar rings were used with a horse or wooden pin to fasten a fibula has strong evidence to back it, notably a bronze pin with a disc-head reminiscent of a wooden type, furnished with two transverse perforations without projections, found in a grave at Trillick (Trefoie), Co. Tyrone, with two large rings of bronze, four of the same size as those on the pin, a large socketed axe and a bronze hammer of quadrangular section. A notable fact is the occurrence in several instances of paired rings (Cocoe m bPowl, Glendal, etc.). But that one might be regarded as sufficient is indicated by a small hoard from B_lock, Co. Fermanagh. We may also suppose their use as toggles or buckles.

In regard to the peculiar examples it is on the whole likely that they formed with the rest of the objects a single composition, in which case the beads were worn upon the breast and not above the neck, the pin and specialised rings just referred to being used as fibulæ. Such an arrangement is not unknown in the history of personal ornament; double fibulæ sometimes connected by an ornamental chain characterise the La Tène period and the so-called torcèt brooches of Viking times were in many instances worn in pairs, sometimes with the addition of an ornamental chain also.

As to the significance of the deposit a few suggestions may be made. The context of course is part of the general question of late Bronze Age group-deposits or hoards. Hoards are peculiarly common in this period and the fact constitutes one of the characteristics of the period throughout Europe. The usual explanation is the supposedly abnormal unsettled conditions of the age, recently repeated by Varva for his special region.

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Dulas. As a generalisation it is as futile as the explanation put forward by a recent writer for the large number of earthenware found in the Irish field, viz.—the disturbed conditions of our dismembered land, the theorist forgetting that a circular enclosure was as usual a type of dwelling enclosure here up to the Roman Invasion as the strongly protected forts affixed to the front and back of the modern house. Many of the hoards referred to were undoubtedly hidden away in a moment of danger, many were put away and forgotten for ordinary reasons, but such apparent uniformity exists among the Irish hoards, usually so small as to be quite portable, that some other explanation is necessary. This is furnished amply by the prevalent religious ideas of the age which led men to sacrifice what was either precious or useful to a particular deity or perhaps the mares of a deceased relative. It is a noted fact that the tombs of the age are rarely characterised by the deposits of grave furniture—unlike the developed Hallstatt and La Tène interments of the succeeding epochs on the Continent, and we consequently ask ourselves if many of these personal boards do not represent a separate interment of the deceased's tools or ornaments. This view has not so far as I know been put forward before and would probably be well worth exploring.

The practice of making votive deposits is well authenticated for this and later periods, water deposits being especially practised. They afford a new and important illustration of the Classical world, and the interest is the same, the propitiating of the deities of the spirit world. The most frequent deposits seem to belong to this class. It was found on the floor of the church: relying on Mr. Harrison's report, it might be assumed that this time was a lake, later ousted by the growth of the mounds. A similar motive certainly underlay the famous group of beautiful gold objects (including a votive bed) placed on a rock at Lough Boy, in a point now far inland. No tradition of such a lake seems to have survived, nor are we likely to find evidence of an ancient cult, and yet this is by far the most likely explanation of this interesting deposit. Behind most of these primitive illusions stands a rule some natural fact, incomprehensible to early man, and the mysterious is very near the surface of the mind.

A note in the Irish Independent, January 3, 1909, furnished a peculiarly appropriate explanation. It was heeded, appropriately enough "Mystery Light," "Strange Phenomenon in Co. Limerick." The account went on to state that: Nearly midway between Atha and Abbeyleigh, at a place called Knockshane, a mysterious light which has been seen over a broad stretch of moorland is causing a considerable sensation. Various theories, including fairy influence, the presence of phosphorescent, etc., were then quoted to indicate the local views on the subject. Actually the manifestation was due to ignited marsh-gas or methane, a phenomenon that occurs in such localities. Whatever may infer is that a similar display sometime between 700 and 900 B.C.—possibly even a little later, so stimulated the imagination of the local folk as to call for some votive offering.

