

THE ANTIQUITIES OF SCANDINAVIA.

BY BUNNELL LEWIS, M.A.

The antiquarian traveller, especially if he has received a classical education, is for the most part tempted to move southwards, and visit those regions that were the subject of his early studies, and will ever be associated in his mind with the perfection of art and literature. But he would do well sometimes to turn his steps in an opposite direction, and investigate the monuments of that vigorous race which overthrew the solid fabric of Roman dominion, gave its name to a province of France, infused new life into an effete civilization, left its mark on the architecture of Southern Europe, and contributed the most healthy elements to our own national character.

We often regard these hyperborean countries as isolated from the rest of the world, but this is a mistake, for they are connected by many links with nations geographically remote.¹ During the heroic age of Norwegian history—from the ninth to the thirteenth century—foreign influences were working actively in the North. The

¹For evidences of this connection we need not travel beyond our own metropolis; four churches in the City of London were dedicated to Olave the Norwegian. It was only just that St. Olave should be thus honoured in England, as he had assisted our forefathers in their wars with the Danes. The church named after him in Tooley Street was erected close to the scene of one of his most famous exploits, for in the reign of Ethelred he broke down London Bridge, and thus caused the surrender of the city by the Danes. Newcourt, *Ecclesiastical History of London*, i, 509; compare Carlyle's *Early Kings of Norway*, p. 103. St. Clement Danes, in the Strand, commemorates another branch of the Scandinavian race, which occupied our country for a com-

paratively short time, and has left behind it fewer traces than any other invader. Peter Cunningham, *Hand-book of London*, pp. 125, 364. But a remarkable slab with Runic characters may be seen in the vestibule of the Library of the Corporation at the Guildhall: upon it an animal is represented with horned head and spurred claws, bearing a striking resemblance in subject and style to the memorial stone of King Gorm at Jelling in Jutland. This curious relic of the eleventh century was discovered in St. Paul's churchyard, and has been fully described by the learned Danish antiquary C. C. Rafn, to whom we owe the interpretation of the Runes on the colossal lion of Piræus, which now adorns the arsenal at Venice.

Vikings and their followers were pirates ; they were the scourge of the European coasts ; they outstripped their neighbours in ship building and navigation, but had little inclination to cultivate the arts that minister to comfort and luxury. They were therefore obliged either to satisfy their requirements by direct importation from their more civilized neighbours, or to imitate the processes of superior skill as well as their own semi-barbarous condition would allow.

I do not propose on the present occasion to take a comprehensive view of Scandinavian antiquities, but rather to notice some proofs of these foreign influences, and to group them under the following heads:—1, Roman ; 2, Byzantine ; 3, Anglo-Saxon and Anglo-Norman.

The Greek and Roman writers do not throw much light on the early history of Scandinavia, for even *in limine* we are met by a proof of their ignorance—they all assert or imply that this peninsula is an island. Strabo, as far as I am aware, is quite silent on the subject. For this omission two reasons may be assigned: he flourished under Augustus and Tiberius, and therefore at a period when the relations of Rome with the north of Europe were not so fully developed as in later times: he also knew how to weigh evidence, and to apply the tests of historical criticism to the statements of his predecessors—hence he shows great caution in describing those regions, which were then imperfectly known. Moreover, he justifies his reticence by remarking that Augustus forbade the Roman Generals to pursue the Germans across the Elbe.¹ The next author is Pomponius Mela, who lived in the reign of Claudius. We know his date from the passage in which he speaks of this emperor as revealing the Britons to his countrymen, and of his triumph over them as an impending event. Thus it appears that the Romans had already been brought into closer contact with the north-west of Europe. Accordingly, Mela is the first geographer who mentions Scandinavia; he calls it Can-

¹ Strabo, *Geographica*, book vii, c. 1, s. 4, *νυνι δὲ ἐυπωρότερον ὑπελαβε στρατηγεῖν τὸν ἐν χερσὶ πόλεμον, ἐν τῶν ἔξω τοῦ Ἀλβίου καθ' ἡσυχίαν οὕτων ἀπέχρητο, καὶ μὴ παροξύνει πρὸς τὴν κοινονίαν*

της ἔχθρας. The hostile confederacy, which the caution of Augustus foresaw and avoided, was formed under the Antonines, as will be seen below.

danovia, adding that it surpasses in size and fertility the other islands in the bay Codanus, and that it is inhabited by the Teutoni.¹ Pliny, in his *Natural History*, gives us the names Scandia, Bergos, and Nerigos, which bear a striking resemblance to Scania, Bergen, and Norway, or rather Norge, as the natives themselves call it. He quotes Xenophon of Lampsacus as his authority for stating that there is an island of immense size, Baltia, three days' sail from the Scythian shore. The name appears to be the same as we have in the modern *Belts* and *Baltic*, nor need we be surprised that Pliny has transferred this appellation from water to land. Again, he speaks of Sevo as a vast chain of mountains not inferior to the Rhipæan. This is probably Mount Kjolen, which separates Norway from Sweden, and of which the southern branch is called Seve-Rygggen.² Tacitus, repeating the error of his predecessors, says that the Suiones inhabit an island in the ocean. From the context, as well as the form of the word, we infer the Swedes are meant, for he tells us that the Sitones are their next neighbours, who are governed by women—an assertion which seems derived from the name of the Finns, Kainu-laiset, apparently a variation of the Norse *Qvind*, a woman.³ Lastly, Ptolemy, who was a contemporary of the Antonines, mentions four Scandinavian islands east of the Cimbric Chersonesus, three smaller ones, and the largest opposite the mouth of the Vistula and inhabited by the Chædini.⁴ Agricola's fleet circumnavigated Britain, but neither Greeks, Romans, Phœnicians, nor Carthaginians penetrated further; however, they were well acquainted with the existence

¹ Mela, *De situ orbis*, Book iii, c. 6. In illo siuu, quem Codanum diximus, ex insulis Codanonis, quam adhuc Teutoni tenent, ut fecunditate alias, ita magnitudine antestat. In this passage, according to Vossius, the best manuscripts have Candanovia.

- Pliny, *Natural History*, Book iv, c. 16, s. 104. Sunt qui et alias prodant, Scandiam, Dumnam, Bergos maxumamque omnium Nerigon, ex qua in Thylen navigetur. Baltia is mentioned, *ib.*, c. 13, s. 95. This name was interpreted to mean the peninsula of Samland by Monsieur Wiberg in the discussion that followed Monsieur Hjalmar Stolpe's *Memoire sur l'origine et le commerce de*

l'ambre jaune dans l'antiquité, read at the Stockholm Congress of Archæology, see especially p. 793. Pliny, *Natural History*, *ib.* c. 13, s. 96, Mons Sevo ibi immensus nec Ripæis jugis minor.

³ Tacitus, *Germania*, c. 44. Suionum hinc civitates ipso in Oceano, *ib.*, c. 45. Suionibus Sitonum gentes continuantur, cetera similes uno differunt, quod femina dominatur. Dr. William Smith's *Dictionary of Classical Geography*, s.v., Sitones.

⁴ Ptolemy, *Geographia*, Book ii, c. 11. Ab Orientali parte Chersonesi (Cimbrice) IV Scandiæ nuncupatæ, III quidem parvæ, una vero quæ maxima earum est et maxime orientalis juxta Vistulæ fl.

of the Arctic ocean, as many passages both in the poets and in the prose writers abundantly prove.¹

Naval and military expeditions contributed much to the spread of geographical knowledge, but commercial intercourse was still more efficacious, and the amber trade especially produced communication between the northern and southern parts of our continent.

Amber was a favourite substance with the Romans; the ladies used it for necklaces, both as an ornament and because it was supposed to possess properties that would cure diseases of the throat. Juvenal, speaking of a woman addicted to astrology, who has an almanac constantly in her hands, compares her to those who carry amber balls for the sake of their coolness and perfume.²

We can trace almost with certainty three routes by which this traffic was conducted--the eastern, the central and the western. The greatest quantities of amber were found in the peninsula of Samland, near Königsberg, between the Frische and Curische Haff—a fact which is curiously illustrated by its being mentioned in a Japanese map as the primary source of this material. From the embouchure of the Vistula, the first route followed the rivers Pregel and Pripetz, passed through the towns of Amadoka and Azagarion, marked by Ptolemy,³ and then descended by the Dnieper to Olbia, on the Euxine, which has been happily described as the morning star of civilization for these barbarous regions.⁴ Many autonomous Greek coins found in Prussia, Courland, Livonia, and even in the island of Oesel, near Riga, together with similar discoveries and deposits of amber in the interior, seem to indicate the activity of commercial relations

ostia . . . Vocatur autem et hæc proprie Scandia et tenent ipsius occidentalia Chædini.

¹ It is needless to add references, as the most important of them are quoted in the *Dictionary of Classical Geography*, s.v., Oceanus Septentrionalis.

² Pliny, *Nat. Hist.*, xxxvii, c. 3, s. 44. *Feminis moniliis vice sucina gestantibus, etc.* Juvenal vi, 573. In cujus manibus, ceu pingua sucina, tritas Cernis ephemeridas.

The dame, whose *Manual of Astrology*, Still dangles at her side, smooth as chafed gum, And fretted by her everlasting thumb.

GIRFORD'S Translation.

Martial, *Epigrams*, iii, 65, 5, *sucina trita*, xi, 8, 6, *Sucina virginea quod regelata manu*.

