



HAL
open science

Japanese Kofun in Maps given by a Spaceborne Digital Elevation Model based on Multiple Satellite Data Sets

Amelia Carolina Sparavigna

► **To cite this version:**

Amelia Carolina Sparavigna. Japanese Kofun in Maps given by a Spaceborne Digital Elevation Model based on Multiple Satellite Data Sets. 2022. hal-03589126v3

HAL Id: hal-03589126

<https://hal.science/hal-03589126v3>

Preprint submitted on 18 Apr 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

18 April 2022

Japanese Kofun in Maps given by a Spaceborne Digital Elevation Model based on Multiple Satellite Data Sets

Sparavigna, Amelia Carolina

Department of Applied Science and Technology, Politecnico di Torino, Italy

Abstract: Here we propose a study about the orientation of the Japanese kofun, spanning from Remote Sensing to geomancy. Japanese kofun are ancient burial mounds mainly constructed between the middle of the third century to the early seventh century CE. The term “kofun”, which means “ancient tomb”, is also used to indicate a period in the history of Japan, from about 300 AD to 538 AD, which is the year of the official introduction of Buddhism in the archipelago. The larger kofun have a very distinctive shape and are usually defined as keyhole-shaped mounds. Actually, the Japanese term is zempō-kōen fun, which means “square in the front and round in the rear”, according to the geometric bases of the two mounds composing the kofun. Here, we consider how the kofun appear when seen from above, by means of satellites. We will see them in the visible imagery of Google Earth and in the maps of the Sentinel Hub. In particular, in the proposed discussion and according to its title, we will stress the possibility to use maps from Spaceborne Digital Elevation Models (DEMs) to analyze the locations of the ancient tombs in Japan. The Digital Elevation Model here used is that proposed by Yamazaki, Ikeshima, Tawatari, Yamaguchi, O'Loughlin, Neal, Sampson, Kanae and Bates, in the *Geophysical Research Letters*, 2017, and implemented at the web site [it-ch.topographic-map.com](http://it.ch.topographic-map.com). On kofun and their orientation, a large literature in Japanese exists: we will give references about related archaeoastronomical studies too. Details about the burial chambers in kofun will be also given: in some of them, the presence of two burial chambers inside is giving a direction coherent with the long axis of the tumulus. We will also recommend the reading of detailed discussions (in Italian), that have been provided by G. Poncini in the *Enciclopedia dell' Arte Antica* (1995) and M. Hudson about archaeology in Japan (2002). Literature on the funerary rituals of the Kofun Period are also proposed. In fact, the study here presented is not only a discussion of the use of remote sensing; it is a study aiming to investigate the orientation of the tumuli in their specific landscape, in the framework of the culture and religion of the period. Therefore, it is necessary to review the Japanese geomancy too. Considering the results of the studies by Saito Tadashi in 1950s, who looked at the orientation of 394 tombs of the Early and Middle Kofun periods (3rd to 5th centuries), we can see that many of them are facing the south and west directions. We can tell also that the quarter which contains the less number of tombs is the north-east one. In geomancy, the northeast quarter is considered to be particularly inauspicious, containing the direction known as the "demon gate". In Japan, this gate is referred to as Kimon, meaning ominous direction, or taboo direction.

18 April 2022

Keywords: Kofun, Daisen Kofun, Daisenryo Kofun, Zenpōkōen Kofun, Japan, Satellites, Google Earth, Satellite imagery, Sentinel Hub, Spaceborne Digital Elevation Models, DEM, Archaeoastronomy, Cultural Astronomy, Orientation, Kofun orientation, Geomancy, Feng Shui, Buddhism, Keyhole tombs of Sahara, Keyhole tombs of Arabia.

Contents

Introduction – The Sentinel Hub - Early Japan - La tomba dell’ Uji No Kami (in Italian and English) - Orientation of zenpōkōen kofun (first part) – - Naniwa Palace - Kitamakura – Tombs of Eurasian Steppe - Geomancy - Rotation - Yamato - DEM Maps - Orientation of zenpōkōen kofun (second part) - Due North, facing South - Due South, facing North - Keyholes in Arabia - Goshikizuka Kofun - Why two parts? - Princess Pimiko – Kofun Religion - Iron and swords - Stone objects - Amaterasu (in Italian and English) - Yata no Kagami - The harvest ritual (November 23) - Ishikoridome no Mikoto - Magatama - Insegne imperiali del Giappone - Torifune (in Italian and English) - Yayoi (in Italian) - From Yayoi to Kofun (Mark J. Hudson) – Trance and Dream - The waves - Kofun (G. Poncini, in Italian) - Tipo Coreano (in Italian and English) - Takamatsuzuka (archaeoastronomy) - Black Turtle and Snake - I cinque elementi (in Italian) - Shitennō and the four directions - Three periods (Britannica) - Late Kofun Period - Misemaruyama Kofun (見瀬丸山古墳) - Modifying the nature - Keyhole Tombs in Korea - Pits and corridors - Kofun (tumulus) (古墳) from www.japanese-wiki-corpus.org/ - Yōngsan River basin keyhole-shaped tumuli - The entrance - Gunshufun Tumuli and Kinship in Late kofun era - Pit-dwelling-style stone lined chamber at the square end - Nintoku-tenno-ryo Kofun – Ancestors - A cluster - Ōmuro Kofun group - Archaeology in Japan (M. Hudson, in Italian) - Land of Rising Sun – Hinomaru, the Japanese flag - Feng-shui again - Stone circles and winter solstice – Takaki - Mirrors in Kurozuka Kofun – The orientation of the Kurozuka kofun - The orientation of Sakurai Chausuyama kofun - The three burial chambers of the Shimanoyama tomb – Muro Miyayama Tomb - Cinnabar - Saki Ishizukayama, Sakiryoyama, Saki Takatsuka kofun - Shields - Nakayama Otsuka Kofun and others – Mountains in the east - The Mirrors and the Queen Mother of the West - And Amaterasu? - Kojiki and Niho shoki - The Ancient Burial Mounds - The bridge - Funeral rites - Misasagi - Archaic funerary rites – Asobibe - Satellite and LiDAR - Discussion on orientation - Hopewell culture - References

Introduction

An image of the day (October 11, 2017), provided by NASA Earth Observatory (Patel, 2017), is showing an area in Japan, with some specific sites encircled. The largest one is the Daisenryo Kofun (alternately, Daisen Kofun). Kofun are large tombs formed by tumuli. Of the Daisen Kofun, Kasha Patel (2017) tells that it is shaped like a “keyhole”, however the structure is quite different from the keyhole tombs observed in the Sahara (Sparavigna, 2013, 2014, 2018). In Japan, this site and others, defined as keyhole-

18 April 2022

shaped kofun, consist of three-tiered mounds, surrounded by moats (Fig. 1, upper panel). The mounds is composed by two parts: the part in the front of the mound is of trapezoidal shape, the rear part is round. Actually, the Japanese name of a keyhole-shaped mound is “zenpōkōen”, which means literally “square front, round rear”.



Fig. 1 - A large kofun (upper panel) as we can see from a Google Earth image, and a keyhole tomb of Sahara (lower panel), made by fences of stones. Many thanks to Google Earth. Besides being larger, the kofun is a totally different structure.

18 April 2022

We observed in 2013, 2014, and 2018 the keyhole tombs in Sahara (Fig.1 lower panel), and the orientation of their main axis in the direction of the sunrise, by means of Google Earth satellite images. We can easily see that the keyhole tombs in Japan (Fig.1) and those of Sahara are totally different. So it would be better to use, for these burial sites in Japan, the term “zenpōkōen”, “square front, round rear”.

