# THE DISCOVERY OF THE ATLANTIC ISLANDS 

by

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The Decipherment of Megalithic Picture Writing (Petroglyphs of Cairn T, Lougherew, Meath, Ireland, ca. 3200 BC)

## Summary

Dr. de Jonge called his first interpretation of Fig. 1 (seen also in Figs.4,5) "The Story of Loughcrew". This photo is of Reinoud and Stone C8, the westernmost interior stone of the megalithic "passage grave" in Cairn T, Lougherew, Ireland, dated c. 3200 BC (Figs.2,3). You are facing west toward the setting sun and the western ocean as you look at the stone inside the cairn. These cairns may not have been originally constructed as graves, but as monuments, astronomical tools ("Cairns of the Sun"), and/or mission churches. Tomkins (Ref.20) points out that "the custom of burying distinguished citizens in national monuments that were not originally designed for that purpose is common to the world, as in Westminster Abbey, the Invalides, the Pantheon, and Maes-Howe". Breman (Ref.18) claims that "large stone bowls and burned stones [such as have been found at Knowth and Newgrange] are evidence of steambath "purification rites". There is a later Celtic tradition that having sex in the cairms will help you get pregnant through "divine coition" (Ref.11). The three hills of the complex lie near the Boyne River, west of Newgrange, in central Ireland, 60 km from the east coast. This "megalithic cemetery" consists of many graves, which are situated inside cairns, on the three grassy hilltops now being grazed by cows and sheep. These tombs contain many stones with inscriptions (Ref.2), but we will primarily look at two stones in this article.

The Carbon- 14 dating of megalithic tombs in Ireland has been done on teeth remaining in these tombs from low-temperature wood-fire cremations. The $\mathrm{C}-14$ measurements all point to dates in the second half of the 4th millennium BC (Ref.2), which would be after the discovery of the Azores (c. 3600 BC ), the new western home of the SunGod (Ref.1). So, it does not surprise us, that this whole complex of monuments of Lougherew strongly resembles the three groups of islands of the Azores. The passage graves lie on three billtops, with an altitude of roughly 800 m . The eastern billtop possesses in fact two cairns (see Fig. 2), corresponding to the two islands of the East Azores. The highest central hiltop possesses five more cairms, for seven total, corresponding to the five additional islands of the Central Azores. And the western hilltop possesses two more cairns, for nine total, corresponding to the two additional islands of the West Azores. As a consequence, the inscriptions in the passage graves should be associated


Fig. 1 Photo of Dr. Reinoud de Jonge explaining the "Story of Lougherew" inscription, July 8, 1998. The flashlight points to the discovery of the Azores in the middle of the Atlantic (c. 3600 BC ). This was the starting signal for the building of the monument-complex of Loughcrew. Ireland.
with these islands. Smaller, lower cairns have been later added around these cairns, as shown in Fig.2, some of which have been shown to be calendrical "warning" tools (sunlight in their passages shine on glyphs prior to those at special Holy sites (Ref.17).

The most important passage grave is in Cairn T, on top of the highest hill of Loughcrew, in Corstown (Fig.2). The cairn, including the passage grave, is oriented to the west. The westernmost chamber will be the most important one. And of course, within this chamber the westernmost stone (C8) will be of special importance. In accord with this statement, the endstone C 8 has been engraved in a surprisingly beautiful fashion (Fig.4).

Stone C8 (Ref.24) is well known for its decorative "art" and "a fine array of sun-eyes" (see Mythic Ireland, by Michael Dames, Ref.11). Other authors have said this is "unsophisticated art" (O'Kelly, Ref.13). "Newgrange has much higher art, than for example, Loughcrew" (Balfour, Ref.15). These are "motifs close to patterns recorded in trances and hallucinations" (Patton, Ref.14). "A finger of light [enters the passage grave], illuminating the symbols in turn, spelling out a message in a forgotten language of symbols" (Mitchell, Ref.9). "It is highly abstract, a form of symbolic writing, many symbols seem to indicate numbers and counting comected with timekeeping" (Brennan, Ref.17). We agree that these inscriptions are artistic, and find they also contain geographic information, and convey the aspirations, experiences, and thinking of their creators.

## Stone C-8, Cairn T

THIS IS A STORY in ideograms, a quantitative picture writing, actually the oldest written history on earth. It is a story of the attempts to reach the other side of the world, - that is, to cross the ocean (c, 3300 BC ). These images are a unique form of picture writing, and are the most historically important and most beautiful megalithic inscriptions in the British Isles. We consider them the second best in Europe, after the petroglyphs of Dissignac, Brittany. As in many other examples of cave and stone art, the natural shape of the stone has been used as part of the work, the surface of the stone being an endless sea that is now called the North Atlantic Ocean. As drawn in detail in Fig.4, note the coast of Europe on the right, Greenland in the north, and the other, unknown side of the ocean on the left. The proof of the story lies in the inscriptions themselves. Each figure represents a number. By adding the numbers, the actual and true degrees of latitude of the discovered land-
points are obtained, and all in historical order!

The "Story of Loughcrew" begins with a sailing boat (see Figs.4\&5) sailing west from the Strait of Gibraltar (A) to the Canary Islands (B). They expected to cross the ocean at the degree of latitude of the Tropic of Cancer, $23^{\circ} \mathrm{N}$, which held religious meaning in honor of the Egyptian SunGod Ra (D), who went west every night, from the center of the Southern Egyptian Empire, at $23^{\circ} \mathrm{N}$. Egyptian tombs have ships in them so the deceased pharaohs could make this trip to the realm of the dead in the west, at the other side of the waters, where the sun sets ( D , behind a natural relief in the stone). (The daisies, like the other important figures, mark major land points.) The "first poem written in Ireland", an archaic Druidic incantation of ukknown date called "The Mystery of Amergin" asks in its 16 th line: "Who teaches the place where falls the sunset?" (Ref.17). Like theorems in geometry, the proofs for Reinoud's interpretations lie within the


F1g. 2. Map of the monument-complex of Loughcrew, Co. Meath. Ireland $(3600-3100 \mathrm{BC}$ ) (Ref.2). The passage graves (cairns) lie on the tops of three hills, which resemble the East, the Central, and the West Azores.
inscriptions themselves. The ship contains six distance lines (dl) (count the spaces), three in the hull, three in the sails (follow the numbers in Fig.5). Item $B$ has six petals, item $C$ has three $d I$, and item $D$ has eight petals, for a total of $23(A+B+C+D=6+6+3+8=23)$. The problem with this route is that it is the tradewind route west, so the boats could not sail back against the winds and currents, and disappeared.

By sailing south and west one would sail to the Canary Islands (B) at $29^{\circ} \mathrm{N}(\mathrm{A}+\mathrm{B}+\mathrm{D}+\mathrm{E}=$ $6+6+8+9=29$ ). (Since $C$ is Cape Verde, and further south, this item is not included in the calculation.) Along the coast of NW Africa, they sailed further southwest to Cape Verde ( B to C ) at $15^{\circ} \mathrm{N}(\mathrm{A}+\mathrm{B}+\mathrm{C}=6+6+3=15)$. (To follow the latitudes, you should use a good map, like the National Geographic's Atlantic Ocean, 1955, see Fig.8.) From there, they discovered the Cape Verde Islands (C again) at about 666 km offshore (A has six $\mathrm{dl}=666 \mathrm{~km}$ ). The islands extend from east to west over 333 km ( C has $3 \mathrm{dl}=333 \mathrm{~km}$ ), and they are situated at $15^{\circ} \mathrm{N}(\mathrm{B}+\mathrm{D}+\mathrm{Cl}=6+8+1=$ 15), $\quad 16^{\circ} \mathrm{N}(\mathrm{B}+\mathrm{D}+\mathrm{C} 1+\mathrm{C} 2=6+8+1+1=6)$, and $17^{\circ} \mathrm{N}(\mathrm{B}+\mathrm{D}+\mathrm{Cl}+\mathrm{C} 2+\mathrm{C} 3=6+8+1+1+1=$ 17). The petroglyph $C$ has also the shape of the archipelago (turned $90^{\circ}$ clockwise), and it suggests the coastal waters were explored over a distance of $6 \mathrm{dl}=6^{\circ}$ of latitude $=666 \mathrm{~km}$ (right and left $3+3=6$ spaces). But they still did not succeed in crossing the ocean.

LATER ON, they discovered, above the Canary Islands (B), the islands of Madeira (E\&F) $12^{\circ} \mathrm{WSW}(\mathrm{A}+\mathrm{B}=6+6=12$ ) from the Strait of Gibraltar (A). These islands are situated at $33^{\circ} \mathrm{N}(\mathrm{A}+\mathrm{B}+\mathrm{C}+\mathrm{D}+\mathrm{E}+\mathrm{F}=\mathrm{A}-\mathrm{F}=$ $6+6+3+8+9+1=33$ ) at a distance of 666 km (A or $B=6 \mathrm{dl}=666 \mathrm{~km}$ ) from the coast of northwest Africa. They consist of the main island of Madeira ( E , large inscription), and the small island of Porto Santo (F, small inscription). The discovery is modest, because the small islands (E\&F are small inscriptions) are situated less west than the Cape Verde Islands, but they gave much hope
( E is a little sun) that more land could be found in the west! (We hear Heyerdahl is now investigating stone pyramids in the Canaries.)

AT ABOUT the same time they discovered near the British Isles (G), west of Scotland and west of the Hebrides $\left(\mathrm{G}^{\prime}\right)$, the Islet of Rockall ( $\mathrm{G}^{\prime \prime}$ ), at $57^{\circ} \mathrm{N}$ (A-G, $+\mathrm{G}^{\prime}+\mathrm{G}^{\prime \prime}=$ $41+8+8=57$ ). This islet gave a little bit of hope of more land in the west, so it is carved like a star, smaller than the star of Madeira (E).

