

THE RINGS OF STENNESS, BRODGAR & BOOKAN

CELEBRATING THE DISCOVERY OF SOUTH GREENLAND (ORKNEY ISLANDS, SCOTLAND, c.3200 BC)

by

Dr. R.M. de Jonge
J.S. Wakefield

Summary

The Stones of Stenness and the Ring of Brodgar are the largest of the many prehistoric ruins in the Orkneys, and among the premier megalithic remains in the world. The Orkney Islands were the jump-off point from coastal Europe to other islands being discovered in the north as the people looked for the home of the SunGod in the west. These two henge monuments, dated c.3200 BC, represent Greenland's South and Southwest Capes. The Ring of Stenness was originally built of 12 stones, also to commemorate the discovery of a new island in the north, Jan Mayen, 12° of latitude above the Orkneys. The larger Brodgar Ring was originally built of 61 stones to celebrate the area around the SW Cape of Greenland, at 61°N. Today, the reduced number of stones encode the later crossing (c.2500 BC) from West Greenland to Baffin-Island.

Introduction

THE ORKNEY ISLANDS are located in the north of Great Britain at a latitude of 59°N (Fig.1). The small archipelago has a diameter of about 30 miles (50km), and the southerly shores are situated 10 miles (16km) north of the Scottish mainland, at the other side of the passage called the Pentland Firth. The Orkneys (and the Shetlands further north) are the most north-western islands of Western Europe. Most of the megalithic monuments are located on the largest island, called "Mainland". These three Rings are situated on one of the most beautiful megalithic sites in the world, a narrow neck of land called the Ness of Brodgar (Fig.2). This is an isthmus

between the Loch (Lake) of Harray on the northern shore, having fresh water, and the Loch of Stenness on the south-western shore, with brackish water. The lochs are connected by a short stream of fresh water under the Bridge of Brodgar (Fig.4a), and situated about 4 miles NE of the town of Stromness (Figs.1,2). Since 1999, the Rings have been protected by the World Heritage List of UNESCO, because of "their outstanding universal value" (Ref.5).

The Stones of Stenness

Originally, the Ring of Stenness had 11 to 12 huge stones set in a circle, with a diameter of 32 meters (105 feet) (see Fig.3) (Refs.4-12).

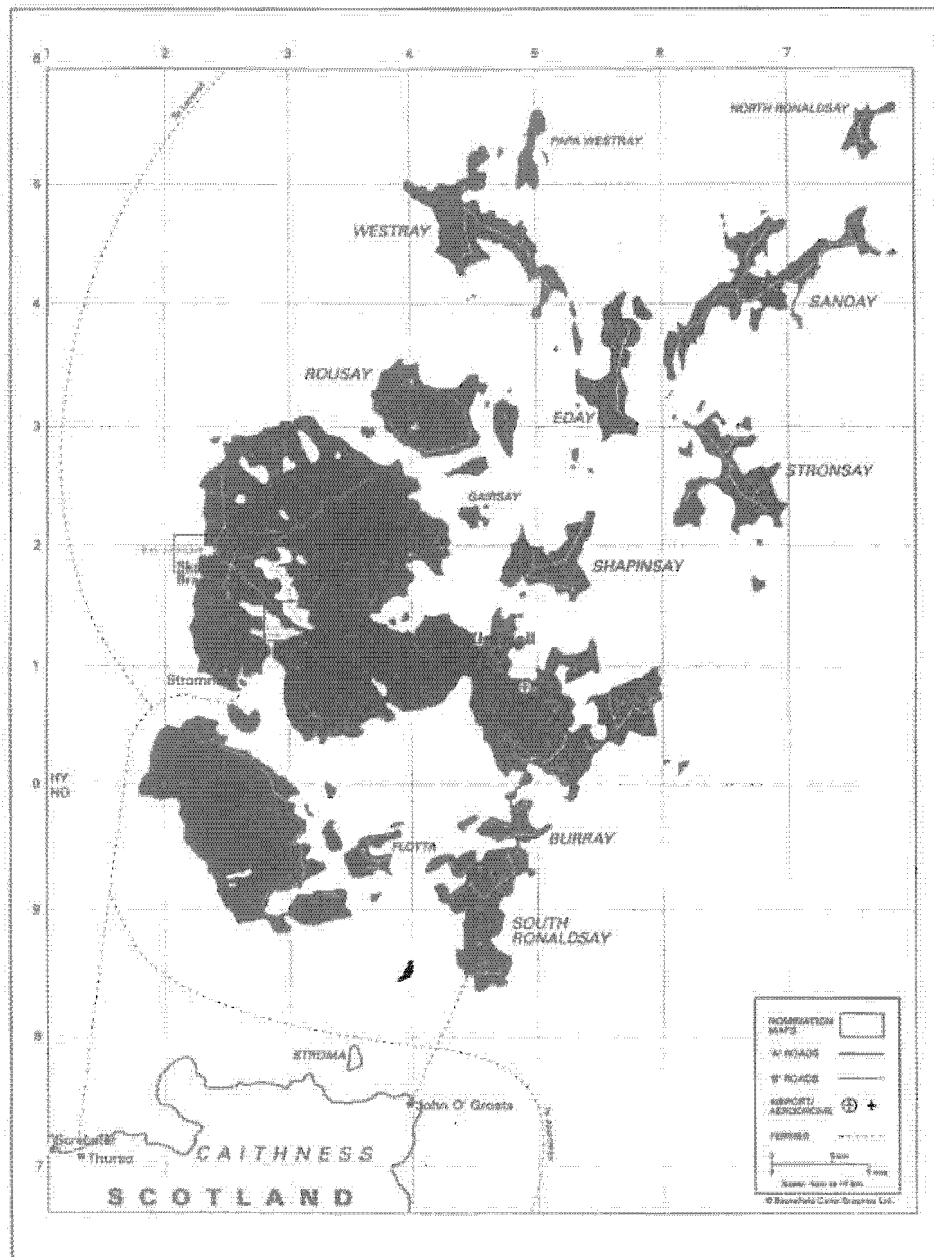
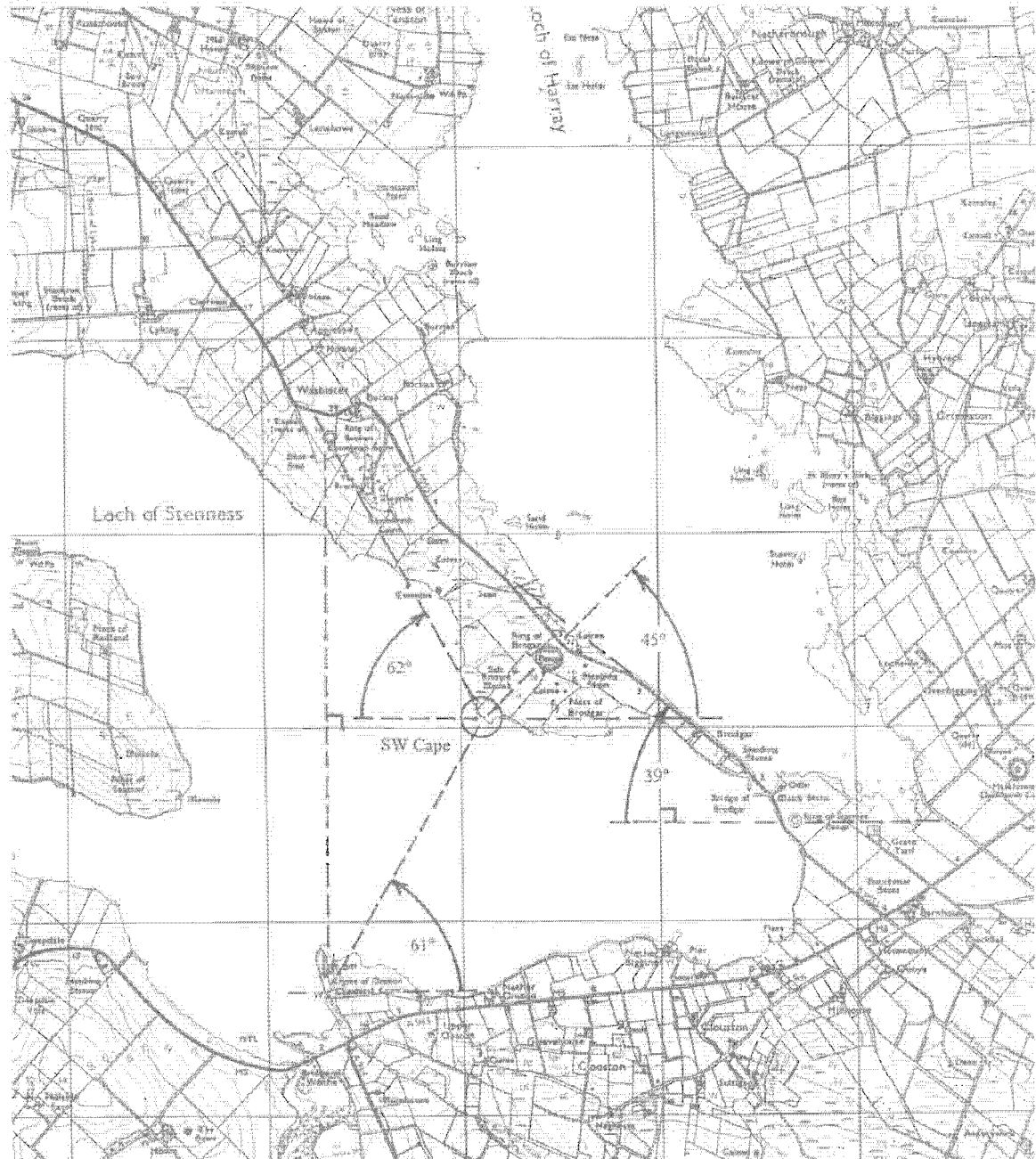


