On the Relation of Stone Circles to Outlying Stones, or Tumuli, or Neighbouring Hills, with Some Inferences Therefrom.

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The following new members were announced :—

FRANCIS ARCHER, Esq., WILLIAM A. L. FOX-PITT, Esq., and W. E. MAXWELL, Esq.

Mr. WORTHINGTON G. SMITH exhibited a measured transverse section through 300 feet of the Palæolithic Floor of the Hackney Brook near Stoke Newington Common. He also showed a collection of ovato-acuminate implements, scrapers, flakes, and nuclei from the same spot.

The PRESIDENT read a "Note on the Distribution and Varieties of a Padlock," illustrating his remarks by an extensive collection of ancient and modern locks.

Mr. F. G. HILTON PRICE exhibited some ancient Roman Locks, and explained their construction in further illustration of the President's remarks.

Mr. J. E. PRICE and the Rev. H. WINWOOD also made some observations bearing on the subject of the President's communication.

The following paper was then read by the author :—

On the RELATION of STONE CIRCLES to OUTLYING STONES, or TUMULI, or NEIGHBOURING HILLS, with some Inferences therefrom. By A. L. LEWIS, F.C.A., M.A.I.

DURING the last fifteen years I have paid much attention to rude stone monuments, and have visited and measured nearly all that exist within 200 miles of London, and some at greater distances. I have from time to time made remarks upon these structures before various learned societies, in the course of which I have been led to dwell particularly upon the references to various points of the compass which I have found in the circles I have examined, and I have thought that it might now be well to put together the whole of the details observed in a tabular form, even at the risk of appearing to repeat myself unnecessarily, so that all the facts and views mentioned in different papers read by me at different times and places, may, so far as they relate to the particular questions I am about to deal with, be brought together in a convenient form for consideration.

The table includes 18 circles, none of which have any reference to the north, 15 may have reference to the north-east, 3 to the east, 7 to the south-east, 4 to the south, 6 to the south-

west, 2 to the west, and 4 to the north-west. That is to say, 15 pointed, more or less exactly, to the sun's rising point at the longest day, 7 to rising point on the shortest day, 6 to his setting point on the shortest day, 4 to the noon point, and but few, and those doubtfully, to any other point. Whether, therefore, we give all points the benefit of every doubtful case, or whether we strike out all the doubtful cases, it seems clear that the builders of the circles had the north-east much more in their minds than any other point of the compass. With regard to the three circles in which I did not find a north-easterly reference, I may say there was not one in which it was not very likely to have been present in the first instance, but subsequently destroyed; on the other hand, I may have missed some neighbouring hills, at other points than the north-east, because my attention was not attracted to them when I first began to investigate these matters. I should say further that, though I have named only the eight principal points of the compass, the objects classed under each are not precisely in that, or in the same direction, but are nearer to it than to any other of the principal points. I shall, however, be able to show you other instances of similar differences, and I may say, once for all, that I have no great belief in extreme astronomical or other accuracy in connection with rude stone monuments.

My attention was first drawn to the connection of the circles with the north-east, by the well-known instance of Stonehenge, which has been authenticated by an innumerable cloud of witnesses; but I am not aware that any other writer has applied the principle to any considerable number of circles, if at all, or has investigated the matter of reference to other points of the compass; I feel justified, however, in now asking you to accept it as a settled fact, and as the first point to be borne in mind, that there is in the circles, south of the Humber at least, a much greater reference to the north-east than to any other point.

I will now mention some other ancient structures, which present a special reference to the north-east. The Rev. W. C. Lukis tells us that the lines of Carnac, in Brittany, run north-easterly from a circle, while those of Erdevan run north-westerly, but from their west end a single line runs north-north-east to a distance of 617 feet. The area of the north-east socket stone of the Great Pyramid is equal, roughly, to the sum of the areas of the other three, the next in size is the south-west socket, then the north-west, and last the south-east. Maurice, in his "*Indian Antiquities*," tells us that the gates of the temples of Mithra were placed at the north-east, and Dr.