In (Patel, 2017), it is told that Daisenryo Kofun is one of about fifty burial sites still intact today in the city of Sakai, near Osaka. “Each kofun (which means “ancient grave”) varies in size and takes different shapes - but most often keyholes, squares, or circles. Kofun were popular in Japan between the third and sixth century, which is referred to as the Kofun Period” (Patel, 2017). The image of the day from NASA is giving the Mozu-Furuichi Kofun Group. Kasha Patel gives a detailed explanation of the colors seen in the image.

“The Daisenryo Kofun is the largest in Japan, but little is known about what lies inside. One glimpse came in 1872, when a severe storm damaged the site and revealed a treasure-trove of valuables from inside - helmets, glass bowls, and clay figures known as haniwa. Because kofun are considered sacred religious sites, further archaeological research was prohibited. Even today, no one is permitted to go beyond the bridge over the second moat!” (Patel, 2017). This sentence tells that “further” archaeological investigations on kofun are forbidden, however many archaeological studies exist, and evidence is provided by the large literature in Japanese on Kofun and Kofun Period. About Daisenryo, on October 23, 2018, it was told in [The Mainichi](#) that “The Imperial Household Agency and the municipal government of this western Japan city began excavating "Daisen Kofun," the largest ancient mounded tomb in the country, on Oct. 23”. Of the storm of 1872 and the related archaeological studies, we will talk in a section devoted to Daisenryo. In fact, it is not true that “little is known about what lies inside”.

In the following discussion, we will consider how the kofun appear when seen from above, and how they are oriented in the landscape. We will see them in the visible imagery of Google Earth and in the maps of the Sentinel Hub. In particular, in the proposed discussion, we will stress the possibility to use maps from Spaceborne Digital Elevation Models (DEMs) to analyze the locations of kofun. The Digital Elevation Model here used is that proposed by Yamazaki, Ikeshima, Tawatari, Yamaguchi, O'Loughlin, Neal, Sampson, Kanae and Bates, in the *Geophysical Research Letters*, 2017, and implemented at the web site <https://it-ch.topographic-map.com>.

On kofun and their orientation, a large literature in Japanese exists: we will give references about related archaeoastronomical studies too. Details about the burial chambers in the kofun having a keyhole-shape are given. In some of them, the presence of two burial chambers inside is giving a direction coherent with the long axis of the tumulus. We will also recommend the reading of two detailed discussions (in Italian), that have been provided by G. Poncini in the *Enciclopedia dell' Arte Antica* (1995) and M. Hudson about archaeology in Japan 2002. Some literature on the funerary rituals of the Kofun Period will be also referred.

18 April 2022



Fig. 2 – In (Patel, 2017) we can find an image provided by the NASA Earth Observatory, showing the group of the Mozu Tombs, with the largest existing one, the Daisenryo kofun. Here it is given the same group in a Google Earth satellite image, the central part enhance by GIMP Retinex filter.

Actually, the study here proposed is not only a discussion of the use of remote sensing. It aims to investigate the orientation of the tumuli and find any possible reference to geomancy. Considering the results of the investigation by Saito Tadashi in 1950s, who looked at the orientation of 394 tombs of the Early and Middle Kofun periods (3rd to 5th centuries), we can tell that many of them are facing the south and the west direction. Moreover, we can also see that the quarter which contains the less number of tombs is the north-east one. In geomancy, the northeast quarter is considered to be particularly inauspicious, known as the "demon gate". In Japan, this gate is referred to as Kimon, meaning ominous direction, or taboo direction. For the orientation of kofun, as we will discuss, it is strictly necessary to understand what is the main side of them. Consequently, the direction that this side is facing is considered the orientation of the structure.

The Sentinel Hub

The Figure 2 is showing the Mozu Tombs (百舌鳥古墳群, Mozu kofungun) in Sakai, Osaka Prefecture, Japan. Wikipedia tells that the group, was “originally consisting of more than 100 tombs, only less than 50% of the key-hole, round and rectangular tombs remain”. Wikipedia gives coordinates too, and in the corresponding page, it is providing several satellite services. At the link geohack.toolforge.org, we can find that of Sentinel-2.

“Sentinel-2 is an Earth observation mission from the Copernicus Program that systematically acquires optical imagery at high spatial resolution (10 m to 60 m) over land and coastal waters. The mission is currently a constellation with two satellites, Sentinel-2A and Sentinel-2B; a third satellite, Sentinel-2C, is currently undergoing testing in preparation for launch in 2024. The mission supports a broad range of services and applications such as agricultural monitoring, emergencies management, land cover classification or water quality. Sentinel-2 has been developed and is being operated by the European Space Agency, and the satellites were manufactured by a consortium led by Airbus Defense and Space”. ([Wikipedia](#)).

We can use the [LINK](#), we arrive to a map of the Sentinel Hub. The service is providing several different maps: in Natural Color (based on bands 4,3,2), in Color Infrared (vegetation, based on bands 8,4,3), with the Vegetation Index (based on combination of bands $(B8 - B4)/(B8 + B4)$), in False color (urban, based on bands 12,11,4), with the Moisture Index (based on combination of bands $(B8A - B11)/(B8A + B11)$), the SWIR (based on bands 12,8A), the 4SWIR (Based on bands 12,8A,4), the NDWI (based on combination of bands $(B3 - B8)/(B3 + B8)$), the NDSI (based on combination of bands $(B3 - B11)/(B3 + B11)$), and in a Scene Classification Map (based on Sen2Cor processor).

“Sentinel-2 carries the Multispectral Imager (MSI). This sensor delivers 13 spectral bands ranging from 10 to 60-meter pixel size. Its blue (B2), green (B3), red (B4), and near-infrared (B8) channels have a 10-meter resolution. Next, its red edge (B5), near-infrared NIR (B6, B7 and B8A) and short-wave infrared SWIR (B11 and B12) have a ground sampling distance of 20 meters. Finally, its coastal aerosol (B1) and cirrus band (B10) have a 60 meter pixel size”. (from gisgeography.com)

Let us note that the Sentinel Hub is providing a time series of images, so that we can evidence how the Vegetation Index or the Moisture Index change according to climate conditions.

Here in the following two pages, two maps from the Sentinel Hub.