Not long afterwards, as a result of sailing explorations from Madeira (E), they discovered the three island groups of the Azores ( $\mathrm{F}, \mathrm{H}, \& \mathrm{I}$ ). (Glyph F has double meanings.) West of the Strait of Gibraltar (A) at $36^{\circ} \mathrm{N}$, the Initial Sailing Direction from Madeira is $36^{\circ} \mathrm{NW} \quad(\mathrm{Ab}+\mathrm{B}+\mathrm{E}+\mathrm{F}+\mathrm{H}+\mathrm{I}=$ $3+6+9+1+9+8=36$ ), over a distance of about $9 \mathrm{dl}(\mathrm{E}=9,9 \times 111=999 \mathrm{~km})$. The Terminal Sailing Direction in the neighborhood of Santa Maria (East Azores, F) is $29^{\circ} \mathrm{NW}$, corresponding to the latitude of the Canaries (B), already calculated, $29^{\circ} \mathrm{N}$. The difference is due to the curvature of the Earth. The East, Central, and West Azores are situated at $37^{\circ} \mathrm{N} \quad(\mathrm{Aal}+\mathrm{Ab}+\mathrm{B}+\mathrm{E}+\mathrm{F}+\mathrm{H}+\mathrm{I}=$ $1+3+6+9+1+9+8=37$ ), $38^{\circ} \mathrm{N}(\mathrm{Aal}+\mathrm{Aa} 2+\mathrm{Ab}+\mathrm{B}+\mathrm{E}+\mathrm{F}+\mathrm{H}+\mathrm{I}=1+1+3+6$ $+9+1+9+8=38$, and $39^{\circ} \mathrm{N}$ $(\mathrm{Aa} 1+\mathrm{Aa} 2+\mathrm{Aa} 3+\mathrm{Ab}+\mathrm{B}+\mathrm{E}+\mathrm{F}+\mathrm{H}+\mathrm{I}=$ $1+1+1+3+6+9+1+9+8=39$ ).

From Santa Maria (East Azores, F), one steers a course of $27^{\circ} \mathrm{WNW}$ $(\mathrm{E}+\mathrm{F}+\mathrm{H}+\mathrm{I}=9+1+9+8=27)$ for the Central (H) and West (I) Azores. The West Azores lie approximately 1888 km offshore $(\mathrm{H}+\mathrm{I}=8+9=$ $17=17 \mathrm{dl}=1888 \mathrm{~km}$ ). The Azores consist of nine islands ( $\mathrm{H}=9$ ), situated more to the west than the Cape Verde Islands (C), far in the ocean. To the west, the sea was explored over $8 \mathrm{dl}=888 \mathrm{~km}(\mathrm{I}=8) . \quad \mathrm{H} \& \mathrm{I}$ are small images of the ocean, with lines of latitude. They believed they were in the middle of the ocean, so they have drawn


Fig. 3 Photo by authors of Cairn T, Lougherew, Ireland, and groundplan of passage grave in this Cairn. (c. 3300 BC ) (Ref.2)
vertical lines down the middle of them. The calculated latitudes, sailing directions, and distances are correct on a trodem map Unfortunately, this discovery of the Azores did not lead to a crossing of the ocean. Note the despondent lithe mat with his hands in the air on the west side of the Azores!

SO EXPEDITIONS then moved back to the Dritish Isles (G), not to Rockall, but the Isle of Lewis in the Hebrides Islands (G) with its megalithic ruins at $58^{\circ} \mathrm{N}$ $(\mathrm{A}+\mathrm{B}+\mathrm{C}+\mathrm{D}+\mathrm{B}+\mathrm{C}+\mathrm{C}+\mathrm{C}+\mathrm{C}=$ $6+6+3+8+9+1+8+9+8=\quad \mathrm{A}-1+\mathrm{C}=50+8=$ $58)$. This point hes $444 \mathrm{~km}\left(\mathrm{~Gb}=4 \mathrm{dF}-4^{\circ}\right)$ north of Loughorew at $54^{\circ} \mathrm{N}$ (A-H+Cin= $50+4=54$ ). From there, they started northward travel by going frrst to the Orkney Islands (J) where there are more enormous megalithic ruins, at $590 \mathrm{~N}(A-1+J=50+9=$ 59). These "slands ( $O$ ) give them hope of crossing the ocean to paradise, just tike the islands of Madeira (E), both drawn like litele suns with rays.

From there they travelled course of about $590 \mathrm{NW}(A-1+3=50+9=59)$ for the facroe Islands (K) which are further north at 62 N $(A+1+K=58+4=62)$. This is a distance of 444 km at the most ( $\mathrm{Cl}=4 \mathrm{dl}=444 \mathrm{~km}$ ). From the Faeroes, they sailed in a direction of approximately $30^{\circ} \mathrm{WNW} \quad(H+1+\mathrm{K}=$ $9+8+9+4=30$ ) to the southeast coast of foeland (L) at $64 \mathrm{~N}(A-1+L=58+6=64)$. This is also a distance of $444 \mathrm{~km}(\mathrm{~Gb}=4 \mathrm{~d})$, 11 is clear that they thought that Iceland was like the Azores, on the Mid-Atlantic Ridge, or at least in the middle of the ocean ( $L$, with central vertical line), However, Iceland is a big island, unlike the islands of the Azores (compare L with HEl, L has an edge) Then they salled westward around Iceland to its NW peninsula ( $L$, the edge around $L_{\text {s }}$ see also the map of Fig.8) at $66 \mathrm{~N}(A+H L+L=$ $58+6+2=66$ ). Now they have reached an area more to the west than the islet of Rockall ( $\mathrm{C}^{4}$, see the connection line).

Finally, they steer a course from this NW peninstla (L), with a sailing direction of $\mathrm{c}, 5^{\circ} \mathrm{WNW}(\mathrm{L}+\mathrm{M}=6+9=15)$, and over a distance of 555 km ( 5 dl , because the waves go up and down five times), for the southeast coast of Greculand (the edge of the depressed section of stone). They arrived at Cape Holm (M) at the latitude of he Arctic Circle (M) at $67 \mathrm{~N}(A+M=58+9=67)$. Now they have reached an area more to the west than the Azores (H\&I), and they think they have crossed the Alantic Ocean ( M is almost as far west as D)! They achieved this success at the holy Arctic Circle (M), with thanks to the SunGod (both M and D) Dut they encountered great diffectites sailing in the ice-cold sea of the Denmark Strath, as the westem portion of the waves between tceland and Greenland are deeply engraved!

Actually, and also of interest to the megalithic sailors, the shortest distance to Greenland is woward Cape Ravn at 444 km (4 up-down wave segments at the bottom= $4 \mathrm{~d}=444 \mathrm{~km}$ ) at $69^{\circ} \mathrm{N}(A-M+M=58+9+2=69$ where M is the 2 marks between the petals of M ). The three spaces between the waves tidicate that three degrees north of the Arctie Circle is Cape Brewster, the most important cape in the Northat $70^{\circ} \mathrm{N}(\mathrm{A}-\mathrm{H}+3 \mathrm{~d}=58+9+3=70)$

AT THE SOUTHEAST coast of Greenland they went one degree of latitude $(\mathrm{P}=1)$ south to Angmagssalik on the icefree Island of Etic the Rode (N) at $66^{\circ} \mathrm{N}$ (Arctic Circle $=67^{\circ},-1=$ $66^{\circ}$ ). They went further south $4^{\circ}(\mathrm{K}=4)$ to the icefree peninsulas or Skjoldungen (K again) at $63^{\circ} \mathrm{N}$ (Arctic Circle $=67,4=63$ ). Then they went $105^{\circ}$ south $(\mathrm{N}+\mathrm{K}=1+4=5)$ along Cape Adelaer $(\mathrm{N}+\mathrm{K})$ at 620 N (Arctic Circle- $67,5=$ 62). the same latitude as the Faeroes (K), $62^{\circ} \mathrm{N}(A-1+\mathrm{K}=58+4=62)$. They then went $70(\mathrm{~N}+\mathrm{O}+\mathrm{p}=1+1+5=7)$ to the south at Cape Farvel (P) al $60^{\circ} \mathrm{N}$ (Arctic Citcle $67,-7=$ 60). which turned out to be the southernmost point of Greenland. The sea was explored a maximum of $5 \mathrm{dl}-555 \mathrm{~km}(\mathrm{P}=5)$.


Fig. 4 Drawing of Stone C8, Cairn T, Loughcrew, from The Megalithic Art of Western Europe (Ref.2, c. 3300 BC ).

Finally, they explored $1^{\circ}$ of latitude $(\mathrm{O}=1)$ to the north ( P , head) to the southwest cape of Greenland (O) at $61^{\circ} \mathrm{N}$, but it was tough going ( $O$ is deeply engraved). The sea could only be explored over a distance of 111 km $(\mathrm{O}=1=1 \mathrm{dl}=111 \mathrm{~km})$. As a consequence, they did not reach a higher latitude on the west coast than $62^{\circ} \mathrm{N}$, again the latitude of the Faeroes (K)! (This is why the Faeroes have been engraved so westerly.) So, finally they had to give up, and all explorations had to stop in dismay ( P , the little man, Fig. 14)!

## Details of Stone C8

THE CHANCE to cross the ocean seemed to them to be the greatest at Cape Verde Islands (C), where the known land protrudes the most to the west (Fig.8), but strong winds and sea currents are flowing from the northeast there, so to get back from the other side of the ocean, they would have to row! Glyph C is therefore a sailing boat like A , but without sails! They needed a route back that could be sailed. That seemed most likely at the Azores ( $\mathrm{H}, \mathrm{I}$ ), where the prevailing winds and currents are flowing from the west, so the inscriptions of $H$ and I have sails! However, if this did not turn out, the Upper North was an alternative route they could use, and so for this route one sail is shown, which is the inscription of lceland (L).