If then we are to regard this deposit as votive in intent, a further suggestion may be ventured upon, namely that the deity whom it was thought
boards previously referred to), four rings (two sets of two) with transverse perforation—two hollow with projections (as at Cnoc na bhPoll), one with and one without a flange (mixture of Cnoc na bhPoll and Glaiscealt conditions); 69 simple bronze rings of variable sizes (cf. C. na bhP.), bronze pin with hollow flanged or pet head (disclsss used with rings), a large bracelet of semi-circular section and interior channel (Hallstatt feature), two necklaces, one composed of forty-two large rounded beads (cf. Conahord and Cuanbaileach)—one bead much larger than the others, fills the purpose of a pendant, as feature noticeable in the C. na bhP. and other graduated sets: the other consists of 60 amber beads smaller, flatter and of more even size, and the glass bead which is four-sided: perhaps merely one necklace of 100 beads, in several ways a close parallel for our necklace (number, mixed forms, mixed material, ring association).

The association of amber with jet, ligntto and glass has of course been noted for earlier periods; one may refer in passing to a cremation burial at Aluddown, Wiltshire, where two beads of amber were found with one of ligntto, three segmented glass beads of a whitish green colour, a bead made of part of an oyster, a large flat ring and pendant of ligntto, a conical button with V-perforation and a h-particle vessel of unusual type, also a small bronze knife and two awls (Abercromby, vol. II, p. 20). Ambers and jet buttons with V-perforation as well as a jet "pusley-ring" were found with an inhumation and a fragment of beaker in a bowser at Addlam Wold, Yorkshire (ib. vol. I, p. 69-9). It may also be recalled that the small pendant from the Irish megalithic tumulus zone described in the Journal (1921) have amber and jet counterparts in Britain.

The following data for dating Irish amber are available:-

A. Large bead from Dowshe Tumulus, probably dating to 2000-1800 B.C. Small pendant from various megalithic tumulus sites (see above) with British equivalents in amber and jet. (Amber, though rare, in the Peninsula is known from megalithic sites at Alcoida in S. Portugal and Almendras in S.E. Spain.)

B. Middle Bronze Age conditions undetermined, but cf. finds of amber with food-vessels and over-hanging-neck urns of Britain. Early Bronze Age: obsidian: Britain's relative richness in amber during this epoch is well exemplified by the solid amber cups from Dorchester and Howe.

C. Late Bronze Age: large globular beads: Coachford Find. The Knockadilla, Cavan group may belong to this classing: also the Fuamhul Group, probably C. Monaghan, but some faceted. Later: Banaghler Find, thick rounded discoid beads well-finished, possibly the Arrin Group also (Becko Collection). Later still (Western Hallstatt), similar beads from Cnoc na bhPoll. Later: Meenabinn, Donegal, some with transverse perforation (important new group: position not finally determined).
D. Position of very large single amber beads of oval section undetermined: probably Late Bronze Age—Hallstatt.

E. La Theo, position undetermined. Minute disc beads from Colin II at Ballynaule, with Celtic remains. No amber at Loughreagh or Lambay. Common on the Continent.

F. Cranog culture (say 300-600 A.D. for most), various, including large globular and faceted types. Large discoid bead with ogham inscription (in British Museum).

G. Amber settings in penannular brooches. Arlacht Chulchas, Viking objects, but, including bead forms as well as ingenuously cut settings. A similar use of amber is found on the Continent from the Bronze Age onwards, notably by Scythic art (about 600 B.C.), but not so early in Ireland (see Ebert: s. v. Bernstein, and Minns, Greeks and Scythians).

H. From the 16th century onwards till middle of last century. Amber rosaries, sometimes with faceted beads, imported via Galway (note Dr. Costello, Team) probably from Spain but derived from Sunland (see Williamson, Books of Amber, pp. 114-5, etc.).

No doubt it would be possible with a little further study to elaborate this table considerably but this would be irrelevant to present purposes. Generally as it is, it helps to make some inferences regarding the history of the amber trade. Although it occurs fairly frequently in the medieval long-barrows of England, there is no inextricable semblance of amber from Ireland, but from the dawn of the metal age (principal celtic) there was a steady but slow importation of amber, probably in the form of beads. The main traffic developed to a serious extent towards the end of the bronze age, when the recent position lost perhaps about 1450 B.C. was recovered by Ireland through a Nordic and probably Celtic invasion via the Skanow (see Journal, 1933). I need not point out that, although important amber finds from Ulster are known, they are more elaborate groups fit either in or bordering upon the shadowed portion of the map given in the paper referred to.

