

FASCINATING FACTS

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NASA/Larry Sammons

Fascinating Facts is a free subscription monthly private circulation e- magazine of personal , historic and military interest.

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Welcome to this issue of Fascinating Facts. Now retired, with a background of journalism, literature production, international public relations, and ex editor of a leading industry publications, I now have the time to combine my abilities and share my interests in historic facts, especially in connection with military matters.

While I have written most of the articles in the Scarletman I am happy to accept ideas and contributions from readers; giving them credit for their work. The Scarletman is free issue if you would like to circulate copies further then I am happy for you to create a wider readership of those with a similar interest to mine.

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IN SUPPORT OF UKRAINE

**FLOWER OF THE MONTH
LILY OF THE VALLEY**



Post of Moldova, Public domain, via Wikimedia Commons

The May birth flower is lily of the valley. For all its delicate flowers and sweet scent the lily of the valley, due to the concentration of cardiac glycosides is highly poisonous if consumed by humans or other animals. Nevertheless it is a real favourite of many, especially royal brides with Catherine, Princess of Wales whose wedding bouquet was lily's of the valley. The lily of the valley is the national flower of Yugoslavia, and it also became the national flower of Finland in 1967

MYTHS AND LEGENDS

There are many myths and legends surrounding where lily of the valley came from. In mythology it is said they appeared where Eve's tears fell after she was evicted from the Garden of Eden. Others say that when St. Leonard fought a terrifying dragon for hours, the lilies grew wherever the brave warrior's blood fell. European herbalists' use of the phrase to refer to a specific plant species seems to have appeared relatively late in the 16th century. Traditionally, lily of the valley is known to symbolise humility, sweetness, the return of happiness and motherhood. Making them perfect gifts for mothers if their birthday happens to be in May. A woodland flowering plant it has pendent, bell-shaped white flowers borne in sprays in spring. It is native throughout the cool temperate Northern Hemisphere in Asia and Europe. In 1956, Dior produced a fragrance simulating lily of the valley, which became a favourite. Although it has since been reformulated, it is considered a classic. Because no natural aromatic extract can be produced from lily of the valley, its scent must be recreated synthetically; while this was originally achieved with hydroxycitronellal, the European Chemicals Agency now considers it a skin sensitiser and its use has been restricted. Other perfumes based on the flower include Henri Robert's Muguet de Bois (1936), Penhaligon's Lily of the Valley (1976), and Olivia Giacobetti's En Passant (2000).

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THE DREAM OF A WATER POWERED ENGINE

An ever present dream which many inventors have chased is the water powered vehicle engine. They have been the subject of innumerable patents, newspaper and popular science magazine articles, local television news coverage, and websites. Some were found to be pseudoscience and others tied to investment fraud.

A pure water engine produces power from only water. Many engines have been claimed to produce fuel from water on board with no other energy input but when investigated are, or may be, a hybrid claiming to derive some of its energy from water in addition to a conventional source.

GARRETT CARBURETTOR

Charles H. Garrett demonstrated a water-fuelled car on September 8, 1935. He claimed the car generated hydrogen by electrolysis as stated in his patent, which includes drawings showing a carburettor similar to an ordinary float-type carburettor but with electrolysis plates in the lower portion, to maintain the level of the water. Garrett's patent failed to identify a new source of energy.

DANIEL DINGEL

Filipino Daniel Dingel, claimed in 1969 to have developed technology allowing water to be used as fuel. In 2000, he entered into a business partnership with Formosa Plastics Group to develop the technology. In 2008, Formosa Plastics sued Dingel for fraud. He was then 82, and sentenced to 20 years' imprisonment.

STANLEY MEYER.

In 1980, Stanley Meyer claimed he had built a dune buggy that ran on water. by replacong the spark plugs with a "water splitter", to split the water into hydrogen and oxygen, which would then be combusted back into water vapour in a conventional internal combustion engine. His claims were never independently verified, and in 1996 he was found guilty of "gross and egregious fraud". He died in 1998, but some claim that he was poisoned.

DENNIS KLEIN

In 2002, Hydrogen Technology Applications patented an electrolyser design and trademarked the term "Aquygen".

They claimed it enabled the vehicle to run on water, by an unproven state of matter called magnegas-es. They claimed to be in negotiations with a major US auto manufacturer and the US government wanted to use it in Hummers. The company no longer claims it can run a car exclusively on water.

GENESIS WORLD ENERGY

Also in 2002, Genesis World Energy announced a market ready device able to extract energy from water by separating the hydrogen and oxygen and then recombining them. In 2003, the company announced that this technology had been adapted to power automobiles. The company collected over \$2.5 million from investors, but none of their devices were ever brought to market. In 2006, CEO Patrick Kelly, was sentenced to 5 years in prison for theft and fined \$400,000.