Priestley says all the heathens contrived their temples so that they should pray with their faces towards the east.

The late Dr. Inman considered the monument of Hagiar Kim, at Malta, to be a Phœnician temple, on evidence quite different from that which I am now submitting to you; but it is a curious coincidence that the chamber selected by him as the holy of holies, has a most remarkable connection with the north-east (the full particulars of this may be found in "*Anthropologia*," p. 18, *et seq.*). Herodotus (*Euterpe*, cxxi) says of two statues in the temple of Vulcan, at Memphis: "One of these looks to the northward, and is adored by the Egyptians under the name of summer; the other, facing to the south, is altogether neglected, and goes by the name of winter." Mr. Mortimer has also found a dwelling on the Yorkshire Wolds with a grave outside it towards the rising sun, the whole being covered by a tumulus.* Here we have a number of examples from miscellaneous and independent sources, showing that there were in certain ancient structures special references to the north, north-east, east, and south, and that those references were designed in connection with different periods of the year, and with sun-worship.

I will now mention some similar cases which have been handed down to our own times, and give some instances of the use of circles for worship or sacrifice. A correspondent of the "*Daily News*," describing, in 1872 (*D.N.* 7th January, 1873), the temples of the state religion of China, which, as he says, is not Buddhism, but a compound of phallic, sun, and nature worship, tells us that at the south of Peking there is a temple of heaven, where sacrifices are offered at the winter solstice; that at the north of Peking there is an altar of the earth, where sacrifices are offered at some other period; that at the east of Peking there is an altar of the sun, where sacrifices are offered at the vernal equinox; and that at the west of Peking there is an altar of the moon, where sacrifices are offered at the autumnal equinox. Mr. Thoms, in his work on "*Ancient Chinese Vases*," says: "The ancients, it is said, frequently offered sacrifice. When they made their offerings to heaven it was on a round eminence, when to the earth it was on a square eminence, remote from the capital. When offerings were presented to the sun it was observed in the royal palace, when to the moon it was in the Ya-Ming (splendid night) apartments of the palace, and to the stars in the Yew-Yang apartments, so that each had a temple or apartment set apart for the offerings where their aid was solicited. The offerings accorded with the particular season of

¹ See his paper ("*Journ. Anthropol. Inst.*," vol. xi, p. 472: 'On Ancient Dwellings in the Yorkshire Wolds.')

the year." It is worthy of note that the altar of the sun at Pekin is to the east, and that the winter altar is to the south, and that the Egyptian winter statue mentioned by Herodotus, as quoted just now, also faced to the south. In our own country there are dolmens and "coves" which were never, in my opinion, covered with earth or used for sepulchral purposes: these generally face between south and east, and may well have served as winter altars; such "coves" are noted in my table as existing in the great temples at Avebury and Stanton Drew, and possibly at the Roll Rich, and if devoted, as I infer, to winter worship, while the other parts of the groups of stones were devoted to summer worship, each of these groups would have had a completeness which as yet has hardly been suspected, but which confirms the probability of their having been constructed for places of sacrifice. In Chaldea, the different quarters of the heaven appear to have been assigned to different gods: to Anu as the sun, Hea as the earth, Bel, Nebo the eastern sun in the height of heaven, Nut and others (Prof. Sayce in "*Proc. Soc. Bibl. Arch.*"), and sun-worship undoubtedly formed a large part of the basis both of Chaldean and Egyptian religion. Colonel Forbes Leslie tells us that in Western India, on the table-land above the ghauts, a Hindoo fane, in which a cock had recently been sacrificed to Betal, consisted of twenty-three small stones, placed in a circular form at equal distances; one to the east was moved 12 feet back, three smaller stones were outside, and to the south-west a single stone, but no opening. Mr. Walhouse also mentions a circle on the Nilgiri Hills, with a smaller circle to the east of it ("*Journ. Anthropol. Inst.*," vol. vii, p. 43). Here again, in India, which, though so distant, is connected with us in so many ways, ancient as well as modern, we find stone circles used for sacrifice, and having a reference to the east, in which quarter the summer sun rises there, and not, as with us, in the north-east; nor are these the only notices of circular and open temples. Colonel Meadows Taylor has told us that large rocks with circles round them are used as places of sacrifice by Indian shepherds. Maurice ("*Indian Antiquities*," p. 158), says all ancient temples of the sun and Vesta, or elementary fire, were circular, the adytum in which the sacred fire blazed was constantly of an egg shape. The Arabs, near the first cataract of the Nile, worship, according to a writer in the "*Academy*" (18th November, 1876), in circles of stones 4 or 5 feet high, on the tops of hills; these are put together with or without mortar, and generally contain fragments of broken drinking jars, and a shallow earthenware pan in which incense has been burnt. Pausanias also refers to circles of great stones in which