18 April 2022

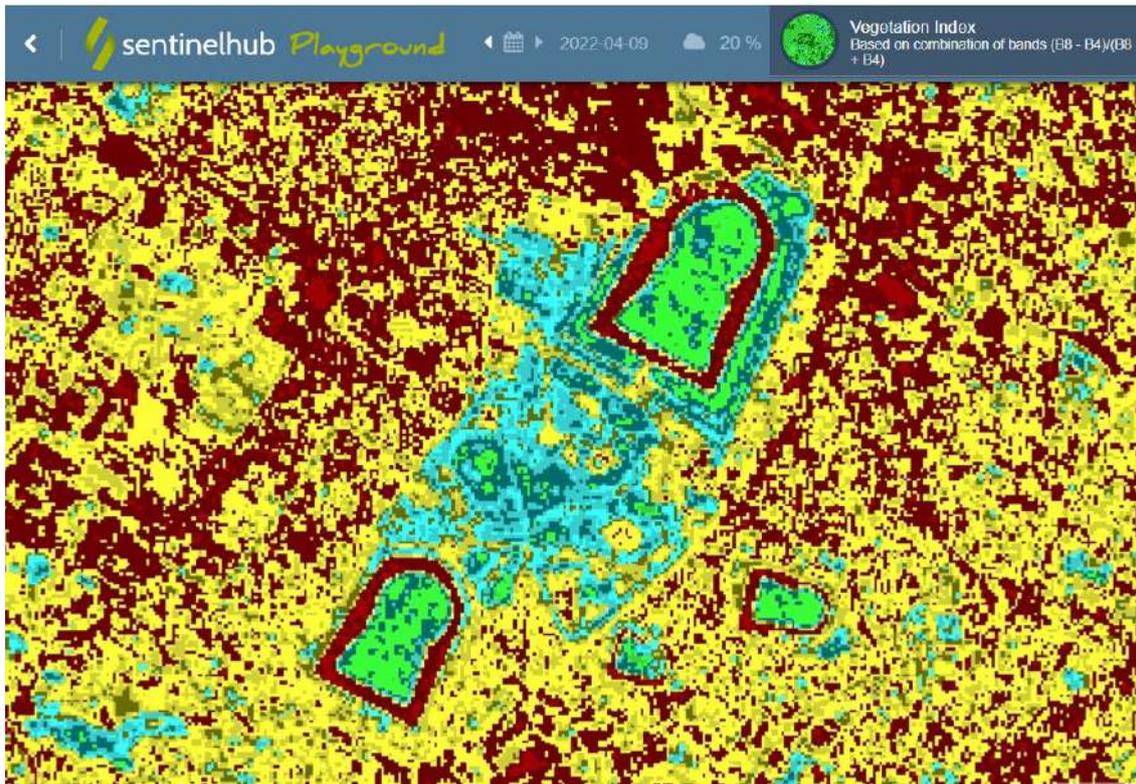


Fig. 3 – Sentinel Hub map of the Mozu group, according to the Vegetation Index (based on combination of bands $(B8 - B4)/(B8 + B4)$). Date of the map is 8 April 2022. A Vegetation Index is a transformation of two, or even more bands, designed to enhance the contribution of vegetation properties. The index allows spatial and temporal comparisons of terrestrial photosynthetic activity and canopy structural variations. At the web page <https://docs.sentinel-hub.com/api/stage/data/sentinel-2-l2a/>, we can find details about the parameters of the map. Sentinel-2 L2A is one of the collections provided by the hub. Besides it, we can find also Sentinel-2 L1C, Landsat 8-9, DEM, MODIS and Sentinel-1 (IW-VVH).

Many thanks to Sentinel Hub for the remarkable services and maps.

18 April 2022

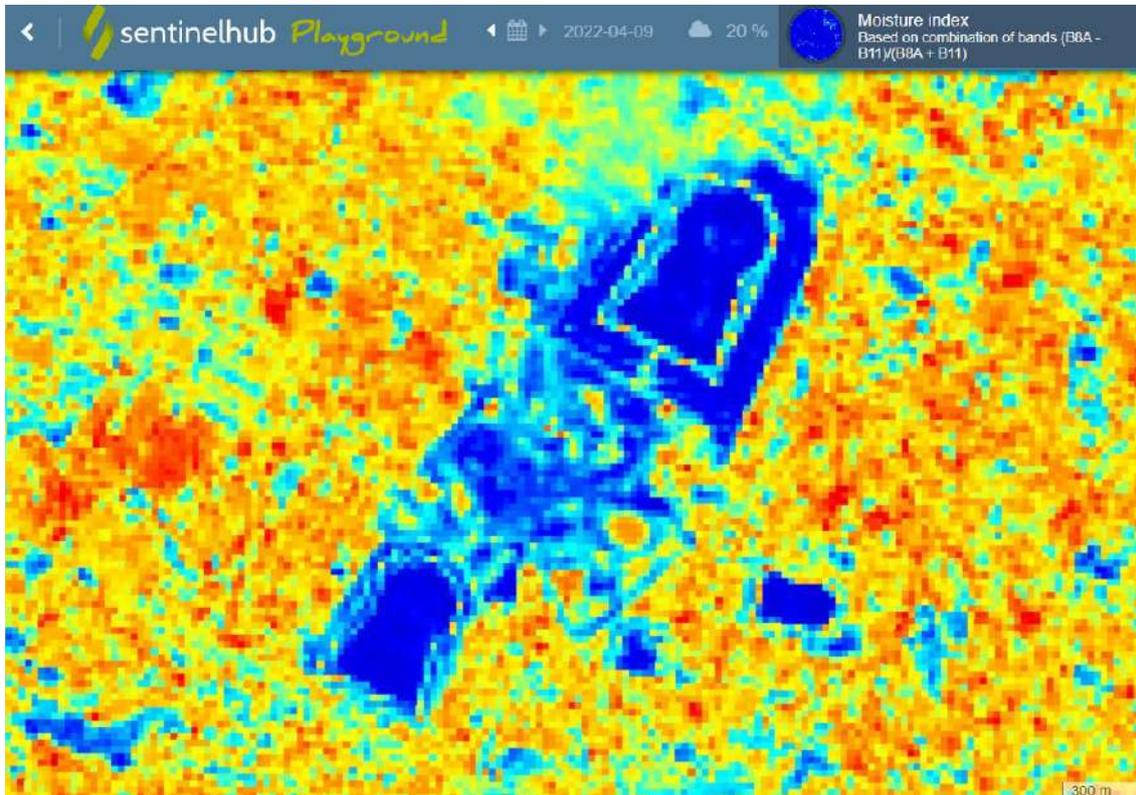


Fig. 4 – The Mozu group in the Sentinel Hub map of the Moisture Index (based on combination of bands $(B8A - B11)/(B8A + B11)$), date of the map 8 April 2022.

Many thanks to Sentinel Hub for the remarkable services and maps.

Early Japan

Let us see the period in the history of Japan when kofun appeared (we can find concise information in www.japan-guide.com). The first period of the early Japan is the Jomon Period (13000 BC to 300 BC). During this time, inhabitants of the Japanese archipelago were gatherers, fishers and hunters. During the Yayoi Period (300 BC to 250 AD), the rice cultivation was imported round 100 BC. Agriculture induced the evolution of social classes, and the country began to unite under powerful land owners. “The Yayoi period brought also the introduction of iron and other modern ideas from Korea into Japan. Again, [as in the case of the Jomon period] its pottery gave the period its name”.

18 April 2022



Fig. 5 - Stone statue, late Jomon period, at the Tokyo National Museum. Image Courtesy Rc 13, from [Wikimedia](#) . It is a Shakōkidogū (遮光器土偶), or "goggle-eyed dogū". Dogū, a term which literally means "earthen figure", is a small humanoid or animal figurine. The term shakōki (literally "light-blocking device") comes from the resemblance of the figures' eyes to traditional Inuit snow goggles. More details at the [LINK](#).

After Jomon and Yayoi periods, we find the Kofun Period (250 – 538). During this period, “a center of power had developed in the fertile Kinai plain, and by about 400 AD the country was united as Yamato Japan with its political center in and around the province of Yamato (about today's Nara Prefecture)”.

The name of this period in the history of Japan is coming from the tombs that we have previously introduced. “Yamato Japan extended from Kyushu to the Kinai plain, but did not yet include the Kanto, Tohoku and Hokkaido. The emperor was ruler of Yamato Japan and resided in a capital that was moved frequently from one city to another.

18 April 2022

However, the Soga clan soon took over the actual political power, resulting in a system in which most of the emperors only acted as the symbol of the state and performed Shinto rituals. During the Asuka Period (538-710), the influence from the mainland increased strongly thanks to friendly relations to the kingdom of Kudara (or Paikche) on the Korean peninsula. Buddhism was introduced to Japan in the year 538 or 552 and was promoted by the ruling class”. [We will see in the following, what is the Yamato].

