

*FIG (2) ROMÉ 2012*

FIG HISTORY WORKSHOP

4/5 MAY 2012

FONDAZIONE DEI GEOMETRI

*WHAT CAME BEFORE THE ENGLISH STATUTE SYSTEM  
NOT ROMAN  
BUT ANCIENT METROLOGY*

- THERE IS A VERY LARGE GAP IN THE HISTORICAL RECORDS REGARDING METROLOGY AND SURVEYING THE ANCIENT WORLD.
- FOR THE MAJORITY OF EUROPE THE METROLOGY COMMENCED WITH GREEK MEASURES BUT THIS WAS SOON ECLIPSED BY ROMAN MEASURES
- THAT THE ROMANS CAME, IMPOSED THEIR STANDARDS AND LEFT IS TOTALLY RECORDED AND DEALT WITH AT LENGTH IN HUNDREDS OF SCIENTIFIC OR ARCHAEOLOGICAL PAPERS.
- WHAT IS MISSING FROM THE RECORD HOWEVER, IS HOW ANCIENT MAN CONTROLLED THE CONSTRUCTION OF HIS MONUMENTS, AND THE MEASURES UTILISED TO PLAN AND EXECUTE THESE MAGNIFICENT WORKS WE NOW FIND IN THE LANDSCAPE OF EUROPE AND ASIA.
- UNFORTUNATELY, ARCHAEOLOGISTS AND HISTORIANS LACK THE METROLOGICAL TRAINING TO PIECE TOGETHER THE EVIDENCE, AND, EVEN WHEN IT IS BEFORE THEM THEY DO NOT RECOGNIZE THAT IT IS OF SUCH IMPORTANCE TO OUR UNDERSTANDING ANCIENT MANS CAPABILITIES.
- THIS PAPER SEEKS TO REDRESS THE BALANCE BY ILLUSTRATION.

## *ANCIENT METROLOGY AND SURVEYING*

THERE IS A LACK OF ACCEPTANCE BY MANY RESEARCHERS, GIVEN THE TIMESCALE FROM PREHISTORY TO MEDIEVAL, THAT THERE COULD POSSIBLY BE A CONTINUAL TRANSFERENCE OF MATHEMATICS OR MEASUREMENTS AND SURVEYING TECHNIQUES FROM 3000 BCE.

MEGALITHIC MEASURES ARE THOUGHT TO BE ONLY A MERE POSSIBILITY WITH SOME MATHEMATICAL ANALYSIS FOR AND SOME AGAINST. RESEARCH, OR THE AGGREGATION OF EXISTANT RESEARCH TO FULLY INVESTIGATE THIS SUBJECT IS THEREFORE LIMITED.

THIS PAPER ENDEAVOURS TO ILLUSTRATE WHAT INFORMATION IS AVAILABLE. IT ALSO INDICATES THAT ARCHAEOLOGISTS AND HISTORIANS HAVE JUST NOT GIVEN ANY THOUGHT TO THE POSSIBILITY THAT MEGALITHIC MAN COULD MEASURE, SURVEY AND CARRY OUT THE MATHEMATICAL WORKS REQUIRED TO PRODUCE THE LANDSCAPE WE SEE TODAY.

THIS PAPER ALSO RESOLVES THE QUESTION, “MEGALITHIC MEASURE, WHAT IS MEGALITHIC MEASURE?”

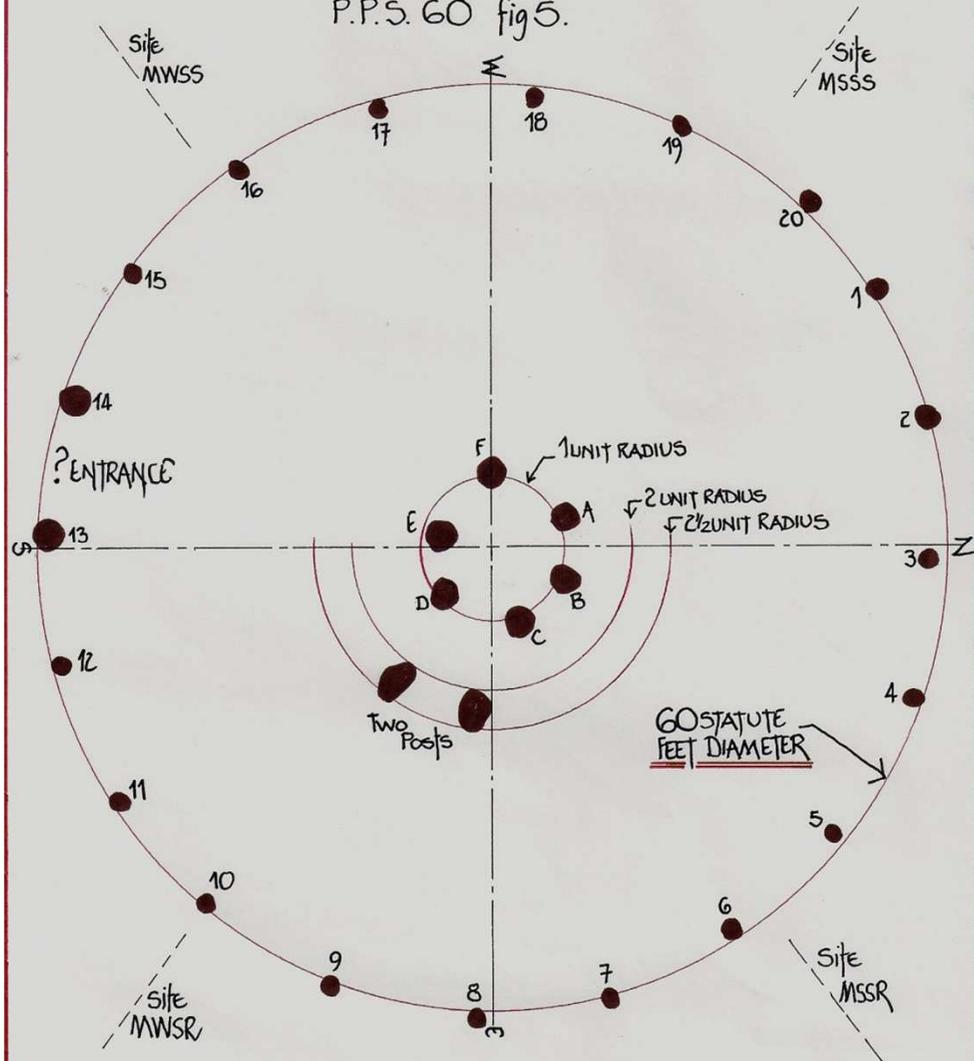
THE SITE COMPRISES A COMPLEX OF LANDSCAPE WORKS DATING FROM C2100BCE.  
THERE ARE ON THE SITE A TIMBER CIRCLE, PENANNULAR RING DITCHES AND A CURSUS

*SARN Y BRYN CALED, WELSHPOOL.*

*C2100 BCE, TIMBER CIRCLE AND CURSUS*



ORIGINAL DIAGRAM  
P.P.S. 60 fig 5.



SARN Y BRYN CALED  
OAK POST POSITIONS.

Ms3 D01



SARN-Y-BRYN-CALED birds eye view mjf 2000

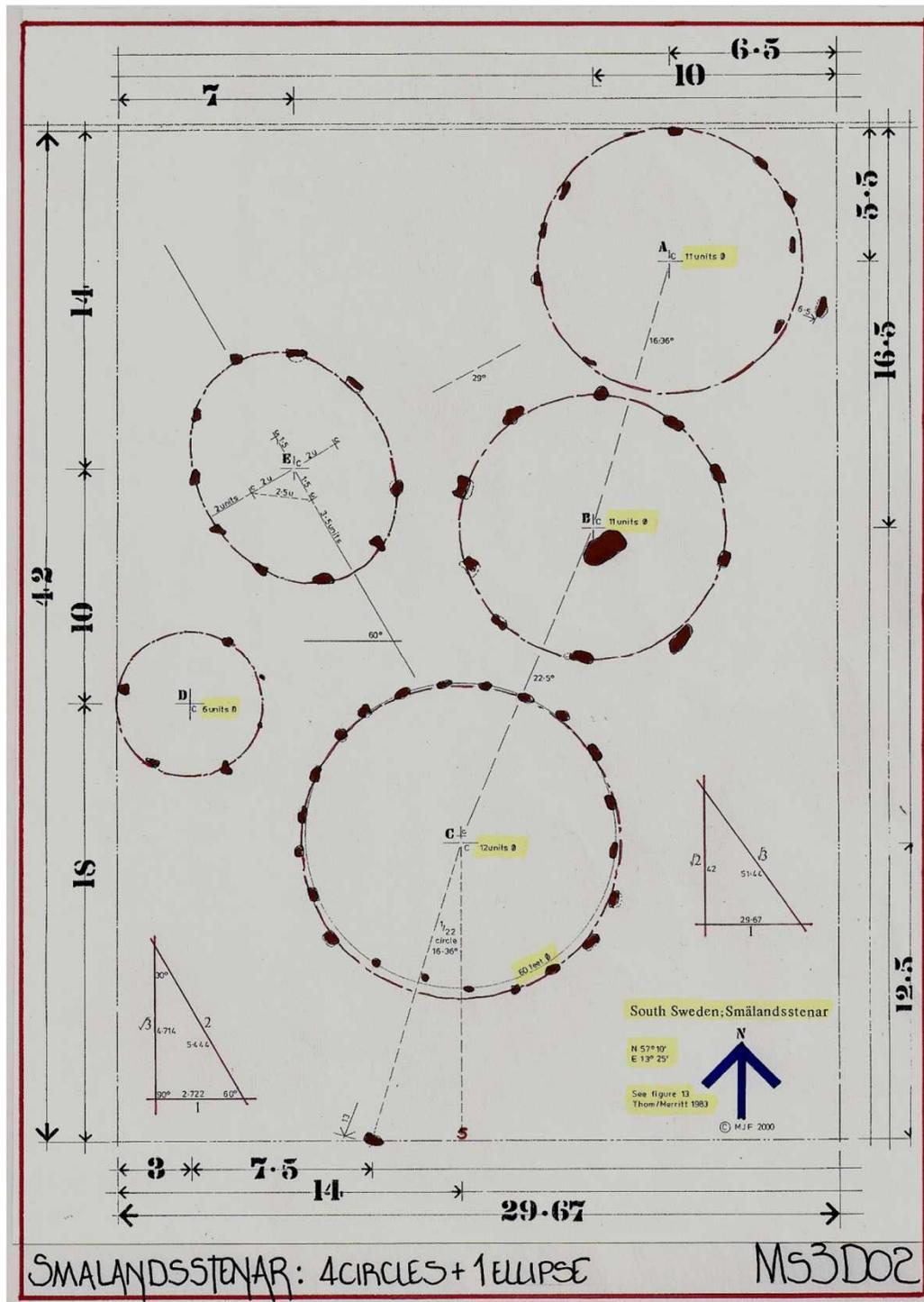


Ms3 DO1A

SARN-Y-BRYN-CALED from the south. m.j.f.2000.

THIS SITE IN SOUTHERN SWEDEN IS ONE OF 15 SITES VISITED IN SCANDINAVIA BY PROFESSOR A S THOM AND R L MERITT. THEY SURVEYED 22 STONE CIRCLES, ONE ELLIPSE, THREE SHIP SHAPED ENCLOSURES AND ONE SQUARE.

*SMALANDSSTENAR, SOUTH SWEDEN  
STONE CIRCLES AND ELLIPSES*



AVEBURY IS ONE OF THE WORLDS MARVELS OF ANCIENT CONSTRUCTION. IT IS IN WILTSHIRE, ENGLAND AND COMPRISES A BANK AND DITCH ENCLOSURE WITH STANDING STONES TO THE PERIMETER AS WELL AS CENTRAL STONE CIRCLES. THERE IS AN AVENUE OF STONES LEADING TO A SECOND MONUMENT, THE SANCTUARY, AND ADJACENT TO IT ALL ON THE SAME OVERALL SITE IS THE ENIGMATIC SILBURY HILL.