³ Ptolemy, iii, 5. *Circa autem Borysthenem fl. hæc Azagarium, Amadoea . . .*

⁴ Olbia was also called Borysthenes, Herodotus iv, 17, 18, 53, 78. It seems highly probable that the Father of History visited this city, and derived his information about Scythia from the inhabitants of that country and the Greek traders, who met at Olbia for the purposes of commercial intercourse: Bæhr's edition of Herodotus. *Excursus ad iv*, 18, and *Commentarij de vita et scriptis Herodoti* vol. iv, p. 395.

along this line of country at a period antecedent to Alexander the Great. The central route beginning from Pomerania, proceeded by the lower Vistula and Upper Oder; having traversed Silesia, it followed the course of the Waag and reached the Danube a little below Vienna. Recent investigations have brought to light at Hallstatt, near Ischl, a remarkable combination of industrial products from the North and the South—articles in amber from Prussia and bronzes from Etruria; hence we infer that the communication between the Danube and the Adriatic was carried through this place, in accordance with Pliny's statement that amber was brought by the Germans into Pannonia and received thence by the Veneti.¹ The western route may be easily traced from Jutland and the mouth of the Elbe along the Rhine and the Rhone to Marseilles. Though the coast of Denmark was visited by Pytheas, a Greek navigator supposed to be contemporary with Alexander the Great, his countrymen do not appear to have emulated his enterprising voyage, for Greek coins have not been discovered in the west of Germany. On the other hand, Roman coins of the first and second centuries of our era show that after Cæsar's Gallic conquest trade in this direction was considerably developed.²

I. In a paper I had the honour to read before this Society last summer, I noticed some antiquities discovered in Brittany as proofs of the vigour and extent of Roman civilization, but I now direct your attention to an illustration of the same subject, far more striking when

¹ Pliny, xxxvii, c. 3, s. 43. *Ib.*, s. 45, we are informed that the German coast from which the Romans obtained amber was about 600 miles from Carnuntum in Pannonia, which would agree with the situation of Samland. In the same chapter Pliny, describing a show in the amphitheatre, says that all the objects exhibited during one day consisted of amber exclusively (*totus unius diei apparatus . . . e sucino*).

² The trade in fur, as well as that in amber, diffused some knowledge of the northern regions amongst the Greeks and Romans. Their requirements in this respect were, of course, restricted by the warmth of their climate; however, as far as we can draw an inference from allusions

in the classical writers, the south of Europe seems to have been colder in ancient than in modern times. "The Grecian colonies to the north of the Euxine . . . drew supplies of peltry, the skins of the otter and beaver, from the very interior of Russia, and possibly even from the shores of the Baltic." Heeren, *Historical Researches, Asiatic Nations*, i, 42. Compare Herodot. iv, 109, vii, 67. Tacitus, *Germania*, c. 17, implies that a trade in furs with Germany was carried on by the Scandinavians, as he mentions skins that were imported from the outer ocean and the unknown sea (*exterior Oceanus atque ignotum mare*).



Bucket Handle and Ears, from Trondhjem.
From Lorange "Samlingen af Norske Oldsager i Bergens Museum."

we consider the locality from which it is derived. The province of Trondhjem, which is as far north as Iceland, has yielded no unimportant supply of Roman bronzes. The most interesting of these has found a resting place in the Bergen Museum, and has been figured and described by Monsieur Lorange, the Curator of that collection. This object consists of a handle and ears that belonged to a bucket, which is lost; they are well executed and in good preservation. On the upper part of the handle there is a thick ring, and both its ends have the form of a serpent's head; the ears exhibit in the centre a female head of a somewhat Egyptian type, with long flowing locks, a necklace and fan-shaped collar, while on each side a long animal's head projects.¹ The snake as a finial frequently occurs in remains of Roman and Græco-Roman art—in rings, bracelets, pateræ, mirrors, ladles for sacrifices, (simpula), fibulæ, lamps, candelabra, and water-taps; the heads of rams, swans, and other birds are similarly used for decorations.² There can be no question about the Roman character of this object, as examples of the same kind have been found all the way from South Italy to Trondhjem. Some closely resembling the one under consideration are engraved in Montfaucon's *Antiquité Explicquée*; he also gives what is of rarer occurrence, an instance of a head with the fan-shaped collar, which, he says, was an amulet worn suspended from the neck, like a bulla.³ With reference to the serpents' heads, it may be observed that they are simple imitations of nature in the classical style, not grotesque or symbolical, as is the case with mediæval dragons. The Museum of Bergen

¹ Lorange, *Samling af Norske Oldsager i Bergens Museum*, p. 112; *Nordiske Oldsager i det Kongelige Museum i Kjøbenhavn, ordnede og forklarede af J. J. A. Worsaae*, p. 75, No. 307. This catalogue raisonné is most useful, and even indispensable, to the student of Scandinavian antiquities; it contains upwards of 600 well-executed engravings of objects belonging to the Stone, Bronze, Iron, and Middle Ages, with introductions to each period. The price is only two kroner, or little more than two shillings.

² Paderni, *Raccolta di Dipinti, Mosaici, &c., Napoli, 1865*, Bronzi, Pls. 130-134: Oggetti Preziosi, 136, 137, *Patera*

di vetro bleu; Roach Smith, *Illustrations of Roman London*, steel for sharpening knives found in Princes-street, with handle consisting of a horse's head springing from the leaves of a lotus p. 141; compare the bronze cock of a fountain found in Philpot-lane, *ib.*, p. 145. Rich, *Latin dictionary*, s.v. *simpulum*. These specimens show how ancient art lavished ornament upon the most common utensils of domestic life.

³ Montfaucon, *Antiquité Explicquée*, Tome ii, p. 147, Pl. lvii, nos. 1, 2, 3, handles of vases. Tome iii, p. 71, Pl. xxxviii, No. 3, fan-shaped collar.

contains also the following articles in bronze :—a strainer, which seems to have come from the Roman frontiers ; a vessel holding burnt bones, and a hemispherical cooking utensil, like a saucepan ;¹ and in Roman glass :—drinking horns with rings round them, like the natural horn ; cups, of which the most remarkable peculiarity is the rows of ovals on the sides, and draughtmen—some black and others blue—round, flat on the lower side, but slightly curved on the upper.²

As far as I am aware, a denarius of Antoninus Pius and a gold medallion of Valentinian are the only specimens of Roman mintage found in Norway, but the barbarous imitations are more numerous. The Museum of the University at Christiania possesses a very curious example of the latter class ; it was discovered in 1872 in the large chamber of a tumulus near Aak, a place well-known to English tourists from its picturesque situation at the western extremity of the Romsdal ; this medal is of gold and copied from a coin of Magnentius, who reigned A.D. 350—353. In the preceding year an imitation of a coin of Honorius was found at Gunheim, in the Lower Telemark.³ These facts assist us to explain the derivation of the bracteates, *i.e.*, thin pieces of money with a device upon one side, which are of frequent occurrence in the Norwegian series.⁴

Enough has been already said to prove that the Roman influence had extended much further northwards than is generally supposed, but this view receives additional

¹ These objects were found in the district of North Trondhjem, which also yielded other Roman antiquities, *e.g.*, two glass cups, a bronze strainer and dish, &c. Lorange, *Catalogue of the Bergen Museum*, p. 111. Some of these vessels came from the neighbourhood of Levanger.

² Lorange, *ib.*, pp. 66, 68 and 104, with engravings ; Worsaae, *ib.*, nos. 312, 317, 318, 320. Roach Smith, *Roman London*, p. 124, mentions among remarkable examples of Roman glass found in London, a drinking cup covered with a pattern formed of incuse hexagons, and another with incuse ovals and hexagons ; compare Plate xxxi, figure 7.

³ Lorange, *ib.*, p. 99, note.

⁴ Engelhardt, *Guide Illustré du Musée des Antiquités du Nord à Copenhague*, pp. 26, 27, and figs. 1, 2, 3. Deuxième période

du fer ; époque byzantine barbare, ou époque des bracteates, entre le vème et viième siècles. The bracteates are often furnished with rings for suspension, and appear to have been worn as ornaments, like bulle in ancient times and lockets in our own day. Worsaae, *Nordiske Oldsager, Jernalderen II Guldbrecteater*, nos. 399-409, pp. 95-97 ; 409, Efterligning af en kufisk eller arabisk Mynt. Some of these bracteates have Runic legends, *ib.* Introduction, p. 93. Stevens' great work on *Northern Antiquities* contains many engravings of this class of coins, coloured so as to represent the originals very closely. *Norges Mynter i Middelalderen samlede og beskrevne af C. J. Schive*, tab. iv, sqq., shows the Norwegian bracteates from the twelfth to the sixteenth century.