the mysterious rites of Demeter were performed. Inigo Jones, writing of Stonehenge, says: "The Thracians used to build temples dedicated to Sol of a round form, open in the middle, and also without a roof. By the form or roundness thereof they signified the sun's figure; by making them open and roofless they expressed his surmounting and dilating light equally to all things." Mr. John Hogg, M.A., F.R.S., quotes various authorities to show that obelisks signify the rays of the sun, and this would be equally applicable to any other upright stones, and a circle of such would therefore represent the sun surrounded by rays.

The Prophet Ezekiel saw "at the door of the temple of the Lord, between the porch and the altar, about five and twenty men with their backs toward the temple of the Lord, and their faces toward the east; and they worshipped the sun toward the east" (viii, 16).

I must now remind you of a few instances in which observances, particularly by fire, of midsummer and other ancient festivals have descended to our own day and in our own country, as well as elsewhere. At Logierait, in Perthshire, burning faggots were carried in procession, and at Penzance, in Cornwall, fires were lit on 23rd and 28th June, and people ran about with torches, two holding up their hands, while others passed underneath. Baal fires were lit in Aberdeenshire at Halloween (old style), and at Beltane as lately as 1864 and 1865, and at Balmoral up to last October, while as long ago as the eleventh century, Cnut thought it necessary to forbid the worship of fire. The Sardinians go, on St. John's or Midsummer Eve, to church in procession, feast on eggs and herbs, light fires and join hands over them; in Brittany religious processions have taken place at or near midsummer, in which an image of the sun was carried by the priests. St. John's or Midsummer Day is also a great day with the Freemasons.

I think I have now shown—

1. That our stone circles have special references to various points of the compass, and notably to the north-east.
2. That other structures, both ancient and modern, had similar references, which we know arose in connection with times, and seasons, and various forms of nature worship and that the "eastern position" was particularly used in sun worship in countries where the sun rises in the east, at the time that it rises here in the north-east.
3. That practices connected with nature worship, and

especially with fire and sun-worship, have come down to our own times and in our own country.

4. That circular buildings and open circles have been and are used for worship of this kind.

There is also evidence, too bulky and too well known for me to reproduce here, that many practices and superstitions, some of them connected with sacrificial circles and stones in India, are common to England, to India, and to countries between them (*see* Colonel Forbes Leslie's "Early Races of Scotland"), and I submit that it is a fair deduction from these facts that our own circles were used for solar worship.

This deduction having been duly noted, I will ask you to consider another class of temples which have a special reference to the east and north-east, and which I have purposely avoided mentioning until now: I mean our own churches. It is well known that English churches stand, as a rule, east and west, the altar being at the east end, or, where the church cannot be built east and west, it is placed north and south, the altar being at the north end; the foundation stones of churches used always to be laid at the north-east angle ("Discrepancies of Freemasonry"); and when the Prince of Wales laid the foundations of Truro Cathedral in strict masonic fashion, there were two stones laid, one of which was a north-east stone. Here we have most singular and unmistakable references to the east and north, and above all appearing, as it were, like a palimpsest through and between these to the north-east; this extends also, though with a slight local difference, to the ancient Irish churches, which were invariably placed east and west, and always had an east window and a west door; the difference is that in Ireland there were no windows to the north, and that few burials were made on that side, and those mostly of still-born children, &c., which may be collated with the absence of any reference to the north in the stone circles.