The centre for the manufacture of amber beads has never so far as I know been determined, though it is assumed points to the region of origin. This is supported by the early phases of the industry by extensive finds in megalithic and later tombs in the areas adjoining Ulster, as well as by field- and bog-find, the latter sometimes in pottery or wood vessels, e.g., the notable Lomato find of 4000 amber beads. But there is a falling off for the later periods and this pick-up which occurs in the amber trade generally towards the end of the Bronze Age and represented especially by the Bohemia-hallstatt zone, points rather to Sunland than to Ulster at this date, as indeed described (II, 573) as opposed to later

writer, Navarro, etc., consider likely. The usual view is that the Sunland deposit was not seriously worked until Imperial Roman Times (Nero's amber expedition). The domination of Iberia about the time of the transition from the Bronze to the Iron Age makes it more likely that the Iberian source was the one drawn upon to supply the Irish market. Similarly our amber over its presence here to Viking traders from the very same region (specifically Norway and Denmark).

The presence of tin, and a notable tin iron at that, is so unexpected as to demand a few words relative to this metal. The first demand for tin in Ireland naturally manifested itself in the beginning of the Bronze Age for the manufacture of the cloak. Mr. Leyburn, a well-known Irish prospector informed me some years ago that small quantities of the metal were available in the Wicklow gold-field. Whether there was sufficient to supply local needs in the Bronze Age is debatable. Most likely supplies were obtained from Cornwall, perhaps in exchange for Irish gold, since latte finds have been found in that region: an interesting sidelight on the industry of that age in Ireland and South Britain is provided by documented finds of bronze found at either side of the Irish sea. The ornamentation is in many instances that found on beaten and for that reason I believe the type is of South British rather than Irish origin. Connection with Ireland during the later phases of the Bronze Age and later is indicated by, amongst other details of evidence, the recently discovered Tewdrednock Hoard dated to 1000-750 B.C. by Dr. Christopher Hawkes (Man., Aug. '32 p. 177), and comprising several Torques of the Tara type as well as plain bangles. It seems on the whole likely therefore that Cornwall rather than Ireland was the source of the tin.

The free use of tin is of sufficient rarity to strike the attention. The first objects of the metal are a ring and pilgrim bottle of the Eighteenth Dynasty (1800-1550 B.C.) and the tin buttons found in a sepulture cave at Mount Bradock in Enniskillen, though attested to the third millennium, also probably belong to this date. For a use somewhat comparable to that involved in the present instance that is a subordinate art metal, we must look elsewhere, the special case

Amber is a fossilised resin of various extinct conifers notably Taxus occidentalis and occurs in beds of recent geological formation, perhaps midway between the Carboniferous and the Tertiary epoch. It is, like the similar substances, jet and lignite, a hydrocarbon, but while the latter belongs to the Coal, amber belongs to the Diammar class, the two main classes into which the hydrocarbons fall. The chemical formula is C14H20. The distribution of ancient manufactured amber in relation to supposed indigenous sources is discussed by Navarro, Geographical Journal, Nov., 1914, p. 681. See also P. Dohrn Verbreitungskarte des Steinei, Zeitschrift für praktische Geologie, 1861, p. 701.

The age of the earliest workings is somewhat obscure. In his valuable monograph on the Archaeology of Cornwall, Dr. O'Briain Heneker observes considerable obscurity. The oldest amber of which clear positive proved is comparable to ZS.R.A. types of copper from the Aegaeum and Prehistoric (Olbiae et, II, 35) and this view is developed by Miss Compton (Z. Z. 1930, 22, p. 248) who notes the form of Egyptian frescoes of 1596 and 1447 B.C. The resemblance is seen to have its foundation in certain categories of workmanship and metal to which these were exchanged.