The flower $D$ is their symbol for the other side of the ocean (D, America), for the promised land, paradise, the land of the dead, and for the SunGod. It is a symbol with many complex and interwoven meanings, like many of our own symbols. Inscription $G$ is another representation of $D$, the SunGod, and represents Loughcrew itself. In spring, and in autumn, there is a moment at sumrise when the C8 endstone is lighted by sunshine coming through the tomb entrance lighting up inscription M , which is a flower too (Refs.9,17). That is because they were convinced that they had crossed the ocean at the holy Arctic Circle, the farthest north the
sun shines on mid-winter day. Glyph B for the Canaries is a flower too, because people on the Canary Islands (B), at the latitude of the Nile Delta, have asked themselves for thousands of years: "to cross the Ocean, do we travel to the north or to the south?" Nobody knows but the SunGod!

The importance of the Azores on the route to paradise is emphasized by repeated use of 3 and 9 in megalithic art dated after the discovery of this archipellago in c. 3600 BC , representing the three groups of the nine islands of the Azores. On stone C8, they made two (2) similar inscriptions, $A$ and $C$, because for a way back across the ocean, they believe in Madeira and the Azores (Fig.8). They made three (3) analogous figures, $\mathrm{H}, \mathrm{I}$, and L, because they believe in the three island groups of the Azores. They made four (4) other resembling images, $\mathrm{B}, \mathrm{D}, \mathrm{G}$, and M , because they firmly believed in the four island-groups of Madeira and the Azores. In total they made $9(2+3+4=9)$ splendid inscriptions, because they were convinced that someday the 9 islands of the Azores would play an important role in crossing the ocean. They also made two less beautiful inscriptions, K and P , because this is also true for the two islands of Madeira.

N FACT, the whole complex of Loughcrew strongly resembles the three groups of islands in the Azores (see Fig.2). Cairn T, in which stone C8 is placed (see Fig.3), is oriented to the west, and has three chambers, which may be associated either with the three island groups in the Azores, or with the Cape Verde Islands to the south, the Azores to the west, and Greenland to the north. The main axis of Cairn $T$ points $12^{\circ} \mathrm{WNW}$, equal to the sailing direction from the Strait of Gibraltar to Santa Maria, the easternmost island of the Azores. The monument has 39 kerbstones (Ref.22), in agreement with the degree of latitude of the West Azores, $39^{\circ} \mathrm{N}$, considered the most important stepping-stone to the other world.

## Megalithic Explorations (C8)



Fig. 5 Drawing of Stone C8, with author's labels, geographic names and numbers from text.

THE MEGALITHIC SunGod must have been the same as the Egyptian Supreme god Ra. The similar inscriptions $\mathrm{H}, \mathrm{I}$, and L represent together $23(9+8+6=23)$ units, corresponding to the latitude of the Tropic of Cancer, and the center of the Southern Egyptian Empire at $23^{\circ}$ N . The similar inscriptions B, D, G, and M represent together $31(6+8+8+9=31)$ units, corresponding to the latitude of the important Nile Delta, the center of the Northern Egyptian Empire at $31^{\circ} \mathrm{N}$. This stone C 8 is in direct contact with this center, because the sum of both latitudes equal the latitude of Loughcrew at $54^{\circ} \mathrm{N}(23+31=54)$. The similar inscriptions A and C $(6+3=9)$, and also $K$ and $P(4+5=9)$ represent the nine islands of the Azores. It is not by coincidence that Madeira (E) and even the Orkneys (J) are symbolized by a sun with 9 rays. Madeira and the Azores are indicated by the inscriptions E, F, H, and I. They represent together $27(9+1+9+8=27)$ units, corresponding to the important latitude of the center of the United Egyptian Empire at $27^{\circ} \mathrm{N}$, halfway between the Tropic of Cancer and the Nile Delta. The four "stars" E, F, G", and J contain $27(9+1+8+9=27)$ units too, confirming this latitude. (Also, the sum of all the nine major inscriptions total 63 , which subtracted from a 90 degree right angle equals $27^{\circ}(\mathrm{A}+\mathrm{B}+\mathrm{C}+\mathrm{D}+\mathrm{G}+\mathrm{H}+\mathrm{I}+\mathrm{L}+\mathrm{M}=63 ; 90-63=$ 27.) The Egyptian SunGod has told us "the realm of the dead (D) is in the west, at the other side of the waters, in the land where the sun sets. After death, you will be reunited there, with your ancestors, your family, your relatives, your friends and your acquaintances".

Other details can be deciphered on stone C8 The easterly Shetland Islands have only been indicated by the scratch of J'. They lie at $60^{\circ} \mathrm{N}\left(\mathrm{A}-\mathrm{H}+\mathrm{J}+\mathrm{J}^{\prime}=50+9+\mathrm{l}=60\right)$. The less deep carvings $Z$ and $Z^{\prime}$ have been made at a later time, but before c .2500 BC . They do not belong to the original set of inscriptions. The double circle Z is Cape Finistere (NW Spain) between the Strait of Gibraltar (A) and the

British Isles (G), at a latitude of $43^{\circ} \mathrm{N}$ (A$\mathrm{G}+\mathrm{Z}=41+2=43$ ). The Z , south of Madeira (E), depicts the 3 westernmost Canary Islands at $28^{\circ} \mathrm{N}\left(\mathrm{A}-\mathrm{D}+\mathrm{Z}+\mathrm{Z}^{\prime}=23+2+3=28\right)$. It is emphasized that both this cape and these western islands may still be of great importance. Finally, on the top of the stone, north of Iceland (L), we see a double circle, the island of Jan Mayen, discovered some centuries later (c. 2900 BC ). Its latitude of $71^{\circ} \mathrm{N}(69+2=71)$ can be calculated from that of Cape Ravn at $69^{\circ} \mathrm{N}\left(\mathrm{A}-1+\mathrm{M}+\mathrm{M}^{\prime}=\right.$ $58+9+2=69$, where $\mathrm{M}^{\prime}$ is the two marks between the petals of $M$ ), given by the main inscriptions of the stone. The latitude is confirmed by the two circles in the Greenland shaped area on top of the rock $(69+2=71)$. It is further confirmed by a small piece of an extra distance line along the edge of it (Arctic Circle $(M)=67,+3+1=71$ ), from which a $T$ shaped cross arises, the horizontal bar of it pointing to Jan Mayen, the newly discovered island. This last glyph shows that it can be easily reached from Cape Brewster at $70^{\circ} \mathrm{N}$ $(67+3=70)$, with a sailing distance of $3+1=$ $4 \mathrm{dl}=444 \mathrm{~km}$.

## The Roofstone of Cairn T

THE SERIAL "Story of Loughcrew" continues above the upright stone C8 on the roofstone in the chamber (see Figs. $6 \& 7$ ). The western part of this roofstone (the top of the drawing) shows a continuation of the story, so we think these inscriptions are slightly later than C8. At the top right side, an inscription of the southwest coast of Iceland is shown. The sea to the SW has been explored over a distance of $10 \mathrm{dl}=1111 \mathrm{~km}$, which is quite a lot! To the south, it is explored until the north coast of Ireland, which is indicated with a short horizontal line. Beside this little line we see the coasts of Cornwall (above), and of Brittany (below). From the lowest peninsula a twisting line points to the northwest. So the later expeditions were undertaken from Brittany!


Fig. 6 Roofstone above Stone C8, Cairn T, Loughcrew, from Megalithic Art of Western EuroDe. (Ref.2, c. 3200 BC ).

From the megalithic center of Brittany they sailed directly to the NW peninsula of fceland $(\mathrm{R})(\mathrm{R}=8$, compare with $\mathrm{L}+\mathrm{L}=6+2=8$ on stone C 8$)$ at $66^{\circ} \mathrm{N}(\mathrm{A}-1+\mathrm{N}=58+8-66)$, and next to Cape Holm ( S ) $(\mathrm{S}=9$, compare with $\mathrm{M}=9$ ), (on Greenland at the Arctic Circle at $67 \% \mathrm{~N}(\mathrm{~A}-\mathrm{I}+\mathrm{S}=58+9=67)$. The counting of the degrees of latitude on the roolstone is closely coupled with stone C8.

FROM CAPE HOLM (S, soe map of Fig.9) they sailed 1 degree of latitude ( $\mathrm{T}=1$ ) to the south to Angmagssalik on the icefree island of Eric the Rode (T) at $66^{\circ} \mathrm{N}$. The inscription T (the dot) represents this island literally. Next they were another $3^{\circ}(4-3)$ to the south on the icefree peninsulas of Skjoldungen (U) at 639 N . Again the unscription U ( 3 strokes) represents the three perinsulas of Skoldungen literally. Next they reached Cape Farvel (V), the southermost point of Greenland, at the same latimde as the Shetland Islands, $60^{\circ} \mathrm{N}$ $(\mathrm{A}-\mathrm{H}+\mathrm{V}=50+10=60)$. It should be noticed that the artist now refers to islands in the east: in the same way as the artist did on stone C8, with Cape Adelaer $(\mathrm{O}+\mathrm{K})$ and the Faeroes (K), both at $62^{\circ} \mathrm{N}$, and the degree of latitude is calculated in the same way as that of the Orkneys (3) on stone C 8 at $59 \circ \mathrm{~N}(\mathrm{~A}-\mathrm{H}+\mathrm{H}=$ $30+9=59$ ). In this manner, they are confiming that the explorations have arrived to a subsequent stage!