Now whence do we derive this peculiar regard in our churches for the east, the north, and the north-east? We expect, as a matter of course, to find that any religious observances of this kind come from Rome, but this at least does not. The Roman and Italian churches and altars stand, as I am informed, in all sorts of positions, and any Londoner may see for himself, as regards the Romish churches in Hatton Garden, Duncan Terrace, the crypt in Ely Place, and Moorfields, that, although the buildings stand about east and west, the high altars are all at the west and not at the east; the English did not therefore borrow the position of their altars from the Romans.

There is yet another point in common between the British

circles and the British and Gaulish churches. I have mentioned that although the circles have a special reference to some point between the north and east, that point is not always the same point, and this again is the case with the churches. M. Savy, in a note on the "Orientation of Churches," read before the Congrès Archéologique de France, 1855 (p. 276), remarks that, although ecclesiastical rules provide that the long axis of churches should run due east and west, the apse being at the east, and that the plans should be laid before the Bishop of the diocese before building, these rules do not seem to have been followed in churches which he had examined, and he names eight cathedrals and churches in Rheims, Chalons, and Lepine, the axis of which is diverted to the north of east to the extent of from $12\frac{1}{4}$ to $34\frac{3}{4}$ degrees (the average being $21\frac{3}{4}$); he points out that none of these incline to the south of east, but is unable to offer any explanation, unless it may be the formation of the ground, which might explain one case, but could hardly explain eight. In February, 1879, the Royal Institution of British Architects discussed the deflection of the axis and choir of old St. Paul's to the north of east, as shown by some remains then recently discovered. The President, Sir C. Barry, thought it might typify the leaning of the Saviour's head on his shoulder; the Rev. Mr. Webb doubted whether it were not accidental; Mr. Penrose (architect to St. Paul's) said there was a deflection to the south of east at Wisbeach Church, and he thought the deflections were made to improve the prospect in the churches. Here then we have it as a fact beyond dispute that the choirs of English and French churches, instead of always standing truly east and west, frequently stand in north-east and south-west direction, and we find that the best architects can give no satisfactory explanation of this arrangement. I explain it by the supposition that it is derived from the stone circles, and that the circles had this special reference to a quarter between north and east because they were devoted to solar worship.

There are many facts which this theory fits better than any other, and there are some theories which do not readily explain the facts I have brought out; I think it will be admitted that the coincidence I have shown between British and Gaulish rude stone monuments and churches is too close to be accidental; either the churches got their north-east reference from the circles, or the circles got it from the churches, or both got it from the same source. Now we have had a theory started which makes the circles to be of later date than the introduction of Christianity, and to be burial places for men slain in battle; but this theory does not account for the outlying stones; indeed, its learned author confesses that they are a mystery to him, and

why indeed should a mere memorial to men slain in battle adopt this peculiar ecclesiastical notion, and that in such a way as not to be recognisable without a certain amount of research? I consider, therefore, that on this ground alone the circles may be held to be earlier than the churches, and I may add that the articles found in and about rude stone monuments as a whole show them to be prior to the introduction of Christianity. The circles were, however, undoubtedly used occasionally, though not always, for burial, and, says Mr. Fergusson, "except the Jews, who seem to have buried their kings close to" (not inside) "their temples, I do not know of any people in ancient or modern times who did so, and we certainly have no hint that the ancient Britons were an exception to this universal rule." Whence, then, did Christians derive this practice? I believe they derived it from the Britons, and from their practice of burying in and about their temples, and that this gives us yet another link between the circles and the churches. In Scotland, indeed, circles are still called kirks, and churches "clachan," or stones.

In the churchyard at Rudston, in Yorkshire, is a menhir 25 feet high, which stands 13 feet from the buttress at the north-east corner of the church. Here we have a stone in close connection with a church, and the north-east reference between them maintained. This fact is stated by the incumbent of the parish, the Rev. P. Royston, who says in explanation: "It was the custom with the heathen to lay the foundation stone of any or rather every temple at the north-east corner; their reason for doing so was that the Egyptian astronomers taught that at the creation of the world the sun rose in Leo, and admitting this notion was got up when the constellation was situated in the north-east, at the rising of the sun, this circumstance will naturally, in accordance with the Egyptian mode of worship, induce the custom of commencing magnificent edifices at the north-east corner in imitation of that glorious luminary supposed by the Egyptians to be the supreme architect of the world."