LIBERTINVS • ET • APRVS •
CVRATOR ~~VERVN~~ VERVN T



Bronze Vase of Farnen, and Sword from Einang.
From Lorange "Om Spor af romersk Kultur i Norges ældre Jernalder."

confirmation from the statements made by Monsieur Lorange at the Archæological Congress held at Stockholm in 1874. Summing up the results of his investigations, he divides the tumuli of the Iron Age in Norway into three classes—I. Those which have no chamber and exhibit no traces of Roman influence. II. Those which have a small chamber sometimes containing objects of Roman origin. III. Those which have a large chamber, where such objects are almost invariably found. There were ninety examples of the second class and eighty of the third, as far as known at that date. In 1872 twenty-eight Roman bronze vessels had been found in Norway, ninety-three in Denmark, and twelve in Sweden. Of glass vessels, the numbers for these three countries were—twenty-four, thirty-six, and nine respectively, but these figures must be considered as approximate, because sometimes the attribution is doubtful.¹

Among the monuments of this class a prominent place is due to the bronze vase of Farnen, in the parish of Vangs and district of Hedemarken. It was discovered in 1865 in the small sepulchral stone chamber of a round tumulus. The vase was cast in a mould, but the bottom of it was fastened to the foot by a row of nails, which form a pleasing decoration, like beading. We remark at first sight a great difference in colour between the upper and lower part; the former looks as if it had been covered with green enamel, while the latter is blackened with soot. The feature, however, which most attracts our attention here is the inscription, both for other reasons and because it is unique in Norway. Between the neck and the middle of the vase the following sentence is engraved in large, legible and separate characters:—

LIBERTINVS • ET • APRVS • CVRATOR VERVNT

The words are divided by small circles on a level with the middle of the letters, just as a leaf is often used for the same purpose.² A hole in the urn has produced a

¹ Lorange, *Om Spor af romersk Kultur i Norges ældre Jernalder*, pp. 4, 5. Mons. Lorange, as a Norwegian, has defended the antiquities of his own country with patriotic enthusiasm against the disparaging misrepresentations made by

Swedish and Danish archæologists.

² Mr. A. S. Murray, of the British Museum, has called my attention to the fact that a circle is used to divide the words because it could be conveniently made on a metallic substance, as in the

lacuna, which, however, may be easily supplied, at least as far as the meaning is concerned, so that we should read CVRATORES ° POSVERVNT, and the translation is, 'Libertinus and Aprus, guardians of the temple, have placed in it this offering.' Some have conjectured that the urn once contained the ashes of a Roman, but this is highly improbable, because the deceased is not mentioned. Nor can we suppose that either of the names, Libertinus and Aprus, belonged to a native Roman, for the former signifies a freed-man, while the latter is an irregular variety of Aper, unknown to classical Latinity, and accordingly rejected by the grammarian Probus; ¹ the appellations therefore must designate provincials. There is some difficulty in determining exactly the manner in which the final word should be supplied, as there appears to be room for a letter between S and V, so that it might have been POSIVERVNT, though an objection may be raised against this form as too archaic.² This vase, having been consecrated as an offering in a temple, should be considered in connection with the Apollo-vase found in Vestmanland, Sweden, as their origin, destiny, and inscriptions are similar. Devoted by their first possessors to the worship of Roman divinities, in all probability they became the property of barbarous chieftains, were employed by them as household utensils, and were finally applied to the purposes of sepulture. That the Farnen vase was so used before its deposition in the grave is proved by the soot on the lower part of it, as well as by

present case; on the other hand, a triangle or a leaf frequently occurs as a mark of separation, when the inscription is carved on stone. Dr. Bruce, *Roman Wall*, gives, p. 244, many examples of the triangle in an inscription discovered at Carvoran, which is identified with the Roman station Magna, and p. 245, of the leaf also on another stone from the same spot, *conf. ib.* p. 17. Hubner, *Inscriptiones Britannicæ Latine, passim*.

¹ M. Valerii Probi *Grammaticæ Institutiones*, s. 38, quoted by Lorange; this reference I have been unable to verify, but in his *Catholica*, p. 1457, ed. Putsch. Probus gives the forms *aper*, *apri* for the common noun signifying a *boar*. The proper name *Aprus* does not occur in Forcellini's *Lexicon* or Smith's *Dictionary*

of *Classical Biography*, but *Aper* is well known as one of the speakers in the *Dialogue on Oratory* ascribed to Tacitus; other persons of the same name are also mentioned; Vopiscus, *Numerian*, cc. 12-15; Gruter, *Inscriptions*, p. dexii, No. 8.

² *Posivevi* is found in Orelli's *Inscriptions*, No. 3308; *posivi* in Plautus. *Pseudolus* V, 1, 45; cf. *pesiveris*, *Id. Trinummus* I, 2, 103; Smith's *Latin Dictionary*, s.v., *pono*. These old forms sometimes reappear after a long interval, and many words, which are not Augustan, are at once *ante* and *post-Augustan*. Compare Trench, *Sacred Latin Poetry*, p. 24. So Horace says, *Ars Poet.*, v. 70. *Multa renascentur, quæ jam cecidere; cadentque, quæ nunc sunt in honore vocabula.*

the traces of an iron band round its neck, which seems to have been placed there as a fastening for a handle.

It was a practice at this early age to convert into cinerary urns such domestic vessels as were most convenient, whether of clay or of metal, and to this custom we owe many proofs of the spread of Roman civilization, which are also records of a period concerning which the historians are silent. It seems almost idle to speculate about the province from which these objects originally came, but the discovery of two Roman burial places at Haven and Grabow, in Mecklenburg, suggests the possibility that they may have been carried across the sea to Norway from that part of Germany, especially if we adopt the view of Dr. Lisch, who regards these cemeteries as indications of a Roman trading factory in Mecklenburg-Schwerin. The form of the letters inscribed belongs, according to Professor Ussing, to the first or second century of the Christian era, and this would prove the date of the manufacture of the vase; secondly, the denarii discovered in Scania and Denmark, being chiefly of the second and third centuries, enable us to fix the time, at least approximately, when this work of Roman art arrived in the north, allowing, of course, some interval for the passage of the coins from their place of mintage to countries beyond the limits of the empire. This vase was full of burnt bones, so that there can be no doubt about the use to which it was applied. It only remains for us to explain its mutilated condition. By its side was found the upper part of a similar bronze vessel, crushed and bent by the weight of a stone, which, in its fall, pressed the one first mentioned against the wall of the chambered tumulus. Thus the fracture on both sides is clearly accounted for.¹

Next in importance to the Farmen vase is the sword from Einang in Vestre Slidre, Valdres. It closely resembles those which were dug out of the Nydam peat-moss, described and figured by Dr. Engelhardt, Plates VI, VII.² It bears two stamps, one wheel-shaped, the

¹ This account of the Farmen Vase is derived from Lorange's treatise, quoted above.

² Engelhardt, *Denmark in the Early Iron Age*, e. iii, s. 6, pp. 52, 53, offensive

weapons, swords, lances, &c. Dr. Engelhardt is mistaken in saying that the stamps are *square*; they are long and rectangular.

other rectangular, and containing the letters RANVICI. . . ; a circumstance worthy of remark, since only eight or ten stamps have been found on one hundred swords at Nydam. This sword is bent like the one in Plate VII, No. 13, with this difference, that the curvature is made in the lower part of the Norwegian example, but in the upper part of the Danish. Many objects, especially weapons, have been brought to light by excavations in an imperfect condition, either broken or bent, in order to render them useless. Their withdrawal from all purposes of human life was probably intended to symbolize consecration to some deity. So Tacitus, in his account of the war between the Hermanduri and Catti, relates that the conquerors devoted their enemies to Mars and Mercury (Odin and Thor), and that all the property of the vanquished was utterly destroyed.¹ Orosius also informs us that when the Cimbri defeated the Romans near Orange, garments were torn, gold and silver cast into the Rhone, and coats of mail cut in pieces, so that there was neither booty for the conquerors nor mercy for the conquered.² As some of the subject nations, *e.g.* the Spaniards and the people of Noricum, were very skilful in the manufacture of swords,³ the Latin letters RANVICI do not prove the Einang example to be of Roman workmanship, though they, of course, imply a certain amount of intercourse with the Romans, for the word seems to be a barbarous name that has undergone some modification. Besides the objects already mentioned, the wooden buckets bound with bronze form a class by themselves, which some have considered to be Roman; but this explanation may be fairly questioned, for while they frequently occur in Norway and Denmark, and sometimes in Germany also, they are very rare in France; thus, as we approach Italy, the number diminishes—a fact that seems to favour their attribution to the Scandinavians as their inventors.

¹ Tacitus, *Ann.*, xiii, 57, equi, viri, cuncta victa occidioni dantur; compare Cæsar, *Bell. Gall.*, vi, 17.

² For this passage in Orosius, Lib. v, c. xvi, I am indebted to Dr. Engelhardt's *Guide Illustré du Musée des Ant. du Nord à Copenhague*, p. 25.

³ Pliny, *Natural History*, xxxiv, c. 14, s. 145, in nostro orbe aliubi vena bonita-

tem hanc præstat ut in Noricis, aliubi factura ut Sulmone. Martial, *Epigrams*, i, 49; xii, 18, and especially iv, 54, where he speaks of his birthplace, Bilbilis:—Sævo Bilbilin optimam metallo, Quæ vincit Chalybas, quæ Noricosque. Et ferro Plateam suo sonantem, Quam fluctu tenui sed inquieto Armorum Salo temperator ambit. Cf. *Hor. Carm.*, i, 16, 9.

With respect to Roman antiquities Sweden occupies an intermediate position between Denmark and Norway. Denmark contains many domestic utensils as well as arms and ornaments that are unquestionably of Roman origin: on the other hand, Sweden exhibits few articles that relate to comfort or elegance, but is comparatively rich in coins.¹ About 4,000 denarii have been found altogether, some of the first but most of the second century after the Christian era: approximately 3,200 in Gotland, 100 in Oland, 600 in Scania, and only twelve in the rest of the mainland. The cessation of the denarii at the close of the second century can be easily understood; at that period and under the Emperor Septimius Severus a great deterioration of the Roman coinage took place: denarii of copper plated with silver, like the modern groschen, were issued, and these the barbarians naturally refused to take,² just as Tacitus informs us that the Germans of the preceding century, preferring those kinds of Roman money with which they were acquainted—liked the denarii that had a serrated edge, and the biga for their device.³ In the Constantine period medals and medallions of gold found their way to Sweden, and rude imitations of them gave rise to a type of bracteates exclusively Scandinavian. The total number of other objects discovered in Sweden, including the adjacent islands, is very small; amongst them are bronze dishes and bowls—one containing burnt bones—and a drinking vessel of white glass. A bronze vase from the province of Westmanland, now preserved in the museum at Stockholm, is the most conspicuous proof of Roman influence, because, like that in Norway above-mentioned, it has the peculiarity of being inscribed. The Apollo vase, as it is usually called, was found in a tumulus, and upon it were engraved the following words:

¹ Lorange, *Om Spor af Romersk Kultur*, &c., p. 9.