Finally, they arrived $6^{\circ}(W=6)$ south of the Arctio Circle (S), at the SW Cape of Greenland at 61 N (Arctic Circle (S) $\mathrm{W}=61$; $67.6=61$ ). It should be noticed, that the wo lowest beams match the shape of the south coast of Greenland. At the top lef side, the edge of the stone is ased to represent the SE coast of Greenland. Parallel, we see inscription $X$, with 6 beams at both sides (a "caterpilar"), pointing towards the south of Greenland. This means that the coastal waters from $67^{\circ}$ to the SW Cape at 610 N (Arclic Circle $X=67-6=61$ ) have been investigated completely. However, the width of the carving amounts to 3 d , so this means a distance of 333 km from shore. As a
consequence, America was not discovered c. 3200 BC after these trips etther.

At the right bottom conner on the stone, a litte star is engraved having 8 beams ( Y ). At noon on a midsummer day at $23^{\circ} \mathrm{N}$, the sun is directly overhead the Tropic of Cancer. This star marks the point where the Tropic of Cancer leaves the continent of Africa at $23^{\circ} \mathrm{N}$ $(\mathrm{A}+\mathrm{B}+\mathrm{C}+\mathrm{Y}=6+6+3+8=23)$. From all evidence, it turns out that extrene positions of the sun are important, and also the magio number 23. The big monument of Stonehenge, England (c3200 BC) is oriented to the rise of the midsummer sun (Refs 3,4). The total number of fully engraved stones in the famous passage grave of Gavrinis, France (c.3600 BC) (Ref 25, a monument to the discovery of the Azores) is 23. All this emphasis on $23^{\circ} \mathrm{N}$ shows that for more than a thousand years, people wanted to cross the Ocean at $23^{\circ} \mathrm{N}$, in honor of the SunGod, but they did not succeed.

BELOW THE "peninsula of Britany" we see from east to west the circular petroglyphs of the Flaman Isles (2d) with below it the west cape of NorthUist (Hebrides, Scolland), then the islet of St Kilda (2d), and frially the islet of Rockall (3d) (see Fig.9). Rockall, in the west, is located at $570 \mathrm{~N} .(\mathrm{A}-\mathrm{H}+2+2+3=$ $50+7=57$ ). Around Rockall, the sea has been explored over $333 \mathrm{~km}(3 d)$, which is the distance to St. Kilda, and to the north over an additional distance of 555 km (501), which is untill lceland (R) at $65^{\circ} \mathrm{N}(57+3+5=65)$. To the west the ocean was explored over an extra $444 \mathrm{~km}(4 \mathrm{~d})$ ) A later visitor to the passage grave considered this round petroglyph as that of the Azores, often depicted in megatithic "art", and added a spiral with three turns, representing Madeira 3 distance lines above the 30 th latiude line at 330 N . For the Azores, the indicated explored sea areas are correct too. South of Madeira, the Canary and the Cape Verde Islands are indicated. The surroundings of the Canary Islands have been searchod

Roofstone


Fig. 7 Roofstone above Stone C8, with author's labels, geographic names, and numbers from text ( $c .3200 \mathrm{BC}$ ).
extensively. Below, we see right and left in both cases two Cape Verde Islands, to be precise, the main island Sao Tiago (below), and the NW island Santo Antao (above). At the left side is shown that the coastal waters north of these islands were investigated. The strong NE winds and currents evidently curtailed further explorations here.

AT THE EXTREME right side, a group of less clear carvings have been made, probably by somebody who did not understand the stone very well. He thought that the inscriptions left of the star (Y) represented the two important islands of the West Azores (which is often the case on other megalithic stones). So he carved the East and Central Azores above the star to "complete" the inscription. Then he announced that the sea north of the 3 island groups of the Azores was explored over 555 km ( 5 dl ).

Finally, at the extreme left side we see a deep dark inscription -an ancient "graffiti"- dating from after the discovery of America (c. 2500 BC ). It really does not belong to this stone or this monument at all. Turn the drawing of the roofstone $90^{\circ}$ anti-clockwise. The dot is Cape Verde, with left of it, the adjacent shore. The smail upward scratch points to the nearby Cape Verde Islands. The long strokes from Cape Verde and from the Bissagos Islands in the south provide the global sailing direction to the NE coast of South America: $45^{\circ} \mathrm{SW}$. It is the start of the Southern Crossing over the ocean, and the answer to the problem megalithic people had struggled with for so long.

## The Faeroes, Iceland and Greenland

The Story of Loughcrew is confirmed in the design of Stonehenge $I$ in South England (c. 3200 BC ), but also in many European petroglyphs. Fig. 10 (top) shows a simple carving from Luffang, Brittany. People sailed around South England via the Hebrides (Scotland) to the Faeroes. Next, they discovered Iceland in the northwest (c. 3400

BC). This was an important discovery, because Iceland has about the size of Ireland, which is much larger than the tiny islets discovered in the past!

Encouraged by this positive result, soon Greenland was discovered, too (Refs.3,4). Fig. 10 (bottom left) shows the best sailing direction from the NW peninsula of Iceland to Cape Holm, Greenland (at the edge of the stone), c. $15^{\circ} \mathrm{WNW}$ (c. 3300 BC , Loughcrew). As the petroglyph shows, the sailing distance is about the diameter of Iceland: c. $5 \mathrm{dl}=$ 555 km . From Cape Holm at the Arctic Circle, people voyaged along the coast to the south, of course. Impressed by the enormous length of this coastal strip ( $7^{\circ}=777 \mathrm{~km}$ ), they thought they had reached the other side of the Ocean. However, all the land ended at Cape Farvel at $60^{\circ} \mathrm{N}$, and at the SW Cape at $61^{\circ} \mathrm{N}$ (Fig.10, bottom right) (c. 3200 BC, Loughcrew).

Figure 11 (top), from Loughcrew too, provides us with a good overview. They sailed from the Orkneys (via the Faroes) to the SE coast of Iceland, and after a rough journey they arrived at Cape Farvel. The explorations at sea were extremely difficult, because it was bitter cold. For that reason they often switched over to units of half distance lines (hdl), corresponding to $0.5 \mathrm{dl}=55 \mathrm{~km}$. The Faeroes (between the spirals) are located at distances of $7 \mathrm{x} 0.5 \mathrm{dl}=3.5 \mathrm{dl}=388 \mathrm{~km}$ from the Orkneys and Iceland. Around Cape Farvel the sea was explored over only $5 \mathrm{x} 0.5 \mathrm{dl}=2.5 \mathrm{dl}=277 \mathrm{~km}$ (c. 3200 BC ). Next, the sea was also explored south of the SW Cape, as shown in Fig. 10 (bottom right), over $7 \mathrm{x} 0.5 \mathrm{dl}=3.5 \mathrm{dl}=388 \mathrm{~km}$ (the concentric circles are placed in the water), but no land was found.

ONE OF THE Calderstones in Liverpool, England, Fig. 11 (bottom), shows a complete expedition to South Greenland, c. 2800 BC. As indicated by the northward foot, people sailed from the British Isles via the Faeroes

## Megalithic Explorations, Atlantic


(the spiral) to feeland. The spiral has 3.5 turns, because again, the distances from the Faeros to the Orkneys and to lceland amount in both cases to $3.5 \mathrm{dl}=388 \mathrm{~km}$. From the NW perinsula of loeland they voyaged wia Cape Holm to the south point of Grcenland (the natural relief). East and west of Cape Farvel the sea was explored over at least $5 \mathrm{dl}=555 \mathrm{~km}$; but no land was found. As emphasized by the second bow and the southward foot, they returned the same way. The foot with the frozen, broken toes shows that in Greenland, it was so cold, your toes freeze on your bady. However, the southward foot near the British isles has 6 toes, so each member of the expedtion retumed. As the petroglyph shows, not so long ago they discovered the island of Jan Mayen, northwest of Iceland (c. 2900 BC ). Note that on 1celand, the symbol of a Christian church lias been engraved, showing that the meaning of this stone was still understood when Iceland was christianized, c 800 AD , which is the date of the discovery of Iceland according to official archasology.

## The West Cosst of Greenland and Beyond

Fig. 12 (lef), is a petroglyph from Luffang, Britany, dated c.2900 BC, It is a stylized image of the North Atlantic Ocean with at the top Greenland, and below the Mid-Atlantic Ridge, that divides the Ocean in two. At the upper right side is Iceland (the circle). Because of its relatively large size, they speculate about the existence of a "second Iceland" west of Greenland. They want to try to reach this second leeland! Along the east coast of Greenland the sea was explored over $c .3 \mathrm{~d}=333 \mathrm{~km}$, and along the west coast over $\mathrm{c} 2 \mathrm{dl}=222 \mathrm{~km}$. In the south of the ocean the coastal waters are indicated over 2 "half big distance lines"; or $2 \times 0.5 \mathrm{DL}=1 \mathrm{DL}=111 \mathrm{~km}$. At the tevel of the Azores in the middle of the ocean one estimates the witth of the ocean at $2 \times(0.5+0.5+1) \mathrm{DL}=4 \mathrm{DL}=4444 \mathrm{~km}$, which turns out to be a reasonable guess. However, the petroglyph has anthropomophic features. It is also an early representation of the mighty

Ocean God, which is the same as the Suncod. It is related to the radition of statue menhirs in the southeast region of France and on Corsica (Ref.26), which lasted about a millennum (c,3000-2000 BC)

Figure 13 (right), is again a Calderstone from Liverpoo, England, with petroglyphis relating to the exploration of the sea along the west coast of Greenland (c.2700 BC). The spirals and circles on this stone are placed in the water, and again, the unt of distance in this cold sea is thd $=0.5 \mathrm{~d}=55 \mathrm{~km}$. The lowest point on the lef, front side (i), is Cape Farvel at $60^{\circ} \mathrm{N}$, and the heel of the lower foot is near. the SW Cape at $61^{\circ} \mathrm{N}$. The two feer show an area of interest along the west coast between them at $62^{\circ} \mathrm{N}$. Higher on the stone is a carving of South Greenland (right), and he explored coastal waters at this latitude $(62 \% \mathrm{~N}$. lef), over a distance of $7 \times 0.5 \mathrm{dl}=3.5 \mathrm{~d}=388 \mathrm{~km}$ offshore.