Fig.1 The Orkney Islands in the north of Great Britain. The largest island is called "Mainland", and the isthmus of the Ness of Brodgar is located between the two Lochs in the western part of it (59°N, Ref.5).

Fig.2 The isthmus of the Ness of Brodgar (59°N, Mainland, Orkneys) between the Loch of Harray in the north (fresh), and the Loch of Stenness in the SW (brackish). The isthmus symbolizes the narrow south coast of Greenland: The Stones of Stenness are Cape Farvel, at 60°N, the Ring of Brodgar is the SW Cape, at 61°N, and the Ring of Bookan is the West Coast of Greenland, at 62°N (c.3200 BC, 1 grid-length= 1km, Ref.25).



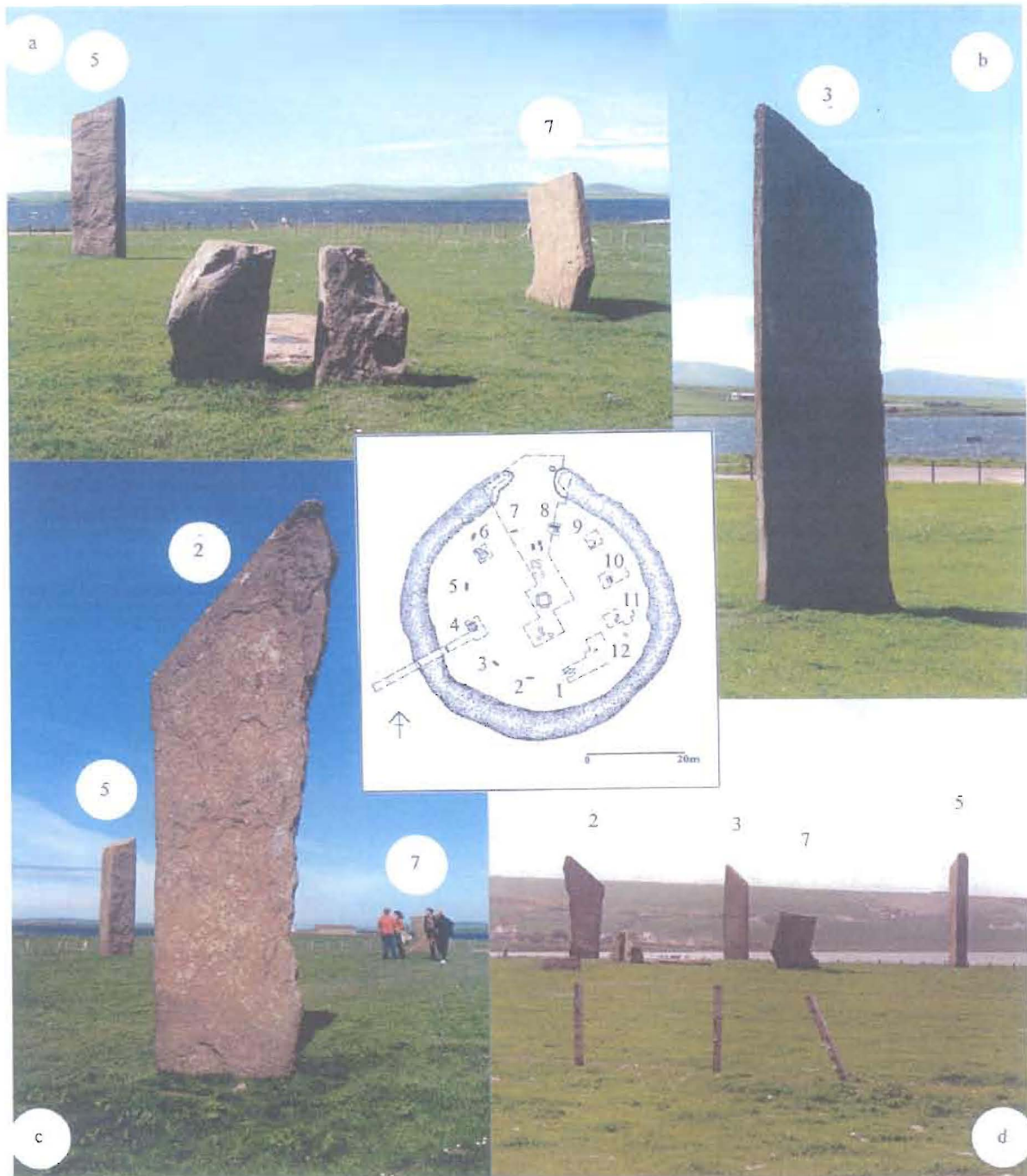


Fig.3 Center: Groundplan of the Stones of Stenness, representing Cape Farvel, Greenland (c.3200 BC, Ref.4). Photos May 2004: (a)= view W: The "altar stones" showing a narrow passage to more land in the west. The "elbow stone" shows the sailing route from Cape Farvel to SW Cape. (b)= view SW. (c)= view NNW. (d)= view SSW: The 4 stones encode the crossing from Greenland to Baffin Island at $59+4=63^{\circ}\text{N}$.

Today it has only 3 of the big stones, which range in height from 4.8m to 5.7m, one smaller bent menhir of 2m, and a small group of 3 stones inside the Ring. The three standing flagstones are huge, and only 30 to 40cm thick, which is surprisingly thin. The tops of the largest stones are angled about 45°. At the north side of the circle is the shorter "elbow stone", with the top half bent to the left, when seen from the center of the ring (Fig.3a). This special stone appears to be quite squarely and intentionally cut.

Around the stones was a ring-shaped ditch with a diameter of 50 meters, originally 6m wide and 2m deep, with an outer wall, no longer visible. About 2,000 cubic meters of solid sandstone bedrock had to be removed to shape the ditch. There was only one entrance and exit, on the northern side of the monument. Organic material for radiocarbon dating the site, which was obtained from the ditch, provided a date of c.3000 BC (Refs.4-8). The bottom of the ditch was found to be beneath the water table and was therefore probably originally filled with water, apparently a deliberate element of the design. However, both ditch and outer bank are barely visible today.

THE 12 ORIGINAL flagstones are indicated in their correct positions in the center of Fig.3, as revealed by the clumps of "setting stones", once crammed around the base of these big stones. Number 12 may have been a small stone. Small excavations in the Ring in 1973 revealed a stone lined rectangular hearth at the center (Fig.3), with burned bone, charcoal, and grooved ware (early) pottery (Refs.4,16,17). It also contained a quantity of "cramp", which is burned seaweed, still used as fuel in the Orkneys. About halfway out from the center is the group of three "altar stones", that were re-erected in their original positions (Fig.3a). Other "holes" full of debris for stone or wood uprights have been discovered nearby. The whole area has been subject to small

archaeological projects, but no major excavations have been done.

OPPOSITE the northern exit, at a distance of about 200 meters from the Ring of Stenness, was a Neolithic settlement with a large ceremonial building (in part, Fig.4b) called "Barnhouse Village" (Refs.4,5,9-12). It is located on the shore of the Loch of Harray. Archaeological excavation has revealed the remains of about 15 free-standing Neolithic buildings. Each house had a central hearth and beds set against the walls. The site seems to have been in use for about 400 years from around 3200 BC. Approximately 30 meters to the east, a menhir near the loch holds up a wire fence (Fig.4c), illustrating the extent of the undocumented richness of the site.

About 120 meters NW of the Stones of Stenness, at the southern edge of the Bridge of Brodgar, stands the magnificent Watch Stone (Fig.4a) (Refs.4,5,9-12). This menhir is awesome, the largest standing stone in the Orkneys, 5.6m (18 ft) tall, 1.5m wide, but only 40cm thick. Before 1930, a socket for another stone was recorded close to it during roadwork.

About 140 meters NNW of the Ring, toward the loch, stood a "holed" menhir, 2.5m high and 1m wide, called the Odin Stone (Fig.2). It was destroyed by a tenant farmer in 1814, angry that visitors to the site were damaging his fields. "As late as the 18th century, men and girls plighted their troth by clasping hands through the hole, and a contemporary report stated that "after this they proceeded to Consummation without further Ceremony" (Ref.14). Recent excavations which located the Odin Stone pit revealed another, similar pit nearby.

The Ring of Brodgar

This Ring is located on the isthmus, about 1 mile (1.5km) WNW of Stenness (Fig.2). It is one of the largest henges (stone circles with



Fig.4 a) The Watch Stone (5.6m) near Loch Stenness at the start of the Bridge of Brodgar. (b) A portion of Barnhouse Neolithic Village north of the Stones of Stenness near Loch Harray. (c) A menhir 100 feet east of Barnhouse Village. (Photos May 2004)



ditch and wall) of Western Europe (Fig.5a) (Refs.4-12). The stones are arranged in an impressive, nearly perfect circle. It measures 104 meters (340 feet) across, the same as the two Avebury inner rings in South England (Ref.15). It has been reported that, originally, there may have been 60 stones. However, in May 2004 we visited the site, and after close inspection we found evidence for correcting this number to 61 stones. It seems the number of stones was greatly reduced a long time ago. After archaeological restoration in 1908, the Ring was said to have a total of 27 menhirs, 23 of these standing, and 4 lying down.

THE UPRIGHT stones of Brodgar vary in height from 2.1m (7 ft) to a maximum of 4.6m (15 ft) (Figs.5,6). Like the Stones of Stenness, the thin stones have pointed tops at 45°, and are oriented with one of their flat sides facing the center of the ring. The slabs are long planks split from local sedimentary flagstone. There is quarry a mile to the north near Brokan Farm, where the stones may have been removed (Ref.8). Some of the tall slabs might have been split from the sandstone bedrock with wooden wedges when the ditch was cut (Refs.4,5). The henge of Brodgar is not scientifically dated yet, although most archaeologists estimate its date between 2500 and 2000 BC (Refs.5-8).