² Archaeological Congress at Stockholm, 1874. Le Musée royale d'archéologie de Stockholm, par M. Hans Hildebrand, *L'âge du fer*, p. 931. Eckhel, *Doct. Num. Vet.*, vii, 167, s.v., L. Septimius Severus, complures (numos) ex his esse fabricate rudioris . . . ejusmodi sunt etiam synchroni numi Caracallæ et item Domnæ. Cohen, *Medailles frappées sous l'Empire*

Romain, iii, 232, speaking of the coinage of the first four years of Sept. Severus, uses the terms *fabrique étrangère*, *tres grossière*, cf. *ib.*, note 2, and p. 322 *Les médailles de petit bronze de Septime Sévère me paraissent toutes . . . des deniers faux antiques.*

³ Tacitus, *Germania*, c. 5. *Pecuniam probant veterem et diu notam, serratos bigatosque.* See the notes of Brotier and Orelli.

APOLLINI ° GRANNO
 DONVM ° AMMI.LIV.S
 CONSTANS. PRAEF. TEMP
 IPSIVS
 VSLLM.

To Apollo Grannus Ammilius Constans, guardian of his temple, has offered this gift ; he has paid his vow joyfully, willingly, and deservedly. This epithet of Apollo seems to be derived from the Granni, who lived on the river Granua, a tributary of the Danube. The word is perpetuated in the modern name of Gran, which belongs both to a river and to a city well-remembered by travellers on account of its magnificent Cathedral, whose vast cupola crowning a hill is visible for many miles. In this neighbourhood, amid the heaviest anxieties that could press upon the mind of a statesman and a general, Aurelius composed the First Book of his Philosophical Meditations.¹ The war in which he was engaged lasted twelve years with little interruption, A.D. 168-180, and was the result of the most formidable combination of the barbarians, which the Romans had hitherto encountered.² It is said to have included the Germans, Scythians, and Sarmatians, but, whether this statement is exactly true or not, these protracted hostilities on the frontier diffused the civilization of the south more widely through central and northern Europe. Accordingly, we find among existing remains in Scandinavia evidence of more active relations with Rome after this war with the Quadi and Marcomanni. If my interpretation of the word Grannus be correct, and the date of the vase, as inferred from coins, be assigned to the second century, a remote province of Sweden supplies an object which may be regarded as commemorating an illustrious personage and the commencement of the death-struggle between the Gothic races and the Roman empire. Another explanation of Grannus derives it from a Celtic origin, and makes it equivalent to Grian, the sun, with whom Apollo is often identified. This may, perhaps, be the same as Brian, which occurs in Temple Brian, a place in the county of Cork, where a central stone was discovered,

¹ M. Antonini *De rebus suis*, Lib. i, fin.
 Τα ἐν Κουάδοις πρὸς τῷ Γρανουα.

² Merivale, *History of the Romans*

under the Empire, vol. vii, p. 584, note 1,
 where the northern nations are enumerated.

and others round it, supposed to be the remains of a temple for heathen worship.¹

The Roman antiquities in Denmark, taken collectively, are more interesting than those of Norway and Sweden, but they require less notice, because they have been fully described in the English language by Dr. Engelhardt. As might have been expected from the geographical position of North Jutland, very few denarii have been found in that province, while, on the contrary, they are abundant in Sleswig or South Jutland, and the islands, Sealand and Fyen.² The peat mosses of Thorsbjerg and Nydam have yielded specimens of the Roman silver coinage from Nero to Macrinus, A.D. 60—217. Two handles of bronze vessels bear makers' stamps, DISACVVS F. NIGELLIO F. resembling potters' marks, in which the abbreviation F for fecit frequently occurs.³ On the tangs and blades of iron swords we find native names expressed in Latin characters, and sometimes with Latin terminations, the letters being raised on sunk plates, e.g., RICVS, RICCIM, COCILLVS, TASVIT.⁴ The last name is evidently barbarian; it may be compared with Tasgetius, mentioned by Cæsar as King of the Carnutes, and Tasciovanus, the

¹ Armstrong's Gaelic Dictionary, and O'Brien's Irish Dictionary, s.v. Grian. Smith's *History of Cork*, vol. ii, p. 418, contains an engraving and ground-plan of an ancient heathen temple at Temple Brian. This word is said by Celtic scholars to be a corruption of Grian. Gruter has nine examples of Grannus, p. xxxvii, Nos. 10-14, p. xxxviii, Nos. 1-4; the last is from Enderask, which appears to be intended for Inveresk, near Edinburgh: compare Hübner, *Inscriptiones Britannicæ Latine*, p. 190, c. lxxv, where this monument is given more correctly. Grannus occurs also in Brambach's *Inscriptiones Rhenanæ*, No. 484, in the Museum at Bonn, found in that city, No. 566 found at Erp in the district of Cologne, No. 1614 in the Royal Collection at Stuttgart, No. 1915 in the Library at Strasburg. Eckhart, *Dissertatio de Apolline Granno Mogoumo in Alsatia nuper detecto*, contained in the *Analecta Hassiaca*, Collectio III, p. 220 seqq., considers Grannus connected with the Welsh *gro* and *grajan*, the French *grave* and *gravier*, and the German *Griess*—words signifying *gravel*; so he explains *Aquisgrannum*, "quia solum

ejus sabulosum est magna sui parte." In the Breton language *grouan* means *gravel*; in the dialect of Vannes this becomes *groun*. It has been conjectured that Grannus is another form of Grynus, which occurs in Virgil as an epithet of Apollo (*Æn.* iv, 345, cf. *Ecl.* vi, 72), but this seems very doubtful.

² Engelhardt, *Denmark in the Early Iron Age*. See map opposite, p. 8, showing where objects from this period have been found. The mark † denotes Roman coins.

³ Compare Roach Smith, *Roman London*, p. 89, marks and names of potters impressed upon the handles of amphorce; pp. 99 and 101, engravings of these stamps; pp. 102-107, potters' marks on Samian ware discovered in London; pp. 107, 108, a list of those preserved in the Museum at Douai. In these collections the abbreviations F for fecit or factus, M for manu, and O or OF for officina, are frequent. Worsaae, *Nordiske Oldsager, Jernalderen*, i, 308. Brudstykke af Hænken til et Broncekar, med romersk Fabrikstempel.

⁴ Engelhardt, Pl. vii, Nydam, figs. 18, 20, 21.

father of Cunobeline, who figures so prominently in our legendary and numismatic annals. Taximagulus also occurs, a king of Kent when Cæsar arrived in Britain, and Moritasgus, a king of the Senones. From these analogies we may infer, with a high degree of probability, that TASVIT was a Cimbric chieftain.¹

With respect to Roman inscriptions Denmark is inferior to the other two Scandinavian kingdoms, as the longest—if we exclude coins—consists of only two words AEL. AELIANVS on the boss of a shield, which may be the name of the owner or of his general.² A head-stall, found at Thorsbjerg, is remarkable, as the only object of this kind that is left from antiquity in tolerably good preservation. It is made of leather and decorated with bronze studs, of which the heads are silver-plated, so that it resembles the harness of the ancients, as we see it on the Antonine column. These ornaments, called phaleræ, were not only worn on the breast by men as military distinctions, but also used for the trappings of horses; so Juvenal describes in almost the same terms the soldiers and the animals pleased with their phaleræ.³ But a breast-plate from the same find is still more worthy of notice on account of the mixture of classical and barbarian art. We have here Roman Medusa's heads, hippocampi and dolphins, a semi-Roman figure of a seated warrior, and barbarous representations of horses, fish, and mythical animals.⁴ The

¹ The murder of Tasgetius is related by Cæsar, *De Bell. Gall.*, v. 25. For the coins of Tasciovanus see Akerman's *Numismatic Manual*, pp. 219-224, and Evans' *Ancient British Coins*, pp. 220-245, Plates v, No. 7—vi, No. 9. Taximagulus occurs in Cæsar, *ib.*, c. 22, and *Moritasgus*, c. 54. Tasconus F., Tascilla, and Tascil M., are amongst the potters' marks found in London, Roach Smith, p. 106.

² Engelhardt, p. 49 and note; p. 76 index to the Plates; and Pl. 8, Thorsbjerg, Nos. 11, 11a, 11b, 11c: in the last engraving a full size fac-simile of the inscription is shown.

³ Engelhardt, p. 61, Pl. 13, Thorsbjerg; Rich, *Latin Dictionary*, *phaleræ*, *phaleratus*. Juvenal, xi. 103, *Ut phaleris gauderet equus*: xvi, 60, *Ut laeti phaleris omnes et torquibus omnes*. W. Froehner, *La Colonne Trajane*, Appendice, *Inscriptions relatives aux guerres Daces*, No. 1, *donis donato ab imp.*

Trajano Aug. Germ. ob bellum Dacic., torquib. armill. phaleris, corona vallar. Cf. *ib.* Nos. 3, 6, 8, 10. In the Trajan column the barbarian auxiliaries who served as cavalry are without headstalls or bridles, Fabretti, s. 197, Pl. xxxiii; on the contrary, the Romans may be easily distinguished by their pad saddles, caparisons, and reins.