ON THE RUGHT, back side (ii) of Fig 13, the spiral shows the explored waters along the west coast at $63^{\circ} \mathrm{N}$, again over a distance of $7 \times 0.5 \mathrm{~d}=388 \mathrm{~km}$ offshore. The concentric circles above show the explored waters at "the west cape", just below Disko Island (the hatural relief at the top), at $67^{\circ} \mathrm{N}$ again over a distance of $7 \times 0.5 \mathrm{~d}=388 \mathrm{~km}$ offshore. This all happened just before the discovery of America via the Bering Sea, c. 2600 BC, and via the Atlantic Ocean, a century later.

## Discussiom

In archacology it is generally accepted that the idea of "degree of latitude" was used at the earliest around c. 500 BC , as these words then show up for the first time in a writen text (Ref.7). However, the Loughicrew. inscriptions prove that the idea was already known at 3200 BC, and an older inscription about the discovery of Madeira (c. 4100 BC ) shows lines of latitude which are clearly indicated on a map. The five passage graves of the old castern caim of Barnenez (North


Fig. 9 Map of Iceland and SE Greenland, showing the order of megalithic discoveries, and their identifying glyphs, from the Roofstone of Cairn T. Loughcrew (Ref.8, c. 3200 BC).

Brittany, $49^{\circ} \mathrm{N}$, c. 4700 BC , Ref.5) represent the five latitudes north of that monument, from $50^{\circ} \mathrm{N}$ to $54^{\circ} \mathrm{N}$. The "degree of latitude", in the North-South direction, is one of the oldest units of length ( $1^{\circ}=111 \mathrm{~km}$ ). The "distance line" is nothing else but the same unit, pointing to other directions $(1 \mathrm{~d}=111 \mathrm{~km})$.

THE MEGALITHC picture writing of Loughcrew has never been deciphered previous to this article, because people in our times have not been aware of these very old notions. If at night, one looks at the sky, the shortest angle between the polar star and the ground equals the local degree of latitude. These and similar measurements can be carried out very easily today with a cross-staff (Jacob's Staff), as they were in megalithic times (Ref.7). Megalithic inscriptions of this ancient and primitive instrument are spread widely in Western Europe (Refs. 1,2). The circle angle was divided in $360^{\circ}$, because the cyclic year counts at 360 days. Today, we are still doing that in the same way, but it is not realized that people have "always" done that, even in the distant past.

Latitudes were in use in Egypt from the start of the Old Kingdom, but probably much earlier. The Great Pyramid in Giza (c. 2700 BC ) is located at exactly $30^{\circ} 00^{\circ} \mathrm{N}$, and there is a complicated inscription on the thrones of all pharaohs since the 4th dynasty (2723-2563 BC ), relating to three close values of the latitude of the Tropic of Cancer (Ref.20). In the 12 th dynasty ( $2000-1786 \mathrm{BC}$ ), but probably much earlier, the point of the River Nile at exactly $23^{\circ} 00 \mathrm{~N}$ was called "Sacred Sycamore", their Tree of Life, established as the southern boundary of Egypt. In predynastic Egypt (before 3000 BC ), the latitude halfway between the Tropic of Cancer and the Nile Delta was a well-known concept (Ref.20).

THE CIRCUMFERENCE of the earth was very accurately known by c. 2800 BC , and
probably much earlier. The "moira", the distance corresponding to one degree of latitude, dates from the same time ( 1 moira= $1 \mathrm{~d}=111 \mathrm{~km}$ ). A text from the Old Kingdom (2778-2263 BC) gives the value of it with an accuracy of 0.3 per thousand (Ref.20). Geographic distances were often indicated in Egypt in units of one tenth of a moira (0.1 moira $=11 \mathrm{~km}$ ), called the "grand schoenia", or one sixtieth of a moira, the Egyptian mile, or a tenth of an Egyptian mile, the stadia. We have come to the conclusion that all megalithic petroglyphs and monuments were developed on the basis of one angular unit, the degree. In our time, latitudes are still divided into 60 minutes, and the minutes are each divided into 60 seconds. The corresponding distances were used in ancient Egypt, because $1^{\circ}=1$ moira $=60$ Egyptian miles, and 1 Egyptian mile= 60 Egyptian plethera, or the distance of a minute of a degree. Professor Alexander Thom has empirically established that all megalithic monuments are built with the aid of one unit of length, which he called the "megalithic yard", $1 \mathrm{my}=.83 \mathrm{~m}$ (Ref.21). Possibly there is a relation between the my and the length of $1^{\circ}$, because, with a deviation of about $3 \%, 360 \times 360=129,600, \times .85733 \mathrm{~m}=$ $111,110 \mathrm{~km}$, while $1^{\circ}=1 \mathrm{~d}=111.111 \mathrm{~km}$.

THE PETROGLYPHS of Loughcrew (c. 3200 BC ) are unique, but they are so complex it is hard to understand how they could have been done without having been copied from more transient materials, which were portable, and maybe usable, outside the cairn. In the Stonehenge design in south England, the final part of the Story of Lougherew is also told, which is another story, but there with menhirs of more than man's height (Ref.1). That monument is dated accurately at c. 3200 BC (Refs. 3,4). Some details suggest that the endstone of Loughcrew predates it slightly, but Michael Dames (Ref.11) reports Cairn $T$ has been dated at 3200 BC too.

The Loughcrew inscriptions have the same


Fig. 10 Top: The salling route around south England via the Hebrides to the Faroes. Left above: the newly discovered island of Iceland (Luffang, Crac'h, Brittany. Ref.2, c. 3400 BC ).
Bottom leff: Iceland, and the best salling direction of c. $15^{\circ}$ WNW to Cape Holm, Greenland, at a distance of $5 \mathrm{dl}=555 \mathrm{~km}$ which is about the diameter of Iceland (Loughcrew, Cairn H, East Ireland, Ref.2, c. 3300 BC ). Bottom right: South Greenland with, right, Cape Farvel at $60^{\circ} \mathrm{N}$, and left, the SW Cape at $61^{\circ} \mathrm{N}$. In the south, the sea was explored over $\mathrm{c} .6 \times 0.5 \mathrm{dl}=3 \mathrm{dl}=333 \mathrm{~km}$ offshore (the concentric circles are placed in the water). (Loughcrew, Cairn J, East Ireland, Ref.2, c. 3200 BC )


Fig. 11 Top: The Orkneys (right) the Faroes (between the spirals), the SE coast of lceland (above), and Cape Farvel (South Greenland, left). The Faroes are at distances of $\mathrm{c} .7 \mathrm{x} 0.5 \mathrm{dl}=3.5 \mathrm{dl}=388 \mathrm{~km}$ from the Orkneys and Iceland. Around Cape Farvel the sea was explored over $5 \times 0.5 \mathrm{dl}=2.5 \mathrm{dl}=$ 277 km . (Loughcrew, East Ireland, Ref.2, c. 3200 BC ).
Bottom: People sadled from the British Isles (right) via the Faroes (the spiral) to Iceland (above). From there the south part of Greenland (left) was reached. East and west of Cape Farvel the sea was explored, but no land was found. It was bitter cold. but people returned along the same route without loss (the foot in the southern direction has 6 toes). (Calderstones, Liverpool, England, Ref.2, c. 2800 BC )
age as the oldest cuneiform of Mesopotamin, and they are also at least as old as the oldest hieroglyphics of predynastic Eeypt. Gunter Dreyer of the German Archaeological Institute sald the Egyptian Scorpion Tonb tablets have been carbon dated with certainty to between 3300 BC and 3200 BC. According to scholars, the writings depiet "he Mountains of Light, or east and Mountains of Darkness. or west", in reference to where the sun nises and sets (Ref.19). The Lougherew inscriptions are the oldest history in the world, ever written down. It is, as said before, the history of talled aftempts to cross the western ocean.

Glyph A on stone C8 is one of the oldest images of a salling boat ever found (Ret.6). The history starts at the discovery of the Cape Verde Islands in the south (c. 4500 BC ) and ends by reaching the SW Cape of Greenland in the north (c3300. BC) and additional voyages on the roofstone (c.3200 BC): So the Loughorew inscriptions report on a time span of exploration of c 1300 years.

WORK BY OTAER investigators is showing that megalithic sites are carefully located "in a gigantio geometrical representation - a veritable prehistonic cartography" (Reflo). Study of this "ancient science totally forgotten" has been going on since 1982 in Europe by the Assochation Archoologique Kergal Their 20th publication, referenced in the biblography, was their first in English. They note that "mathematics is not the only science used by these ancient peoples to Hansmif their knowletge. Symbolic expression is wholly present, not only through the architectural forms but also through the
art of engraving and the science of landscape". The "Story of Lougherew" demonstrates all of these.

THE STUDY OF prehistory is complex. The unexpected antiquity of a fomb (\#4) at Carrowmore, a "megalithic cenetery" near Sligo, west Ireland, which was dated in 1998 to 0.5400 BC . has led archaeologists to call if *he oldest free-standing structure in Western Europe", and is causing some rethinking of noolthic development among the experts (Ref12). How do the "Red Paint People", now professionally accepted as the transathantic Maritime Archate" from 3,000 BC (Ref23), te in with these megalithic poople? There is a need for more work on the chanting of dates to see how pieces of prehistory coming to light around the world might be ht together, or may challenge these dates.