THUSHARA PRIYAMAL EDIRISINGHE

In 2008, Sri Lankan Thushara Priyamal Edirisinghe claimed to have driven a water-fuelled car 300 km on 3 litres of water. Like other alleged water-fuelled cars energy for the car was supposedly produced by splitting water into hydrogen and oxygen using electrolysis, and then burning the gases in the engine. Thushara showed the technology to Prime Minister Ratnasiri Wickramanayaka, who "extended the Government's full support to his efforts to introduce the water-powered car to the Sri Lankan market" Thushara was arrested a few months later on suspicion of investment fraud.

GENEPAX SYSTEM

In June 2008, Japanese company Genepax unveiled a car it claimed ran on only water and air. The company disclosed that the system used an onboard energy generator, called a "membrane electrode assembly", to extract the hydrogen using a "mechanism similar to way hydrogen is produced by a reaction of metal hydride and water". This led to speculation that the metal hydride consumed in the process was the ultimate source of the car's energy, making it a hydride-fuelled "hydrogen on demand" vehicle rather than water-fuelled as claimed. Popular Mechanics described the claims as "rubbish". In early 2009

Genepax announced they were closing their website, citing large development costs.

GHULAM SARWAR

In December 2011, Ghulam Sarwar claimed he had invented a car that ran only on water. But it ran on 60 per cent water and 40 per cent diesel or similar fuel. The inventor said he was working on it to make it run on only water, probably by end of June 2012. It was further claimed the car "emits only oxygen rather than the usual carbon".

AGHA WAQAR AHMAD

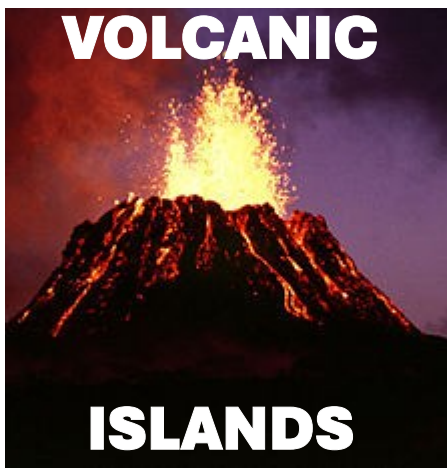
Pakistani Agha Waqar Ahmad Claim -ed in July 2012 to have invented a water-fuelled car by installing a "water kit" for all kind of automobiles. He claimed it used electrolysis to convert water into "HHO", used as fuel. He also stated he had been able to generate more oxyhydrogen than any other inventor because of "undisclosed calculations". He applied for a patent in Pakistan. Pakistani scientists said Agha's invention was a fraud violating the laws of thermo-dynamics.

ARYANTO MISEL

Indonesian inventor Aryanto Misel claimed in 2022 that his invention, called Nikuba, would convert water into hydrogen to be used as fuel for motorcycles and that it only required 1 litre of water for 500 kilometers. Moving to July 2023, he stated that Lamborghini, Ducati, and Ferrari are interested in Nikuba and he was willing to sell the device to foreign companies for 15 billion rupees, - £141,479,850. The Indonesian scientists from National Research and Innovation Agency stated the device is theoretically impossible and there was no interest from Italian automobile manufacturers.

TOYOTA

And now to the present. Major car manufacturer Toyota has developed a water powered engine which has most chance of success! It utilises a process called electrolysis to separate hydrogen from oxygen molecules. The hydrogen is then sent to the engine, where it combusts, similar to compressed natural gas engines with slight adaptations to the fuel injectors, cylinder heads, pistons, and valves to accommodate the highly combustible nature of hydrogen.



Luckily, in the UK, we only experience tremors not volcanic eruptions. They show the devastating side of the natural world. We do not live where tectonic plates diverge or converge. So a consolation is most of Earth's plate boundaries are underwater therefore most volcanoes are underwater.

1,500 ACTIVE VOLCANOES

There are more than 1,500 potentially active volcanoes and are the world's most dynamic landforms. They have the ability to grow by accretion or shatter and collapse during an eruption. Being vents in the earth's crust they are capable of releasing molten rock (magma), hot rock fragments, and hot gases. Some volcanoes become prominent mountains or other land features. Some rise from islands or are nested within long mountain ranges, while others occur entirely underwater in ocean hotspots or along oceanic ridges. Some of the most historically destructive volcanoes, such as Mount Toba on the island of Sumatra and the Yellowstone caldera in western North America, last erupted long before the development of civilisation. However, the eruptive histories of many other volcanoes have been chronicled in written accounts that date back thousands of years.