Many years ago, it was generally thought that our circles were Druidic temples; this conclusion was no doubt arrived at without any direct evidence being obtained, or perhaps obtainable in its behalf, and by a natural reaction, any one holding that theory has, of late years, been thought little better than a lunatic. Yet how stands the best evidence that can be got? There is every reason to believe that the circles were erected in the Druidic period, and that they present features only explicable on the supposition of their being devoted to solar worship. It is quite certain that the Druids were sun-worshippers, and

that they had the power and the will to suppress every worship but their own: is it then so absurd to attribute the circles to the Druids? I think not.

I now want to show, in conclusion, how I think the connection between the Druidic and Christian temples arose.

It is a matter of history that western Christianity took its first firm root in Gaul and Britain, just the countries where Druidism reigned supreme, and that it only succeeded in doing so by accepting a host of practices and superstitions of which this north and east reference of its places of worship was probably one; it is known to have been a recognised policy of the early missionaries in these countries to accept as much as could not be easily suppressed of the local worship and superstitions, and to give them what was called a Christian signification. Dr. Priestley (*"Corruptions of Christianity"*) says: "All the heathens contrived their temples so that they should pray with their faces towards the east; this was introduced into Christian worship about the time of Jerome, though it was not then generally approved of. Pope Leo the Great condemned this custom because it was much used by the Manichæans," and again Pope Vigilius ordered, about 536, that those who celebrated mass should always direct their faces to the east. Christmas, he says, was observed in the fourth century, Easter and Whitsuntide earlier, the festivals of the Apostles, &c., not till the time of Constantine or later. Dr. Priestley says also: "With respect to the spiritual power in general the Popes derived much advantage from the ideas of the northern nations in their state of paganism; for they considered the Bishop of Rome in the same light in which they had before done their Archdruid, and transferred to him that boundless reverence with which they had been used to regard the other; hence the force of the papal excommunication which, as under the Druids, deprived a person of the common rights of humanity." This system of adopting, under a so-called Christian aspect, pagan sites, rites, and ceremonies was approved by contemporary Popes, and was afterwards extensively followed in the new world. I have also an apparent instance of it from the East. The highest peak of Mount Eubæa was the site of a chapel dedicated to the prophet Elias, which occupies the area of a megalithic temple fortress supposed to have been sacred to Helios the sun-god (*"Builder,"* 15th December, 1877); the transition from Helios to Elias is very simple, and we have here also a megalithic temple associated with sun-worship.

It was afterwards discovered that this system of comprehensive toleration, or rather assimilation, had its disadvantages, and we find that the Councils of Arles 452, Tours 567, Nantes, and also the Archbishop of Bourges in 584, Childebert in 554, Carloman

in 742, and Charlemagne condemned superstitions regarding stones, fountains, trees, &c., and enjoined their destruction (Abbe Voisin, *Materiaux*, &c., 1875, p. 86); this also places the stones just in the pagan period immediately preceding the introduction of Christianity.

As a writer in "Good Words" (Rev. H. Wace, October, 1878) well puts it, "Christ at the beginning of the fourth century was, to the world at large, simply the object of the worship of a persecuted sect; at the end of the century He is recognised publicly by the highest authority of the empire as the Divine Lord of all." This recognition is well exemplified by penance submitted to by the Emperor Theodosius, in 390, at the instance of St. Ambrose, Bishop of Milan. This great difference in the status of Christianity at the beginning and end of the fourth century is indeed a well-known and unquestioned fact, but how is it to be accounted for?

Constantine the Great was proclaimed Emperor in Britain at York in 306, and immediately checked the persecution of the Christians; he depended for support very largely on his British and Gaulish forces, who had become impregnated with the mixture of Druidism and Christianity to which I have referred, and, as his power became consolidated, he not only tolerated this new faith, but made it the State religion.