Around the stones is a vast circular ditch with a diameter of 121 meters, 9m wide, and originally 3.5m deep. It was battered and hacked out of the sandstone bedrock with great labor. The broken rock, with a volume of 12,000 cubic meters, was heaped onto a surrounding outer bank, which has since long disappeared. Renfrew, who dug a 3 foot section across it, has calculated that at least 80,000 man-hours went into the original construction, equal to three months of continuous digging by 100 laborers (Ref.8). Today, the ditch is clearly visible, though somewhat reduced in depth (Fig.5). Across the ditch are SE and NW causeways with azimuths of 38°SE and 38°NW, respectively.

It is a pity that an accurate groundplan drawing of the site is not available. From the aerial photo in Fig.5, the causeways can be seen to be parallel with the road, running NW up the peninsula. The interior of the Ring, thickly covered with heather, has never been excavated (Ref.5).

The Ring of Brodgar is not quite on the crest of the ridge, which it could have been, had the builders just moved the Ring about half its diameter to the west. Instead, it all rests on the slightly east-facing slope. The circle presents therefore a dramatic face to the rising morning sun. This strikes the visitor as clearly intentional. Folktales describe the Ring of Brodgar as the "Temple of the Sun", while the Stones of Stenness form the "Temple of the Moon" (Refs.4,9-12). There are at least thirteen burial mounds near the Ring, two being very large, while nine are in a group south of it (Ref.5). Some of these were probably added later onto the holy ground around the Ring. Four big Neolithic passage graves are located within a radius of 7 miles (11km), which illustrates the importance of the whole area.

To the ESE, 137 meters from the edge of Brodgar, stands the Comet Stone (Fig.8b), 1.7m high, 0.7m wide, and 30cm thick (Refs.5,11). It is on a low oval platform measuring about 14 meters across, and 0.8m high. On the same mound and at both sides of the Comet Stone are the stumps of two other stones.

The Ring of Bookan

ANOTHER MASSIVE earthwork is located 1 mile (1.6km) NW of Brodgar, called the Ring of Bookan (Fig.2) (Refs.5,9-12). It consists of an enclosing ditch, 13m across and 2m deep, surrounding an oval raised platform, measuring 45 by 38 meters. The Ring overlooks the Loch of Stenness, as shown in the photo of Fig.8a. There are no stones on the platform and no causeway. For

Fig.5 (a) The Ring of Brodgar looking north. It represents the SW Cape, at 61°N (the original 61 stones). (b) The tops of the stones, like this one, resemble South Greenland. (c) The "elbow stone" near the NW exit shows the sailing route around the SW Cape. (Photos May 2004) Center: An aerial photo of the Ring of Brodgar looking north (Ref.5).





Fig.6 Some pointed stones of the Ring of Brodgar (2.1m-4.6m). Their tops resemble South Greenland (below). The lower left photo (c) is looking north up the Loch of Harray. The other photos are looking into the dark heather of the center of the Ring.





Fig.8 (a) The Ring of Bookan, view south across the Loch of Stenness toward the Knove of Onston. (b) The Comet Stone, view SE across the Loch of Harray toward Maes Howe (behind the top of the stone). (c) Two Standing Stones in the yard of a house SE of the Ring of Brodgar, with Loch Harray in the background (c.3200 BC).



that reason, it is not included in tours, and unnoticed by visitors.

These three rings are sited in a biologically rich area, with rich surrounding agricultural lands, and a very near natural harbor. This would have been an obvious and spectacular site for early occupation by a maritime people. It is known from Greenland ice core studies that in Neolithic times the climate was warmer. Physical evidence for this has come through archaeological excavations of Orkney sites. "Wheat as well as barley was grown by the people of Skara Brae, whereas the farmers of recent times have not risked a wheat crop, preferring hardier barley and oats. Many bones of the corkwing wrasse were found in the chambered tomb at Quanterness, and a red sea bream was found in the tomb at Midhowe. These are both fish which are rare in such northern latitudes today" (Ref.13). Today, the land is remote, and used for farming and protected anchorage in the Scapa Flow naval harbor. Its people have gone all over the world, many recruited as employees of the Hudson Bay Company in Canada. The walrus herds are long gone, but curlews, oystercatchers, and other seabirds nest in the fields, the ruins, the seacliffs, and sand dunes along the beaches. Seals abound. The near-absence of trees and new construction have helped preserve the many ancient sites.

The Sun Religion

BARNHOUSE VILLAGE was populated between 3200 and 2800 BC, and the nearby Stones of Stenness are dated c.3000 BC. These dates coincide with the start of the Egyptian civilization. We know that the megalith builders were followers of the Sun Religion, which became most developed during the Old Kingdom in Egypt, and was centered there, as shown by encoded latitude references to it in many megalithic monuments (Refs.1-3). Stenness, Brodgar, and Bookan were originally henges – stone

circles with circular ditches and outside walls. Let us first look at their religious and geographic meanings.

THESE HENGES are located at the west coast of Western Europe, close to the Ocean. That is because the megalith builders wanted to spread the Sun Religion to the unknown back side of the planet (Refs.1-3). So in the largest sense, the henges symbolized the circular Earth. The inner circular platforms represent the well known Old World, and the ditches around them, which may have been filled with water, represent the huge Atlantic Ocean. The meaning of the outer walls is interesting, because these would represent newly discovered land in the west, on the other side of the Ocean.

The henges have the shape of the circular Sun, dedicated to the Egyptian SunGod Ra. In the hierarchy below this supreme God were two other gods, the sungod Horus and the moongod Osiris. The circular outer walls of these monuments were dedicated to the sungod Horus, and the inner circular platforms were dedicated to the moongod Osiris. The ancient Egyptians believed that their kings and pharaohs were earthly substitutes or representatives of these two gods (like the Pope in our time). Brodgar was called the "Temple of the Sun", and Stenness was called the "Temple of the Moon", illustrating the influence of these two gods. However, the whole circular henge also resembles the "wheel of the law". For that reason it is also dedicated to Maat, the goddess of law and order in the universe.

Cape Farvel, Greenland

Northwest of the Orkneys, the Faroes and Iceland are located. These islands had been discovered c.3400 BC (Refs.1-3). After Iceland, Neolithic people, following the holy Arctic Circle, at 67°N, discovered Cape Holm, Greenland, c.3300 BC. Along the east coast of this continent they voyaged slowly to the south (Fig.7). They hoped they had



discovered the other side of the Ocean. However, Greenland turned out to be an island. They reached Cape Farvel ("Farewell"), the south cape, at 60°N, and later the SW Cape, at 61°N. These successes were recorded in the famous monuments of Stonehenge I, in South England, and in Loughcrew, Ireland (Refs.1-3, 21-23). Both monuments date from c.3200 BC, when they gave up their efforts to cross Davis Strait.