SUBMARINE VOLCANOES

Hundreds of islands have been formed by submarine volcanoes which are volcanoes located beneath the ocean's surface. As they erupt into water rather than air submarine volcanoes behave quite differently. For instance, it's uncommon for submarine volcanoes to have explosive eruptions as the sheer weight of the water above them creates very high pressure. This usually results in passive lava flows along the seafloor without disturbing the ocean surface.

VOLCANIC ISLANDS

- A-Anacapa Island, Andersson Island
- B -Balleny Islands, Balut Island, Beak Island, Bollons Island
- Brusnik (island), Buckle Island
- C-Cockburn Island, Coulman Island
- D-Dominica
- E -Eagle Island, Antarctica
- Easter Island
- G-Grenada
- I -Îles de Los, Iceland
- J -Jabuka (island), Jonassen Island
- K-Kauai, Kerguelen Islands
- Koniuji Island
- L-Lesser Antilles
- P-Perim, Pitcairn, land
- Prince Edward Islands
- R-Red Island, Réunion, Rosamel Island
- S-Saint Lucia, Saint Vincent, The Grenadines, Stromboli
- T-Tombo Island
- V-Vortex Island
- W-Weizhou Island, Wizard Island
- X-Xieyang Island
- Y-Young Island
- Z-Zalzala Koh

A volcano is a rupture in the earth's crust that allows hot lava, volcanic ash, and gases to escape from a magma chamber below the surface. When volcanoes temporarily run out of magma it means they are dormant, or when they are permanently out of magma means they're extinct.

3,000 Km DEEP

Deep within the earth it is hot enough to slowly melt the rocks which become a thick flowing substance called magma. Since it is lighter than the solid rock around it, the magma rises from 3,000 kil-

ometers deep within Earth and collects in magma chambers. Eventually, the magma forces its way through vents and fissures to the Earth's surface where it erupts as lava.

Lava flows rarely kill people because they move slowly and people can get out of its way. When it is thick and sticky, gases cannot escape and pressure builds and the gases escape violently and explode.

ICELAND LARGEST

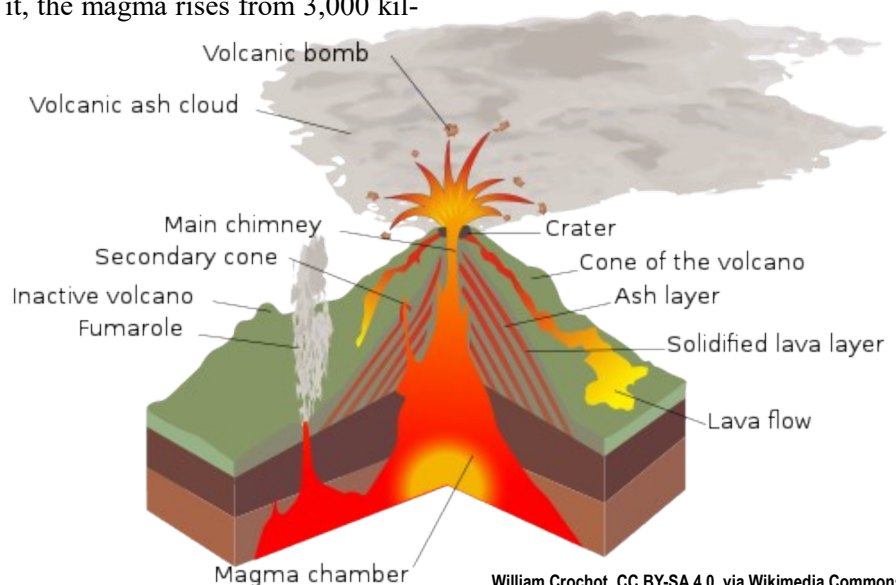
There are many volcanic islands rising less than 1 metre above sea level, and classed as islets. Some low islands, such as Banaba, Henderson Island, Makatea, Nauru, and Niue, as uplifted coral islands rise over 50 metres above sea level. Volcanic islands are usually between 1 and 104 square kilometres and often surrounded by a protective fringe or barrier reefs.

The largest volcanic island in the world is Iceland at 102,828 square kilometers and still has many active volcanoes.

Most volcanic islands have rugged or mountainous interiors with a wide range of summit elevations.

2023 NEWEST ISLAND

The University of Tokyo said that the origins of Niijima, 1,200 kilometres south of Tokyo, can be traced to a volcanic eruption on Oct. 21, 2023. Then on Oct 30, magma from this volcanic activity met the ocean and exploded, forging rock chunks several feet long and launching them over 50 meters into the air. The volcanic rubble piled up and broke the sea, creating an island. It has continued to be active and was imaged from space by the NASA on Nov. 3. It has continued to be active since its vio-



William Crochot, CC BY-SA 4.0, via Wikimedia Commons

WHO WAS NOSTRADAMUS?