*AVEBURY, WILTSHIRE, ENGLAND*

*MEGALITHIC SITE DATED FROM 3300 BCE*

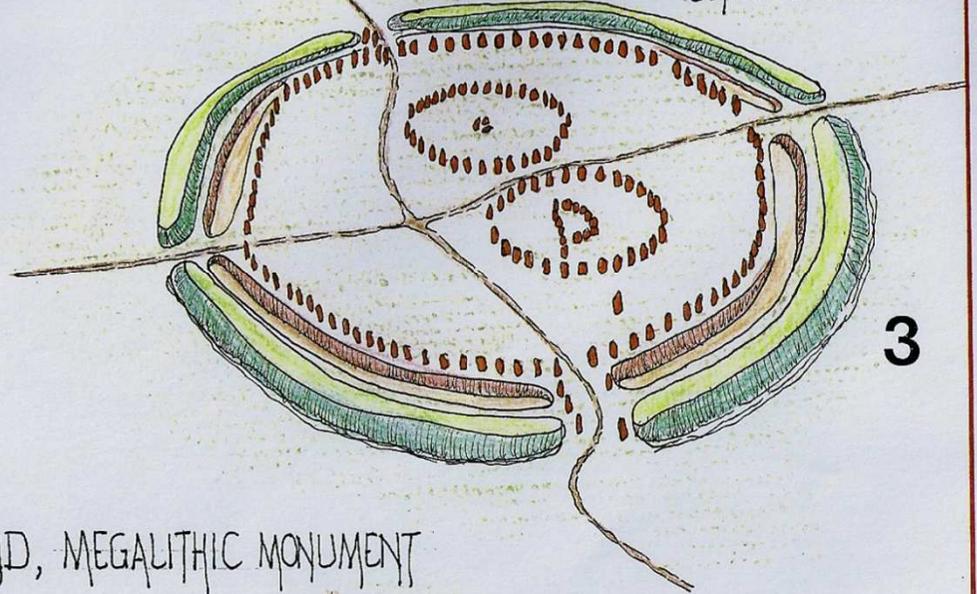
c.3300 - 3000 BCE

1



c.2700 - 2300 BCE

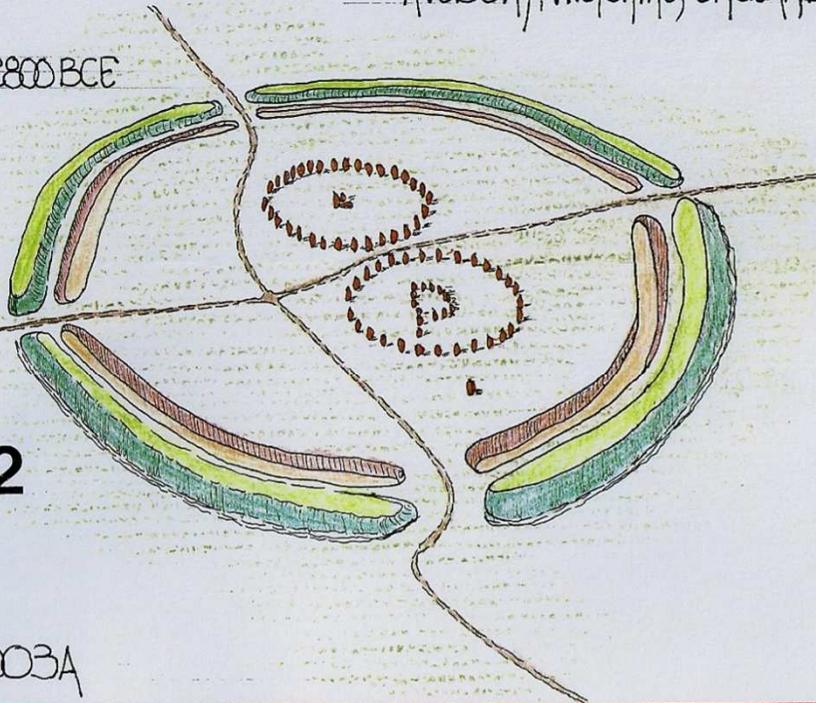
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AVEBURY; WILTSHIRE; ENGLAND, MEGALITHIC MONUMENT