Barnhouse Village and the Stones of Stenness were in use during the centuries around 3000 BC, just after this dramatic decision. So, it appears that the isthmus between these two lochs is a model of the narrow south coast of Greenland (Fig.2). The fresh water of the Loch of Harray symbolizes the huge ice cap of Greenland in the north, and the salt water of the Loch of Stenness represents the unknown Ocean in the southwest. Note, that the Stones of Stenness are placed just west of the southernmost tip of Loch Harray, at the coast of the Loch Stenness, named after these Stones. So the Ring of Stenness is positioned to represent Cape Farvel, the south cape of Greenland.

The original groundplan of the Ring shows only one causeway in the north (Fig.3). So, except in the north, the platform was at all sides surrounded by water (in the ditch), just like Cape Farvel. Look also at the so-called "altar stones" (Fig.3a), and the reduced (dotted) western end of the ditch. It is a view west. So, in western direction, there is a narrow passage (the narrow space between the two upright stones), leading to more land in the west (the slab lying behind them on the ground). This is correct, because in western direction people could sail through a narrow strait, between the Islets and the mainland, to the SW Cape, and beyond.

THE POINTED tops of the huge menhirs #2, #3, and #5 resemble a coast map of South Greenland, confirming this interpretation (Fig.3). Seen from the center of the Ring, the "elbow stone" (#7) bends to the left, or NW

(Fig.3a). The shape of the stone closely resembles the coastal sailing route from Cape Farvel to the SW Cape (see Fig.7). The menhirs are placed with their flat faces toward the center of the Ring. So the monument resembles the spherical Earth as closely as possible. Originally, the Ring of Stenness possessed an outer circular wall (not shown on the groundplan). This wall represented Greenland, the westernmost land of the then known world, located at the other side of the Atlantic Ocean (the ditch).

THE STONE CIRCLES of the henges deal with the edge of the Old World, and the ditches beyond them represent the surrounding seas. The Ring of Stenness contained 11 to 12 stones, because stone #12 was a small one (as indicated on the groundplan, Fig.3). The 12 stones had been placed to celebrate the discovery of the island of Jan Mayen, above Iceland in the north, 12° above the Orkneys, at $59+12= 71^{\circ}\text{N}$. This happened three centuries after the discovery of Cape Farvel, c.3250 BC (c.2950 BC, Ref.30). So this circle of 12 stones was placed in the center, about 300 years after construction of the earthwork.

The small stone #12 may have symbolized the islet of Jan Mayen. The other 11 stones represented Cape Farvel, 11° below Jan Mayen, at $71-11= 60^{\circ}\text{N}$. This cape was more important, of course. The whole Ring continued to symbolize Cape Farvel. These early discoveries in the Upper North may be surprising. However, recent ice core studies in Greenland show the seas around these areas had more of a Mediterranean climate during this time period (Ref.20).

When Neolithic people walked from Stenness along the isthmus to the Ring of Brodgar, they thought about the coastal sailing route from Cape Farvel to the SW Cape of Greenland. After 120 meters, we arrive at the Watch Stone near the Bridge of Brodgar (Fig.4a). This enormous menhir of almost 6m high shows that the area around the SW

Cape, which we are about to reach, was considered of the utmost importance. Note, that the monolith is situated at the side of the salt water of Loch Stenness. Remember, that people wanted to cross the Ocean from the SW Cape of Greenland, so this stone may commemorate major expeditions that departed to the west from this point, and never returned.

BEFORE 1814, the Odin Stone, with the round hole in it, was located about 140 meters NNW of the Stenness Ring (Fig.2). Looking from the Odin Stone, the Ring of Brodgar is 29° to the northwest. This is the complementary latitude of the SW Cape of Greenland, $90-29=61^\circ\text{N}$. So the location of the "holed" Odin Stone shows it was at least partially connected in meaning to the Rings.

At the other side of the bridge, near Brodgar Farm, are two menhirs 8.3 meters apart (Figs.2,8c) (Ref.5). A geophysical survey undertaken for the Orkney Archaeological Trust has indicated extensive settlement remains in the vicinity. The SE-stone is 1.7m high, and the NW-stone is 2.7m high. The first menhir could represent Cape Farvel, 1° above the Orkneys, at $59+1=60^\circ\text{N}$, and the second, taller menhir could represent the SW Cape of Greenland, 2° above the Orkneys, at $59+2=61^\circ\text{N}$. Perhaps archaeological excavation of the surrounding settlements will suggest further meanings.

SW Cape of Greenland

The circular inner platform of the Ring of Brodgar symbolizes the well-known Old World, and the stone circle around the outside is about the edge of that world (Figs.2,5). Originally, this circle contained 61 stones, corresponding with the latitude of the important SW Cape of Greenland, at 61°N . The SE entrance shows this cape could be reached from the southeast, and the NW exit illustrates sailing could be continued to the northwest.

All the Brodgar menhirs were placed with their flat faces toward the center of the Ring (see Fig.5), just like in Stenness. In this way the monument resembled the spherical Earth as closely as possible. The circular platform represents the Old World, which is surrounded by the vast Atlantic Ocean (the huge ditch). The outer wall, which has disappeared, symbolized Greenland, the westernmost land of the then-known world. The pointed tops of the menhirs (Figs.5,6) resemble a coast map of South Greenland, confirming the interpretation. Seen from the center of the Ring, the top of the "elbow stone" (Fig.5c) bends to the right, or north. The shape of this stone closely resembles the coastal sailing route around the SW Cape of Greenland (see Fig.7).

The round platform of the Ring of Brodgar has a diameter of 112 meters (367 feet), which is equal to 1 milli-Moira, or one thousandth of a Moira. The Moira is an ancient Egyptian unit of length, corresponding to 1 degree of latitude. So, $1 \text{ Moira} = 1^\circ = 111\text{km}$ (69 miles, or 60 NM) = 365 thousand feet, and 1 milli-Moira equals 111 meters (365 feet) (Refs.1-3). This huge size of the monuments stresses the importance of finding the new lands. Including the ditches, the Rings of Stenness and Bookan have average diameters of 56 meters and 55 meters, respectively, equal to half a milli-Moira (55m), so these Rings were considered less important than the Brodgar Ring.

THE RING OF Brodgar is split in two by its two causeways across the encircling ditch. The SW half contained 31 menhirs, corresponding to the northern Nile Delta in Egypt, at 31°N , and to the Orkneys, at the complementary latitude of $90-31=59^\circ\text{N}$. The NE half contained 30 menhirs, encoding the southern Nile Delta, at 30°N , and Cape Farvel, Greenland, at the complementary latitude of $90-30=60^\circ\text{N}$. All these striking "coincidences" are not accidents, but are

features of a complex site carefully designed by the mind of man.