Mr. John Hogg, M.A., F.R.S., says the sun "was the 'invincible guide and protector' of the Emperor Constantine before the year of our Lord 331, when he commanded the heathen temples to be closed; and Gibbon tells us that the devotion of Constantine was more particularly directed to the genius of the sun, the Apollo of Greek and Roman mythology, and he was pleased to be represented with the 'symbols of the god of light and poetry.' Indeed, ten years before (321), Constantine ordered the strict observance of Sunday, calling it then after his patron god, *Solis dies*, and he moreover placed upon his coins the legend '*sol invictus*.'"

Constantine probably acted as much from inclination as from policy in these matters, for, says Mr. Wace, "Constantine, according to Eusebius, proposed to unite under one form the opinion which all nations held of the Deity; Plotinus, the great master of the Neo-platonic philosophy, Porphyry, and Iamblichus, worked out an elaborate scheme which strove to embrace ancient forms of worship and of thought, but which culminated in the idea that in moments of ecstasy, and ecstasy to be produced by virtues similar to those of Christian enthusiasm, a vision of God might be attained."

While, however, this great Emperor was planning a scheme of universal religion, the details seem to have been left, as before,

to accommodate themselves somewhat to local customs and superstitions; the British system of orientation of churches prevailed in the Druidic countries of Gaul and Britain, but was not enforced in non-Druidic Rome. The Greek cross and the monogram Chr, of which it forms part, and which Constantine stamped on his coins, gave way to the distinctly pagan Roman cross as the power of Rome increased, yet in Gaul, and Britain more particularly, we find the right-angled Latin cross not unfrequently modified on vestments into a "Y" cross , which

appears to me to be another form of the mysterious government mark known as the "broad arrow," , both being probably derived from the Druids, who, according to Mr. Morgan, had a cross of three Divine letters or rays symbolizing the triple aspect of God, which was wrought in gold down the length of the back of the vestments of the Archdruid, and which would certainly have formed a very convenient and significant mark for sacred or royal property. Dr. Evans, indeed, says that although the "broad arrow" is a very ancient symbol, it has not been traced as a government mark earlier than the reign of Henry VII., but it must not be forgotten that that was the precise period of revival of a great number of Welsh and early British notions.

Returning, by way of conclusion, to Constantine, Dr. Priestley goes so far as to say that in his reign there was more learning in Britain than elsewhere; be that as it may, the aim of Augustine and his mediæval followers was so entirely to exalt Rome at the expense of all other nations that very insufficient weight has generally been attached to the influence which British views and forces exercised in the later Roman Empire.

LIST OF CIRCLES measured in Southern Britain, showing the nature and direction of any apparent references in them to external objects or points of the Compass.

Name.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
<i>Asbury</i> (from particulars given by Sir H. C. Hoare, confirmed as far as is now possible by my own observations).	...	"Cove" in northern inner circle faced to N.E.	...	Avenue ran S.E. from great circle. "Cove" in S.W. avenue faced S.E. The smaller circles stood somewhat S.E. and N.W. from each other, with single stone at S.E. end of line through their centres.	Sibury Hill about S. from great circle.	Avenue ran S.W. from great circle.	...	Doubtful. { The smaller circles stood somewhat N.W. and S.E. from each other.
<i>Arberlowe Ring</i>	...	"Cove" in centre faced apparently to N.E.	...	Entrance and stone against it.	...	Tumulus and bank leading to it.	...	Entrance.
<i>Stonehenge</i> (from Mr. Finders Petrie's measurements, as well as my own.)	...	"Friar's Heel," avenue, and stone on ditch in line of avenue to N.E.	Doubtful. { Large tumulus about 300 feet outside ditch further south in line of ditch (these are in line with centre of circle and similar objects to N.W.).	Stone on line of ditch and tumulus further south in line of ditch (these are in line with centre of circle and similar objects to N.W.).	...	...	...	Tumulus on line of ditch and stone further S. rather within ditch (these are in line with centre of circle and similar objects to S.E.).
<i>Roll-Rick</i>	...	"King stone" to N.E.	Doubtful. { "Five Knights" (qv. any connection with circle).	Doubtful. { "Five Knights" are somewhat S. of E. from circle, but may have no connection with it.	...	Doubtful. { "Five Knights" face south-westerly (but qv. any connection with circle).	...	...