being its use as an incrustation or set-off. The first instance is furnished by wood vessels found in the soot-covered walls of Denmark and Schleswig-Holstein decorated with rows of tin pegs, the second by the amber heads of bronze pins with tin inlay (pins or plates) found in Sweden and comparable to the bronze-inlay of amber beads and combs in the Hallstatt culture-zone. The National Museum possesses a disc-shaped head of jet or lignite with four equatorial perforations (in addition to the ordinary round perforation for stringing) into which settings of tin (long thought to be lead) have been inserted, and no doubt belonging to the same general period. The third instance is furnished by the S-Baden lakes dwellings of late Bronze Age date where inlays of tin foil and tin-plate are found applied to earthen vessels and spinning whorls, the tin being pressed into the ornamentation previously finished. Several points of contact both in chronology and in technique, probably also in ornamentation, can be noted as existing between the last two cases and that of our traced rings. The use of thin plate or foil is also exemplified, but gold in the present case, a metal similarly employed on early Hallstatt records.

This last-mentioned method of adapting gold to the manufacture of personal ornaments is in fact one of the most notable features of the art during the special period involved both in this and my preceding paper (Collins). A very striking type-object is the biconical ear or hair-ring, a pannaculac of V-section with central cylindrical plate. M. l'Abbé Pavot in signalling a find of these objects (bronze gold-cased), eight in number (8 pieces), contained in a covered bronze vase, the whole contained in a still larger vase of bronze, at Saint-Martin-des-Prés (Marne), discussed the type in 1825 (Revue Archéologique) and showed that it had a special distribution. In Ireland, Clare and Limerick are the two counties chiefly involved. Abbé Pavot omitted the facies of placing these unshaped specimens in the National Museum on a map at Dublin. Curiously enough I am able to submit a fully localized specimen from this area: it was found in the River Dodder near Rathmines. One of the objects presented by Croton Croker to Sir Walter Scott probably belonged to this class, which like our necklace finds helps to strengthen one's convictions relative to the Shannon civilization as it is likely to have been found in Cork.

Summarizing then, we have here a group of objects which not alone informs us of a fashion of the period but of the special religious propensities current at the time, towards 500 B.C. Once the personal ornament of a lady of rank and a member of a stock which had in comparatively recent times established itself in the lower Shannon basin, perhaps the ancestry of the Eorans and descendants of Nairrlic origin, it would have as its purpose the a preparatory offering to the guardian divinity of a marriage no longer possible. Foreign trade is represented by Ithulish amber, English (F.) lignite and Cornish tin, local commerce and art by gold and bronze and a decorative technique of that summary kind which heralds the opening of the Iron Age.

L. S. GOGAN

18 Archaeologia, 47, p. 147. For this technique, see Ernst Reckling's Der Ver- gitterung. S. Zorn.

AMBER NECKLACE, GOLD PLATED RINGS AND OTHER OBJECTS

P.S.—Though not strictly relevant to our discourse, a word may be said from the point of view of linguistics. The current word for amber in Irish is Óin, derived from Old French ambre (cf. sansc. chanda) and ultimately from Arabic amar, chiefly used in poetry to denote sublimity. Mr. Richard Foley (Studia Irisha) informs me that the Waterford word for amber is also applied to locally found specimens of the substance. I have never met it elsewhere and it possibly is to be equated to O. Norse ærr, gam, wasse, rāv (Priesl), ran (Dane), raf (Norway and Sweden) meaning amber. As Mr. Foley's idea seems wholly based on the equation of the place-name Ghana Ráinii—Anbeachill (Power of "Placentiae of the Decies"), we may regard it as doubtful.