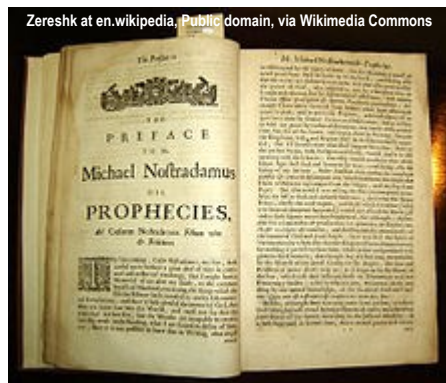
His prophecies, published in 1555 are a collection of 942 poetic quatrains that allegedly predict future events. Concerned about being attacked by the church for his astrological predictions, his prophecies were written in Greek, Italian, Latin, and Provençal, in a mixed word order to obscure their meaning. People have decoded his prophecies and suggest he has correctly predicted natural disasters, man-made calamities, and the deaths of notable people.

HIS LIFE

Born on December 14, 1503, at Saint-Rémy, France Nostradamus died on July 1/2, 1566. An acclaimed French astrologer and physician, he was a widely read seer of Renaissance. He began his medical practice in Agen in the 1530's, never having taken a medical degree as he had been expelled from medical school. In 1544 he gained renown for his medical treatments during plague outbreaks. He began his prophecies in 1547, which he published in a book entitled Centuries eight years later. It consisted of rhymed quatrains - a stanza of four lines, especially one having alternative rhymes—grouped in hundreds, each in a set of 100 called a century. Astrology was then at its peak, and an enlarged second edition, dedicated to the French king, appeared in 1558.

APPOINTMENT TO THE KING

Some of his prophecies were fulfilled, such that he was invited to the court of Catherine de Médicis, queen consort of Henry II of France,. He cast horoscopes of her children and was appointed physician-in-ordinary by Charles IX in 1564. His prophecies were the subject of commentaries; but never condemned by the Roman Catholic Church Due to their cryptic style and content, the prophecies created controversy. Some are thought to have foretold actual historical events that occurred since Nostradamus's time, including certain details of the French Revolution of the 18th century. Others, having no apparent meaning, are said by some to foretell events that have not yet occurred.



Copy of Garencières' 1672 English translation of the Prophecies,

HIS PROPHECIES!! WAS/IS HE RIGHT?

PAST PROPHECIES

Prediction:

"The young lion will overcome the older one, —On the field of combat in a single battle; —He will pierce his eyes through a golden cage, —Two wounds made one, then he dies a cruel death."

What happened:

In a joust, in 1559 his opponents lance splintered into two shards. They went through the king's gold visor and his eyes, lodging in his temple. Henry died 10 days later.

Explanation;

Their shields had lion emblems. Sceptics claimed "field of battle" was the friendly jousting field.

GREAT FIRE OF LONDON

Prediction:

"Blood of the just will be lacking in London, —Burnt up in the fire of '66: — The ancient Lady will topple from her high place, —Many of the same sect will be killed."

What happened:

In 1666, the blaze consumed the city. At least eight people died, but thousands of houses and businesses were lost. "Blood of the just" might refer to the elimination of millions of flea-carrying rats that spread the Black Death. The fire ended the plague.

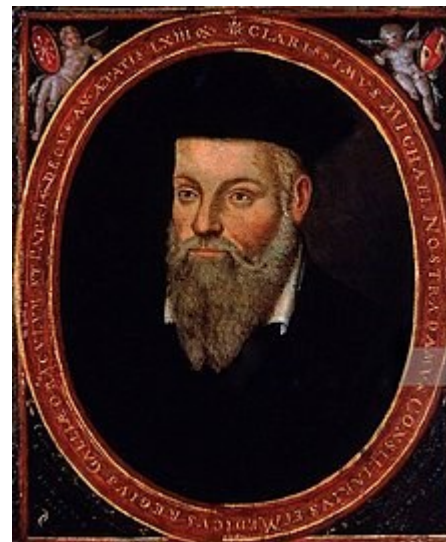
HITLERS EUROPEAN TERROR

Prediction:

"From the depths of the West of Europe, —A young child will be born of poor people, —He who by his tongue will seduce a great troop; -His fame will increase towards the realm of the East."
"Beasts ferocious with hunger will cross rivers, -- The greater part of the battlefield will be against Hister. —Into a cage of iron will the great one be drawn, Then the child of Germany observes nothing."

What happened:

Hitler was born to poor parents in 1889 and used his intense oratory to mobilise the Nazi party. Many believe "Hister" a typo, but its an old name for the Danube River..



Michel de Nostredame (Nostradamus), a French Renaissance Medicine & Astrologer, painted by his son César de Nostredame (1553-1630)

2024 PROPHECIES

War with China

Nostradamus predicted "combat and naval battle", and said that a "Red adversary will become pale with fear / Putting the great Ocean in dread."