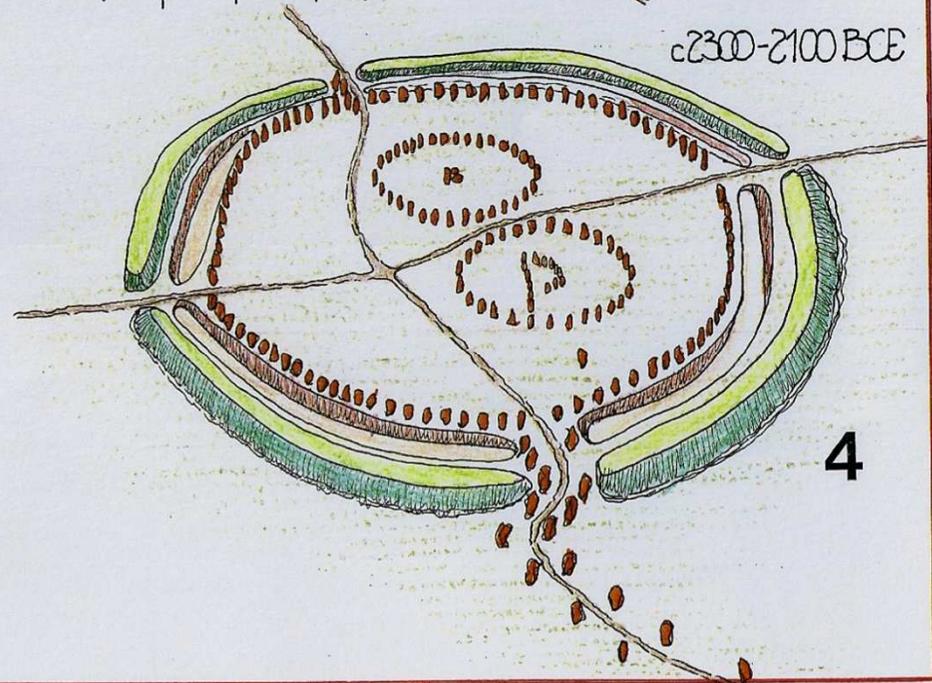
c.3000 - 2800 BCE

2

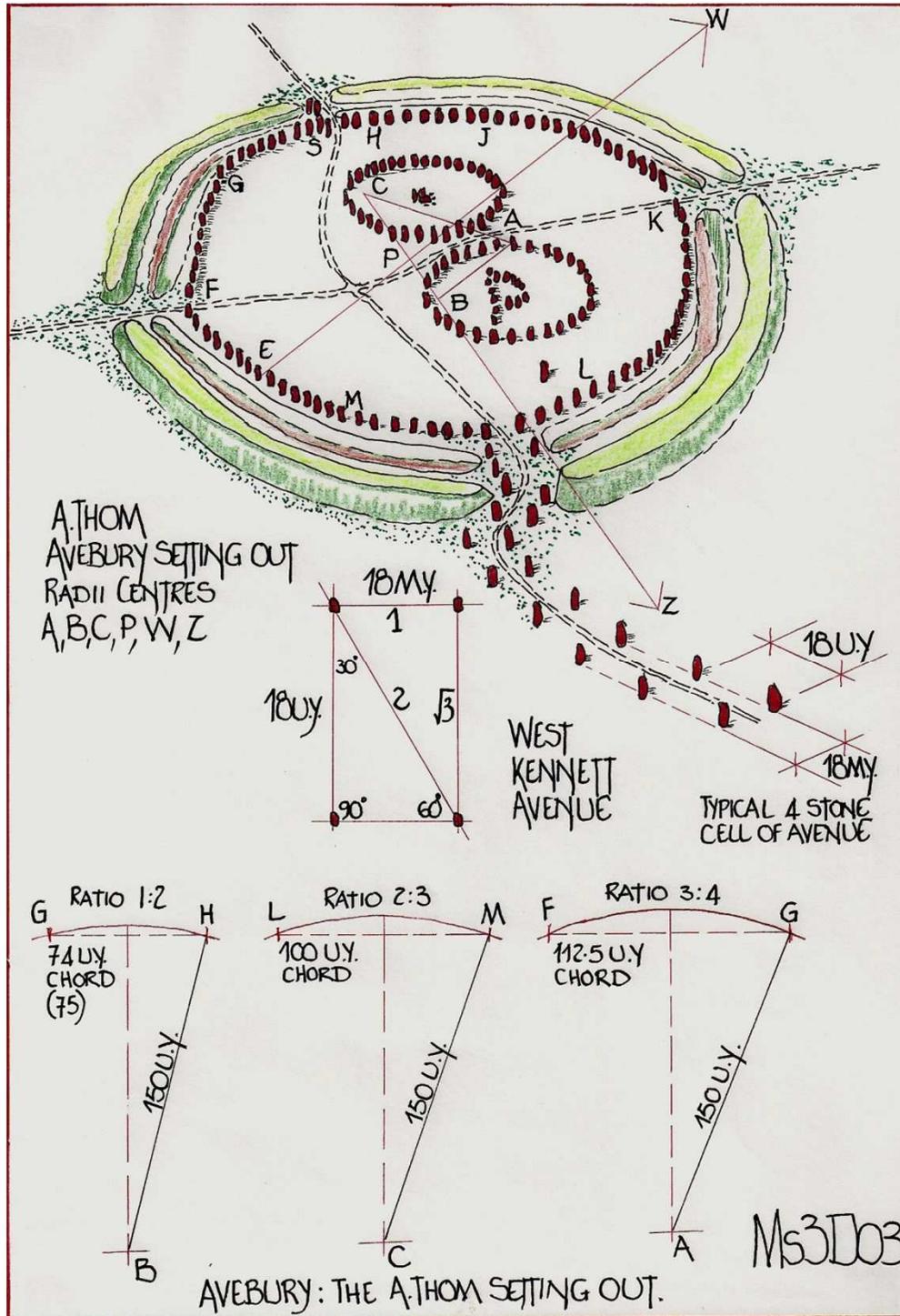


c.2300 - 2100 BCE

4



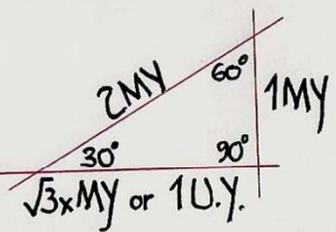
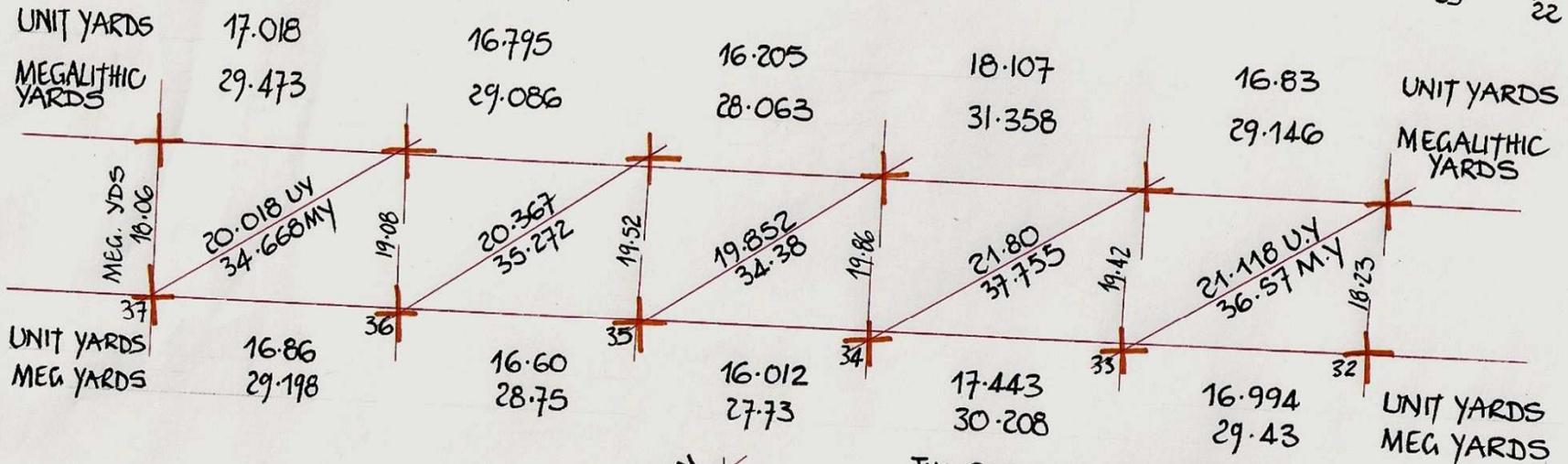
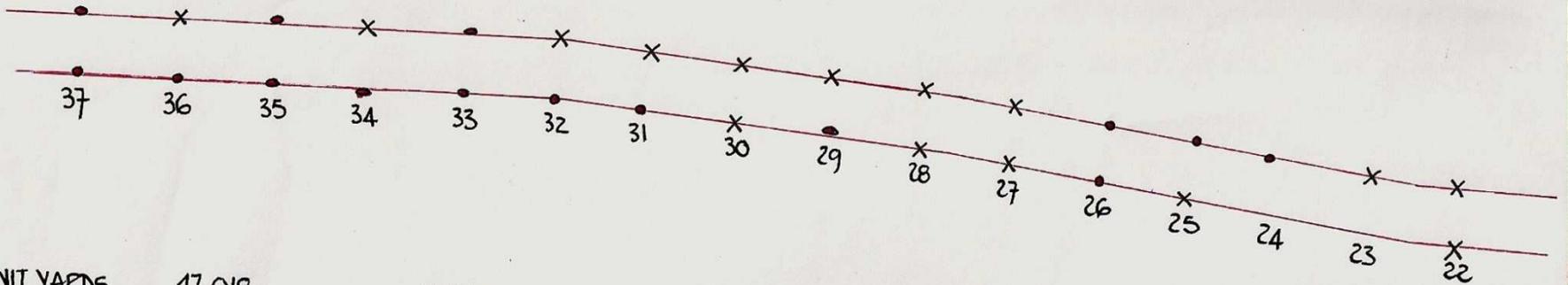
Ms3D03A



THE WEST KENNET AVENUE IS A MEANDERING PATH FLANKED BY STANDING STONES SET OUT IN PAIRS TO A REGULAR PATTERN. IT LEADS FROM THE MAIN SITE OF AVEBURY TO THE SMALLER STONE CIRCLE AT THE SANCTUARY.

*WEST KENNET AVENUE, WILTSHIRE  
CONNECTING AVEBURY TO THE SANCTUARY BY A SLIGHTLY  
MEANDERING ROUTE SOUTH EAST IN THE LANDSCAPE.*

WEST KENNET AVENUE CELL PROFILES.



$\sqrt{3} \times \text{MY} = 20 \text{ U.Y.}$   
 $1 \text{ MY} = 20 \text{ MY}$   
 $\sqrt{2} \times \text{MY} = 16 \frac{1}{3} \text{ U.Y.}$

THE RATIO OF MEG. YD. TO UNIT YD IS ALWAYS  $1 : \sqrt{3}$ .

FROM CELL OF  $1 : \sqrt{3} : 2$  DESIGN IT EVOLVES TO A FINAL SECTION OF  $1 : \sqrt{2} : \sqrt{3}$  DESIGN.



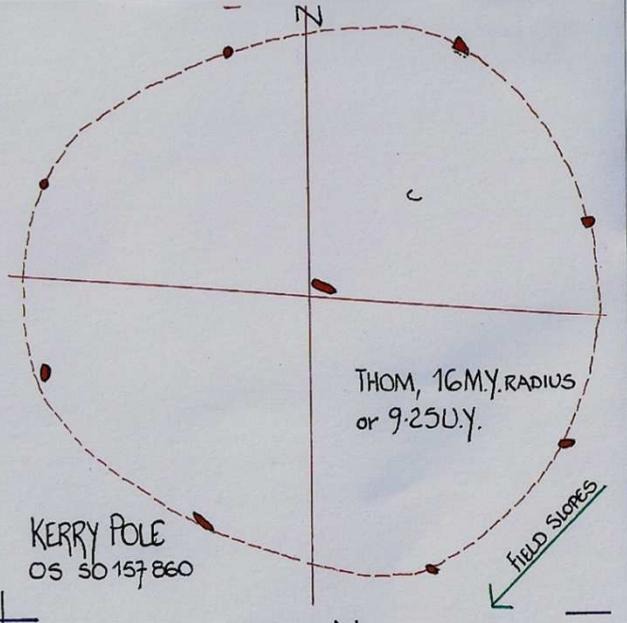
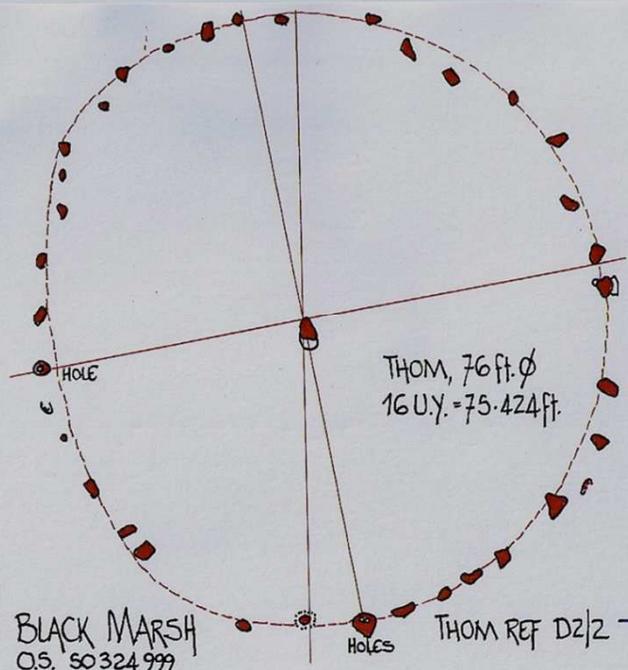
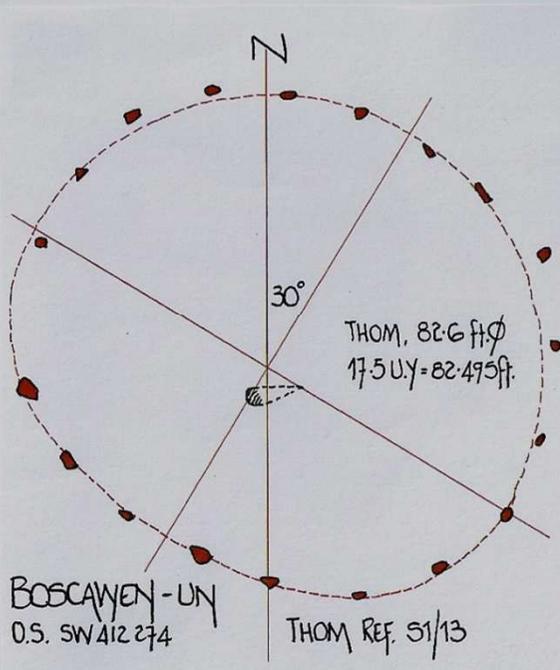
THE WEST KENNET AVENUE FROM PROF. A. THOM'S SURVEY

MS3D005

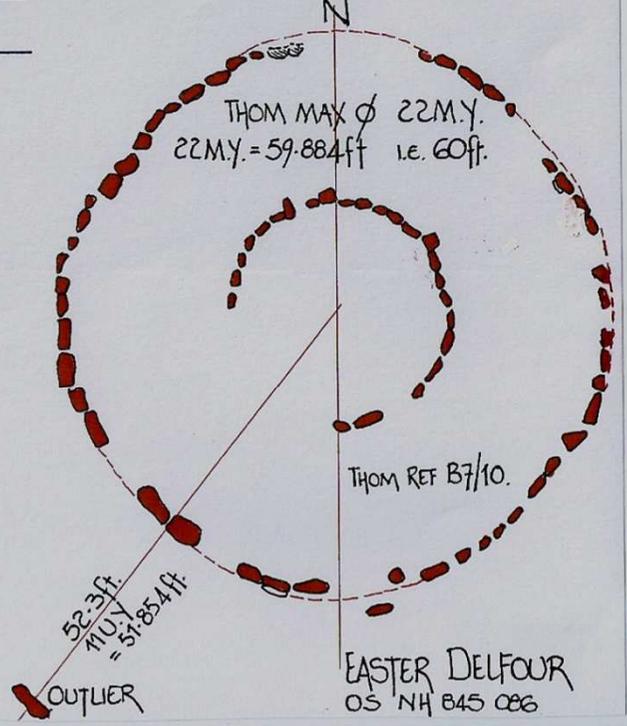
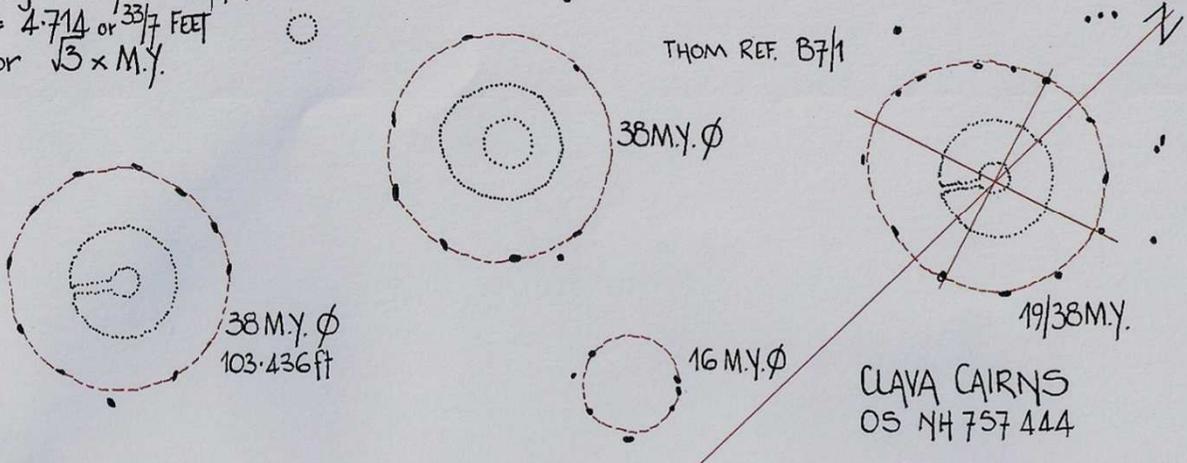
STRETCHING THE LENGTH AND BREADTH OF THE BRITISH ISLES ARE A SERIES OF STONE CIRCLES OF VARYING SIZE AND ACTUAL SHAPE. THEY ILLUSTRATE THE SURVEYORS ART IN USING SIMPLE ROPE AND POST FORMAT TO CONSTRUCT BOTH CIRCLES AND COMPLEX ELLIPSES.