Kuno Meyer records in his Contributions to Irish Lexicography, the word cír with the meaning jet, gnarled, cairn. (Jet is common in Celtic and continental ideas.) The example advindas cír, an black an cír, supports the interpretation. The compound adjective, circ-dubh, modern fae dharthach does not, however, always seem to indicate an absolute black. Meyer also records cairn, red: this is obviously merely the genitive of cír; the possibility that cír also designated amber in medieval Ireland may therefore be considered (cf. black amber as a name for jet). The compound circhochar also noted strengthens this view, cf. s.w. circhres, cir c. circhochar de derg de foróisub (Book of Palmer), 160 amber-red spears of refined red gold: "je," would be out of place here. Does casta cairn (67) signify a goblet of amber or cér? It is used as a metaphor for a gnomous sanctuaries. The word is not specifically connected etymologically with Welsh gwyd, amber, which suggests a Latin origin (Urb.), cf. Da Cangue vikraman, ercolan, 61, whatever his meaning, belongs to an old group of Celtic u-stems. Perhaps it may be approached by Greek chryses which Williamson has shown with some degree of probability to have signified amber, as well as gold, cf. electrum, amber, and the unaltered spelling of the Greekinals contact with the Celts of Southern Gaul and the extent of their influence on the ceramic art of the Celtic world of Europe has recently been interestingly illustrated by Jacobsthal's study of the distribution of the Alps of onochoi (bronze tubes) of Greek origin and early L.Car. For the phonetic development cf. 60, Latin cernus, from a root krez.

1 Amber and shale cops are known from early or middle Bronze Age Britain. Can such has existed in Celtic Ireland?

2 The supposed relation with the German river-name Wipper is now discarded (Elston, E. 5, Etoes, p. 298).

3 Die Berlinerische Abhandlungen, 1921.

THE MOUNTREVERS (COACHFORD) FIND.

As far as I know the Mountrivers (Coaehford) find has never been published in the Journal. The opportunity is taken of here reproducing an illustration and the subjacent notes furnished by the late Mr. George Coffey, Keeper of Irish Antiquities, to a foreign publication (L.S.G.)
A few years ago I investigated the evidence as to the finding of amber objects in Ireland and the age of the specimens—whether they belonged to the Bronze Age or were earlier. I found it very hard to get any certain evidence and it was not easy to go further than the assumption that amber beads had been found in various places throughout the country and that specimens existed in most collections of Irish antiquities. Many of these were assumed to belong to the Bronze Age but no certain evidence for this was forthcoming.

I could only find a very few cases in which the evidence was clear. The most important was that of a necklace of fourteen beads which were found with gold beads at Crattemough near Castlenever, Co. Kilkenny. Seven amber beads were found by Conwell in Cairn A, Loughmore, Co. Tipperary. These latter from associated objects decorated with Late Celtic patterns can be ascribed to the Iron Period. An amber bead was also found in the Derwent Tunnel, but the date of this is uncertain. I have since heard of a number of amber beads having been found in association with a bronze saddle and other Bronze objects in a cave at Whitechurch, Co. Waterford. This find is not yet published.

I was therefore very glad to get a really good find of amber and associated objects in 1897. The find was made in the Spring of that year by two men making a fence at Mountriver, Coachford, Co. Cork. Two of the objects of the find were recovered through the good offices of Mr. Robert Day, M.R.I.A., the remaining ones were obtained directly by the Royal Irish Academy. When digging the ground for a fence the men came upon the following objects: Two gold fibulae and one of bronze, two bronze socketed clubs and eleven amber beads. The gold fibulae weighed 3 oz. 3 dwt. 4 grs. and 2 oz. 17 dwt. 20 grs. respectively. The bronze fibula belongs to a type somewhat rare in Ireland though a few of the same form have been found. The beads appear to be made from Baltic amber not Italian, though of a rich brown colour they have not the dark shade of the southern continental variety. They resemble two large beads in the Academy’s collection, one of which measures 2½ inches in diameter and has a thickness of 1½ inches. It was found at Cushendan near Armagh, the other about the same size was deposited by Trinity College, Dublin.

All these objects may be placed in the Bronze Age. According to Professor Montelius’ recently published chronology of the Bronze Age in Great Britain and Ireland they belong to the 7th or latest period, and can be dated from the middle of the seventh to the end of the ninth century B.C. The Coachford clubs are well formed specimens and this type is placed in the British Museum Guide to the Bronze Age at the end of the development of the club. They may be somewhat later than the date given by Professor Montelius, we may say however that they cannot in any event be later than about 400 B.C. The find is therefore of much importance as it places beyond dispute the fact that much of the amber found in Ireland can be placed in the Bronze Age. That this was so had frequently been asserted in the past, but the matter can now be taken as definitely settled.

3 Archaeologia Vol. 81, p. 97. GEORGE COFFIY.