LIST OF CIRCLES, &c.—*continued.*

Name.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
<i>Stanton Drew</i> (from Mr. C. W. Dymond's measure- ments, as well as my own).	...	Line through centres of S.W. and great circles to "Hautville's Quoit," N.E. circle to N.E. of great circle and "Cove."	...	"Cove" faces S.E.	...	"Cove" at S.W. end of line running through centres of great and N.E. circles. S.W. circle S.W. from great circle.	Two stones in "Lower Tyn- ing" nearly W. from N.E. circle (but qv. any connec- tion). Doubtful.	Two stones in "Lower Tyn- ing" nearly N.W. from S.W. circle (qv. any connection). "Cove" also some- what N.W. from S.W. circle.
<i>Hurlers</i> (Cornwall) ...	...	The three circles are in a somewhat north-easterly line one from the other.	...	...	...	Two upright stones S.W. from central circle.	Two upright stones about W. from S.W. circle. Doubtful.	...
<i>Dance Maen</i> (Corn- wall) ...	...	Small stone to N.E., also the "Pipers" (if connected with circle).	...	Two stones between S. and S.E. Doubtful.	Two stones between S. and S.E. Doubtful.	...	...	...
<i>Nine Maidens</i> (Botol- lack, Cornwall) ...	...	Possibly Carn Renidjack or some point of it. Doubtful.	...	...	...	...	...	...
<i>Nine Maidens</i> (Bos- cawen un, Cornwall)	...	Central stone leans to N.E. Doubtful.	...	...	...	...	...	...
<i>Gidleigh</i> (Devon) ...	...	A small stone to N.E.	...	...	...	...	...	...
<i>Mount Murray</i> (Isle of Man) ...	...	Avenue winds round N.E. Doubtful.	...	...	...	...	...	...

LIST OF CIRCLES, &c.—continued.

Name.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
<i>Pennenden</i> ...	...	Two stones and three hills to N.E.	...	...	...	...	...	...
<i>Mitchell's-fold</i> (Shropshire)* ...	...	Single stone Stapely Hill and Hoarstone circle to N.E.	...	Double { Corndon Hill between S. and S.E. }	Two stones and "Whetstone" to S.	...	...	...
<i>Hoarstone</i> (Shropshire) ...	...	Three hills to N.E.	...	...	...	Central stone leans to S.W., where are also Stapely Hill and Mitchell's-fold in line.	...	...
<i>Gorrell</i> (Dorset-shire)* ...	...	...	...	...	Two stones to S.	...	...	...
<i>Nine Stones</i> (Dorset) ...	...	...	...	...	...	...	...	...
<i>Caldersstones</i> (Lancashire) ...	...	...	...	...	...	...	...	...
<i>Wet Wilkins</i> (Derbyshire) ...	...	Double { Small lot of stones to N.E., possibly a hut circle. }	Double { Small lot of stones to E., possibly a hut circle. }	...	...	...	...	...
Totals 18 ...	0	15 { 11 certain, 4 doubtful. }	3, all doubtful.	7 { 4 certain, 3 doubtful. }	4 { 3 certain, 1 doubtful. }	6 { 5 certain, 1 doubtful. }	2, both doubtful.	4 { 2 certain, 2 doubtful. }

* See "Journ. Anthropol. Inst.," November, 1881.

DISCUSSION.