AT A DIRECTION of exactly 45°SW of the Ring of Brodgar is the "SW Cape of Brodgar" (Fig.2), which symbolizes the important SW Cape of Greenland. At the opposite shore of Loch Stenness is the chambered cairn of the "Knove of Onston" (or "Unstan", Ref.4, Fig.2). Seen from this chambered cairn, the "SW Cape of Brodgar" is located at a direction of 61°NE , encoding the latitude of the SW Cape of Greenland for the third time, at 61°N . This SW Cape was considered to be the most promising point of departure for reaching unknown land at the back side of the planet Earth.

West Coast of Greenland

Seen from the "SW Cape of Brodgar", the Ring of Bookan is located at a direction of 62°NW , encoding the latitude of the West Coast of Greenland, at 62°N (Fig.2). This particular location did not coincide with an important cape. In spite of this, however, it had some importance. According to Stonehenge I in South England, and Loughcrew in Ireland, it was the westernmost point the megalith builders reached, before giving up their efforts to cross Davis Strait, c.3200 BC (Refs.1-3).

The central platform of the Ring of Bookan, an important earthwork, symbolizes the Old World, and the ditch represents the Atlantic Ocean (Fig.8a). The outer bank, which has disappeared, symbolized Greenland, the westernmost land of the then-known world. It is reasonable to assume that early pathways and roads in this area were constructed simultaneously with the henges (see Fig.2). The main road due east of the Ring of Bookan points 62°NW , confirming the West Coast of Greenland, at 62°N . The small road due west of the Ring points 62°SW to the

coast of Loch Stenness. It confirms this coastal area of Greenland again.

The first monument on the isthmus, the Stones of Stenness (Fig.2), symbolizes Cape Farvel, 1 degree of latitude above the Orkneys, at $59+1=60^{\circ}\text{N}$. It appears that the second monument, the Ring of Brodgar, symbolizes the important SW Cape of Greenland, 2° above the Orkneys, at $59+2=61^{\circ}\text{N}$. Finally, it appears that the third monument, the Ring of Bookan, symbolizes the West Coast of Greenland, 3° above the Orkneys, at $59+3=62^{\circ}\text{N}$ (the three circles in Fig.7). Note, that the west side of this Ring is situated due north of the chambered cairn of the "Knove of Onston", just mentioned (Fig.2).

A series of menhirs (now horizontal or being used for corner fenceposts) lie along the shore of the Loch of Stenness between the Ring of Brodgar and Ring of Bookan (Fig.9). These may indicate early voyages of exploration from the West Coast of Greenland, dated c.3200 BC.

A NICE PHOTO of the Comet Stone is shown Fig.8b. Seen from the center of the Ring of Brodgar, this stone points 14°ESE to Maes Howe, a magnificent stone Tomb of 3000 BC (Fig.2) (Ref.4). This famous tomb is situated about half a kilometer east of the southernmost part of Loch Harray. On the Maes Howe platform "has been found at least one socket for a very large standing stone", and around the platform is a ditch, originally 14m wide and 2m deep, with a bank outside (Ref.5). The meaning of this easterly alignment to Maes Howe and its standing stone(s) is not clear, but it appears that the Comet Stone and the Tomb may be related to the dramatic decision to give up the efforts to go further west across Davis Strait (Ref.1). The geographic position of Maes Howe east of Loch Harray shows that Greenland was considered the westernmost land for a long time.



Fig.9 Standing Stones along the shore of the Loch of Stenness, between Bookan and the Ring of Brodgar (barely visible at the horizon, photos b,c). Stone d is furthest from the Ring, a is closer, b is closer yet, and c is nearest to Brodgar.



Prior Western Lands: The Azores

The main road leading to the Stones of Stenness, and along the shore of the Loch Harray to the Ring of Brodgar, points 39°NW (Fig.2), which references the monument of Stonehenge I in South England at the complementary latitude of $90-39=51^{\circ}\text{N}$. Stonehenge I (which at this date did not yet include the huge "Sarsen Stones"), is the most important monument in Europe, which was built for the discovery of South Greenland (c.3200 BC) (Refs.1-3).

HOWEVER, the direction of 39°NW is also coincident with the 39°N latitude of the West Azores (Fig.2). So the isthmus of the Ness of Brodgar also represents the long archipelago of the Azores, and both lochs now symbolize the vast Atlantic Ocean. These islands were discovered c.3600 BC (Refs.1-3). It was the westernmost area of the known world during the three centuries prior to the discovery of Greenland.

The three big Rings symbolize the three island groups of the Azores, in keeping with the traditional representation of the Azores by 3 circles or 3 joined spirals (Refs.1-3). The first Ring, the Stones of Stenness, symbolizes the East Azores, 1° of latitude above the Strait of Gibraltar, at $36+1=37^{\circ}\text{N}$. The second, and largest monument, the Ring of Brodgar, represents the important Central Azores, 2° above Gibraltar, at $36+2=38^{\circ}\text{N}$. Finally, the third construction, the Ring of Bookan, stands for the West Azores, 3° above the Strait of Gibraltar, at $36+3=39^{\circ}\text{N}$ (Refs.1-3).

The entrance of the Ring of Brodgar (the causeway across the ditch) points 38°SE, and the exit on the other side points 38°NW, twice confirming the purposeful intent of encoding the Central Azores, at 38°N. The group of 9 small mounds just SE of the Ring of Brodgar symbolizes the 9 islands of the Azores (Ref.5). These mounds have base-diameters of 5 to 13m, and are up to 1m high.

The Azores became very important after the discovery of America, c.2500 BC, because of the return route from Newfoundland in the west, with the wind and current.

Changing Times – Monuments altered

As shown by the famous petroglyphs at Dissignac, Brittany, new lands in the west were discovered by the Egyptians via the Bering Sea, c.2600 BC (Refs.1-3). In the next century people crossed the Atlantic Ocean via the Southern Crossing, from Africa to South America, c.2500 BC. In the same century, they crossed the Ocean via the Upper North, from Greenland to Baffin Island. All these developments had a tremendous influence on the peoples of the Old World. The attempts to cross the Atlantic Ocean had lasted for 3000 years, from 5500 to 2500 BC (Refs.1-3, 21-23). Finally, the unknown back side of the Earth had been reached. After this event a completely different world vision became shared among the peoples of the Old World. From 2500 BC forward, megalithic monuments had a different character.