From en.wikipedia.org: “The Kofun period (古墳時代, Kofun jidai) is an era in the history of Japan from about 300 to 538 AD (the [official] date of the introduction of Buddhism), following the Yayoi period. The Kofun and the subsequent Asuka periods are sometimes collectively called the Yamato period. ... Continuing from the Yayoi period, the Kofun period is characterized by a strong influence from the Korean Peninsula; archaeologists consider it a shared culture across the southern Korean Peninsula, Kyūshū and Honshū (Barnes, 2015). The word kofun is Japanese for the type of burial mound dating from this era, and archaeology indicates that the mound tombs and material culture of the elite were similar throughout the region. From China, Buddhism and the Chinese writing system were introduced near the end of the period. The Kofun period recorded Japan's earliest political centralization, when the Yamato clan rose to power in southwestern Japan, established the Imperial House, and helped control trade routes across the region” (Denoon et al., 2001).

La tomba dell' Uji No Kami (in Italian and English)

In www.giapponeinitalia.org, testo redatto nel 2021, troviamo discussi i tumuli del periodo Kofun. “*Facendo un passo indietro, nel periodo Yayoi, già possiamo trovare in nuce questa forma di sepoltura.* Tuttavia, come vedremo, germoglierà appieno solo nel periodo Kofun. Le forme di queste collinette ... poteva variare da forme geometricamente semplici, a più complesse. ... la più caratteristica è “a buco di serratura”, in giapponese zenpōkōen. Al suo interno, il defunto era accompagnato da un'innumerabile serie di oggetti e manufatti che hanno permesso agli archeologi di ricostruire con precisione abitudini e società. ... Il manufatto più rappresentativo è l'haniwa, una statuette in terracotta che riproduceva un elemento della vita reale, fossero case, persone o animali.” Prosegue poi l'articolo dicendo che il territorio era suddiviso in “regni indipendenti l'uno dall'altro, con una famiglia nobile a capo e un *kami*¹ protettore”. Questo sistema sociale ha un nome ben definito, che è *uji-kabane*. Il termine *uji* indica la famiglia in senso ampio, e quindi indica un insieme di individui legati da vincoli di sangue o meno, che controlla un territorio. L'*uji* è quindi un “clan”.

“Al vertice era l'*uji no kami*, il capofamiglia, discendente diretto dell'*ujigami*, il kami protettore della stirpe. Attorno a questo gruppo ne ruotavano altri, vincolati ad esso ed altrettanto rigidi in termini di successione: i *be*. I *be* erano unità lavorative al servizio di un *uji*, devote al *kami* da cui ricevevano benevolenza e protezione, strettamente divise

1 Kami è la parola giapponese per indicare una divinità, un nume, o uno spirito soprannaturale.

per occupazione. [Esistevano] Be di pescatori, contadini, musicisti, tessitori, cantastorie e così via". I be erano la "forza motrice" di ognuno dei clan comandati dalla nobiltà guerriera. "I rapporti tra gli uji erano, come ci si può aspettare, fondati su guerra e diplomazia. La rete costruita lungo il Giappone di punti di potere era necessariamente portata in un secondo momento ad concentrarsi in un punto, il futuro centro imperiale." Emerge così lo Yamato².

"Il clan Yamato si guadagnò il ruolo di uji egemone nel territorio giapponese, e il periodo kofun ci mostra finalmente i petali del *primo crisantemo*, la famiglia imperiale discendente da Amaterasu. L'uji no kami era un capo guerriero ma anche un autorità spirituale, e i riti di purificazione avevano un ruolo fondamentale nella vita scandita dai ritmi naturali. Non stupisce dunque che il clan Yamato, discendente dalla dea del Sole, abbia attratto tanto la fedeltà quanto la devozione di famiglie meno potenti. Le tombe kofun, oltre a moltissime armi e armature, conservano una moltitudine di specchi di bronzo, simbolo del culto solare. *Un gioiello, una spada e uno specchio* erano i simboli del potere che nel periodo Kofun, si tramandavano gli uji no kami."

L'articolo ricorda poi i rapporti del Giappone con la Corea. E poi conclude con il termine *kabane*, ovvero i "titoli". "Si tratta del fornire un nome al rapporto tra gli uji no kami dei clan vicini al clan Yamato, in una gerarchia di ranghi alla quale faceva capo quest'ultimo". I kabane erano titoli nobiliari a tutti gli effetti. Essi "sancivano tanto il livello quanto il ruolo all'interno della corte, e sono il tratto distintivo della politica interna del periodo kofun. I più ambiti erano muraji e omi, veri e propri maestri di cerimonia. A fregiarsi di un simile onore furono ben presto anche i membri di un clan di origine coreano, i Soga. Già da tempo veniva riconosciuto il valore all'interno della società Yamato a nobili coreani, ma i Soga, grazie soprattutto all'introduzione del buddhismo a corte, nella metà del VI secolo, crebbero in importanza".

In www.giapponeinitalia.org, 2021, we find discussed the society of Kofun period, the name of which is coming from that of the ancient tumuli. In the Yayoi period, we can already find this form of burial tumulus "in nuce", but it flourished only in the Kofun period. The shapes of these artificial hills could range from geometrically simple to more complex shapes. The most characteristic one is the "keyhole", in Japanese zenpōkōen. Inside it, the deceased was accompanied by an innumerable series of objects and artifacts that allowed archaeologists to accurately reconstruct habits and society. The most representative artifact is the set of haniwa, terracotta statuettes that reproduced elements of real life, whether they were houses, people or animals. The article continues by telling that the territory was divided into kingdoms, independent of each other. Each kingdom had a noble family at its head and a kami as its protector. This social system has a definite name, which is uji-kabane. The term uji indicates the family in a broad sense, and therefore indicates a set of individuals linked by blood ties or not, which was controlling the territory. Actually, the uji is a "clan".

2 Il popolo Yamato o Wajin (letteralmente "popolo di Wa") è il gruppo etnico nativo dominante del Giappone. Wa e Yamato erano i nomi che la Cina antica usava per riferirsi a un gruppo etnico che viveva in Giappone.

18 April 2022

At the top of this system there was the uji no kami, the head of the family, a direct descendant of the ujigami, the kami protector of the lineage. Other people revolved around this group, bound to it and subjected to rigid rules: the be. The be were units of workers, which were in the service of a uji, devoted to the kami of it, from which they received benevolence and protection, strictly divided by their occupations. Be of fishermen, farmers, musicians, weavers, storytellers and so on existed. The be were the "driving force" of each of the clans led by the warrior nobility.

Relations between the uji were, as might be expected, based on war and diplomacy. The network built along the Japan, made of local centers of power was necessarily forced, at a later time, to concentrate on one center, the future imperial center. In this manner, it emerged the Yamato. The Yamato clan earned the role of hegemonic uji and the Kofun period finally displayed the petals of the first chrysanthemum, the imperial family that was descending from Amaterasu. The uji no kami was a warrior leader but also a spiritual authority, and purification rites played a fundamental role in a life marked by natural rhythms. It is therefore not surprising that the Yamato clan, descending from the sun goddess, has attracted both loyalty and devotion of less powerful families. The kofun tombs, in addition to many weapons and armor, preserve a multitude of bronze mirrors, a symbol of the solar cult. A jewel, a sword and a mirror were the symbols of power that, in the Kofun period, were handed down by the uji no kami.

The article then recalls Japan's relations with Korea. And then it concludes with the term kabane, or the "titles". It is a question of giving a name to the relationship between the uji no kami of the clans close to the Yamato clan, in a specific hierarchy of ranks. Kabane were noble titles in all respects, which sanctioned both the level and the role within the court. There were the hallmark of the internal politics of the Kofun period. The most coveted were muraji and omi, masters of ceremony. The members of a clan of Korean origin, the Soga, soon boasted such an honor. The value within the Yamato society had already been recognized for Korean nobles, but the Soga, thanks to the introduction of Buddhism at the court, in the mid-sixth century, increased their power.