## *STONE CIRCLES IN ENGLAND /SCOTLAND*

*CIRCLES AND ELLIPSES INDICATING THE SURVEY TECHNIQUE OF USING A SIMPLE CENTRE POINT AND THEN A SECOND POST TO SHORTEN THE ROPE AND PRODUCE THE ELLIPTICAL FORMAT REQUIRED.*



NOTE: THOM, 1 M.Y. = 2.722 feet.  
M.Y.F: 1 U.Y. or UNIT YARD  
= 4.714 or  $\frac{33}{7}$  FEET  
or  $\sqrt{3} \times M.Y.$



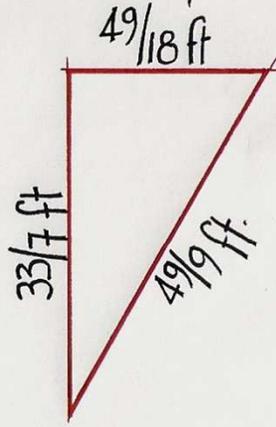
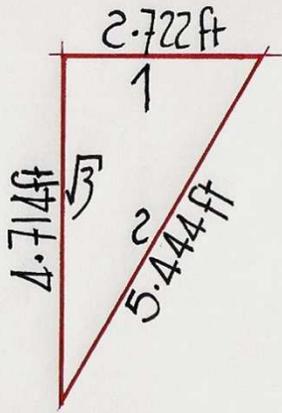
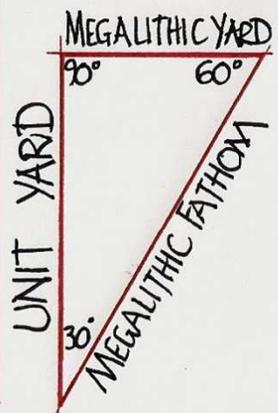
M53D04 STONE CIRCLES, GEOMETRY AND DIMENSIONS

THE MEGALITHIC MEASUREMENTS OF 2.722, 5.444 AND 4.714 STATUTE FEET HAVE BEEN FOUND THROUGHOUT EUROPE. BUT THEY ARE CO-JOINED BY ONE VERY SPECIFIC GEOMETRICAL FEATURE, A  $1/\sqrt{3}/2$  TRIANGLE.

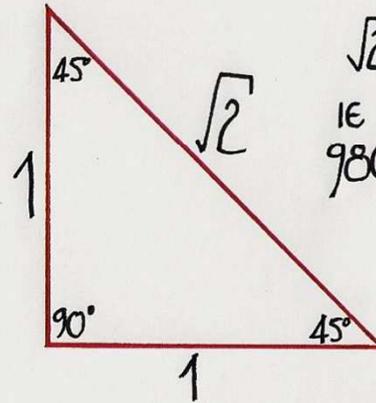
## *THE MEGALITHIC MEASUREMENTS*

*HOW ANCIENT MAN USED ONE TRIANGLE TO PRODUCE THE THREE MEASUREMENTS FOUND WITHIN THE MEGALITHIC STRUCTURES.*

# MEGALITHIC MEASURES - RELATIONSHIPS



# TRIANGLES 1:1:√2 & 1:√3:2

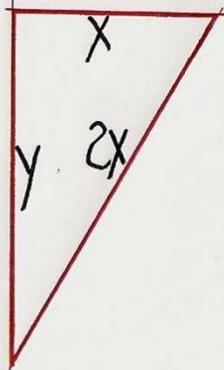


$$\sqrt{2} = 99/70$$

$$\text{IE } 99^2 \approx 70^2 + 70^2$$

$$9801 \approx 9800$$

## MATHEMATICAL PROOF WITH FRACTIONAL NUMBERS



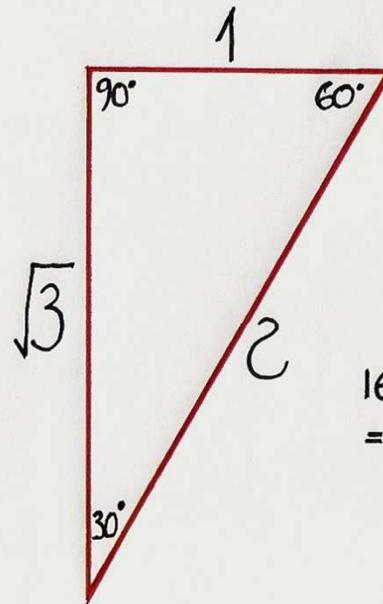
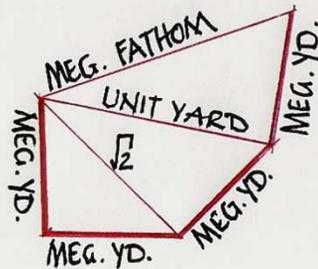
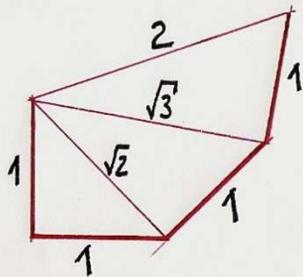
$$(2x)^2 = x^2 + y^2 \text{ OR } \left(\frac{49}{9}\right)^2 = \left(\frac{49}{18}\right)^2 + \left(\frac{33}{7}\right)^2$$

substitute to find  $y^2 = \left(\frac{49}{9}\right)^2 - \left(\frac{49}{18}\right)^2$

$$\text{OR } y^2 = \left(\frac{98}{18}\right)^2 - \left(\frac{49}{18}\right)^2 \therefore y^2 = \frac{7203}{324}$$

$$\text{But } \frac{7200}{324} = \frac{200}{9} \therefore y = \frac{10\sqrt{2}}{3}$$

$$\therefore y = \frac{10}{3} \times \frac{99}{70} = 33/7$$



$$\sqrt{3}$$

$$1 = 4 \times 70 = 280$$

$$2 = 8 \times 70 = 560$$

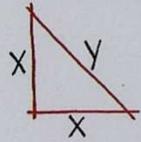
$$\sqrt{3} = \quad = 485$$

$$\text{IE } 1:\sqrt{3}:2$$

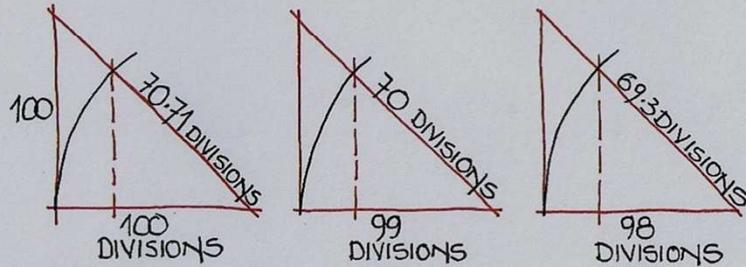
$$= 56:97:112$$

Ms3D06

SOLVING BY GEOMETRY THE RATIO OF  $\sqrt{2}$ .

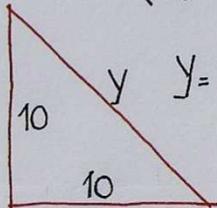


$Y = X\sqrt{2}$ , but  $\sqrt{2}$  is an irrational number

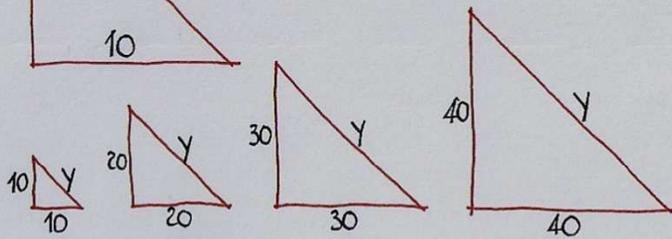


$\sqrt{2} = 99/70$  or  $140/99$

MATHEMATICAL CHECK:  $\sqrt{2} = \frac{1}{2} \left( \frac{99}{70} + \frac{140}{99} \right) = \frac{99}{140} + \frac{70}{99}$   
 AND  $C = \left( \frac{99}{140} + \frac{70}{99} \right)^2 = \left( \frac{9801 + 9800}{13860} \right)^2 = \left( \frac{19601}{13860} \right)^2 = 2.000000005$



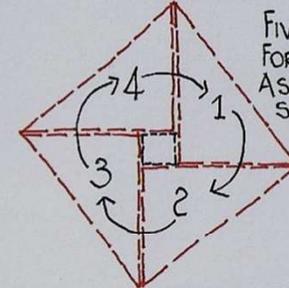
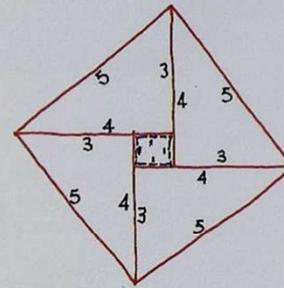
$Y = \frac{10 \times 99}{70} = \frac{99}{7}$  or  $3 \times \frac{33}{7}$  units



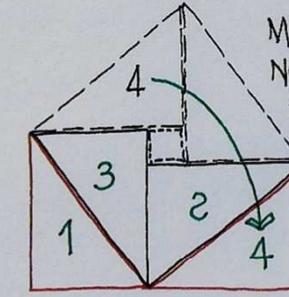
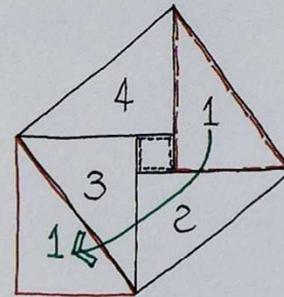
$Y = \frac{3 \times 33}{7}, \frac{6 \times 33}{7}, \frac{9 \times 33}{7}, \frac{12 \times 33}{7}$

THUS A 40 INCH TRIANGLE HAS A HYPOTENUSE OF  $40\sqrt{2}$  INCHES  
 THIS IS 4ft 8.568ins :  $\frac{33}{7}$  feet : 56.5685 INCHES.

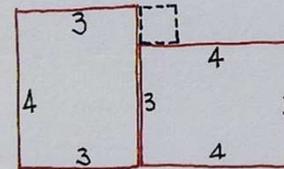
PYTHAGOREAN PROOF VIA A 3:4:5 SIDE RATIO TRIANGLE.



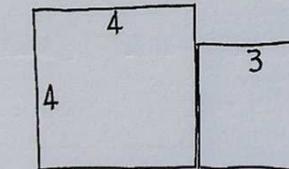
FIVE BY FIVE SQUARE FORMED BY ROTATING A SINGLE 3:4:5 SIDE RATIO  $\Delta$ .



MOVE TWO TRIANGLES NOTING CENTRAL SQUARE OF UNITARY SIDE



BASIC RECTANGLES FORMED.



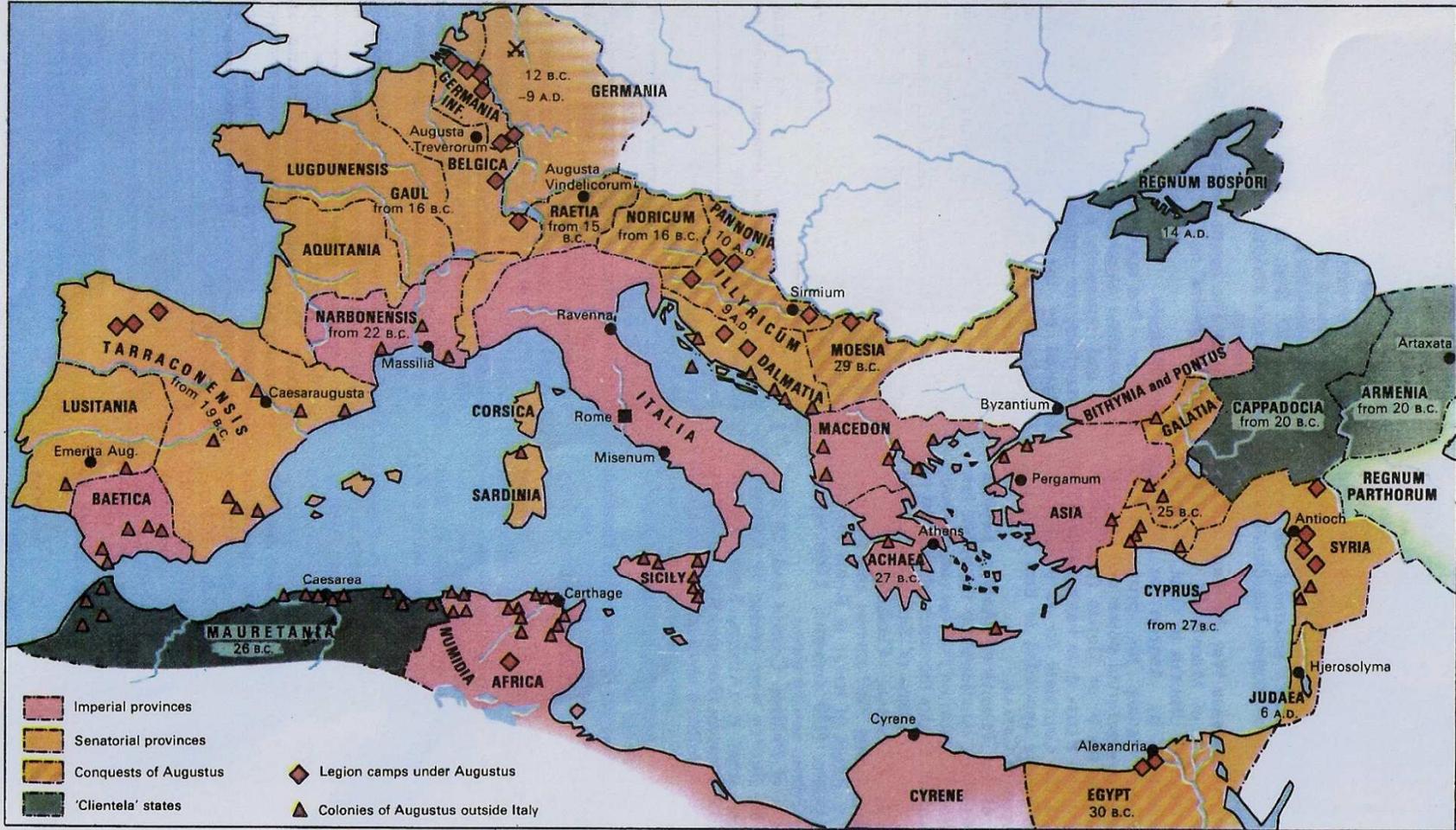
UTILISE CENTRAL UNITARY SQUARE TO FORM 2 SQUARES