THE THREE RINGS on the Ness of Brodgar were modified, and updated. We have seen that this was done with other monuments, for instance Kercado in Brittany, and Stonehenge in South England, where Phases II and III followed Phase I by a thousand years (Ref.1). Aubrey Burl, an expert on stone ring design, has stated that "changes of mind were common". We should not be surprised, since these were the visible civic monuments for such long spans of time. We don't believe the drastic changes that have occurred to these Rings in the Orkneys were caused by vandalism in the 19th or 20th century, as sometimes suggested. Vandalism is not a typical characteristic in this remote, and thinly populated part of Scotland. On the contrary, it is well-known that the survival of the remains of the Neolithic period on the Orkneys is exceptionally good (Ref.5).

With the new understanding of the world, the central platform of each of the Rings now symbolized all the land on Earth (not just the Old World), and all this land is surrounded by sea (the ditch). The outside walls, which previously represented Greenland at the edge of the earth, were removed from all three rings. The new paradigm of geographic understanding led to further remodel of these old sites. Stones were removed, to encode new meanings.

THE RING OF Stenness, which represents Cape Farvel, was reduced to today's 4 western menhirs. The small "elbow stone" (#7 in Fig.3) confirms Cape Farvel, 1° of latitude above the Orkneys, at $59+1=60^\circ\text{N}$. The other 3 menhirs, which are more than twice as tall (Fig.3d) can count for two! So, they describe the important crossings of Davis Strait. The southern crossing, 3° above Cape Farvel, has a length of $2 \times 3 = 6$ Moiras = 360 NM. The northern crossing, $2 \times 3 = 6^\circ$ above Cape Farvel, has a length of 3 Moiras = 180 nm. Both sailing distances are correct. Next, the ditch of Stenness was filled in, because at 63°N and 66°N the Ocean could be crossed, so the ditch symbolism became meaningless. The Ocean was not a barrier anymore.

The large Ring of Brodgar was reduced to today's 27 menhirs. This number is much higher than the 4 at Stenness, which means that after the discovery of America, the SW Cape was considered to be much more important than Cape Farvel. All crossings to the new continent proceeded through the SW Cape. The remaining 27 menhirs correspond with the complementary latitude of the south point of Iceland, and with the most important crossing from Greenland to Baffin Island, both at $90-27=63^\circ\text{N}$. So, the Ring of Brodgar confirms the southern crossing indicated at Stenness (Refs.32-35). Added together, the Rings then had $27+4=31$ menhirs, encoding the latitude of the Nile Delta, the Northern Egyptian Empire, at 31°N , as well as the important latitude of the Orkney Islands,

where these huge Rings are located, at $90-31=59^\circ\text{N}$.

The "altar stones" in the center of the Ring of Stenness receive a broader meaning now (Fig.3a). It is a view west. So, in western direction there is a narrow passage (which might be around the south coast of Greenland, or might be the whole crossing of the Ocean, both represented by the narrow space between the two upright stones), leading to more land in the west (America, the slab lying behind them on the ground). The large standing stone at Maes Howe may have been removed as the easterly alignment, which indicated no further possible passage to the west, had been shown to be a mistake.

Dating

The discovery of Greenland is firmly dated to c.3300 BC (Refs.1-3), and the discovery of its south coast probably happened 50 years later, c.3250 BC. In view of their similar design, the shapes and orientations of the stones, and, last but not least, their meanings, the Rings of Stenness, Brodgar, and Bookan must have close construction dates, but of course after the discovery dates (Ref.4). Most monuments related to Greenland, like Stonehenge I and Loughcrew, are dated c.3200 BC, when the megalith builders gave up their efforts to cross Davis Strait. Barnhouse Village was populated during this time. It is very probable that most of the monuments on the Ness of Brodgar have the same age. The supposition that the Ring of Brodgar is of a much later date, between 2500 and 2000 BC, is definitely wrong (Refs.5-12).

THE TWO CORRECTED Carbon-14 dates from the ditch of the Ring of Stenness provide an averaged date of c.2960 BC (Refs.1,4,6). This later date supports the discovery of the islet of Jan Mayen, encoded by the old stone circle of Stenness. It is probable, that some organic material was dropped in the ditch during the construction

of this circle. The discovery date of c.2950 for Jan Mayen was recently confirmed by the passage grave of Karleby in Sweden (Ref.30).

ON THE SHETLAND Islands, north of the Orkneys, there is evidence of land having been cleared and divided by walls between 3200 and 2800 BC (Ref.11). This is just after the important discovery of Cape Farvel, at 60°N. Shetland, also sited at 60°N, became important because of the discoveries in the west. Ales Stenar is a large sunship monument in Sweden, constructed of 60 stones (Ref.35). This megalithic monument of later date also encodes Cape Farvel, at 60°N.

The name of the "Watch Stone" near the Bridge of Brodgar (Fig.4a) may indicate it has a time encoding. If we add it to the near 4 Stones of Stenness, you get $1+4=5$. There are also 5 huge trilithons in the Horseshoe of Stonehenge III, which is the monument for the discovery of America, as explained in our book, "How the SunGod Reached America, c.2500 BC" (Ref.1). This discovery via the Atlantic occurred during the 5th Dynasty of Egypt (2518-2371 BC). Is it possible that the 5th Dynasty is encoded by these monuments?

Discussion

The Megalithic Culture of Western Europe started about 5500 BC, more than two thousand years before the Old Kingdom of Pharaonic Egypt, which became the center of the Sun Religion. People wanted to spread the old Sun Religion to the west, because their supreme god, the SunGod, had said (in Egyptian hieroglyphics): "The Realm of the Dead is in the west, at the other side of the waters, in the land where the Sun sets." For that reason, people were looking for the

unknown other side of the earth. This search lasted thousands of years, because of the huge size of the Atlantic Ocean. This is the main reason the Megalithic Culture lasted so long, some 4 millennia, from 5500 BC to 1500 BC. The ring monuments of the Orkneys document an important part in this story of the exploration of the backside of the earth.

There must be a need in man, springing from the spatial ability of his large brain, to create maps. Birds are thought to find their way during migrations by memorized star patterns, wolves use smell markings, and memorized land features, but people make maps to communicate with each other. We have found that many megalithic petroglyphs are actually maps (Ref.1-3). The design of this Ring complex in the Orkneys is a good example of a walk-in map laid out in large stone constructions. The most complex example of a walk-in map site is the American Stonehenge site in New Hampshire, dated c.2200 BC (Refs.1,32). These stone maps are a tribute to man's ability to conceptualize his environment, and symbolize it in grand public monuments.

ONE MAY WONDER about the origin of the name of "Brodgar" or "Brogar" (Ref.10). For years, the origin of the placename has been explained as being from the Old Norse brúar-garðr meaning "Bridge Farm". However, there is another intriguing possibility. Bearing in mind the local pronunciation, broadyeur, the name could actually stem from "brúar-jorð" - the "earth bridge". The Ring of Brodgar turns out to play a prominent role in man's discovery of the "Bridge" between the Old World and the New World. Now that we again understand this old meaning, perhaps this will encourage further study of these important sites.