Uji - Japanese lineage group - by [The Editors of Encyclopaedia Britannica](#) - uji, any of the hereditary lineage groups that, until their official abolition in AD 604, formed the basic, decentralized ruling structure of early Japan. ... they were ruled by an uji chief who was considered a direct descendant of the deity (ujigami) worshiped by the group's members. The uji members, who had the privilege of having personal surnames and being called by titles of respect, were supported by the labour of common workers, who were organized into subunits of the uji known as [be](#)".

18 April 2022

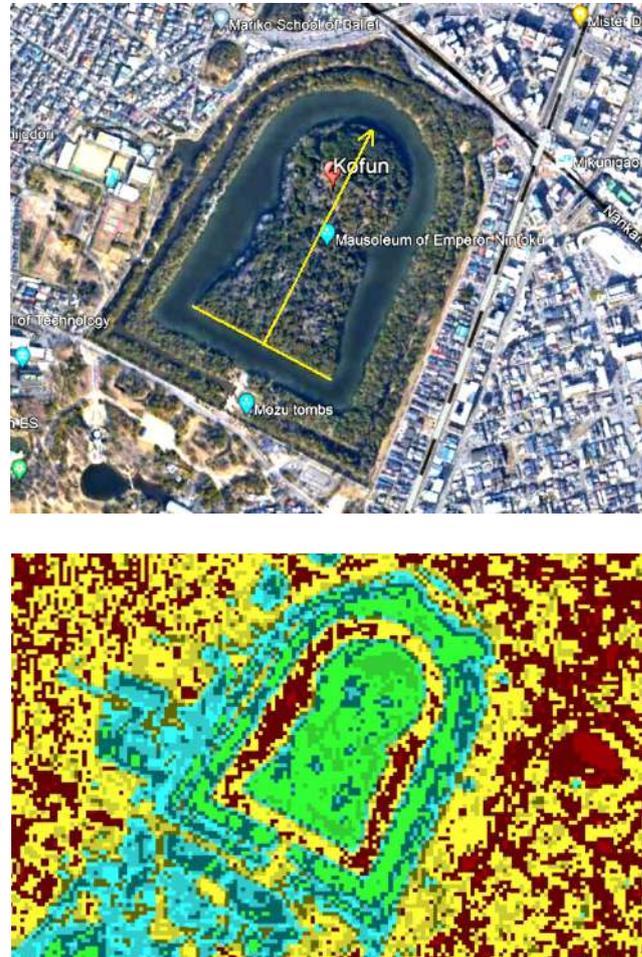


Fig. 6 - Nintoku-tenno-ryo Kofun in Google Earth Pro (upper panel). Many thanks to Google. The structure has a symmetry axis (arrow), which is its main axis. The base (about 300 m long) of the trapezoidal part seems perpendicular to the main axis (about 490 m long). In the image we can see the Torii Gate (blue marker). “There are sacred areas indicated by Torii gates facing the tombs where individuals can worship or pay their respects. There is such a place at the front of the keyhole-shaped Emperor Nintoku Mausoleum (located at the southern end of the burial mound)” (from livejapan.com)

Let us note that the main side of the mound is facing south-southwest direction.

In the lower panel, the kofun in a Sentinel Hub Vegetation Index map.

Orientation of zenpōkōen kofun (first part)

For what concerns the orientation of Kofun, in particular those having the **zenpōkōen** shape, a detailed discussion is given in (Goto, 2018). The main subject of this article is a short history of archaeoastronomy in Japan. This author, Akira Goto, and Yoshitaka Hojo have recently written an update in (Hojo and Goto, 2021). Also in the case of the astronomical orientation, the kofun burial sites differ from those of Sahara, which have an orientation to sunrise for sure.

Abstract of (Goto, 2018) tells that “although the information about archaeoastronomy in Japan available to international audiences is limited, this does not mean that archaeoastronomy has never been attempted in Japan. On the contrary,” the article by Goto “shows that a variety of archaeoastronomical research has been done in Japan”. In particular, as evidenced by the large bibliography, many studies have been performed concerning the orientations of ancient burial sites.

Akira Goto (2018) in particular, examines the keyhole-shape mounds. He continues remembering the British engineer William Gowland too. “Kofun studies, which [William] Gowland³ [1897] pioneered and had been further developed by Japanese archaeologists, have found several types of burial mounds: rectangular, circular, keyhole shape (square at the front and rounded in the rear), squares both at front and in the rear type, and several others. The discussion [by Goto, 2018] examines the keyhole-shape mounds, whose construction started at the beginning of the Kofun Period (late third century) and contains many giant mounds that were likely royal tombs. ... I [Akira Goto] would like to mention that *the main axis of the burial mound and the orientation of burial chamber do not necessarily correspond. In some cases, burial chambers are laid at right angle to the main axis of burial mounds and there is a temporal as well as regional variation in their relationship* (e. g. Goto 1936; Kobayashi 1960; Shiraishi 1989; Hojo 2017 [see the references given in Goto, 2018]). Early researchers following Gowland continued to point out the regularity of burial orientation of Kofun mounds, namely eastern and northern orientation, according to the area. Although most of them recognised the particular orientation of burial mounds and burial chambers, researchers have proposed several different interpretations: topographical, symbolic, political, as well as astronomical. ... One of the leading figures of Kofun studies from 1950–1970s was Tadashi Saito, who suggested that the eastern orientation is similar to the custom of Shilla in the eastern part of the Korean Peninsula and northern orientation to Lelang Commandery in northern Korean Peninsula. Saito further argued that the eastern orientation was related to the worship of the Sun and that the northern orientation was the influence of Chinese Confucianism philosophy” (Goto, 2018).

Therefore, early researches have shown a regularity of “burial orientation of Kofun

3 William Gowland (16 December 1842 – 9 June 1922) was an English mining engineer who carried out archaeological work at Stonehenge and in Japan. He has been called the "Father of Japanese Archaeology". See references in en.wikipedia.org/wiki/William_Gowland

mounds, namely eastern and northern orientation, according to the area”. Goto considers an orientation as in the Figure 6, where we can see the kofun having a north-northeast orientation. However, usually, the orientation of the tumulus is given considering the main side of the kofun. Then, in the case of the Figure 6, the orientation of the kofun is told being south-southwest (and there we can find the Torii gate, a traditional gate most commonly found at the entrance of a Shinto shrine, symbolically marking the transition from the mundane to the sacred space). As a consequence, the eastern orientation mentioned by Goto is that of a tumulus facing west, the northern orientation is that of a tumulus facing south.

Akira Goto tells that several different interpretations exist of the orientation of the tumuli: “topographical, symbolic, political, as well as astronomical. Topographic interpretations refer to the location of the mounds, such as at the mountain slope, ... Thus, the orientation of these mounds tends to accord with the direction of the slope” (Goto, 2018). Political interpretations of different orientations are linked to the different “social status of buried persons (Hojo 2017)”. Symbolic interpretations are relating orientation to landscape features such as sacred mountain. “Symbolic interpretations have often been combined with astronomical ones”, and see the detailed analysis in (Goto, 2018).

Concerning kofun burial places in Kinai⁴ Area, central Japan (see also Hojo and Goto, 2021), in Goto, 2018, we find that researchers recognized “the *kita-makura* chamber orientation, which is literally translated as *northern pillow*. The northern pillow suggests that the dead was buried with his/her head orienting to the north. This is the same thing as what Gowland called *southern aspect*, since the burial chamber is usually opened toward south. Until today, Japanese customs believe that it is not good to sleep with your head to the north, since the northern pillow position is a custom reserved only for the dead” (Goto, 2018). “In his recent book, entitled *The Orientation of Kofun and the Sun*, Yoshitaka Hojo reanalysed astronomical interpretations of Kofun burial orientations (Hojo, 2017). Using astronomical simulation and calculation, Hojo has convincingly shown that the burials characterized as *northern pillow* are mostly lain within a range of the circular movement of Big Dipper”. In (Goto, 2018), many references are given and here only those in English are reported (Goto, 2021, Goto, 2016, Hojo, 2017, Renshaw et al., 2000, Renshaw, 2015).