THUS THE SQUARE ON THE HYPOTENUSE OF A RIGHT ANGLED TRIANGLE EQUALS THE SUM OF THE SQUARES ON THE OTHER TWO SIDES.

SOLVING PYTHAGORAS' THEOREM AND  $\sqrt{2}$  BY TRIANGLES.

Ms3D07

*FROM THE EXTREMES OF THE ROMAN  
EMPIRE, BASE SEVEN MEASUREMENTS.*



The Empire of Augustus

## *FROM IBERIA TO ARMENIA*

- THE BASQUE SYSTEM OF MEASUREMENT. THEIR LANGUAGE AND METROLOGY IS THOUGHT TO BE ONE OF THE MOST ANCIENT SURVIVORS FROM PREHISTORY AND IS A 7 BASED SYSTEM, WITH UNITS AS FOLLOWS;

•	CO	GO	PO	AM	ES	OI	ZE	ZEHAMEAK	
•	0	1	12	28	42	84	588	882	1176
•	0	0	1	2.33	3.5	7	49	73.5	147
•	0	0	1	1.5	3	21	31.5	42	
•	0	0	0	1	2	14	21	28	
•	0	0	0	0	1	7	10.5	14	
•	0	0	0	0	0	1	1.5	2	
•	0	0	0	0	0	0	1	1.5	
•	0	0	0	0	0	0	0	1	

- CORDS/GORAPILLAK/POSTURAS/AMALAUONAK/OINAK(FEET)/ZEHABETEAKE/ZE
- THE ARMENIAN ASPAREZ IS THE 7<sup>TH</sup> PART OF THE ARMENIAN MILE AND IS EQUAL TO THE ORDINARY ASPAREZ AT A RATIO OF 10/7 OR 1+3/7THS.

*MESOPOTAMIA AND THE SPECIAL SEVEN*

*“— IS THE CASE OF THE PRIME NUMBER 7. FOR IT IS ONLY IN  
MESOPOTAMIAN SEXAGESIMAL MATHEMATIC THOUGHT THE NUMBER HAS  
A SPECIAL SIGNIFICANCE”.*

## *MESOPOTAMIAN SEXAGESIMALS AND THE 7*

- THE EXCEPTION TO THE USE OF REGULAR NUMBERS AS DEITIES, WAS THE DEIFIED “7”. THIS IRREGULAR NUMBER RECEIVED SPECIAL ATTENTION AS IT WAS THE FIRST CARDINAL, ORDINAL AND PRIME NUMBER. “7 DOES NOT DIVIDE” WAS THE LACONIC CRY OF A MESOPOTAMIAN MATHEMATICIAN.
- THE NUMBER 7 AND ITS MULTIPLES, ALSO PLAY A PROMINENT ROLE IN MYTHOPOEIC THOUGHT BEYOND THE BORDERS OF MESOPOTAMIA, LEADING US TO BELIEVE THAT HERE WAS THE ORIGIN OF THE DIFFUSION OF THE “7”.
- THE MESOPOTAMIAN DEIFIED “7” IS USUALLY IDENTIFIED ASTRONOMICALLY WITH THE PLIEIDES, BUT THIS IS NOT CERTAIN. AS A SACRED NUMERAL IT IS ATTESTED IN CANAANITE AND HEBREW LITERATURE ESPECIALLY IN THE BIBLE.
- IN THE HEBREW CREATION EPIC ONLY THE 7<sup>TH</sup> DAY WAS BOTH BLESSED AND SANCTIFIED BY THE CREATOR AND BY LATE ANTIQUITY MESOPOTAMIAN ASTROLOGY POPULARIZED THE COSMIC COUNTERPARTS OF THE DEIFIED “7” IN THE FORM OF THE “7 PLANETS”, EACH IDENTIFIED WITH A MAJOR DEITY.
- THE VERY DEIFICATION OF THE IRREGULAR PRIME “7” INDICATES THAT THE MESOPOTAMIANS CONSIDERED IT AN AWESOME NUMBER.

FIRST KNOW THAT A QUARTENTINE (ACRE) OUGHT TO HAVE 4 RODDES IN BREADTH AND 40 RODDES IN LENGTH, AND THE KING'S RODDE (OR PERCH) IS 16 FOOTE AND A HALFE AND THEN HATHE THE ACRE IN BREADTH 66 FOOTE. WHEN YOU HAVE GONE UP AND DOWN 33 TIMES WITH THE FURROWE OF A FOOTE BROADE, THEN IS AN ACRE PLOUGHED. ( DATED 1286CE)

THUS THE 33 UNIT IS INCORPORATED INTO THE ACRE AND METROLOGY AGAIN.

*THE ACRE AND ITS COMPATRIOTS , UK.*

*CUSTOMARY ACRES EXIST THROUGHOUT EUROPE AND IN THE BRITISH ISLES THERE IS A PECULIAR RATIO OF SIZE AND AREA*

# LAND MEASURES: ENGLAND, SCOTLAND, IRELAND.

BASIC  
PROPORTION = 1:10.

220yds : 660ft : 140UNITYDS

English Acre 43560sq.ft.

22yds  
66ft  
14Uy

240AUNES : 744.58ft.

Scots Acre 55540sq.ft.

24AUNES  
74.458ft

280yds : 840ft.

Irish Acre 70560sq.ft.

28yds  
84ft.

English Acre 43560sq.ft.

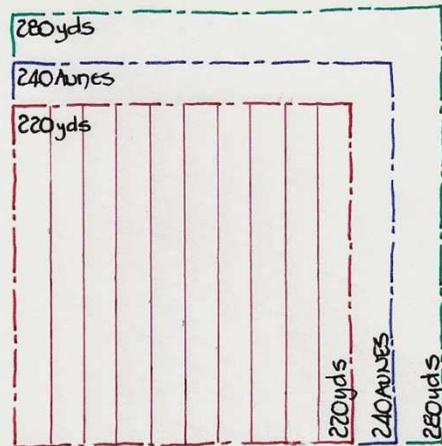
4 x 40 POLES OF 16.5ft

1 POLE = 17 ROMAN PEDES

∴ 68 x 680 PEDES or

46240 sq. Pedes.

1 UNIT YARD =  $\frac{33}{7}$  feet or  $40\sqrt{2}$  inches



The Acre is a  
TENTH PART OF  
A SQUARE FURLONG  
BUT,

GENG. Acres =  $\frac{33}{7}$  SCOTS

6 SCOTS Acres =  $\frac{33}{7}$  IRISH

IE 14 E.A = 11 S.A

14 S.A = 11 I.A

THE ENGLISH ACRE AND ITS METROLOGICAL FAMILY

Ms3D08

IT HAS LONG BEEN THE OPINION OF HISTORIANS AND ARCHEAOLOGISTS  
THAT THE BASIC MEASUREMENT SYSTEMS OF THE WORLTD WERE TAKEN  
FROM PARTS OF THE HUMAN BODY AS MANY OF THEIR NAMES ATTEST.

*THE HUMAN HAND AND MEGALITHIC  
MEASUREMENTS COMBINE AS ONE*



Both scans were of the left hand but angled to illustrate possible discrepancies in the measures.

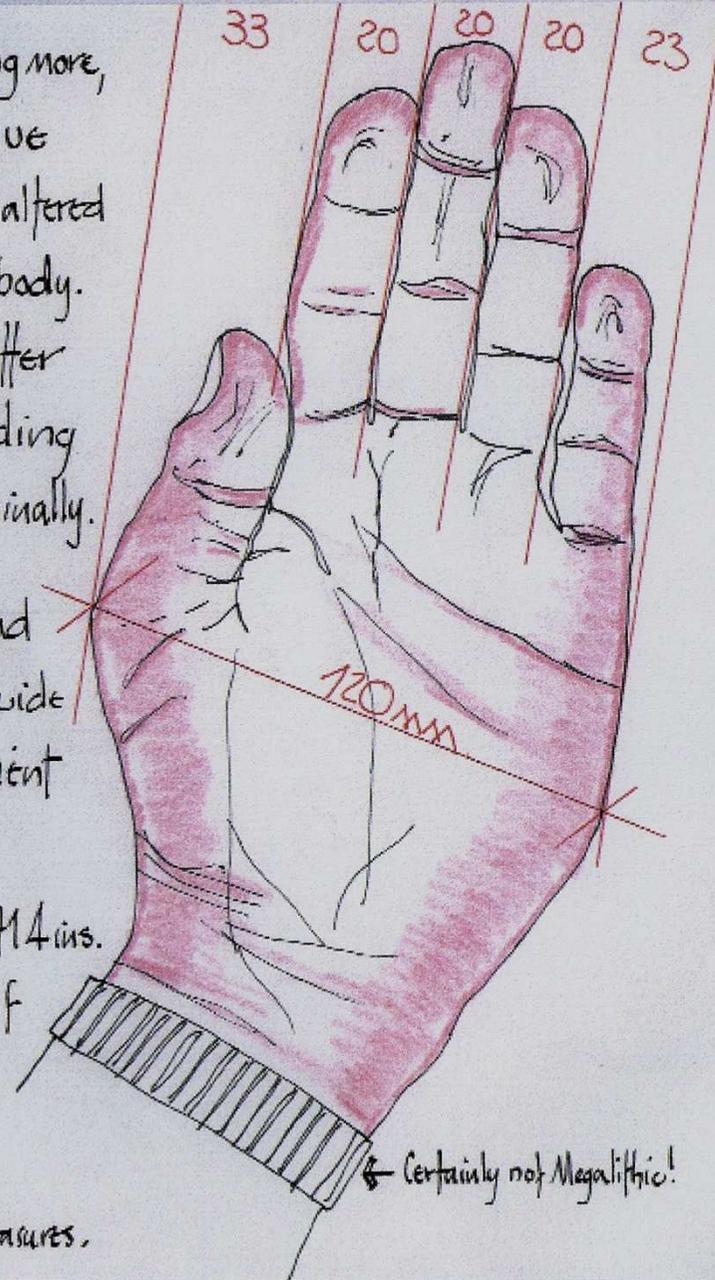
An illustration, nothing more, but the human physique has only marginally altered apropos parts of the body. Height, because of better food and inter-breeding has increased marginally.