Some think that the "Red adversary" could be referring to China and the Indian Ocean.

Climate disaster

"The dry earth will grow more parched / And there will be great floods when it is seen," He also predicted extreme weather events and world hunger: "Very great famine through pestiferous wave,"

World War

He also predicted the beginning of a new world war, 79 years after the end of the second one. 2024—1945 = 79!?! Maybe he was referring to what presently happening in Ukraine, the China-Taiwan conflict or Palestine/Israel /Iranian situation?.

Earthquake

He considered that next year there will be a strong and dangerous earthquake in the world that will mean the loss of thousands of lives. Although the place is not specified, it is reminiscent of what happened recently in Morocco, where thousands of people lost their lives due to a great earthquake in Marrakech or the natural disasters in Iceland. According to Nostradamus 2024 will bring continued global strife, more royal turmoil and continual humanitarian disaster.

EXPERIMENTAL CONCEPT AIRCRAFT

BOEING X-48

An American experimental unmanned aerial vehicle built to investigate the characteristics of blended wing body aircraft. Two examples were built by Cranfield Aerospace in the UK. And flight tested for NASA in 2007 being later modified into the X-48C, flight tested in August 2012. Boeing and NASA plan to develop a larger Blended Wing Body demonstrator. It offers advantages in structural, aerodynamic and operating efficiencies over conventional fuselage designs which translate into greater range, fuel economy and reliability.

The history of aviation extends for more than two thousand years, from the earliest forms of aviation such as kites and attempts at tower jumping to supersonic and hypersonic flight by powered, heavier-than-air jets. In the end of the 20th century, digital electronics produced advances in flight instrumentation and "fly-by-wire" systems. The 21st century saw the large-scale use of pilotless drones for military, civilian and leisure use. With digital controls, inherently unstable aircraft such as flying wings became possible.



NASA X 29 ADVANCED NBVC TECHNOLOGY DEMONSTRATOR AIRCRAFT

The No. 2 X-29 technology demonstrator aircraft. The aircraft's unique forward-swept wing design is unusual. It was flown at NASA's Ames-Dryden Flight Research in Edwards, California, as part of a joint NASA-Defence Advanced Research Project and Air Force programme to investigate the unique design's high-angle-of-attack characteristics and its military utility. Angle of attack, or high alpha, refers to the angle of an aircraft's body and wings relative to its actual flight path. During its flight history, the two X-29s were flown on 422 research missions. Research showed that the forward-swept wings, gave pilots excellent control response at up to 45 degrees angle of attack, higher than comparable fighter aircraft. .



LOCKHEED MARTIN / NASA

Our ability to fly at supersonic speeds over land in civil aircraft depends on our ability to reduce the level of sonic booms. NASA has been exploring a variety of options for reducing the boom, starting with design concepts then wind tunnel tests to flight tests of new technologies. The team's simulation shows possibility for achieving overland flight by dramatically lowering the level of sonic booms through the use of an "inverted-V" engine-under wing configuration. Other revolutionary technologies to help environmental goals could see it enter service in the 2030-2035.



THE MANY DISGUISES OF THE HUMBLE INCH

Brought up with imperial measurement of feet, inches, yards, furlongs, chains and miles I have never been a fan of the metric system which, although based on a multiple of 10 should be simpler. There is so much information on the seemingly small inch that there is no way this can be more than a fleeting glimpse.

Historically, the foot was a part of many systems of units, including the Greek, Roman, Chinese, French, and English systems. Its length, often based on the foot, varied from country to country, from city to city, and sometimes trade to trade. Also its 'converted' length varied from 250 mm to 335 mm

Then on July 1959 the international yard and pound agreement defined the length of the international yard in the United States and countries of the Commonwealth of Nations as exactly 0.9144 meters a foot as exactly 0.3048 meters and an inch 25.4 millimetres.

A MEASUREMENT MISH MASH

The United States is the only industrialised country that still uses the (international) foot in preference to the meter in its commercial, engineering, and standards activities. In both Canada and the UK it is a bit of a mish mash with both imperial and metric units being recognised.

Imperial is legally recognised in the United Kingdom with road distance signs, bridge clearances given in meters as well as feet and inches, while its usage is widespread among the British public as a measurement. The foot is also recognised as a measurement of altitude in international aviation one of the few areas where the foot is used outside the English-speaking world.

NEOLITHIC LONG FOOT

The Neolithic long foot, is based on calculations from surveys of Stonehenge where the diameters of the stone circles had been consistently laid out using multiples of a base unit amounting to 30 long feet; calculated to be 1.056 of a modern international foot ie 12.672 inches or 0.3219 m.