⁴ Engelhardt, p. 46, Thorsbjerg, Pl. 6, fig. 1: Pl. 7, fig. 7. With these engravings of breast-plates compare Thorsbjerg, Pl. 11, fig. 47, where there is a representation of an object that seems to have decorated a helmet; the figures upon it are a hippocamp, capricorn, boar, bird, and fox or wolf. As the first two are types common in classical art, I cannot agree with Dr. Engelhardt's assertion that there is here not the least trace of Roman influence, though it must be acknowledged that the style of execution is quite barbarous.

hippocampi or sea horses in the border are so small that they might escape attention; however, an antiquary should not neglect details because they are microscopic. This type appears on the denarii of the gens Crepereia, and on large and second brass of Mark Antony's praefects of the fleet or admirals, in which case the device is peculiarly appropriate.¹ Again, we may trace a connection with British numismatics, and observe that our ancestors, like the Scandinavians, imitated Italian art in their own rude fashion. The coins of Amminus and Tasciovanus show the same marine monster, though his form varies in the Roman, Danish, and British examples; in the two former his hind-quarters are those of a fish, in the latter they retain more of the equine shape. Whether this emblem was simply copied without any special significance, or intended to represent maritime and insular position cannot now be easily determined.² Hippocampi and dolphins are often engraved on gems, sometimes carrying Cupid, sometimes drawing him in a shell instead of a chariot; they are also naturally associated with Neptune, Nereus, Doris, Galatea, Triton, and other marine deities.³

But we may go further and remark that amongst these antiquities some vestiges may be observed of a civilization older than the Roman; even here, in the neighbourhood

¹ Cohen, *Médailles Consulaires*, Pl. xvi, *Crepereia*, Nos. 1, 2; Pl. lxi, *Oppia*, 7; Pl. lxvi, *Sempronia*, 6, 7. Mr. Evans, *Ancient British Coins*, p. 259, mentions Mark Antony's *Praefects*, but has failed to observe that these officers commanded the fleet, which is specially worthy of notice in connexion with this *maritime* device on their coins; the legend contains the abbreviations PRAEF. CLASS.

² For the coins of Amminus see Evans, p. 211, Pl. v, No. 2, and Pl. xiii, No. 7. *Ib.*, pp. 258-260, Pl. vii, 9-11, the coins of Verulamium are described, which exhibit the same type; the letters TASCIOVANUS occur on the reverse of No. 11. In some of these cases it is difficult to decide whether the device is a hippocamp or a capricorn; its origin may be explained by comparison with the Greek; Combe's *Catalogue of the Hunterian Collection*, s.v., *Syracusa*, p. 298, *equus marinus ad sinistram*, cf. tab. liv, fig. 15. Fr. De Dominis, *Repertorio Numismatico*, Tome

i, p. 341. s.v. *Ippocampo*, gives two examples from Emporiae, in the province of Tarracoona, with *Celtic* legends, which are therefore peculiarly apposite for our present purpose. The hippocamp also occurs in Pompeian paintings, and accordingly has been introduced among the decorations of the Pompeian Court at the Crystal Palace.

³ Gori, *Genus Antiquae Musei Florentini*, Vol. i, Pls. lxxvii and lxxviii, p. 153, *Cupidines cymbula, vel delphinibus vel hippocampo vecti per mare*; Vol. ii, Pls. xlvi—li, lxxix, pp. 99 and 127, *Circi aliqua praecipua ornamenta, delphines, etc.* King, *Antique Gems and Rings*, Vol. ii, Pl. liv, No. 10; copper-plates of miscellaneous gems, Pl. iii, No. 4, *Cupid steering a dolphin by the sound of his pipe*; No. 10, *Cupid driving, with trident for whip, a marine team of hippocampi, yoked to a great shell for a car*; a parody on the usual Victory in her biga; compare Nos. 12 and 15.

of the Cimbric Chersonesus, the Greeks have left a witness to oriental philosophy and mysticism. On a female skeleton, dug up near Svenborg, in Fyen, there was discovered, among other ornaments, a crystal ball inscribed with the word ΑΒΛΛΘΑΝΑΛΒΑ, which has been translated—"Thou art our Father"—a Gnostic invocation often occurring on gems, which was derived from the Syriac, and afterwards corrupted into the Latin Abracadabra.¹ But another example is still more interesting for the following reasons. The object itself belongs to an earlier age, viz., the bronze, which preceded the iron; it is copied from a more ancient original; it reproduces a beautiful device of classic art; and lastly, it resembles the old British coinage. A kind of cover or lid has been found in Denmark, shaped like a funnel reversed. On one of these a figure appears, which is doubtless a barbarous imitation of the charioteer in the stater struck by King Philip II of Macedon. The same type is frequent in the Gallic coinage, and may be traced through its successive stages of deterioration by means of Fairholt's admirably executed plates illustrating Mr. Evans' work above-mentioned.²

¹ Worsaae, *Nordiske Oldsager, Jernalderen*, i, p. 87, fig. 379, engraved of the actual size. Engelhardt, *Denmark in the Early Iron Age*, p. 13 and note. It is stated that this is the only crystal ball found with an inscription on it; cf. King, *The Gnostics and their Remains*, p. 81. The invocation ΑΒΛΛΘΑΝΑΛΒΑ accompanies the pantheistic representation of the god Abraxas, with the head of a cock or lion, the body of a man and the legs of an asp. Ur. Fr. Kopp, *Palæographia Critica*, Vol. iii, pp. 681-690, gives many varieties of this formula, and discusses at great length its origin and meaning. It seems connected with the New Testament phrases 'Αββα ὁ πατήρ, Mark xiv, 36, Rom. viii, 15, Gal. iv, 6, and Ματαναθα, 1 Cor. xvi, 22. For the Latin word *Abracadabra*, which was used as a charm against diseases, and written in the form of an inverted cone, see Forcellini's *Lexicon*, s.v. Bailey's translation.

² *Congres International d'Anthropologie et d'Archeologie Prehistoriques*, Stockholm, 1874, *Sur les Commencements de l'Age du Fer en Europe*, par M. Hans Hildebrand, Tome ii, pp. 600, sq. Engravings are given of a Macedonian stater, a Gallic

coin and two barbarous imitations; according to MM. Montelius and Hans Hildebrand these last were fabricated towards the close of the Bronze Age.

If we take a comprehensive view of the antiquities discovered in the three Scandinavian kingdoms, we cannot but come to the conclusion that during the earlier Iron age an uniformity of style pervaded their art, manners, and customs, and that it was deeply imbued with Roman influence. Abundant corroboration of this statement may be found by studying the annual reports of the Norwegian Society for the Preservation of Ancient Monuments (*Foreningen til Norske Fortidsmindesmerkers Bevaring*) and Worsaae's *Illustrated Catalogue of the Museum at Copenhagen*. The Danish Branch of this subject has a special attraction for the archæologist, because it has been investigated with the greatest zeal and care by the local savans, and discussed with a view to establish a rational system of pre-historic chronology.

Mr. Fergusson, *Rude Stone Monuments*, p. 275, says, "The Danish antiquaries have been so busy in arranging their microlithic treasures in glass cases that they have totally neglected their larger

II. Byzantine art had an extensive and lasting influence, overspread southern and central Europe, and left indelible marks even in the remote corners of the north and west. At first sight we may feel surprised that a style so conventional and rigid, debased by luxurious tyranny, and enslaved by hierarchical prescription, should have exercised dominion over various races and through many centuries. But the difficulty disappears, if we consider the circumstances, which were particularly favourable to Greek art. Constantinople was the only great city not taken and pillaged by barbarians till the close of the dark ages; the Lower Empire had retained many forms of the old classical period to which Christianity imparted new life; and Byzantine symbolism was widely diffused, because it alone satisfied the instincts and embodied the aspirations of humanity.¹ But, whatever may have been the cause, it remains an undoubted fact that the peculiarities of this school are as clearly visible in Scandinavia as in Italy or Greece itself. The coins of Magnus I, who reigned 1035-1047, show us a seated figure, like that of Christ, with a glory round the head, the book of the Gospels on the breast, and the right arm raised in benediction. This is clearly a Byzantine type, and may be seen on the solidi of emperors who were nearly contemporary, viz., John Zimisces, the Armenian, and Nicephorus III, Botaniates. Even the patterns of the richly ornamented robes worn by Greek sovereigns re-appear on the persons of Danish and Norwegian kings. Magnus is dressed like Justinian in the mosaics of S^{ta} Sophia at Constantinople, or San Vitale at Ravenna.² Similarly, before the profile of St.

monuments outside:"—and again, p. 297, "In Denmark anything that cannot be put into a glass case in a museum is so completely rejected as valueless that no one cares to record it." Those who can read the elaborate work of Kornerup, with preface by Worsaae, on the *Royal Mounds* (Kongehøiene) at Jelling will find therein sufficient proof that the Danes do not deserve the censures with which they have been so severely visited.

¹ Kugler's *Handbook of Painting*, edited by Eastlake, Vol. i, pp. 46-91, The Byzantine style.