Mr. PARK HARRISON thought that great uncertainty must always exist regarding the orientation of stone circles. If prominent or outlying menhirs were taken as indicators, one could never feel sure that some may not have been removed. Then, as to the eastern direction of churches: though many heathen customs were Christianised, and new meanings attached to them, there did not appear to be any evidence that the orientation of English churches was copied from British sun-temples, and a north-eastern direction is certainly not the rule with them. There was a long interval between the date of the stone circles and the time of Jerome, during which a number of different cultes had been introduced by the Romans, and adopted by the Romanised Britons; and when Christianity was introduced, the existing temples, many of them unconnected with sun-worship, were converted into churches. The eastern direction of English churches, like the earlier British way of calculating Easter, and a peculiar form of the clerical tonsure appear to have been introduced by Eastern missionaries. It was the kirks that were called "stanes" in Scotland, as places of meeting; the terms were not convertible.

Mr. WALHOUSE observed that, with regard to the orientation of churches, he believed the mediæval custom was not to build them due compass east, but to that point in the east where the sun rose on the day of the Saint to whom the church was dedicated. On the point of the deflection of the chancel from the line of the nave, very observable in some old churches, as at Wellow, in Somersetshire, he believed it was intended to typify the drooping to one side of our Lord's head on the Cross. With reference to outlying stones to the eastward of stone circles, he had seen a striking instance at the remarkable site known as the "Stones of Clava," about $1\frac{1}{2}$ mile from the field of Culloden, a few miles from Inverness. There are three principal large circles, closely contiguous, the great stones arranged at equi-distant intervals, with mathematical accuracy; and at 200 or 300 yards distance to the east, in another field, there is placed a single large upright block, much too far off to have formed any part of the circles, but evidently connected with them.

The Rev. H. WINWOOD wished to emphasize the question of a former speaker as to the indications of a circle pointing in any particular direction. During a recent visit to the Snowdonia district, he had observed a great many stone circles scattered over the hills, facing in all directions—north, east, south and west, according to the slope of the ground; if there was any particular point to which they faced more particularly, he thought it was the south and south-east, for a direction favourable to the living would be equally so for the dead. With regard to the other three great circles with which he was well acquainted, *i.e.*, Stonehenge, Avebury, and Stanton Drew, he inquired what evidence there was of their direction being north-east. As to Stonehenge, perhaps the

position of the "Friar's Heel" in regard to the so-called "Altar Stone," might possibly favour this view, especially in the mind of those who had watched the midsummer sun rise over the "Heel," but the remaining two he thought could not be cited as an example of any such intentional direction. The revival of the Druid theory was also a point on which he sought enlightenment from the author who had collected his facts with so much industry. As to the connection of circles and churches, and the statement that the Scotch called their circles *kirks*, he had always understood that the word *church* had quite another derivation.

Mr. LEWIS said, in reply, that the nature of the reference to the various points of the compass was shown in detail in the table attached to the paper, and that at Stanton Drew the reference to the north-east, in the relative portions of the circles and outlying stones, was very remarkable. The possible destruction of outlying stones applied as much to one point as to another, so that if a sufficient number of circles were dealt with, it was not necessary to take it into account; and he thought eighteen circles gave a sufficient average, or he would not have troubled the Institute on the subject at all. He had brought evidence to show that the north-eastern direction in churches existed more commonly in England and France than was generally supposed, and the north-east was also particularly recognised by laying the foundation-stone in that direction. The typifying of the drooping of the Saviour's head he looked upon as a very far-fetched Christian gloss, and the placing the chancel window so that the sun should shine through it on the saint's day was clearly a remnant of sun-worship, as indeed was the whole system of placing the church in any particular position, without regard to, or, as frequently happened, in opposition to the nature of the site; why else should not the churches be placed in any direction whatever, as they were in Rome? It would be unlikely in the nature of things that any positive evidence should be found that the orientation of the churches was derived from that of the circles; but the facts he had mentioned appeared to him to fit together, like the pieces of a dissected puzzle, in one way and no other, so that if there were not a mathematical, there was what he might almost call an ocular demonstration of the truth of his views, and there was certainly no direct evidence of the orientation of the churches having been derived from any other source than the one he had suggested. The calling the churches stones and the stones churches, by the Scotch, was not mentioned by him as elucidating the derivation of the word *church*, but as showing that the two things were at some time or other considered practically the same.