This unit is identifiable in the dimensions of some stone lintels at the site and in the diameter of the "southern circle" at nearby Durrington Walls. This unit of measurement was in widespread use across southern Britain from Folkton Drums Yorkshire where neolithic chalk artifacts, have circumferences that exactly divide as integers into ten long feet. Also the Lavant Drum, excavated with a circumference divisible using feet. Later Welsh legend credited Dyfnwal Moelmud with the establishment of their units, including a foot of 9 inches. The Belgic or North German foot of 335 mm (13.2 in) was introduced to England either by the Belgic Celts during their invasions prior to the Romans.

THE BARLEYCORN

Roman units were introduced following their invasion in AD 43. Both the Welsh and Belgic feet were based in the barleycorn, still used as an English unit of length equal to 1/3 of an inch (about 8.47 mm) as the basis of shoe sizes in English speaking countries). But by early 950 the English kings ineffectually ordered measure to be based up an iron yardstick. Henry I ordered a new standard to be based upon the length of his own arm. But by 1300 and the Act of the Composition of Yards and Perches the statute foot was 10/11 of the old (Belgic) foot. The barleycorn, inch, ell and yard were likewise shrunk, while rods and furlongs remained the same.

THE MILE CODIFIED

The ambiguity over the state of the mile was resolved by the 1593 Act against Converting of Great Houses into Tenements and for Restraint of Inmates and In-

closures in and near the City of London and Westminster, which codified the statute mile as comprising 5,280 feet. The differences among the various physical standard yards around the world, eventually led to the 1959 adoption of the international foot defined in terms of the metre.

GREEK FOOT (ΠΟΥΣ, POUS)

The Greek foot (πούς, pou) was 1/600 of a stadion and 1 stadion about 181.2 m (594 ft); so a foot was 302 mm (11.9 in). This varied from city to city ranging between 270 mm (10.6 in) to 350 mm (13.8 in). But lengths used for temple construction appear to have been 295 mm (11.6 in) to 325 mm (12.8 in).

Originally the Greeks and Romans subdivided the foot into 16 digits, but the Romans divided the foot into 12 unciae; basis of the English words "inch" and "ounce".

Archaeologists believe that, in the past, the people of Egypt, India, and Mesopotamia preferred the cubit. In Rome, Greece and China the foot was preferred. Under the Harappan linear measures, Indus cities during the Bronze Age used a foot of 13.2 inches (335 mm) and a cubit of 20.8 inches (528 mm). The Egyptian equivalent of the foot—a measure of four palms or 16 digits—was known as the djoser or about 30 cm (11.8 in).

CAROLINGIAN FOOT

After the fall of the Roman Empire, in AD 790 Charlemagne was unsuccessful in attempting to reform the units of measure in his domains. His units of length were based on the toise de l'Écritoire, the distance between the fingertips of a man's out-stretched arms. The toise had 6 pieds (feet) each of 326.6 mm (12.9 in). At the same time, monastic buildings used the Carolingian foot of 340 mm (13.4 in).

The set of imperial length gauges at Greenwich Royal Observatory



Wikimedia Commons

WHY NO ENGLISH NATIONAL DRESS?

National costume expresses an identity through garments which usually relates to a geographic area/country or a period of time in history, but can also indicate legal, social, marital and/or religious status.

Many countries have one. The most obvious being the Japanese kimono, the Indian sari and the German lederhosen. all dating back to traditional customs. Although England has seen many fashions through the ages and never had a continuous English one has only to look at historic paintings where the style of dress was never consistent over the years.

BACKGROUND & UPBRINGING

If one reverts to history for an English traditional dress what period would it be? Is the lack of national dress because the nationalities of the population of some countries has changed? Or on the other hand some nationalities have been more closed such as Japan, China and North American Indians? Maybe its because the people of certain nationalities are more individualistic and strive to be different, make an impression. Or maybe we are influenced by our different cultural backgrounds and upbringing.

UNIFORMS

To an extent uniforms are a form of national dress. The uniforms of the army, navy, air force, ambulance service and police force, differ in each country. This also extends to marital, or religious status more often referred to as a costume or regalia.

School uniform is a case in point where some schools demand it, others do not. But in those that demand it students often makes minor changes to show their individuality. But in many countries with national dress there are regional variations which shows pride in their area.

FOLKLORE AND TRADITION

While England, a country rich in folklore and traditions, has no definitive national costume one of its most well-known folk costumes are those of the Morris dancers. While the

USA, Canada and other countries are a melting pot of nationalities, there is no one national dress there are groups which still wear the national dress of the native country. England, unlike Wales and Scotland, has no official national dress. Nevertheless an English National Costume group are trying to make England's national dress be the clothes worn by the Anglo Saxons during the 7th century. tain during 450 A.D.