Considering tens of other inscriptions and monuments (Ref 1), we date the discovery of the Cape Verde Mslands at c .4500 BC , Madeira at c. 4100 BC the Azores at 03600 BC. Iceland at 3400 BC , Greenland at 3300 BC, the failed attempts to cross the Davis Strait from the SW Cape of Greenland at 3200 BC and the discovery of America via the Bering Sea at c. 2600 BC . The oldest large sea-ships of Egypt are engraved near the pyramid of King Sahura (2510-2460 BC) at Abusir (Re.16). Egyptian inscriptions tell that in the 13t year of King Sahura (2497. BC) large sea-ships of Egypt reached the far land of Punt. Thus I may be, that America was first reached via the Atlantic by this voyage in 2497 BC , about 4500 years ago.


Flg. 12 Left: The North Atlantic Ocean with Greenland and the MidAtlantic Ridge. Because Iceland is relatively large, they indulged in fancies about a second Iceland west of Greenland. Around South Greenland the coastal waters are explored over $3 \mathrm{dl}=333 \mathrm{~km}$ (east) and $2 \mathrm{dl}=222 \mathrm{~km}$ (west). At the level of the Azores, the width of the ocean is estimated to be $2 x(0.5+0.5+1)=4 D L=4444 \mathrm{~km}$. It is also an early representation of the God of the Ocean, which is the SunGod. (Luffang, Crac'h, Brittany, Ref.2, c. 2900 BC )

Fig. 13 Right: Both sides of this stone are coastal maps of South Greenland.
Center Front (1): The lowest point is Cape Farvel at $60^{\circ} \mathrm{N}$, and the heel of the lower foot is near the SW Cape at $61^{\circ} \mathrm{N}$. The two feet show an area of interest between them at $62^{\circ} \mathrm{N}$. Higher is a carving of South Greenland (right), and the explored coastal waters at this latitude ( $62^{\circ} \mathrm{N}$. left), over a distance of $7 \times 0.5 \mathrm{dl}=$, or simply $3.5 \mathrm{dl}=388 \mathrm{~km}$ offshore.
Center Back (ii): The spiral (below) shows the explored waters along the west coast at $63^{\circ} \mathrm{N}$, again over a distance of $7 \times 0.5 \mathrm{dl}$. The concentric circles (abovel show the explored waters at the "west cape", just below Disko Island (top, natural relief)), at $67^{\circ} \mathrm{N}$, again over a distance of 7 x 0.5 dl . (Calderstones, Liverpool, England, 2700 BC )

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Fig. IS Feroglypl fom Namforsen h Angemaniand, near the east coast of Centrat Sweden. It is a huge tantasy boat (with a lenyth of 24 ml . containthe 67 yowers. Showitg the lathute of the holy Arctie Crote at 6. ND Ths fs tre manhermmos lathund where the sun stll shmes at midwinter Aay. At thas latturte Greenland was discovered s3300 BC Abve the crew are carvicts of reames of the newly dhecowered coast of
 BC Ret27.

# The Decipherment of Eacoded Jacob"s Staffs <br> (The Petroglyphs of Dissignac, Brittany, c2600 BC) 

## Summary

The tumulus of Dissignae is located in the far south of Brittany, skm west of St Nazaire, at the mouth of the river Lolire, the most important niver of central France (Tig.1). The cumulus has a diameter of c. 25 meters. It covers two passage graves, built side by side. Doth passages of cil meters lead to slighty wider grave chambers (Ref.4-6). One of the passages (righ. Fig. I) is oriented on the midwinter sumrise.

The monnment was excavated in $\mathbf{1 8 7 3}$ by Martim and Kerviler, and re-excavated and restored
 monument had two construction phoses. The frst building phave dates from c. 4500 DC . At the second building phase the passages were clongated by c. 4 meters, when the importance of the monument probably increased. An abundance of pottery Magments show that If was used for two thousand years, from c.4500 BC wnill c 2500 BC . "The ancient sub-soll near Disignac tumulus reveals that there were fow trees in the area. The considerable density of pollen traces from plantain, mugwort, and thistles reveals the extent of the clearances. Agricultural effort is also apparent from the presence of cereal pollen, as well as charred grains of corn" (Ref23).

The smallest of the two grave chambers (lef, Fig.l) is at the south side of the tumulus, At the side of the passage is a big, heavy coverstone of very hard granite. In 1968 a group of petroglyphs was discovered on this stone (Figs.2\&3), covering a surface anea of about a square meter (Refs3,4). The surface seens to have undergone a substantial pretreatment. First the stone was carefully pick-dressed to produce a flat surlice, then it was ground, and finally poished. The stone is of supert quallity, and has such a fme grained structure, that the individual carvings are still clearly visible.

The tumulus is located close to the sea, and the passage graves with their chambers point in the morthwest direction. It would appear that the people had an interest in crossing the ocean. As we shall show, he petroglyphs have geographic meanings related to this goal. Important latitutes of Egypt are found throughout the petroglyphs, indicating that this monument is related to the Hgyptian SunCod and divine kingship ideas (Refs.1,2).

Defore we get started studying the group of petroglyphs, we want to point out a large geographic petroglyph on the bottom ball of the stonc. Below the whole group of inscriptions are some thin lines (sce Fig.2). The midlle, curved one, represents the wert coast of North Arrica, (compare if with the may of Fig.8). The westermmost points of the conthent are clearly indicted, Cape Verde at $15 \%$, and Cape Blanco at 210 N . On the lef hall of the stone, over the cntire width of the ocean, the Tropic of Cancer is engraved. At this latitude, 230 N, megalthic people wanted to cross the ocean, in howor of the SunGod. These thin lines were carved at the same time as the carving Glyph 3 , that is, at the time the tumulus was constructed (c.4500 1) C), because carller, they did not know the ocean was this big.


In the center of the group of petroglyphs we see two small, poorly inscribed glyphs, labeled "1" and " 2 " in Fig.4, which are ancient maps. Around them we see a great mumber of socalled "Mediterranean signs", which look like "axes". These signs all have slightly different appearances, and they each have a carefully laid out position relative to the other signs in the group. Two glyphs overlap each other. At the upper left side we see a different petroglyph, with big loops, which dates from a late megalithic time period, as we shall explain. These figures have been drawn one after the other, with long time periods in between. The older petroglyphs are situated in the center, and the later ones near the sides. This seems like a natural progression, and fits with the record that Dissignac was in use a long time.

## Explorations of the Atlantic Ocean Brittany: map

IN THE CENTER of the group of inscriptions (Fig.4) is a natural, rather straight crack, which, like most natural features of petroglyph stones, was used in the story being told. At the left side a rather small carving, or glyph, labeled " 1 " was made, attached to it (see enlarged, Fig.5). It is an image of the peninsula of Brittany (the white area in the center), with the coastal waters around it (the pecked area). The crack is the meridian along the west coast of what is now France, from the Gulf of Biscay in the south to the Cape de La Hague (Normandy) at The Channel in the north. The edge of the inner part of the figure is the coast of Brittany, from Dissignac in the south, where these petroglyphs are located, to the Gulf of St. Malo (Mont St. Michel) in the north. Some geographic details are visible, like the protruding shore near the Islet of Belle-Isle at the south coast, and the north point of Brittany near Les Sept Iles (Lanmion). From the width of the coastal waters of glyph 1, it can be deduced that the people did not sail further than $c .100 \mathrm{~km}$ offshore. As a consequence, this central glyph is much older than the monument itself, and probably dates from c. 6500 BC .

The Discovery of the Canary Lslands: map

At the left side of the previous glyph is a miniscule map labeled " 2 " of the "Little Mediterranean Sea" (Figs.4,5), (the western half of the Mediterranean) a common subject of early megalithic "art". It extends from Italy in the east to the Strait of Gibraltar (the neck of the figure). The Liguric Sea around the Gulf of Genoa in the north (right) is indicated correctly. Past Gibraltar, the figure splits up in a short right part, representing the Gulf of Cadiz to Cape Sao Vincente (SW corner of Portugal), and a thin left part, leading to the Canary Islands. The coastal islands Lanzarote and Fuerteventura of the Canaries are clearly indicated in the proper shapes. This petroglyph was made because of the discovery of the Canary Islands. These western islands, more than 2000 km south of Brittany, became the westernmost lands of the then known world. On the sailing route to the south, the coastal waters were indicated over a width of c. 150 km . For this reason glyph 2 is not as old as glyph 1, probably dating from c. 5500 BC . Note that this glyph is looking to the west, so the orientation is $90^{\circ}$ different from glyph 1. However, while placing this little map on the rock, the carver oriented on glyph 1, because Brittany is located due north (right) of the Strait of Gibraltar (which is at the top of glyph 2).


Fig. 2 The petroglyphs of Dissignac according to Twohig (Ref.3) (c.65002100 BC ).


Fig. 3 The petroglyphs of Dissignac according to Briard (Ref.4) (c. 6500 BC c. 2100 BC ).

## The Discovery of tho Cape Verle Islands. route pictogram

THE RICHT SIDE of glyph 3 (again. Figs 45), has been engraved lightly. Trom this we can deduce that this glyph was made after glypu 2 , which was also lighty executed, because most of the carvings to the lef have been deeply engraved, while glyplis 6811 on the righ can be shown to be derived from deep (and later) glyph 4. Glyph 3 is not a real map: anymore, but stylized map. denved from Mediterranean Sea mans. The bandle is now the complete Mediterranean Sea, while the hed, ontside Gibaltar, has a ngte side branch the salling route to Brittany, and a lef side branch, the sailing route to Cape Verde. On glyph 3, the lef branch was deeply engraved, and widely Grawn In other words, these people have just dscovered the Cape Verde Islands? By that discovery, 3500 km south of Britany, these lslands had become the westermmost land of the then known world.