thus the authors hand is as reasonable a guide as possible to the ancient measures.

$$119.75 \text{ mm} = \frac{33}{7} \text{ or } 4.714 \text{ ins.}$$

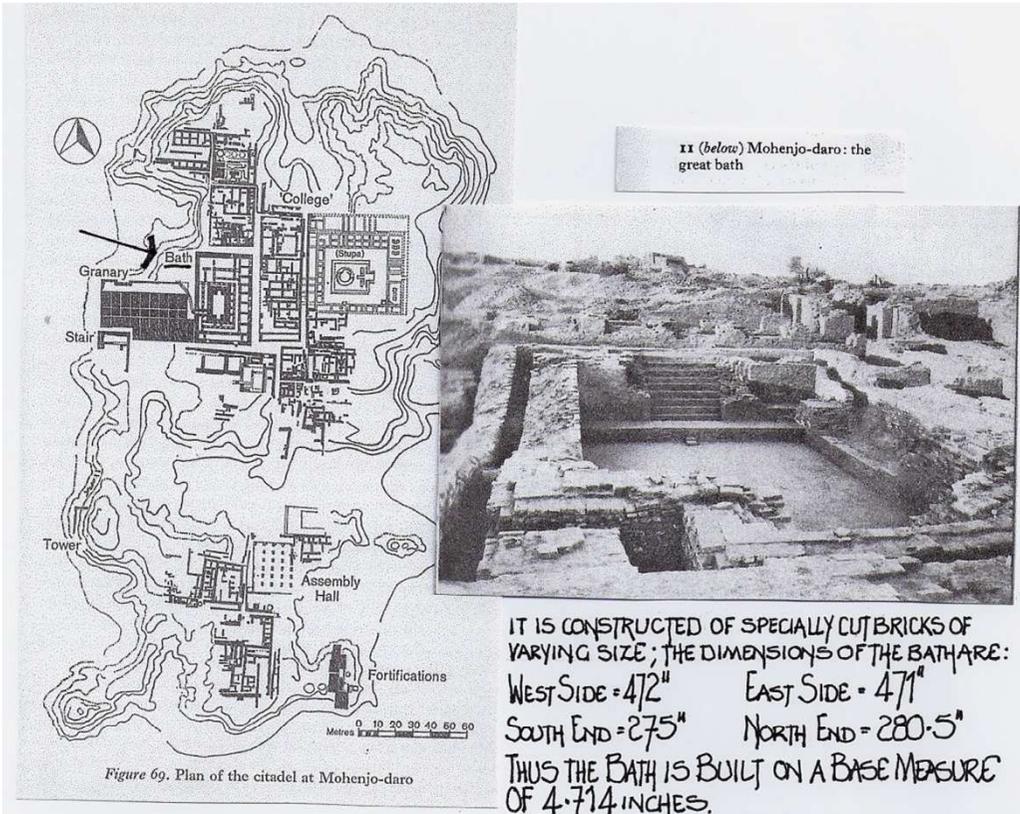
which is the 12<sup>th</sup> part of the Unit Yard of 4.714 feet.

1:√3:2 and human measures.



THE INDUS VALLEY IN WHAT IS NOW PAKISTAN WAS THE HOME TO A THRIVING CIVILISATION WHICH IT IS THOUGHT SADLY FADED BECAUSE OF THE ROUTE CHANGE OF THE INDUS RIVER AND ITS TRIBUTARIES.

*THE INDUS VALLEY CIVILISATIONS OF  
MOHENJO-DARO AND HARAPPA*



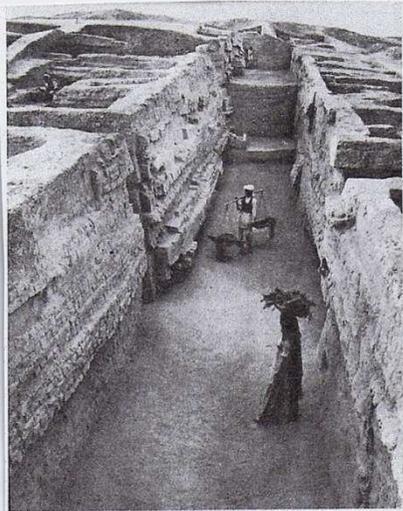
11 (below) Mohenjo-daro: the great bath

IT IS CONSTRUCTED OF SPECIALLY CUT BRICKS OF VARYING SIZE; THE DIMENSIONS OF THE BATH ARE:  
 WEST SIDE = 472"      EAST SIDE = 471"  
 SOUTH END = 275"      NORTH END = 280.5"  
 THUS THE BATH IS BUILT ON A BASE MEASURE OF 4.714 INCHES.

Figure 69. Plan of the citadel at Mohenjo-daro

MOHENJO-DARO; INDUS VALLEY CIVILISATION c2000 BCE

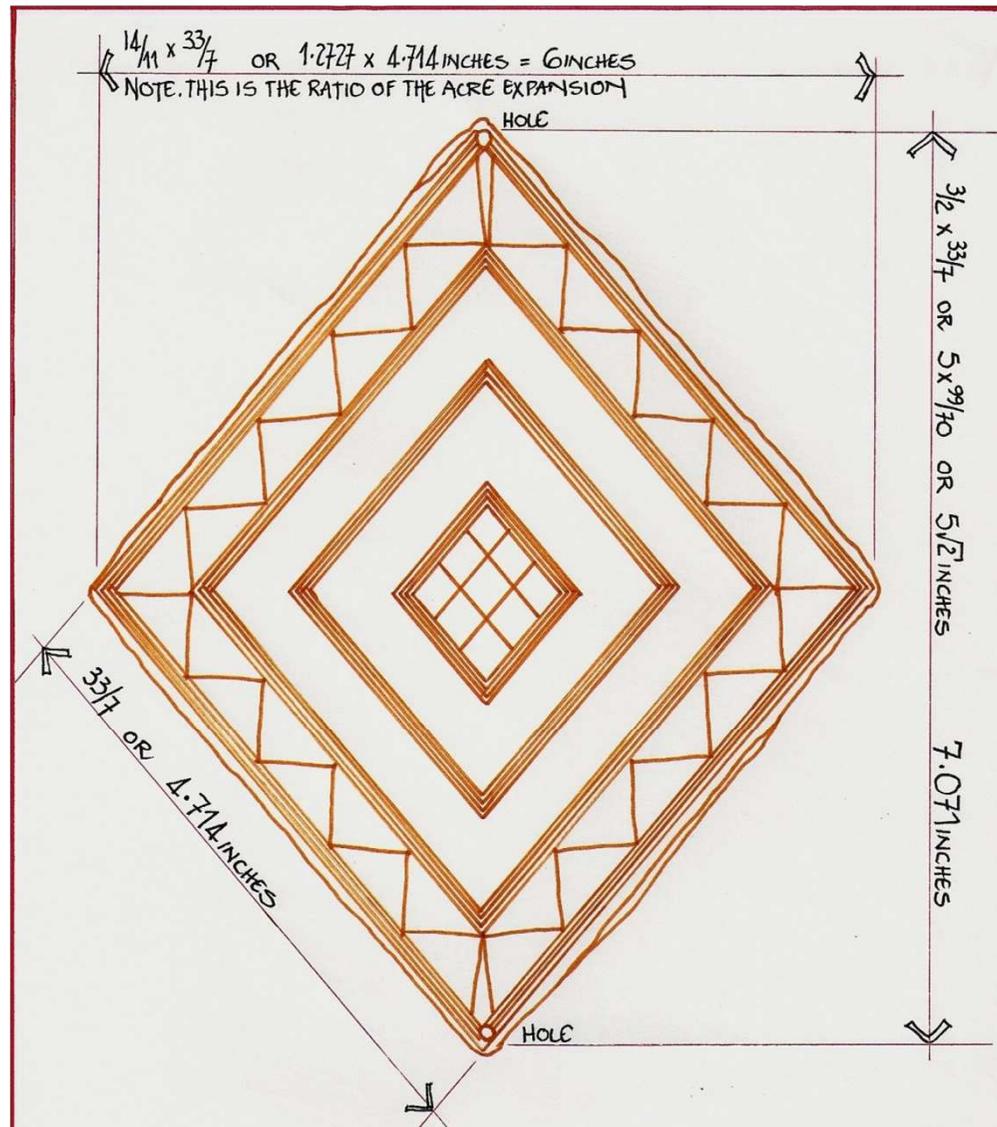
10 A (above) Street and houses of Harappan period, Kalibangan  
 B (below) Remains of brick rampart of Harappan citadel, Kalibangan



WILTSHIRE, ENGLAND IS PROBABLY THE FOREMOST AREA FOR MEGALITHIC SITES. THEY ABOUND AND OF COURSE INCLUDE STONEHENGE AND AVEBURY.

*THE BUSH BARROW LOZENGE, GOLD .*

*FOUND IN A BARROW IN WILTSHIRE ENGLAND, IT IS QUOTED AS BEING 119.5/122/121/122MM, WITH 119.75MM = MEGALITHIC HAND.*



METROLOGY.

ANGLES GIVEN AS  $40.31^\circ / 49.69^\circ$

THEORETICAL DESIGN MUST BE  $40.33^\circ / 49.67^\circ$

TANGENT RATIO  $49.67^\circ = 1.1785$  OR  $\frac{14}{11} \times \frac{33}{7}$  IE  $\frac{33}{28}$

RATIO OF SIDES  $6 : 7.071$  OR  $\frac{14}{11} \times \frac{33}{7} : \frac{3}{2} \times \frac{33}{7} = 33 : 28$  OR  $\tan 49.67^\circ$