And also from (Goto, 2021), mentioning (Gowland, 1897), we find again: “To summarize, early Japanese researchers following Gowland continued to point out the regularity of the burial orientation of burial mounds, namely eastern and northern orientations, which varied by area. Although most of them recognized the particular orientation of burial mounds and burial chambers, researchers have proposed several different interpretations: topographical, symbolic, political, as well as astronomical”.

4 Kinai (畿内, Capital Region) is a Japanese term denoting an ancient division of the country. Kinai is a name for the ancient provinces around the capital Nara and Heian-kyō. The name is still used to describe part of the Kansai region, but the area of the Kinai corresponds only generally to the land of the old provinces. <https://en.wikipedia.org/wiki/Kinai>

18 April 2022

Then, from the analysis of Akira Goto, we can tell that Yoshitaka Hojo has linked the orientation of burial chambers to the circumpolar movement of Big Dipper asterism. It seems to be also a shift of kita-makura to older times of Japan, before the advent of Buddhism (see the “Kita-makura” section of this study).

In an article by J. Edward Kidder, Jr., entitled “Makimuku, Himiko and Yamatai: Solving the Puzzle”, 2015, we can find several interesting information about the orientation of kofun. First, let us tell that the Makimuku ruins are ruins in Nara Prefecture Sakurai, near Mount Miwa, of the Yayoi Period. It is a site that began in the 3rd century. Some researchers consider this area to be the birthplace of the Kofun system, that is the center of Yamatai country. Himiko is the queen of the Yamatai. Six ancient burial mounds such as Hashihaka Kofun, are distributed in the Makimuku area.



Fig. 7 – Many thanks to Google Earth, an image of which is showing the Hashihaka kofun (箸墓古墳), Sakurai City, Nara Prefecture, Japan (the black area above to kofun is water). Hashihaka kofun seems being the first large keyhole-shaped kofun constructed in Japan, associated with Yamato (Brown, 1993). Imperial Household Agency designates Hashihaka kofun as the tomb of Princess Yamato Totohi Momoso, daughter of Emperor Kōrei. A scholarly theory is proposing Hashihaka kofun as the tomb of Himiko, the queen of Yamatai. [Researchers in 2013](#) conducted the first-ever on-site survey of the Hashihaka kofun (granted access by the Imperial Household Agency). The name Hashihaka means "chopstick grave" and refers to the love between the Princess and the kami of sacred Mount Miwa (about 2 km East of the tumulus), which ended with the princess stabbing herself to death with a chopstick.

In Edward Kidder’s “Makimuku, Himiko and Yamatai: Solving the Puzzle”, 2015, it is told the following. “To return briefly to the era prior to the Japanese adoption of the continental system of southern orientation [the Gowland’s “southern aspect”] ... , the stage is particularly demonstrable in the construction of the early mounded tombs. Many of them, especially very large ones, are known as the zenpokoen (square front round back) type, popularly known in English as “keyhole-shaped.” Saito Tadashi looked at 394 tombs of the Early and Middle Kofun periods (3rd to 5th centuries), including excavated smaller round mounds in which the direction of the burial chamber had been determined, separating these as built on hilly and level terrain (Saitō, 1953, 1961)”. Edward Kidder continues: “The perplexing question has always been the *extreme randomness of their orientation*. Was there a system, such as facing the sun at certain times of the year, facing the residence of the deceased, facing a tomb of a revered ancestor, and so on? Were there regional differences and/or time differences in the first half of the Kofun period? Early ones, occasionally formed by cutting off the tail of a hill, naturally followed its direction. The orientation was then uncontrollable, and some scholars think this may have fixed an attitude that direction was not significant, but only size. The study includes 135 tombs on hilly terrain and 259 on level ground as indicated on the chart. In the entire group only WSW has no tomb facing it [hilly terrain], but several other directions have only one. The point here is that, although the cardinal directions are generally preferred and south is obviously used more for level ground, even south has only 88 tombs (22%). *South has the highest percentage, but it is rivaled by west with 76 (19%). Japanese folklore contains many stories of protecting houses, palaces, temples, castles and even cities from the hostile spirits that attack from the north, the classic example being the Enryaku-ji for the city of Kyoto. Twenty tombs face north. Saito says there can be only one explanation: the Chinese principle of southern orientation had not yet been introduced*”. (Kidder, 2015).

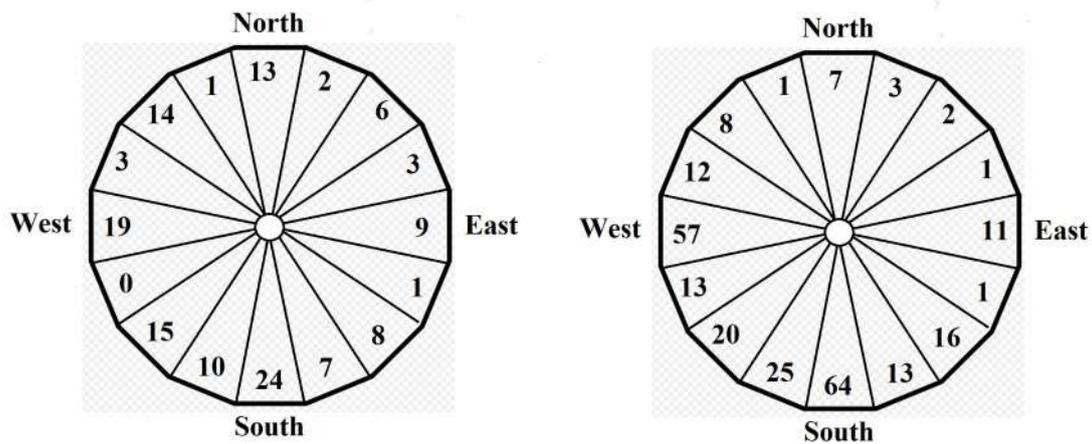


Fig. 8 - Orientations of keyhole tombs, as given by Saito’s data, in (Kidder, 2015). Left: hilly terrain; right: level terrain. In (Kidder, 2015), it is told that they are the orientations of “keyhole-shaped tombs and burial chambers of excavated round

18 April 2022

mounds”. However, in (Kidder, 2007), the same author tells that they are keyhole tombs. About the round mounds, Kidder provides further data (see Section “Divination and Geomancy”). In the arc from west to south (inclusive count), there are 179 keyhole tombs (69%) as told in (Kidder, 2007). According to the compass rose in (Kidder, 2015), in the remaining part of the rose, we find 75 tombs, for a total of 254, instead of 259 (probably a misprint in <https://icu.repo.nii.ac.jp/>, page 11, or in the text, or in Saito’s text; the percentage is passing from 69% to 70%).



For the keyhole-shaped tombs, as we have already told and as will see in the following discussions, the direction is that faced by the square side of the kofun. For instance, in the figure on the left, the kofun on the left is facing West, that on the right is facing South.

Edward Kidder’s point of view “on the randomness is that it was actually a calculated concept at this stage. It was in keeping with the prevailing practices in a world intimidated by malignant spirits which had to be beseeched and placated”. Kidder had “interpreted Himiko’s form of magic called kido as controlling the spirits of the dead. Spirits were known to be robotic routine followers (hence not retracing one’s steps at a funeral), moving in straight lines (hence spirit screens), unable to cope with inconsistencies and sudden changes. In other words, randomness confused them and neutralized their inimical intentions”. (Kidder, 2015).