Note that the right side branch neatly runs around lberia, and that at the end. the peninsula of Britany is shown. However, in reality, the Mediteranean Sea is not a straight stick, and the Cape Verde Islands are not located due south of Gibraltar, as the petroglyph indicates. As a consequence, we recognize that it is a highly stylized map, and call it "Mediterramean sign" (Ref.).

It is also a so-called "Jacob's Statr (Ref7). This is an ancient mstrument to measure angles and latitudes. In prineiple it consists of two wooden sticls at righ angles that can slide past each other. It is a forerumer of the astrolabe. When one watches the night sky, your latitude is the angle between the polar star and the ground (Fig.S). The Meditermacan sign is used as aneobs Staf in petroglyplas to encode latitudes in the same way that the Jacob's Stall was used - to determine the angles of tangent lines. This symbol ( $\mathbf{C} .4500$ BC) made
possible the enooding of geographic data in mathenatical code 1500 years prior to the start of picture writing (Egypt, c 3000 BC), and more than 3500 years prior to the development of early phonetic writing.

In glyph 3, Fig.5, we draw a line through the Medteranean. Sea; this line is the bascline. The right branch tangent makes an angle of $15^{\circ}$ with this baseline, an encoding of the latitude of Cape Verde and the southern Cape Verde lslands, at 150 N , the ishand group that was just discovered. The lef branch tangent makes an angle of $21^{\circ}$, corresponding to the latitude of Cape Blanco, 219 N . This is the westernmost point of Africa one meets on the way to the Cape Verde Islands. The angle between both tangents is $15^{\circ}+21^{\circ}=36^{\circ}$, which encodes the latitude of the Strait of Gibraltar at $36^{\circ} \mathrm{N}$, where these voyages of discovery on the ocean have started. The bottom of the handle or far end of the Medilerranean, where the tangent lines orginate, represents Fgyt. In the time period this perroglyph was made, this becane one of the most important civilizations on earth. From this starting point, we can draw not only tangents to the tips of glyoh 3, but also those of the previous glyphs I and 2 (see Fig.6)

THE TABLE 1 (on Fig. 6 ) shows that they salled along the coast of Africa to the south. to Cape Lopez at 1'S, and that the Cape Verde Islands were discovered. We investigated the possibility that glyph 3 ulso provides the salling routes through the Mediterranean of along the coast of Western Europe, but that is not the case. Figure 6 Ulustrates the location code Dr. de Jonge developed for describing these angles. Compare the codes in the table, for example "3Lb", with the angles of the tangents of the glyph $3 .\left(21^{\circ}\right)$ aboves where 3 is the glyph number, and the tangent touches the end of its Left branch (L), below (b). The lengthy able of accurate latitudes of important places demonstrates. that people had developer mathematical symbolism to encode route


Fig. 4 Petroglyphs of Fig.3, numbered in the order in which they have been engraved during several millenia. It is the history of the crossing of the Atlantic Ocean. and the discovery of all the land on earth (c.6500- c. 2100 BCl .
descriptions based upon latitudes. For this reason, glyph 3 is called a "Route Pictogram". At sea, where only latitudes could be determined, these latitude encodings were far more important than maps. We know from study of the stone design of the Tumulus of Kercado (Brittany, c. 4500 BC ), that Kercado was built because of the discovery of the Cape Verde Islands (Refs. $1,4,8$ ). This center-located, early petroglyph 3, encoding the same discovery, was carved at the time the monument of Dissignac was erected, at c. 4500 BC too. Note that the orientation of glyph 3 is the same as the older glyph 2 (west is at the top), that fixed upon the discovery of the Canaries. The shortest distance between Cape Verde and the Cape Verde Islands is c .600 km , so by c. 4500 BC people were able to cross this distance over open sea.

## The Discoveries of Madeira and Rockall

GLYPH 4 (see Figs.4,7) was engraved above glyph 3 , slightly to the left. From the chosen position it can be concluded that an important discovery was made WSW of the Strait of Gibraltar. So the islands of Madeira had been discovered! To further illustrate the location, the left side branch of glyph 4 is engraved widely, and the handle is directed through the thin left side branch of glyph 3 (and looking as though it was underneath it) exactly where Madeira is situated.

Glyph 4 is a Mediterranean symbol, and also a Jacob's Staff. The tangents at the important points of the petroglyph, and those of the previous figures make angles with the baseline, recording the latitudes where people have been, and sailing directions they have used. The tangent to the left side branch of glyph 4 makes an angle of $13^{\circ}$ (shown on glyph 4, Fig.7), equal to the sailing direction from Gibraltar to Madeira, $13^{\circ} \mathrm{WSW}$. The angle between both tangents of glyph 4 is $21^{\circ}$, encoding the latitude of Cape Blanco, $21^{\circ} \mathrm{N}$. The newly discovered islands of Madeira are north of this cape. The right tangent of glyph

4 makes an angle of $21^{\circ}-13^{\circ}=8^{\circ}$, equal to the distance from Gibraltar to Madeira, $8 \mathrm{dl}=8^{\circ}$ of latitude $=888 \mathrm{~km}$, but also showing that the coast to the south was explored until Sherbro Island, at $8^{\circ} \mathrm{N}$. This is the SW point of North Africa.

THE LOOP on the side of glyph 4 represents the peninsula of Brittany, so the handle is now the west coast of France. The ancient glyph 1 has been repeated! To confirm this, the coastal route from lberia to Brittany has been added to the old glyph 2 (the faint horizontal leg from glyph 2 to the loop). They are trying to explain that they also had a new discovery in the north, in the neighborhood of Brittany. However, the loop of the glyph also represents the westerly coastal route around the British Isles. The faint horizontal leg now points to the islet of Rockall, in the northwest. Note that the right side branch of glyph 4 has an upward point added above its Brittany tip (Fig.7). This tip points in the direction of the Irish Sea, between England and Ireland ("Rockall" in Fig.7), confirming this discovery.

When you look at all the tangents of glyph 4, it is clear that the coast of Europe was explored to the north as far as the islet of Rockall, west of Scotland. The left tangent to the loop makes an angle of $15^{\circ}$, and the right tangent to the inner (left) tip of old glyph 1 makes an angle of $18^{\circ}$ (see Fig.7). The total angle between both tangents "to the west coasts of Britany" in glyphs 4 and 1 equals $15^{\circ}+18^{\circ}=33^{\circ}$. This angle encodes not only Madeira at $33^{\circ} \mathrm{N}$ (just discovered), but also the complementary latitude of $90^{\circ}-33^{\circ}=57^{\circ} \mathrm{N}$, which is the latitude of the newly discovered islet of Rockall, 400 km west of the Hebrides.
THE STONE of Paredes, NW Spain, confirms the discoveries of Madeira and Rockall at about the same time (Ref.3). The Paredes Tablet, however, has not been very well dated. We estimate that both the Madeira and Rockall discoveries occurred about c. 4100 BC .


Flg. 5 Glyph1: Ancient map of the peninsula of Brittany, with the coastal waters over c. 100 km (c. 6500 BC ). Glyph 2: Ancient map of the Little Mediterranean Sea, with the sailing routes to Portugal (right) and to the discovered Canary Islands (left) (c.5500 BC). Glyph 3: Mediterranean sign. showing the discovery of the Cape Verde Islands (c. 4500 BC ), with explanation of megalithic latitude encoding system using a Jacob's Staff.


Table 1
The Constal Route aloug Africa to the South (Glyph 3, c.4500 BC)
Latitude Location Code:
$29^{\circ} \mathrm{N}$ Canary Islands $=2 \mathrm{La}$
$26^{\circ} \mathrm{N}$ Cape Bojador $=2 \mathrm{HR}$
$23^{\circ} \mathrm{N}$ Tropic of Cancer $=2 \mathrm{Ra}$
$21^{\circ} \mathrm{N}$ Cape Blanco $=3 \mathrm{Lb}$
$17^{\circ} \mathrm{N}$ Cape Verde Islands, north $=1 \mathrm{Re}$
$16^{\circ} \mathrm{N}$ Cape Verde Islands, central $=1 \mathrm{Ri}$
$15^{\circ} \mathrm{N}$ Cape Verde lslands, south $=3 \mathrm{Ra}$
$14^{\circ} \mathrm{N}$ Cape Verde $=3 \mathrm{Rb}$, 1 Rae
$12^{\circ} \mathrm{N}$ Bissagos Islands $=3 \mathrm{Ri}$
$4^{\circ} \mathrm{N}$ Cape Palmas $=1 \mathrm{~L}$
$4^{\circ} \mathrm{N}$ Niger River mouth $=3 \mathrm{HR}$
$0^{\circ} \mathrm{N}$ Equator $=3 \mathrm{Ha}$
$1^{\circ} \mathrm{S}$ Cape Lopez $=1 \mathrm{Le}, 3 \mathrm{HRa} / 3 \mathrm{Ha}$

Fig. 6 The latutude codes of glyph 3, repeated in Table 1 , showing the coastal route from the Strait of Gibraltar $\left(36^{\circ} \mathrm{N}\right)$ along Africa to the south until Cape Lopez ( $1^{\circ} \mathrm{S}$ ), and the discovery of the Cape Verde Islands at $16^{\circ} \mathrm{N}$ (c. 4500 BC ).

## The Discovery of the Azores

Glyph 5 has been carved above glyph 4. The higher position chosen for this glyph indicates that a new discovery has been made west of the Strait of Gibraltar. So glyph 5 must be about the Azores, later discovered far out in the ocean! Again, the figure is a Mediterranean sign. The tangents to this glyph (and from this glyph to the previous glyphs) encode important latitudes, sailing directions, distances, and number of islands, as they do for the other glyphs. Remember, these people like mathematics (Ref.35)!