SCOTLAND

Perhaps the most famous UK national dress is the Scottish kilt with its distinctive tartan pattern. Based on the word 'tartan' which originates from a French word. Worn by each Scottish clan or family with its own distinctive registered tartan pattern. The Scottish Tartans

Authority provides authentication.

WALES

Welsh National costume evolved in the late 18th century from costume worn in town and country. The popular image is a woman in a red cloak and tall black hat.

NORTHERN IRELAND

Early Irish dress consisted of check trousers for men, worn with a fringed cloak or mantle, or a short tunic for both men and women, worn with a fringed cloak.

MANIKARAN VALLEY

In the Manikaran Valley of Himachal Pradesh, according to media reports, every year during the monsoon month of Sawan, women in Pini Village abstain from wearing clothes for five days. Any woman not adhering to this tradition may





Sandy Island has long appeared on maps dating back to the early 19th and 20th centuries. This island was supposedly located in the Pacific Ocean northwest of Australia in the Coral Sea. Its first reference is in Cook's "Chart of Discoveries made in the South Pacific Ocean" in 1776. It was recorded as being 14.9 miles long and 3.1 miles wide –not something one would miss!! One hundred years later a whaling ship called Velocity also reported Sandy Island. However, there is only one problem, it does not actually exist.

ISLAND DISCOVERED

It was 'discovered' on 14 September 1774, by Capt. James Cook who charted Sandy Island between latitudes 19° and 20° S and longitudes 163°50' and 164°15' E off the tip of New Caledonia. This was published in the Chart of Discoveries made in the South Pacific Ocean on 1776. Then in 1876 the whaling ship Velocity reported the fictitious island which was then noted on various late-19th-century maps, including an 1895 British Admiralty chart. But after returning from a voyage in the Pacific, the Velocity's master reported an unusual features of a series of "heavy breakers"

It then appeared in an 1879 Australian maritime directory noting that the islets extended north and south "along the meridian 159° 57' E" and "between lat 19° 7' S and 19° 20' S".



Until the appearance of Sandy Island in 1876–79, the nearest charted land or reef was the Chesterfield Islands 100 kilometres (55 nautical miles) west on the Bellona Plateau. When the chart was created, it was standard practice for all potential navigation hazards to be listed as a precaution.

Sandy Island appeared on an edition of a British admiralty map in 1908 showing that it had been discovered by the French in 1876. Even modern maps, show the presence of an island at its coordinates!

ISLAND "UNDISCOVERED"

In 2012, an Australian research ship Southern Surveyor 'undiscovered' the island as part of the University of Sydney's expedition to gather information about tectonic activity in the area, map the sea bed, and gather rock samples. The scientific data from the General Bathymetric Chart of the Oceans, indicated Sandy Island halfway between Australia and New Caledonia. When they arrived at Sandy Island's recorded coordinates they found nothing but ocean a mile deep.



Jesse Alan/NASA Earth Observatory, Goddard Space Flight Center

FLOATING ROCKS!

It's true — some rocks can float on water for years. With pumice being the culprit. Studies at the Department of Energy's Lawrence Berkeley National Laboratory has enabled scientists to solve the mystery of floating islands by scanning inside samples of lightweight, glassy and porous volcanic rocks known as pumice stones. The surprisingly long-lived buoyancy of these rocks — which can form miles-long debris patches on the ocean known as pumice rafts can travel for thousands of miles. In the 2006 satellite image, a large "raft" of floating pumice stones appears following volcanic eruption in the Tongan Islands.

Experiments helped them to understand about its flotation. Pumice is nutrient rich and readily serves as a seafaring carrier of plant life and other organisms helping to spread species around the planet.

BOBBING ROCKS

Floating pumice can also be a hazard for boats, as the ashy mixture of ground-up pumice can clog engines. "The question of floating pumice has been around the literature for a long time, and it hadn't been resolved," While scientists have known that pumice can float because of pockets of gas in its pores, it was unknown how those gases remain trapped inside the pumice for prolonged periods. Some pumice stones have even been observed to "bob" in the laboratory — sinking during the evening and surfacing during the day.

Left -Pumice raft near Tonga Islands in August 2006, taken by NASA Earth Observatory, based on data from the Moderate-Resolution Imaging Spectroradiometer Rapid Response System, Goddard Space Flight Center

HISTORY'S MOST DEADLY EVENTS

We have just been through the Covid pandemic which research suggests the total number of global deaths as nearly 7 million. Worldwide about 3.4 per cent of reported cases died. By comparison, seasonal flu deaths are less than 1 per cent. So I wondered how did it rank in line historically with other pandemics of which there were many. But one must remember that the human population 500 years ago was one tenth of today. So while numbers may be smaller the effect on the population was just as horrendous! In the twentieth century the population increased four times!