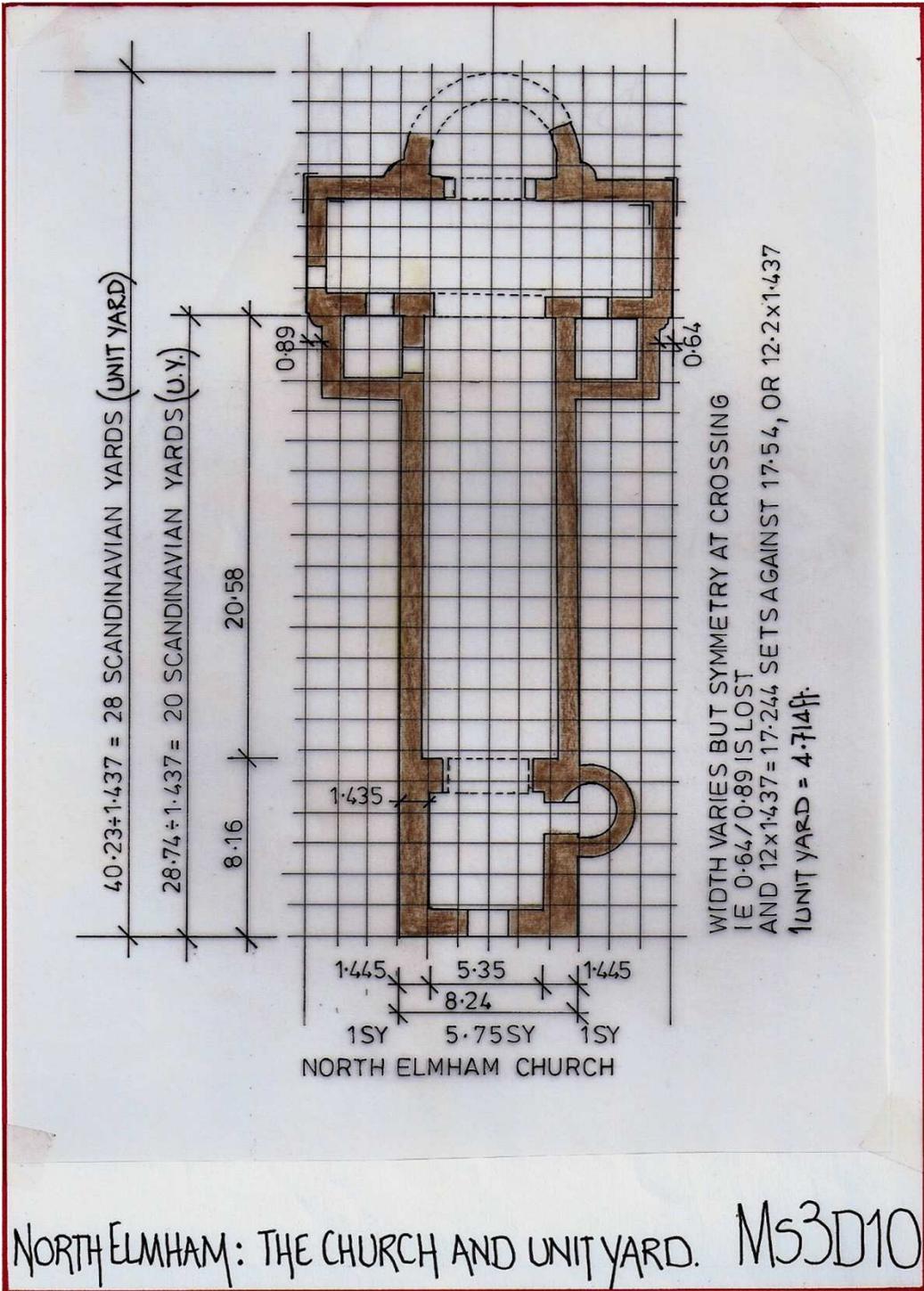
THE BUSH BARROW LOZENGE MS3D09

# *MISSING FROM THE ARCHAEOLOGICAL RECORD*

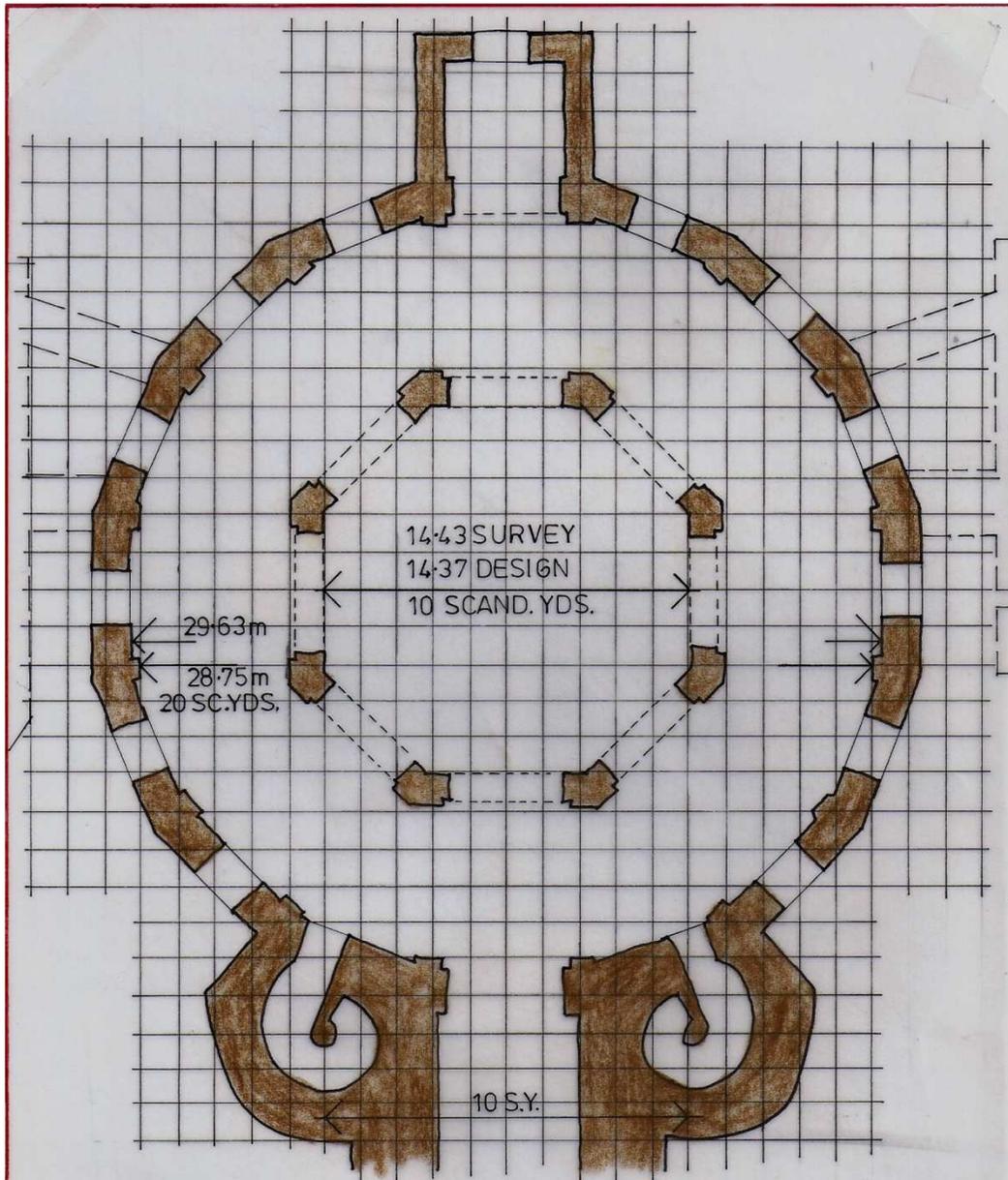
- MEGALITHIC MEASURES. WHY ON THE ONE HAND DO WE ACKNOWLEDGE THAT ANCIENT MAN HAD THE SAME MENTAL ABILITY AS WE HAVE, BUT ON THE OTHER NOT ACKNOWLEDGE THAT THERE COULD HAVE BEEN A SOPHISTICATED MEASUREMENT AND SURVEYING SYSTEM.
- IT APPEARS TO BE BECAUSE THERE HAS NOT BEEN A MEASURING ROD EXCAVATED WHICH INDICATES THE MEASUREMENTS HERE-IN FOUND.
- AT SARN Y BRYN CALED THE ARCHAEOLOGISTS DISCUSSED AT LENGTH THE ACCURACY OF THE PIT DEPTH AND TIMBERS USED, BUT AT NO TIME DID THEY REMARK ON THE FACT OF THE PHENOMENAL COINCIDENCES BETWEEN THE HEIGHT OF THE TIMBERS AND THEIR SPACING, FORMING AN EXACT SQUARE.
- THIS IS THE RESULT OF NON MATHEMATICAL PERSONS IGNORING A VERY PRECIOUS PART OF OUR HERITAGE, THAT ANCIENT MAN WAS CAPABLE OF ORGANIZING SUCH A COMPLEX CONSTRUCTION FEAT.
- ONE RESPONSE I HAD ON A ROMAN SITE WAS THAT THEY HAD SURVEYED IT IN METRIC AND NOT BOTHERED TO ASSESS THE ROMAN QUANTUM USED AS THE FINDS WERE MORE IMPORTANT. WHAT HAVE WE LOST!

THE ILLUSTRATED CHURCHES HAVE WITHIN THEIR BASIC FORMAT THE MEGALITHIC MEASURE WITH THE CHAPEL AT AIX-LA CHAPELLE, THE ROYAL CHAPEL OF CHARLEMAGNE EXHIBITING SURVEY MEASURE PAR EXCELLENCE BUT, IT MUST BE BORNE IN MIND THAT TO THIS DAY AUSTRIA HAS THE BASIC MEASURE OF THE MIELE EQUAL TO 4.714 STATUTE MILES.

*THE MEGALITHIC MEASURE IS TO BE  
FOUND IN THE MOST PECULIAR PLACES*



NORTH ELMHAM: THE CHURCH AND UNIT YARD. MS3D10



AACHEN PALACE CHAPEL - 1437mm PLANNING GRID  
 $1437\text{mm} = 40\sqrt{2}\text{ INCHES} = 33\frac{3}{7}\text{ FEET} = \frac{1}{5280}\text{ AUSTRIAN MIELE.}$

AIX LA CHAPPELLE : THE UNIT YARD.

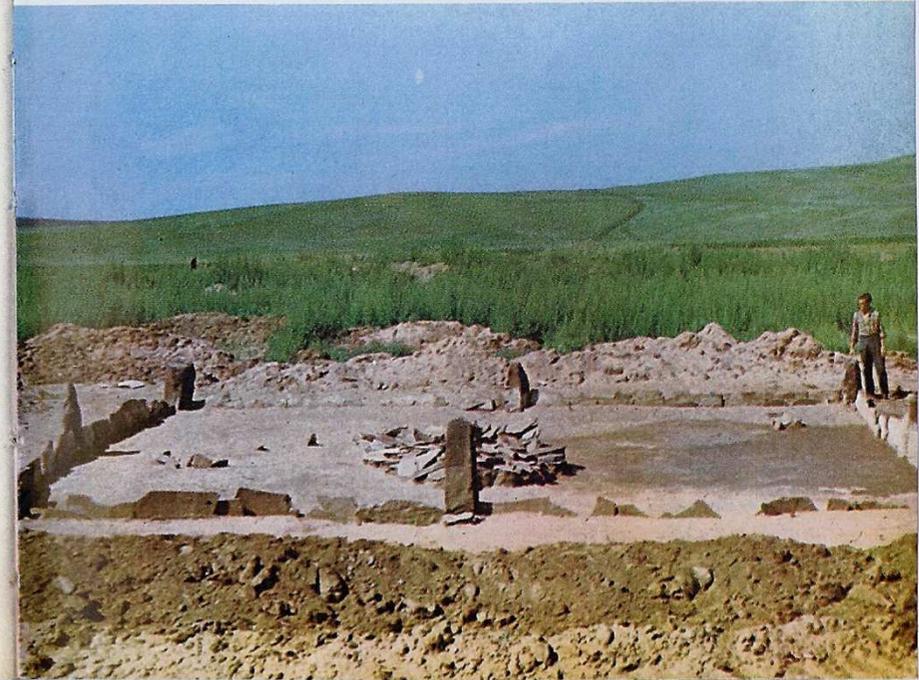
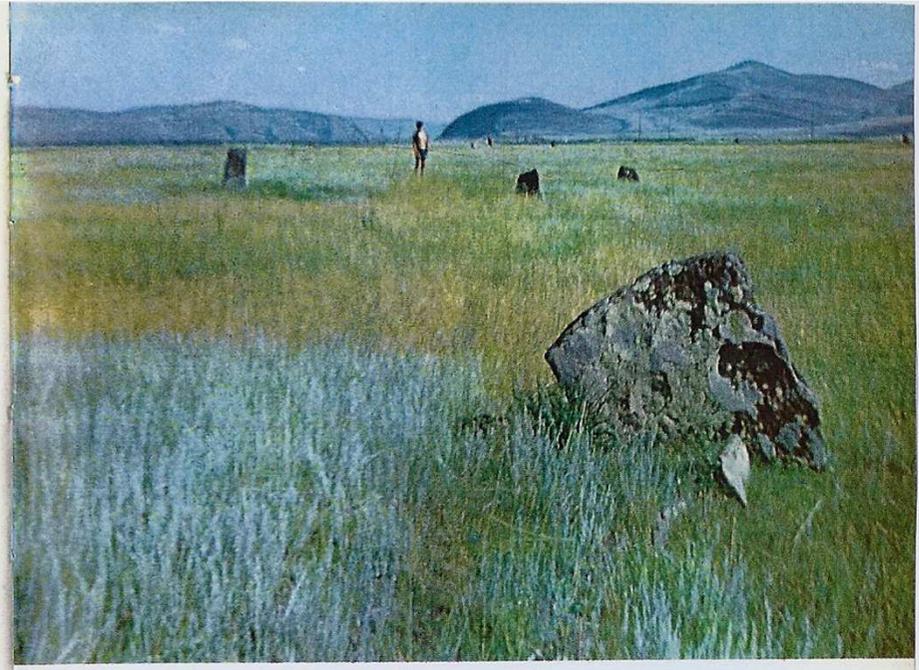
MS3D11

EPILOGUE; OX-CARTS AND BRITISH RAIL. THIS IS A QUOTE.