Below the right side branch, a little arc has been engraved (see only in Fig.2). The right tangent of glyph 5 (running along this arc) makes an angle of $18^{\circ}$ with the baseline of glyph 5, equal to the sailing direction from the Strait of Gibraltar to the Central Azores, $18^{\circ} \mathrm{WNW}$, its distance, $18 \mathrm{dl}=18^{\circ}$ of latitude2000 km , and the total number of islands of the Canaries, Madeira, and the Azores, $7+2+9=18$.

ENCODING the latitude of the Azores at $37^{\circ}$, $38^{\circ}$, and $39^{\circ} \mathrm{N}$ on glyph 5 (high, because located in the west) took some ingenuity not often seen in these petroglyphs. The left tangent makes an angle of $27^{\circ}$, corresponding to the latitude of Cape Bojador, $27^{\circ} \mathrm{N}$, and the angle between both tangents is $27^{\circ}+18^{\circ}=45^{\circ}$. Looking on the map, we see that the Cape Verde Islands are located $45^{\circ} \mathrm{SW}$ of Cape Bojador, at $27^{\circ}-11=16^{\circ} \mathrm{N}$, and now they are trying to explain that the newly discovered Azores are situated $45^{\circ} \mathrm{NW}$ of Cape Bojador at $27^{\circ}+11=38^{\circ} \mathrm{N}$, which is fully correct. So, Cape Bojador at $27^{\circ} \mathrm{N}$ is a point of symmetry. The total number of discovered islands, lacluding the 9 Cape Verde Islands, is now $18+9=27$. The total number of islands of Madeira and the Azores is $2+9=11$, and while the Cape Verde Islands are located at $15^{\circ}, 16^{\circ}$ and $17^{\circ} \mathrm{N}$, it is also true that the newly discovered Azores are situated twice 11 higher at $37^{\circ}, 38^{\circ}$, and $39^{\circ} \mathrm{N}$. So in glyph 5, the latitudes of the East, Central, and West

Azores are indirectly well indicated. The difference between the left angle and the right angle is $27^{\circ}-18^{\circ}=9$, equal to the 9 discovered islands of the Azores. Now, instead of the Cape Verde Islands, the Azores became the westernmost land in the known world.

YOU MAY THINK these complicated petroglyphs have strange features, but they do not. They describe the nautical history of the megalith builders over a time period of some 400 years. The people had complicated feelings about what happened over such a long time span. A total analysis of each glyph would require a chapter on each one, and combined, would be a book in themselves. Here, we are only showing you their methodology, by explaining a few of the glyphs, and an overview.

From study of the details of the construction of the passage grave of Gavrinis in Brittany, we know this monument was built because of the discovery of the Azores (Refs.1-3,9). Since Gavrinis is dated to c. 3600 BC , we know this glyph 5 at Dissignac about the Azores was also made c. 3600 BC. Santa Maria, the easternmost island of the East Azores, is located c. 900 km from Madeira, so by c. 3600 BC people were able to sail the sea over this larger distance.

## The Discovery of the Farocs, Iceland, and Greenland

A LONG CONNECTION line points from glyph 6 to glyph 4 (Figs.4,7). The carver of glyph 6 was orienting on glyph 4 , but placed 6 to the right, so recording new discoveries in the north. Glyph 6 is an ordinary Mediterranean symbol. The handle is the Mediterranean, the right side branch is the sailing route to Brittany, and the left side branch is the sailing route to the Cape Verde Islands. But the figure is more complicated, as it has little branches, representing important sailing routes in and around the Mediterranean. More than a thousand years


Fig. 7 Petroglyphs of Dissignac (Ref.4) with geographic labels and tangent angles. Over time, it became a megalithic symbolic map of the world using mathematics. Tangent angles of symbolic Jacob's Staffs were used to encode latitudes.

Glyph 1: Ancient map of the peninsula of Brittany with the coastal waters over c. 100 km (c. 6500 BC )
Glyph 2: Ancient map of the Little Mediterranean Sea with the salling routes to Portugal (right) and the Canary Islands (left) (c. 5500 BC )
Glyph 3: The discovery of the Cape Verde Islands (c. 4500 BC )
Glyph 4: The discoverles of Madeira and Rockall (c. 4100 BC)
Glyph 5: The discovery of the Azores (c. 3600 BC)
Glyph 6: The discovery of the Faroes, Iceland and Greenland (c. 3200 BC)
Glyph 7: Discoveries of Africa, Ascension and St. Helena (c. 2900 BC)
Glyph 8: The discoveries of Australia (c. 2700 BC) and America via the Bering Sea (c. 2600 BC )
Glyph 9: The sailing route to Central America (c. 2300 BC)
Glyph 10: The sailing routes around the Americas (c. 2200 BC)
Glyph 11: The salling route to America via the Upper North (c. 2100 BC)
later than glyph 3, the traditional Jacob's Staff (Ref7) symbolic systen was continuing to be used. Both tangents to the outside points of contact of this Jacob's Staff make an angle of $33^{\circ}$, (shown in Fig.7), encoding the complementary latitude of Rockall and the Scottish Highands, $90.33=57^{\circ} \mathrm{N}$. Apparently, because of explorations from the Hebrides and Orkneys, which have huge megalithic stone circles and other remains (Ref27), a lot of new discoveries were made on the ocean. When we look at all the angles with the baseline of glyph 6, you find the latitudes of the Facroe Islands, Icelandand Greenland, including Cape Farvel and the SW Cape of Greenland (Rer, 1). Above glyph 6 are two long thin cracks in the stone which nidicate the east and southwest coasts of Grecnland (Fig2). The important saling directions are included. Almost all the latiudes are encoded as complimentary angles. They must have been so familiar with their encoding tectiniques that they could use them reliably and casily at sea

LOOK AT THE END of the glyph 6 right side branch. The notch here looks like a copy of the Britany notch, but it is not. It is an engraving of South Greenland. This had become the westermost land in the known world. Near the bottom of glyph 6 we see the long sailing route from the island of Crete, via the Egeic Sea and the Black Sea to the mouth of the Dnepr River, near the present city of Odessa. This route to the north is the coastal route along Norway to the North Cape. This sailing route is also indicated by the latitudes of glyph 6. This is a rather mportant part of the glyph, because fishows there is no land connection from Scandinavia to the wess. The petroglyplis at Loughorew and the design of Stonehenge 1 (Refs.1,3,10-12) show that the aftempts to cross the sea from south Greenland to the west were given ap at this point, as we have shown in other articles. Because of this dramatic decision at Greenland to give up, recorded in these monuments, we know that this Dissigne glyph 6 was inscribed c. 3200 BC .

## The Discovery of Ascension and St. Helena

THERE IS a thin, intermittent "comection line" (only seen in Fig.2), from glyph 7 to the lef branch of glyph 3 on its righe (Fige 4,7). This is indiating that the carver of glyph 7 is orienting on glyph 3, and that new discoveries were made in the south. For sevectal centuries, the megalithic efforts to eross the ccean were now focused on the South Atlantic off the coast of Africa. Theleft side branch of glyph 7 tuns from Gibraltar (the center of all Mediterranean signs) to Cape Palmas, the south point of NW Africa (see map, Fig.8). The left tangent of glyph 7 makes an angle of $29^{\circ}$ with the baseline equal to the sailing direction from Cape Palmas to the islet of Ascension, $29^{\circ}$ SSW. The tangeat to the right side of old glyph 2 makes am angle of $8^{\circ}$. encoding its hatiude of $8^{\circ} \mathrm{S}$. The discovery of Ascension in the Southern Ocean was important, because it became by far the westermost land in the Southern Hemisphere,

The angle between both tangents of glyph 7 equals $45^{\circ}$, equal to the sailing direction from Ascension to St. Helena, 45 ${ }^{\circ} \mathrm{SE}$. The right tangent along this glyph makes an angle of $45^{\circ}-29^{\circ}=16^{\circ}$, encoding its latiude of $16^{\circ} \mathrm{S}$ (for details, see Fig.8). So, the islet of St Helena was discovered as well. The long hook pointed dow on the right end of glyph 7 shows that a return involved coming back quite a way from the west. Figure9 shows a petroglypts from Kermaillard, Brittary (Ref.2,3). Below the North Atlantic Ocean with the sea areas east and west of Greenland (where they gave up), wee see al U-shaped sailing route following the Mid-Allantic Ridge in the Southern Ocean, that confirms the discovery of Ascension and St Helena. The petroglyph reveals a great amount of ocean salling going on, to have found these remote islands, despite the fact that birds probably showed them the way, once they got near the islands: The sailing distance from Cape Palmas to Ascension is 1450 km , from Ascension to St. Helena 1250 km , and St. Helena is 1800 km from Cape Frio on the
coast of Africa. By now, people were able to cross long distances over the open sea.

After the discovery of Ascension and St. Helena, there were a few centuries when the megalith builders hoped they could find a way to cross the South Atlantic. The tangents of glyph 7 show that the whole western coastal route of Africa was explored over a distance of c .1500 km offshore, as far as the SW cape of South Africa, the Cape of Good Hope. Because of lack of success, a new period began in the efforts of the megalith builders. They decided to start exploration of the earth to the east!

The tangents of glyph 7 show that the east coast of Africa was explored as far as Egypt at the north end of the Red Sea. At the right side of the handle of a large dot is engraved (see Fig.2), representing the large island of Madagascar, only 400 km offshore, the discovery of which is confirmed by the tangent latitudes of the figure. The glyph details even show where to leave the coast for the Comoros, near Cape Delgado, at $11^{\circ} \mathrm{S}$. We do not know when glyph 7 was inscribed, but from circumstantial evidence, we estimate that it probably dates from c. 2900 BC .

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