² For the coins of Magnus I see Schive and Holmboe, *Norges Mynter i Middelal-*

deren, pp. 20-24, especially p. 23 and note 4. Ligner byzantinske Præg fra Johannes Zimisces og Nicephorus Botaniates, se Banduri, *Numismata Imp. Rom. II*, p. 738 og 748. It is worthy of remark that the earlier pieces of this king have a crowned bust on the obverse, but the later a sitting figure, which is probably St. Olaf in the likeness of Christ. This device seems to have been adopted on account of the assistance which the saint was supposed to have afforded to Magnus at the battle of Lyrskov. The Byzantine dress on the Norwegian coins may be compared with the robes of Justinian and Theodora and attendant courtiers, as they

Olaf, we have a cross raised on two steps, which also was derived from Byzantium; amongst many other instances the coinage of Heraclius and Constans II may be cited.¹ At this period the course of trade seems to have been from Asia to Constantinople, overland through Russia to Norway, Sweden, and Denmark, and thence to Great Britain and Ireland; somewhat later the crusades must have impelled traffic still more in the same direction, in consequence of hostilities prevailing through the Mediterranean. These commercial relations between Asia and the north of Europe during the epoch of the Vikings from the eighth to the eleventh century are proved by thousands of Cufic coins discovered in Sweden and Denmark, which are now deposited in the national Museums of Stockholm and Copenhagen.²

We shall find the same influence in the architecture of the north; the forms of the capitals and sculptured decorations in relief equally exhibit it. A good example is supplied by the church of Vaage, in Gudbrandsdal, the long and picturesque valley that leads from the Miosen lake to Trondhjem. The tracery of interlaced serpents, which characterizes Scandinavian art, and afterwards appears on Irish crosses, only reproduces Byzantine symbolism, typifying the Fall and Redemption.³ Another

appear in the mosaics at Ravenna (Lübke, *Grundriss der Kunstgeschichte I*, 263, fig. 176. Von den Mosaiken aus San Vitale), of which large coloured copies may be seen in the South Kensington Museum. The seated Christ occurs frequently in the art of the Lower Empire; so Eckhel, *Doct. Num. Vet.*, viii, 257, s.v., *Eudocia* says, *Christus sedens more solito*. Lübke, *ib.*, fig. 177, Mosaik aus der Vorhalle der Sophienkirche, which shows the Christ enthroned and the court dress of the Greek emperor.

¹ *Norges Mynter*, pp. 14, 15, tab. i, No. 16. Eckhel, viii, 223, *Cruz insistens gradibus*, and *ib.* 225. The coins of Romanus I and Christophorus afford examples both of the seated Christ and the cross on steps; Sabatier, *Description generale des monnaies Byzantines*, pl. xlvi, 12.

Worsaae, *Nordiske Oldsager, Jernalderen*, ii, p. 95, gives examples of Byzantine gold coins used as ornaments, suspended from the neck, Nos. 397, 398a, 398b, and of gold bracteates, which were

worn in the same way, Nos. 399-401. Dahl, *Denkmäler einer sehr ausgebildeten Holzbaukunst aus den frühesten Jahrhunderten in den innern Landschaften Norwegens*, says that at the nuptial ceremony the brides wore crowns on which were hung Byzantine gold coins, bracteates, and solidi of the Middle Ages.

² *Archæological Congress at Stockholm*, tome ii, 932 et sq. *Archæol. Journal*, iv, 199-203, contains some interesting remarks by Worsaae on the course of trade through Novogorod in Russia and Wisby in Gotland. The great importance of the latter as an emporium is attested by coins and seals, and still further confirmed by the number and magnitude of architectural remains, unparalleled in the north of Europe. Bergman and Save's book is the best authority for the antiquities of Wisby; it is written in Swedish, and accompanied by lithographs. The earlier work of Peringskiöld may also be advantageously consulted.

³ Nicolaysen, *Norske Bygninger fra Fortiden*, p. 3, pl. v. Wornum, *Analysis*

instance occurs in the church of Urnes, where the wood carvings bear a strong resemblance to the illustrations in the Bible of Charles the Bald and Greek manuscripts of the ninth century.¹

The great variety and irregularity in the sculptures of these wooden churches must strike even a superficial observer. It is easy to explain, if we call to mind the Varangian body-guard of the Greek emperors.² The Scandinavians must have often seen in the south of Europe buildings for whose construction columns, architraves, and friezes of pagan temples had been used without any regard to architectural symmetry,—hence they repeated this confusion when they returned to their

of Ornament, p. 66. “The cross planted on the serpent is found sculptured on Mount Athos, and the cross, surrounded by the so-called Runic knot, is only a Scandinavian version of the original Byzantine image—the crushed snake curling round the stem of the avenging cross,” &c. Besides the churches mentioned in the text, many others contain curious specimens of wood carving; good engravings of them may be seen in the following works:—Opdal and Aardal in *Norske Bygninger*, Hedal in the *Mindesmerker af Middelalderens Kunst i Norge*, both by Nicolaysen; *Hitterdal, Borgund and Vang* in Dahl’s book cited above.

The affinity between Irish and Scandinavian art is evident, if we compare with these monuments O’Neill’s Sculptured Crosses of Ancient Ireland, and the Facsimiles of National Manuscripts of Ireland, photo-zincographed by Major-General Sir Henry James. According to some writers this style, of which interlaced ornament is the chief characteristic, originated in Ireland, and was thence diffused into other countries; but I think a careful examination of the facts will show that it came from Constantinople, underwent many modifications in Scandinavia, and finally was carried into Ireland by the victorious Norsemen. A friend reminds me that the testimony of the Hiberno-Danish coins corroborates the opinion that the so-called Irish art is essentially Scandinavian.

¹ This name is also spelt Ornes and Urnaes. The termination *naes* is common in Norway, and corresponds to the English *ness* and *naze*. This church, which is not mentioned in Murray’s Handbook, is situated on the promontory of Urnes, that

juts out into the Lyster Fiord, the extreme north-east branch of the Sogne Fiord; *Norske Bygninger*, pp. 1-3, Plates i-iv.

Seroux d’Agincourt, *Histoire de l’Art par les Monuments*, Vol. iii, Plates xl, xlv, gives several engravings of the illustrations of this manuscript, which he calls the Bible of St. Paul from the Benedictine monastery, in which it was formerly preserved. The title page exhibits a king or emperor sitting on a throne, with a globe in his hand as a symbol of power. The name Charles occurs in a monogram as well as in an inscription under the painting, but whether this is Charlemagne or Charles the Bald cannot be ascertained. Plates xlv and xlv contain good specimens of interlaced ornament. Plate lxxxiii represents the Virgin laid in her tomb by the Apostles and holy women. There are Runic letters in the border, but the figures and dresses are *Byzantine*. Compare Strutt’s *Chronicle of England*, Part i, p. 346, where there is a copy of the initial page of a Saxon MS. of St. Luke’s Gospel; the letters are explained *ib.*, p. 363.

² Some account of the Varangians will be found in Gibbon, c. 4, Vol. vii, pp. 82, 83, edit. Dr. Wm. Smith; the etymology of the word is explained in the note, p. 80. The Varangians, Væringers, or Βαγγαριοι, as the Greeks call them, re-appear in the English names Waring and Baring; Carlyle, *Early Kings of Norway*, p. 164. Earl Stanhope, in his article on “Harold of Norway,” *Quarterly Review*, vol. cxxxv, p. 171, quotes from a modern traveller, who states that in Persia all foreigners are designated by the name Feringhee, a corruption of Varangian.

own country, perhaps in some cases by the same means, namely, by interpolating fragments of earlier edifices.

The monuments of this class have unfortunately suffered much mutilation in the course of the present century. A fire broke out in the Grue-Kirche, which was attended with great loss of life because the doors were made to open inwards, and this was impossible on account of the crowd. A law was consequently passed requiring all church doors to open outwards, and in effecting the necessary alterations much ancient carving was destroyed.

These churches are specially interesting, because they are built of wood. As this material is so easily worked, it would naturally be employed at an early period, so that we may here trace back to their origin designs afterwards executed in stone.¹ The absence or deficiency of foliated and floral patterns in these buildings is very remarkable, but arose naturally out of the circumstances under which they were erected.² In a large part of Norway there is scarcely any tree but the fir, whose needle-leaves do not readily lend themselves to artistic purposes, and the severity of the climate during a large portion of the year almost precludes the contemplation of external nature.

III. From the ninth to the eleventh century the Northmen were constantly invading and pillaging the English coast; they were therefore brought into contact with a nation more civilized than themselves. The former excelled in the arts of war; the latter had made considerable progress in luxury and refinement, inheriting manners and customs and technical processes from the Romans. Hence we may expect the monuments of the conquering race to show that the experience of classical antiquity was repeated:—

*Grœcia capta ferum victorem cepit, et artes
Intulit agresti Latio.*³

¹ The tombs of Lycia and the temples of Greece afford the best examples of this progress in the arts of construction. Sir C. Fellows, *Lycia*, c. 6, pp. 128-131, Plates ix-xii, shows many varieties of rock architecture and tombs sculptured in imitation of wooden buildings. Sir Henry Ellis, *Elgin Marbles*, Vol. i, p. 132, explaining the metopes of the Parthenon, quotes from Vitruvius, "The Greeks, by the word *σπαι*, signify the beds of the beams, which we call *cava columbaria*;

thus the space between two beams obtained the name of a metopa." Similarly the Roman *lacuna* meant the decoration inserted in the square compartments formed by the rafters of a roof or ceiling intersecting at right angles; it was afterwards applied to the same spaces in brickwork or masonry.