Divination and Geomancy

From the same author, J. Edward Kidder, we can have further information (Kidder, 2007).

“The differences between a diviner and a geomancer were murky ... While there is no consensus on whether the idea of the mounded tomb was borrowed from abroad or evolved locally from Yayoi humped-up graves, if the former, geomancy should have come with it, thus making the geomancer a part of the initial process of sitting the grave and timing the funeral and burial” (Kidder, 2007).

“The great majority of the tumuli are round, but the keyhole shape and direction of the burial compartment seem to have lent themselves to some kind of planned orientation ... The orientation of keyhole is so conspicuously haphazard it has defied explanation. Suenaga says the problem was initiated by shaping early tombs out of hill ends, therefore guaranteeing a limited choice of direction. By default, direction was not thought to be important. In a sense this may be true, but when the choice for orientation became unlimited after the largest keyhole were built on level ground, it seems inevitable that certain directions would take preference” (Kidder, 2007).

18 April 2022

“It is inconceivable to me [Kidder] that orientation was not an important factor if both the location and the timing were significant. Professionals had made their geomantic duties into an influential business from a very early date in China, and orientation had become an important feature of the whole mortuary system. Suenaga went on to say he believed a tomb like Emperor Nintoku’s on the Sakai Plain “faced” his palace in Naniwa, by which is meant the round knoll is pointed in that direction. This may work in his case, but it was not a principle, as the tombs attributed to most ruler have no such relationship. One can even argue which is the “front” and which is the “back” of such mounds” (Kidder, 2007). *It is very important the observation about the orientation of the Daisenryo kofun, and also about the front and back part of the tombs.*

Another comment is necessary. As we will see in DEMs maps, keyhole tombs that appears, in the satellite imagery, to have been built on level ground were instead built on a surface with a non-flat elevation profile.

“I [Kidder] believe it was actually a calculated randomness, which seems to be the closest to the geomantic thinking of the time. It takes as its premise the inability of malevolent spirits to deviate from the routine and therefore to be confused by diversity. In effect, the alignment of tomb mounds and burial chambers on different axes neutralized the influence of the evil spirits” (Kidder, 2007).

Then we find again, in the given reference, the data by Saito.

“The orientation of 394 keyhole tombs was tabulated by Saito Tadashi with some comment on their randomness [then, we find 394 keyhole tombs]. By and large, these are early- and middle- period tombs. He separated them by terrain: mounds built on plains or plateaus where choice of direction was seemingly unhampered, and mounds built in hilly areas where the topography was an influencing factor. Both groups show a preference for the cardinal directions, but in the upland terrain none of the four quadrants was overwhelmingly preferred (NE 11; SE 16; SW 25; NW 18). Among the 259 flatland tombs, by far the largest number lie in the southwestern arc of the compass, and if the two adjacent points are included, the constitute 179, or 69 percent, of the total. With the exception of due east and to a lesser extent due north, the wide, roughly 200-degree northeasterly arc from north-north-west to south-south-east [actually, east-south-east] was generally avoided (only 26 to 10 percent).” (Kidder, 2007)

“Saito also listed 93 round or square tombs, chiefly of the early and middle periods, for which the axis of the internal structure is known. Rough uniformity is arrived at only in the later stone passageway and chamber tombs, most of which open towards the south, so the question concentrates on burial before that time. ... For 43 the axis is east-west, for 34 it is north-south, for 6 it is southwest-northeast, and for 20 it is northwest-southwest. Therefore, one sees the cardinal points again as first choice and beyond that, where the direction of the head could be determined, the largest number were pointed toward the east or north” (Kidder, 2007).

“The question is then asked by all Japanese: why the east and north? North is taboo, especially in regards to one’s bed. Evil spirits still attack from the northeast, and various

18 April 2022

ingenious forms of protection have been devised over the centuries to protect individual residences, temples, castles, and even cities. ... A simple answer is that the taboo arrived in Japan later. Saito found that orientation of the burial with north or east during the Jomon and Yayoi periods was not uncommon, so he believed that the random tradition was well entrenched with no special stigma attached to directions. A high percentage of Jomon and Yayoi houses were entered from the general direction of the south, but it looks as though no psychological connection was made between residence and grave until the later part of the fifth century” (Kidder, 2007).

Naniwa Palace

From (Saito, 2010).

The Nihongi relates that the Emperor Ojin preferred his youngest son, Vji-no-Wakairatsuko to all his other children and made him crown prince instead of his eldest son, Nintoku. When on the death of his father, Wakairatsuko prepared to ascend the throne of his ancestors, his elder brother opposed him and won the support of the people. Wakairatsuko who soon saw that he would not be able to establish his claim, committed suicide. Filled with grief for his brother's fate, Nintoku-Tennō ascended the throne of his fathers and reigned with wisdom and mercy (313–399 A.D.). He restored the palace at Naniwa. When he became acquainted with the poverty of the people, he had pity on them and exempted them from the payment of taxes for three years. And so it happened that the Emperor became poor and could not repair the walls and roof of his palace. But he thought only of the welfare of his subjects, and when the Empress complained of their poverty, replied: “I feel joy and sorrow with my people, if they become richer then also shall I become richer.”

Kita-makura

Akira Goto is mentioning the kita-makura (northern pillow) burial chamber orientation. The northern pillow suggests that the dead was buried with his/her head orienting to the north. Let us better understand what it is the kita-makura.

From the book on the Japanese Rinzai Zen Buddhism, by Jørn Borup, 2008. “He/she is dressed in a pilgrim's outfit, the journey of death being the final religious pilgrimage, and pilgrimage itself being a principal recurrent symbolic journey toward death. The body of the deceased is to be placed beside a folded screen erected upside down to protect against malevolent spirits, with the head pointing toward the north (kitamakura) – a ritual based on the legend of Buddha. The hands must be folded in gasshō position, and the head covered by a white piece of cloth, just like the kamidana should be concealed with a white paper (kamidana fuji) when announcing the death to the

18 April 2022

ancestors in the butsudān. The “pillow decoration” (makura kazari) is a small table covered by a white cloth, with offerings consisting of flowers, incense, a lighted candle, a bowl of cooked rice, and water”. “The practice of gasshō (合掌), pressing one's hands together in prayer, is said to come from Zen Buddhism and is a gesture used throughout Asia as a sign of reverence or greeting” (from www.jas-hou.org).

“Buddha died with his head turned to the north, his feet to the south, his face to the west and his back to the east. A dead body will be laid in a way called Kita-Makura or north-pillow, with its head turned to the north, and few Japanese will sleep lying in that way at ordinary times” (from Atsuharu Sakai, 1949).

“According to the teaching how Buddha entered Nirvana, the dead person's head is turned to the north. If the body cannot be headed to the north for a certain reason, it may be turned to the west” (from osoushiki-plaza.com).

Then, we find that kita-makura is a practice linked to Buddha Parinirvana. It is told that, officially, Buddhism was introduced in Japan at the end of Kofun period. However, “Buddhism arrived in Japan by first making its way to China and Korea through the Silk Road and then traveling by sea to the Japanese archipelago. As such, early Japanese Buddhism is strongly influenced by Chinese Buddhism and Korean Buddhism. Though the “official” introduction of Buddhism to the country occurred at some point in the middle of the sixth century, there were likely earlier contacts and attempts to introduce the religion. Immigrants from the Korean Peninsula, as well as merchants and sailors who frequented the mainland, likely brought Buddhism with them independent of the transmission as recorded in court chronicles. Some Japanese sources mention this explicitly” (from [Wikipedia](https://en.wikipedia.org)).