AS WE SAW EARLIER ON THE WHEEL TRACKS OR GAUGE OF PREHISTORIC OX-CARTS, FROM THAT AT ZURICH OF THE EARLY 3<sup>RD</sup> MILLENIUM BC TO THOSE AT LCHASHEN 1500BCE, HAD MAINTAINED A REMARKABLY CONSISTENT WIDTH OF 1.30 AND 1.60M AVERAGING 1.45M.

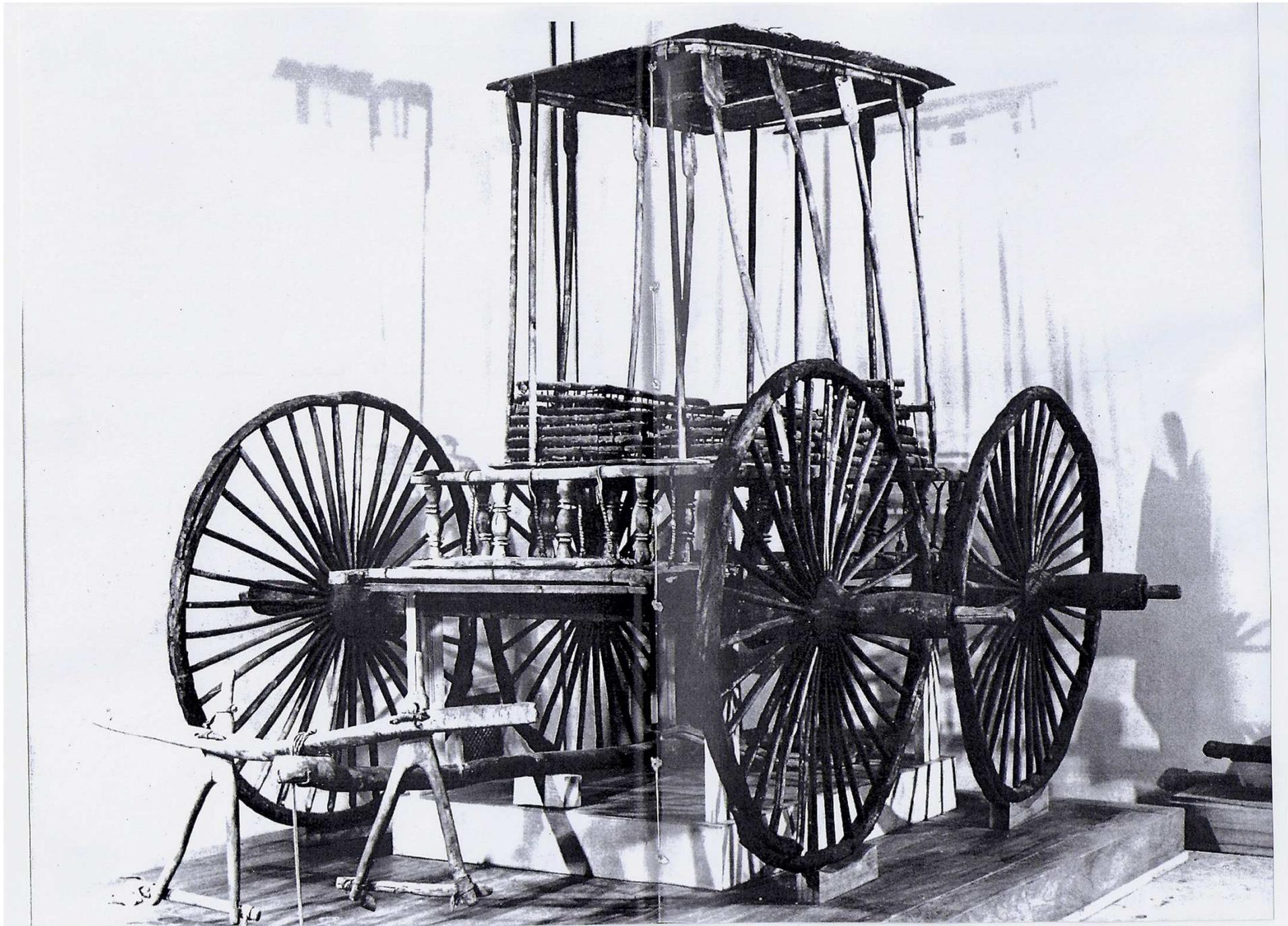
WHEN GEORGE STEPHENSON CAME TO BUILD HIS STOCKTON AND DARLINGTON RAILWAY LINE IN 1825 HE BUILT TO A LOCAL GAUGE OF 4FT 8IN., AND THIS WAS MODIFIED BY HALF INCH TO 4FT 8.5IN BY ACT OF PARLIAMENT IN 1828 WHEN THE LINE WAS EXTENDED FROM STOCKTON TO MIDDLESBOROUGH. IT WAS MADE COMPULSORY IN 1846. THIS HAS REMAINED STANDARD FOR BRITISH RAILWAY LINES UNTIL THE PRESENT DAY- 1.43M AS COMPARED WITH THE AVERAGE OF 1.45M FOR OX-WAGONS FROM SWITZERLAND TO THE CAUCASUS, AND FOR RAILWAYS ON THE CONTINENT FROM 1832. BRITISH RAIL HAS INHERITED A STRANGELY ANCIENT LEGACY. 4.714 FEET OR 33/7 FEET IS 1.437M AND THE EQUIVALENT OF 40ROOT2 INCHES AND THUS 4 FEET 8.5 INCHES. THERE IS NO PARLIAMENTARY RECORD TO BE FOUND IN THE ARCHIVES OF WHO OR WHY IT WAS CCHANGED TO 33/7FT.

*FROM ANTIQUITY TO THE MODERN AGE  
SIBERIA TO ENGLAND, AN EPILOGUE.*



Southern Siberia Stone Circles

Cist Grave.



Southern Siberia; Carriage.

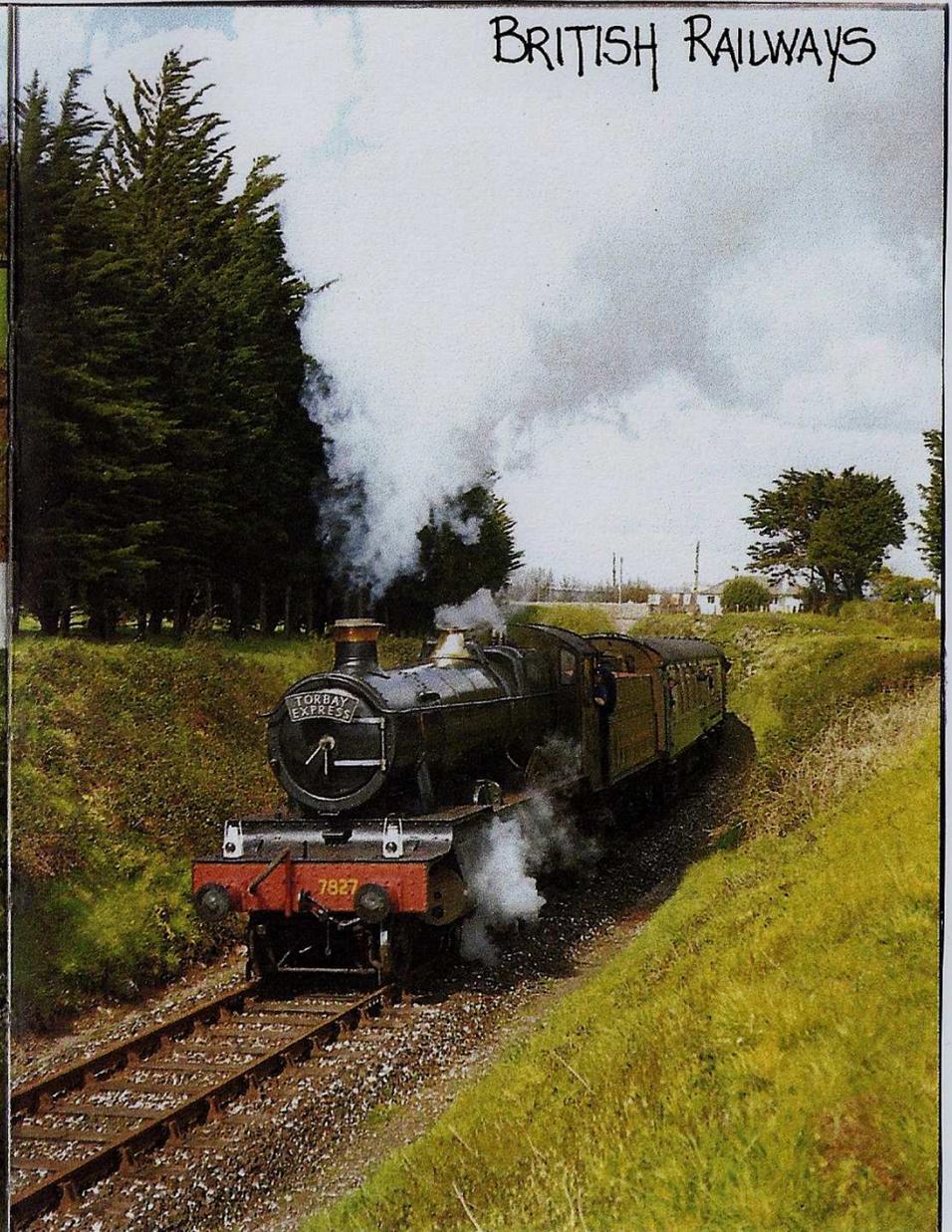
# BRITISH RAILWAYS



6 Norwegian State Railway Mogul 2-6-0, No. 19 built by Nohab in 1919 and preserved on the Kent and East Sussex Railway.



7 Southern Railway rebuilt West Country Pacific, No. 34016 *Bodmin* built in 1948, and preserved at Bulmers in Hereford.



8 G.W.R. Manor Class 4-6-0, No. 7827 *Lydham Manor* built in 1950 and preserved on the Torbay and Dartmouth Railway.

## CONCLUSIONS

- THUS IT CAN BE SHOWN THAT MEGALITHIC STONE CIRCLES, AVENUES, LOZENGES, BATHS, WAGONS AND BRITISH RAIL ARE JOINED BY AN ANCIENT MEASUREMENT WHICH HAS EXISTED FOR OVER 6000 YEARS, 4.714 OR 33/7FT.
- MANY RESEARCHERS COMMENT THAT THE TRANSFERENCE OF MEASUREMENTS, LET ALONE IDEAS, OVER MILLENIA IS NOT POSSIBLE. BUT, WHEN TRANSHUMANCE PATTERNS ARE STUDIED, THIS BECOMES QUITE PROBABLE.
- ANCIENT MAN SOLVED THE ENIGMA OF THOSE IRRATIONAL UNITS, ROOT2, PI AND ROOT3 ETC BY TRIAL AND ERROR AND IN SO DOING FORMULATED A MATHEMATICAL SYSTEM BASED ON THE NUMBER 7. WHY? BECAUSE IT WORKED! AND IN SO DOING PRODUCED INTERCHANGEABLE UNITS.
- THE MESOPOTAMIANS ARE THE BASE CULTURE FOR THE 7 ENIGMA WHICH PLACES THE ORIGINS AROUND 6 TO 4000BCE. THEY SOLVED THE ROOT2 PROBLEM TO A DECIMAL NUMBER OF 1.414213 BY THEIR SEXAGESIMALS.
- ANCIENT MAN USED 99/70 NOT A SEXAGESIMAL NUMBER WHICH IS ACCURATE TO 5 PLACES OF DECIMAL AND INTERCHANGEABLE WITH PI.
- ANCIENT MAN DID NOT GUESS ANYTHING, HE KNEW HIS MATHEMATICS.