REFERENCES

1. De Jonge, R.M., and Wakefield, J.S., How the SunGod Reached America c.2500 BC, A Guide to Megalithic Sites, 2002 (ISBN 0-917054-19-9). Available: MCS Inc., Box 3392, Kirkland, Wa 98083-3392, also on CD
2. Website: www.howthesungod.com, De Jonge, R.M., and Wakefield, J.S.
3. De Jonge, R.M., and Wakefield, J.S., "The Discovery of the Atlantic Islands", *Migration & Diffusion*, Vol.3, No.11, pgs.69-109 (2002)
4. Garnham, T., Lines on the Landscape, Circles from the Sky, Monuments of Neolithic Orkney, Temple Publishing, Great Britain, 2004 (ISBN 0-7524-3114-5)
5. Nomination of the Heart of Neolithic Orkney for Inclusion in the World Heritage List by UNESCO, Historic Scotland, 2000 (ISBN 1-900168-54-5)
6. Balfour, M., Megalithic Mysteries - An Illustrated Guide to Europe's Ancient Sites, Collins & Brown, 1992 (ISBN 1-85-585-3558)
7. Burl, A., The Stone Circles of the British Isles, Yale University Press, London (1976) (ISBN 0-300-02398-7)
8. Bur, A., and Piper, E., Rings of Stone, The Prehistoric Stone Circles of Britain and Ireland, Ticknor & Fields, New York, 1980 (ISBN 0-89919-000-6)
9. Website: www.undiscoveredscotland.co.uk/westmainland/stennessstones/
10. Website: www.orkneyjar.com/history/standingstones/
11. Website: www.stonepages.com/ancient_scotland/sites/stenness/htm/
12. Website: www.maeshowe.co.uk/maeshowe/standing.html/
13. Burl, A., From Carnac to Callanish, The Prehistoric Stone Rows and Avenues of Britain, Ireland, and Brittany, Yale University Press, New Haven and London, 1993 (ISBN 0-300-05575-7)
14. Burl, A., Prehistoric Avebury, Yale University Press, London, 1979 (ISBN 0-300-02368-5)
15. Bullock, T., and Burnham, A., Stone Circles and Stone Rows, Photographic Tours (2 CD discs, revised 2nd Edition, 1989-2003)
16. Ritchie, A., Prehistoric Orkney, B.T. Batsford Ltd. / Historic Scotland, London, 1995 (ISBN 0-7134-7593-5)
17. Thom, A., Megalithic Sites in Britain, Clarendon Press, Oxford, reprinted 2002 (ISBN 0-19-813148-8)
18. Beckensall, S., Rock Carvings of Northern Britain, Shire Archaeology, UK (1986) (ISBN 0-85263-760-8)
19. Peiser, B.J., Palmer, T., Bailey, M.E., Natural Catastrophes during Bronze Age Civilizations, BAR International Series 728, Oxford, 1998 (ISBN 0-86054-916-X); MacKie, E.W., "Can European Prehistory Detect Large-Scale Natural Disasters?", pgs.169-171.
20. Ref.19: Peiser, B.J. "Evidence for a Global Disaster in the Late 3rd Millennium BC", pgs.117-140.
21. Casson, L., Ships and Seafaring in Ancient Times, British Museum Press, 1994
22. Wachsmann, S., Seagoing Ships and Seamanship in the Bronze Age Levant, College Station, Texas, 1998
23. Heyerdahl, T., The Ra Expeditions, George Allen & Unwin, London, 1971
24. Haywood, J., Historical Atlas of the Vikings, Penguin Books, London (1995) (ISBN 0-14-051328-0)
25. Ordinance Survey Map, Pathfinder Series "Finstown" HY 21/31, 1:25,000
26. "Atlantic Ocean", *National Geographic Magazine*, 1968
27. Wallis Budge, E.A., Osiris and the Egyptian Resurrection, 2 Vol., Dover Pub., N.Y., 1973

(ISBN 0-486-22780-4)

28. Kemp, B.J., *Ancient Egypt, Anatomy of a Civilization*, London, Routledge, 1991
29. Siliotti, A., *Egypt, Temples, People and Gods*, Bergamo, Italy, 1997
30. De Jonge, R.M., and Wakefield, J.S., "The Passage Grave of Karleby, Encoding the Islands Discovered in the Ocean, c. 2950 BC", *Migration & Diffusion*, Vol.5, No.18, pgs.64-74 (2004)
31. Twohig, E. Shee, *The Megalithic Art of Western Europe*, Clarendon Press, Oxford, 1981
32. De Jonge, R.M., and Wakefield, J.S., "A Nautical Center for Crossing the Ocean, America's Stonehenge, New Hampshire, c.2200 BC", *Migration & Diffusion*, Vol.4, No.15, pgs.60-100 (2002)
33. De Jonge, R.M., and Wakefield, J.S., "Germany's Bronze Age Disc Reveals Transatlantic Seafaring, c.1600 BC", *Ancient American*, Vol.9, No.55, pgs.18-20 (2004)
34. De Jonge, R.M., and Wakefield, J.S., "The Three Rivers Petroglyph, A Guide-post for River Travel in America", *Migration & Diffusion*, Vol.3, No.12, pgs.74-100 (2002)
35. De Jonge, R.M., and Wakefield, J.S., "Ales Stenar, Sweden's Bronze Age 'Sunship' to the Americas, c.500 BC", *Ancient American*, Vol.9, No.56, pgs.16-21 (2004)
36. De Jonge, R.M., "Great Circle Mound: An Indiana Temple to the Egyptian SunGod?", *Ancient American*, Issue 60, Vol.9, pgs.31-32, 2004.
37. De Jonge, R.M., and Wakefield, J.S., "The Disc of Nebra, Important Sailing Routes of the Bronze Age Displayed in a Religious Context", *Migration and Diffusion*, Vol.5, No.17, pgs. 32-39, 2004
38. De Jonge, R.M., and Wakefield, J.S., "The Megalithic Megalithic Monument of Lagatjar, Brittany c.1600 BC", to be published
39. De Jonge, R.M., and IJzereef, G.F., *De Stenen Spreken*, Kosmos Z&K, Utrecht/Antwerpen, 1996 (ISBN 90-215-2846-0) (Dutch)

Correspondence address:

Dr. Reinoud de Jonge

Wentholtweg 8
7214 EG, Epse
Netherlands

e-mail: drsmdejonge@hotmail.com

Jay Stuart Wakefield

MCS Inc.
Box 3392, Kirkland
WA 98083 – 3392
USA

e-mail: jayswakefield@yahoo.com