JUSTINIAN PANDEMIC

It is estimated that this pandemic caused 5,000 deaths daily in the city of Constantinople in 542 although some estimates claim up to 10,000 per day. It killed over a third of the city's population. Victims were stacked high in the city's churches and by city wall towers as their Christian doctrine prevented disposal by cremation. Over the next three years of the plague it raged through Italy, southern France, the Rhine valley and Iberia, spreading as far north as Denmark and west to Ireland, then further to Africa, the Middle East and Asia Minor. Between the years 542 and 546 this epidemic killed nearly 100 million people.

BLACK DEATH

The Black Death of 1347 was the first major European outbreak of the second great plague pandemic. In 1346 it was known that a plague epidemic was present in the East which was brought to the Crimea from Asia Minor by the Tartar armies of Khan Janibeg. He had unsuccessfully laid siege to the town of Kaffa a Genoese trading town on the shores of the Black Sea. When they left they catapulted Black Death corpses over the walls. In panic people fled spreading the disease.

People died with such rapidity that proper burial or cremation could not occur, corpses were thrown into large pits or lay in their homes and in the streets. There were no clergy to perform burial rites. Soon there was a shortage of doctors which led to a proliferation of quacks and useless

cures that claimed to offer magical protection. Often whole families were wiped out and villages abandoned. Crops could not be harvested, travelling and trade became curtailed, and food and manufactured goods became short. As there was a shortage of labour, which broke down the normal divisions between the upper and lower classes and led to the emergence of a new middle class.

From 1347 to 1350 the Black Death killed a quarter of the population in Europe, over 25 million people, and another 25 million in Asia and Africa. In cities such as Florence, Venice and Paris more than half succumbed to the plague. A second major epidemic occurred in 1361, which killed up to 20% of Europe's population. By 1430, it was lower than it had been in 1290 and would not recover the pre-pandemic level until the 16th century.

LONDON'S BUBONIC PLAGUE

In 1665 the devastating bubonic epidemic struck this country killing thousands of people. It killed nearly 100,000 or one-fifth of the city's population. For over a year, reports of cases had been reported and the wealthy increasingly avoided the city to try to survive an outbreak.

For the poor living in cramped and filthy conditions, escaping London was impossible. Any house where plague was identified was supposed to be shut up for 40 days with the family inside, marked with a cross and guarded by watchmen. Fear of being locked in with the dying meant that many early cases of plague were kept quiet.

The peak of the epidemic was the week of 19–26 September 1665 when London mortality bills recorded 7,165 deaths. London was almost deserted during the day. Grass grew on the streets, keeping of dogs, cats, and domestic animals was banned and dog-catchers destroyed over 4,000 dogs. Nightly, porters took piles of corpses and filled large pits with the dead.

INFLUENZA PANDEMIC

The influenza epidemic in 1918 that swept the world, following the First World War, killed an estimated 50 million people. One fifth of the world's population were attacked by this deadly virus. Within months, it had killed more people than any other illness in recorded history.

It emerged in two phases. In late spring of 1918, the first phase, known as the "three-day fever," appeared without warning. Few deaths were reported. And victims recovered after a few days. When the disease surfaced again that fall, it was far more severe. Scientists, doctors, and health officials could not identify this disease which was striking so fast and so viciously, eluding treatment and defying control. Some victims died within hours of their first symptoms. Others succumbed in a few days; their lungs filled with fluid and they suffocated to death.

It did not discriminate. Rampant in urban and rural areas, from the densely populated East coast to the remotest parts of Alaska. Young adults, less affected by infectious diseases, were hit the hardest as were the elderly and young children. In one year, average life expectancy dropped by 12 years. Globally it infected 500 million people, about 33 per cent of the world's population. time.

AIDS PANDEMIC

The ongoing epidemic of HIV/AIDS began in 1981, and 43 years later is still a worldwide public health issue. According to the World Health Organisation, by 2023, it had killed approximately 40.4 million people and continues to be one of the most prevalent and deadliest pandemics worldwide for certain parts of the world. Statistics take time to ascertain and worldwide, there about 1.7 million new cases of HIV reported and about 37.9 million people were living with HIV with 24.5 million of them receiving medicines. In addition, an estimated 770,000 people died from AIDS related illnesses in 2018. Incidence of HIV decreased by 23 per cent between 2010 and 2020 and since 2020 there have been 1.5 million new infections per year. Sub-Saharan Africa has the highest prevalence of HIV and AIDS worldwide, and accounts for approximately 61 per cent of new infections.

WORLD WARS

The two World Wars were also historic deadly events resulting in considerable loss of life, but wholly down the human greed. But they differed as they were not a pandemic. They were self inflicted man made disasters!

In total deaths, WW1 was 17 million deaths but WW2, with the civilian population involved it was bloodier with 60+ million deaths.