² O'Neill, *Essay on Ancient Irish Art*, p. 1, after enumerating the characteristics of this style, says, "Vegetable forms are very rare."

³ Horace, *Epistles*, Book ii, 1, 56.

The fibulæ, which are perhaps the most curious remains of this epoch found in England, have been divided into three classes—the circular, the cross-shaped, and the concave. These abound in the museums of Bergen and Copenhagen. The materials and form are identical, and the resemblance may be traced in minutest details—in the gold filigree work, concentric circles, ovals, chain or cable patterns, and stones or vitreous pastes used as ornaments.¹

If we turn to the coins we shall find proofs of relations between England and Scandinavia at this period. The pennies of Ethelred the Unready compared with those of St. Olaf may be taken as an example.

One of the most frequent types of the former exhibits on the obverse the king's head to left without sceptre or diadem, and the hair represented by divergent lines, each terminating in a pellet. The device on the reverse consists of a voided cross, with an annulet in the centre and three crescents at the end of each arm.² In Olaf's coin all these particulars are exactly copied, and therefore need not be described, but the legends deserve notice:—

Obverse +VNLAFI+E+ANOR

Reverse +ASÐRIÐ MO NOR

i.e., Olaf Rex a Normannia, and Asthrith Monetarius Normannorum.³ There is here a strange discrepancy between the inaccuracy of the first and the correctness of the second line. It was necessary to cut a new die to express the name and title of the Norwegian king, which was done in a very clumsy fashion, the R of Rex

¹ The fibulæ, distinguished as concave or saucer-shaped, are also circular. With Wright, *Celt, Roman and Saxon*, pp. 415-420, and engraving opposite p. 416, and Akerman, *Pagan Saxondom*, Pls. iii, vii, viii, xi, xii, xiv, xvi, &c., compare Lorange, *Samlingen af Norske Oldsager i Bergens Museum*, pp. 88-90, figs. 564a, 564b; pp. 117, sq. fig. 451; pp. 148, sq. figs. 2017a, 2017b; p. 172, fig. 1097; p. 180, fig. 709. Lorange remarks that the cross-shaped fibulæ are far more numerous in Norway than in Sweden, referring to Hans Hildebrand, *Den äldre Jernåldern i Norrland*. The Bergen Museum alone possesses 42 specimens, and there are also a great number of them in the University Collection at Christiania. He adds that in the English graves they

occur often and with rich variety, but are unknown in the other old Germanic lands. See also Worsaae, *Nordiske Oldsager i Det Kongelige Museum i Kjøbenhavn*; Nos. 415 and 416 are clover-shaped, similar to that figured in Wright, p. 417; Nos. 428 and 429 resemble the cross-shaped.

² Hawkins, *Coins of England, Æthelred II, A.D. 978-1016*, vol. i, pp. 67, sq.; vol. ii, pl. xvi, Nos. 203-207, especially the last. Schive, at the commencement of the *Norges Mynter*, p. 4, has six woodcuts of different types of Ethelred's coins, which he explains fully on account of their importance as elucidating the Norwegian series.

³ See *Norges Mynter*, Olaf II, Haraldsson (den Hellige) (1015-1028 † 1030), pp. 13-17, pl. i, Nos. 15-20, especially No. 15.

being omitted. On the other hand, as Schive plausibly suggests, an Anglo-Saxon die was used for the reverse without any alteration, since the letters NOR, which originally stood for Norwich, would answer equally well for Norway. VNLAFI is an Anglo-Saxon form of Olaf,¹ for the Danish language frequently omits the letter N, e.g. using the preposition I for IN, and the particle U for UN in such words as *ulig*, unlike; *Ukyndighed*, unskilfulness. The interchange of U and O is so common as to call for no remark. In the legend of the reverse we have two examples of the Saxon barred **Ð**, which resembles the Greek *theta* both in form and sound; moreover the Royal Cabinet at Stockholm contains a coin of Ethelred bearing the same inscription, AS **Ð**RIF **Ð**MONOR. During this reign the invasions of the Danes and Norsemen were more systematic, and affected a larger portion of the kingdom than at any former period.² Heavier contributions of money were therefore levied, amounting to 167,000 pounds of silver, according to Dr. Hildebrand's calculation.³ St. Olaf also visited England in the year 1014, and Ethelred's coins must have been familiar to him. Lastly, the reign of this monarch was a long one, hence the circulation of his money was large, and it would on this account be more readily imitated by the

¹ Olaf is called Unlaf in Strutt's *Chronicle*, vol. ii, p. 79. The letter N often occurs before another consonant in Anglo-Saxon names, as may be seen in the genealogies of the kings of Mercia, Northumberland, East Anglia, Kent and Wessex, and in the chronological table of the seven kingdoms of the Anglo-Saxons, Rapin, *History of England*, vol. i, pp. 47, 55, 57, and 80, and in the lists of English Archbishops and Bishops, vol. v, pp. 238-254. Edmund, Alcmund, Osmond, Ormond, Andred, Anfrid, and Kenrick will suffice as examples. Rapin uses the forms Anlaff or Anlaf, besides Olaph and the Latin Olaus. This old writer will be found useful, not only for philological illustration, but also for the history of the connection between England and Scandinavia during the Saxon period, which is related in Books iv and v. Various forms of the name Anlaf appear also on Hiberno-Danish coins; Lindsay's *View of the Coinage of Ireland*, p. 10; Anlaf iv, p. 12; Anlaf v, p. 13; Anlaf vi, plate i, Nos. 3, 17-21. "The type of No. 20 is exactly that of Svend Estrith-

son, king of Denmark, who began to reign in 1047. . . . The legends are composed of those Runes, so common on the Danish coins minted in Ireland, and which consisted of a mixture of letters and strokes, the latter supplying the place of asterisks, and denoting the place of a letter." The blundering in the legends of Irish coins closely resembles that in the Norwegian examples mentioned above. For instance, in the coins of Anlaf IV the king's name is scarcely intelligible, and in those of Ifars II, the legends of the obverse and reverse are very rude; Lindsay, pp. 10 and 12.

² Freeman, *Norman Conquest*, i, 285-287.

³ The accounts of the historians are confirmed by the great number of Anglo-Saxon coins found in Sweden; accordingly the Royal Cabinet at Stockholm is very rich in this department, even surpassing the collection of the British Museum; Hildebrand, *Monnaies Anglo-Saxonnes en Suede*. *Anglosachsiska Mynt i Svenska Kongl. Myntkabinettet, summa i Sveriges Jord*

less civilized nations that had relations with him, either peaceful or hostile.

Two classes of objects found in Norway, viz., glass drinking vessels and wooden buckets bound with metal, which have been referred to a Roman origin, may, in some cases at least, with great probability be assigned to the Saxons, as they were accustomed to imitate late Roman work.¹

Subsequently to the Norman conquest, Norwegian architecture exhibits striking proofs of English influence. The King's Hall at Bergen and the Cathedral at Trondhjem are the most remarkable monuments of the middle ages in the three Scandinavian kingdoms, and the style of both may be characterised as English. The hall was built of stone by King Haakon Haakonson between the years 1245 and 1260, in place of an earlier wooden structure. It was originally used on festive occasions, such as coronations and royal marriages, but it has undergone so many alterations that its former beauty and magnificence can with difficulty be discerned.² However, by careful examination of existing remains and comparison of them with some old drawings, Mr. Nicolaysen has been enabled to produce a restoration that may be accepted as almost certain.³ There were two storeys, the lower of which was subdivided by a floor. The upper had seven great windows on its west side or principal front, and smaller ones at the back. These great windows were constructed in the pointed arch style, each probably containing two lights and a quatrefoil above. But there was one much

¹ For Anglo-Saxon glass compare Wright, *Celt, Roman and Saxon*, pp. 428-431 and engravings, with Lorange, *Samlingen af Norske Oldsager i Bergens Museum*, p. 67, No. 2132, woodcut, and Worsaae, *Nordiske Oldsager*, p. 76, No. 312.

² This building has been most fully and accurately described by Nicolaysen in the *Norske Bygninger fra Fortiden*, pp. 6-18, plates x-xvi. From his introductory narrative we learn that shortly previous to 1580 this hall was a kind of warehouse, that it was afterwards used as quarters for soldiers, and in the following century converted into a corn-magazine, and lastly, that in our own time it has been employed as a prison and a place of worship for convicts.

³ Copies of three old drawings of the King's Hall are given in pages, 8, 9, 10 of the *Norske Bygninger*. The first shows a projection in the roof, which must have been added for the purpose of fixing a pulley or crane, and proves that the building was used as a warehouse about the year 1580. The second exhibits the mutilated appearance of the building about the year 1653, after the injuries it sustained in the wars, during which it was one of the batteries for the defence of the castle. In the third, which is dated 1743, we see a double roof and other alterations that had been made towards the close of the seventeenth century.

larger in the north gable, which by its position shows that the roof consisted of open timber-work ; below it was the king's seat in the centre of the dais. A music gallery extended across the south end, and the space under it was employed as an ante-room. The hall was one hundred feet long, forty wide, and fifty-four high. From these particulars and proportions we see that it resembled those baronial and collegiate halls, which are more beautiful and numerous in our own country than any other.¹

But this building, interesting as it is, especially to Englishmen, cannot vie with the cathedral at Trondhjem, which stands pre-eminent among the ecclesiastical edifices of Scandinavia on account of its size, its elaborate details, and its intimate connection with mediæval history. At Trondhjem the petty states of Norway were consolidated into a nation by Harald Haarfager : at Trondhjem, in the following century, the Christian religion was established, and a church erected by Olaf Tryggvesson. Here the first archbishopric was founded, here many kings were crowned and interred, but, above all, here was the shrine of Olaf, the patron saint, revered by the neighbouring nations, and visited by pilgrims from regions more remote.² A minute account of this structure would be superfluous, but it is worth while to observe that the great transept is a fine specimen of the Norman style, while the choir and

¹ Fergusson, *History of Architecture*, Vol. ii, pp. 76-78. The Kongehalle at Bergen is more than a century older than Westminster Hall as we now see it, for it was rebuilt under Richard II, 1397-1399. Both in external appearance and interior arrangements, the great Hall at Eltham resembled the one at Bergen ; it was used for similar purposes, the sovereign often dined there, Edward III held more than one parliament, and gave a splendid reception to John, King of France, within its walls. See *Archæologia*, Vol. vi, pp. 366-372, Plates li, lii, and liii. The author of this excellent memoir calls attention to the small window in the upper end of the Hall, and at a considerable height from the floor ; through it the king, in his private apartment, could see all that passed below. This assists us to explain a passage in Shakespeare's *Henry VIII*, act v, sc. 2, where the monarch and his physician are introduced

as entering at a window above. Bishop Jocelyn's Palace at Wells is of nearly the same date as the Kongehalle, and its general construction is analogous ; Murray's *Handbook of the Southern Cathedrals*, Part i, pp. 264 sq., and Mr. J. H. Parker's *Architecture of the City of Wells* ; the latter work supplies much curious information, it is also copiously illustrated by plans and views.

² Mr. Nicolaysen has recently published a pamphlet relating the history of the cathedral, and accompanied by engravings that show its ground-plan, present appearance, and intended restoration. This church is rendered very accessible to visitors, who are conducted through it by a candidate for the ministry. Good photographs of the whole structure, of its principal divisions, and of the architectural details, can be purchased from the attendants.

tomb-house are Early English, with details of the Decorated period in the interior of the latter. The dimensions remind us of our smaller cathedrals, the total length being 350 feet, and the width of the nave 84. Exeter is 383 feet by 72, and Lichfield 319 by 66.¹ The wonderful lightness and elegance of the tomb-house suggest a comparison with the extreme east end of Canterbury, called Becket's Crown, while the west front of unusual breadth, adorned by sculpture and gilding, must have produced an effect not unlike the facade of Wells.² Such are the merits of Trondhjem Cathedral; on the other hand, it is disfigured by want of symmetry, caused by many unfavourable circumstances. In the twelfth century a group of three churches stood where we now see one; when additions were made it was necessary to retain the high altar on the spot where St. Olaf was buried, and to include his sacred well within the walls; the side-aisles of the choir could not be sufficiently enlarged on account of the adjoining sacristy and chapels; lastly, after the Reformation, the simplicity of the Protestant ritual interfered with a design conceived in Roman Catholic times.

It is gratifying to be able to state that this noble edifice which has suffered so much from destructive fires and tasteless alterations, is now at last recovering much of its pristine beauty, though we cannot expect that it will ever again be enriched with the splendid ornaments lavished on it by mediæval pietism. It will, however, hold its place as a national monument, restored with a skill which our own architects would do well to imitate—the glory of the citizens who dwell in its shadow, and a powerful attraction for visitors from foreign lands.³

¹ Fergusson, *History of Architecture*, ii, 78. Comparative Table of English Cathedrals.

² See *Trondhjems Domkirkes Historie og Beskrivelse af C. N. Schwach*, frontispiece, No. 1a ground-plan, No. 4, Trondhjem Cathedral from the north-west side; and Murray's *Handbook to the Southern Cathedrals of England*, Wells, ground-plan and west front, p. 220. The three portals in the west front at Trondhjem, (Drontheim), though very inferior, bear some resemblance to the three great arches in the corresponding part of Peterborough

Cathedral; Schwach, frontispiece, No. 6, view of the west end as it appeared in 1661, from the copper-plate of Maschius; Murray, *Eastern Cathedrals*, pp. 57-60; Fergusson, *History of Architecture*, ii, 49.

³ *Norske Mindesmarker aftegnede paa en Reise igjennem en Deel af det Nordenfjeldske, og beskrevne af Lorentz Diderich Klüwer*, 1823. Pages 1-39 and Plates 1-10 of this valuable work are devoted to Trondhjem Cathedral, and especially to the grave-stones dating from the eleventh century to the Reformation, together with the Runic and monkish inscriptions. One

This account of Northern antiquities is necessarily very imperfect, but I hope it may induce some younger tourists to remember that these countries contain other objects of interest besides snow-capped mountains, romantic fiords, and giant forests: that a heroic race lived there in the olden time, that its monuments still remain, that its words and deeds are so blended with the language and traditions of Englishmen, that we may almost regard them as belonging to our own inheritance.

of a later date is in English, and may amuse the reader by its quaintness; it was composed in honour of a Scotch ship-master:—

Tho' Borious blasts & Neptune wav^{es}
 Hath tost me to & fro,
 Yet by the order of gods decree
 I harbour here below.
 Where now I ly at anchor shure
 With many of our fleet,
 Expecting one day to set sail,
 My Admiral Christ to meet.

Klüwer mentions, p. 13, his discovery of speaking-tubes, rather more than an inch in diameter, which went through the vaultings and the walls of rooms in the upper part of the choir. He adds that these tubes were provided with small holes in their sides, as in a flute, to increase or diminish the sound at pleasure, and conjectures that they were used for monkish deceptions (Munkebedragerier), especially because they proceeded from secret apartments, where the monks, themselves unobserved, could see all that passed both in the choir and the church. Schwach, in his *Historie og Beskrivelse*, 1833, pp. 15-16, confirms this

account, but thinks the tube might also have been used for a special purpose on Good Friday, viz., to utter the painful cry of Judas, "I have sinned in that I have betrayed the innocent blood." Schwach also mentions a small room in an octagonal pillar of the choir—"It received light from a high narrow window in the north-east side of the pillar, and was called the Chamber of Excommunication (Banlysningskammeret,) because, according to tradition, the Archbishop, when an excommunication was to be promulgated, remained there unseen till he stepped out on the balcony, and hurled down his bolts as if they issued from the clouds." The classical traveller will remember similar arrangements in the Temple of Isis at Pompeii.

The most elaborate work on Trondhjem Cathedral is that by Professor Munch, Christiania, 1859, but an account of still more recent investigations will be found in the transactions of the Norwegian Society of Antiquaries, *Foreningen til Norske Fortidsmindesmerkens Bevaring, Aarsberetning* for 1866, pp. 6-25.

APPENDIX.

This Memoir is derived from personal observation during a journey through Denmark, Norway, and Sweden, in the summer of 1876, from conversation with eminent antiquaries in these countries, and from a careful study of their writings, especially those of MM. Nicolaysen and Iorange, Worsaae and Engelhardt, Wiberg and Hildebrand, whom I have closely followed, and in some cases translated.

My special thanks are due to Overintendant Kammeherre Holst, Secretary of the University of Christiania, for the great kindness and courtesy with which he facilitated my researches, and placed at my disposal sources of information not easily accessible to foreigners.

Besides the works above mentioned, the following will be useful to those who wish to pursue the study of Northern antiquities:—

Nicolaysen, *Norske Fornlevninger*, 1862-1866.

C. A. Holmboe, *Norske Vaegtlodder fra 14^{de} Aarhundrede*.

— *En maerkvaerdig Samling af Smukker, forstorstedelen af Guld, og Mynter . . . paa Gaarden Hoen.*

— *Det Oldnorske Verbum oplyst ved Sammenligning med Sanskrit og andre Sprog af samme Æt.*

F. C. Schübeler, *Die Altnorwegische Landwirthschaft.*

Det Oldnorske Museum i Christiania.

The ancient vessel found in the parish of Tune, in Norway. Christiania, 1872.

Carl Andersen, *De Danske Kongers Kronologiske Samling.*

Den Kongelige Mynt- og Medaille-Samling paa Prindsens Palais. Kiøbenhavn, 1869.

Oscar Montelius, *Führer durch das Museum Vaterländischen Alterthumer in Stockholm*, übersetzt von J. Mestorf.

— *Antiquités Suedoises.*

A. P. Madsen, *Danske Oldsager og Mindesmerker.*

Bibliographie de l'Archeologie Prehistorique de la Suede pendant le six^e Siècle. Stockholm, 1875

British Scandinavian Society, *Library Catalogue*, including Icelandic books.

Quaritch, *General Catalogue*, 1874, "Scandinavian Philology," pp. 1073-1084.

— *Supplementary Catalogue*, 1876, "Bibliotheca Septentrionalis," pp. 1018-1089.

Quaritch's list, though long, omits some of the most important authors.

The prospectus of the University of Norway (*Index Scholarum in Universitate Regia Fredericiana . . . habendarum*) gives the names of distinguished Norwegian savans, such as Daa, Rygh, Bugge, &c.

It is much to be regretted that some English authors have written on Scandinavian history and antiquities without a competent knowledge of the Danish language. This has been a fertile source of error. Names are frequently misspelt, and their true significance therefore lost; for example, *Hardrade* is written for *Haardraade*, which is compounded of *haard*, hard, and *Raad*, counsel. Those who wish to learn Danish only for literary purposes will find the Norwegian Grammar of Frithjof Foss, pp. 49, sufficient, the Norwegian language differing from Danish only in pronunciation. Swedish is so closely connected with Norsk that it can be mastered with little difficulty.