The Kofun period is from about 300 to 538 AD (the official date of the introduction of Buddhism), following the Yayoi period, but this is a modern distinction of a fluid evolution. Then, for kofun we could imagine an early influence of Buddhism. However, the orientation of the corpse could be a ritual having nothing to do with Buddhism. Akira and Hojo, for instance, are mentioning the stars of the Big Dipper.

As we will see in the section “Funeral Rites”, in the discussion by Arthur Hyde Lay, entitled “Japanese funeral rites”, published by the Transactions of the Asiatic Society of Japan, 1891, about the kofun tumuli it is told that “As regards the materials used and the manner in which they were put together, we gather from the Shoryoshiki that a foundation was laid of small stones which were rendered cohesive by lime and then beaten into a compact mass and allowed to dry. Upon this basis was placed the stone receptacle, *care being taken to lay the coffin in such a position that the head of the corpse should be towards the North*; and above were laid three or four large stone slabs”. Therefore, the research by Hojo and Goto on the astronomical orientation of the burial chambers and sarcophagi is fundamental to have further insight into the religion of Kofun period too.

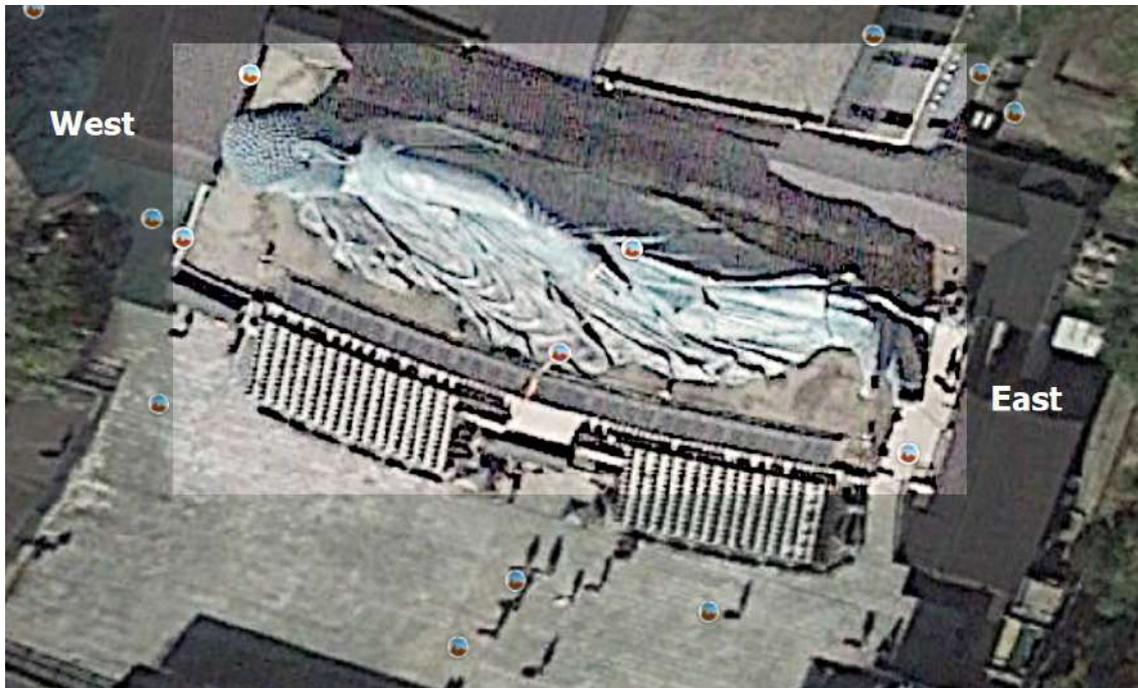


Fig. 9 - [Nanzo-in](#) is a Buddhist temple in Sasaguri, Fukuoka Prefecture, Japan. It is notable for its bronze statue of a reclining Buddha, said to be the largest bronze statue in the world. Here the statue in a Google Earth satellite image. “If the body cannot be headed to the north for a certain reason, it may be turned to the west”.

Tombs of Eurasian Steppe

In searching for kita-makura in other places of Eastern Asia, it is possible to find the dissertation entitled “Power Politics in the Xiongnu Empire”, by Bryan K. Miller, 2009.

The Xiongnu were a tribal confederation of nomadic peoples who, according to ancient Chinese sources, inhabited the eastern Eurasian Steppe from the 3rd century BC to the late 1st century AD. Chinese sources report that Modu Chanyu, the supreme leader after 209 BC, founded the Xiongnu Empire.

Miller tells that “The steppe élite of the first century BC may have copied certain manners of tomb construction known by the Chinese, but those styles were not predominant in China during that time. This chronological discrepancy hinders any assertion that the steppe leaders were imitating the Chinese contemporary mortuary trends, much less emulating China. Further disparities arise when we consider the full set of features for these square tomb complexes. Tombs of the Chinese rulers were not without their sets of accompanying features, yet they bore no resemblance either before

– as seen in the tomb complex of the Chinese emperor Han Wudi [Fig.7.17] – or during the time of the square tombs. The adjacent lines of accompanying human graves to the east and west as well as the parallel stone lines with burnt animal offerings to the north of the square mounds not only appear particular to the tombs of the Mongolian steppes but might also have roots in the traditions of the monumental ritual complexes of the Bronze Age and early Iron Age cultures outlined in the previous chapter. The upper echelons of the steppe élite consciously created a new form of tomb structure, drawing on both the monumental and ritual traditions of the Mongolian steppes and preceding construction manners of tombs in China and South Siberia. This distinguished them, in funerary style and labor investment, from the other members of the élite while apparently still adhering to native ritual traditions” (Miller, 2009).

“It should be noted that despite the change in burial structure for these new, larger tombs, the treatment of the body remained the same. The deceased were still placed in a stretched supine position in graves by themselves, *with the head oriented north*. The vast majority of the circular graves were oriented between north (61%) and northwest (27%), and the deviations from this appear to be spread evenly and sparsely across sites in central Mongolia, mixed within cemeteries of predominantly northern orientation” (Miller, 2009).

“Without complete chronologies and reports of all these circular burials, it is impossible to discern the implications of this minor deviation. Square tombs, on the other hand, exhibit almost no variation in orientation. The tombs surveyed at Gol Mod 2 and Takhiltin khotgor show all tombs oriented between north and northwest, with only a handful of exceptions oriented northeast. From these statistical surveys, and a view of Gol Mod which was also mapped precisely [Fig.6.62b], we can see that no where do these larger tombs exhibit variation toward the south, east or west as do some of the circular graves, and all appear to conform to a north to northwest orientation. As treatment of the body reflects religious practices, this more uniform adherence to such practices in the case of the square tombs might signify a greater degree of cohesion in ritual traditions” (miller, 2009).

About the Chinese “pyramids”, see please (Sparavigna, 2012).

Geomancy

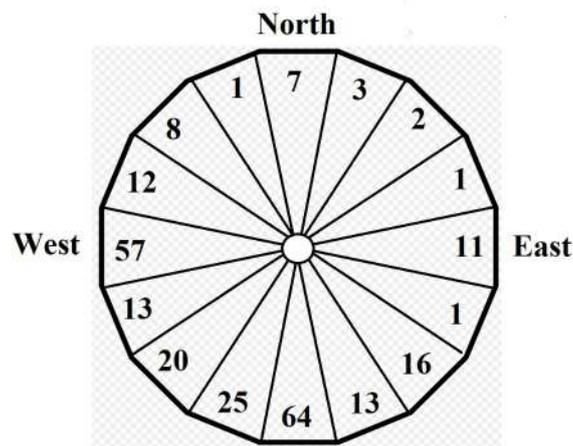
Let us return to Japan, but before, let us consider some questions about geomancy, starting from Feng shui.

Feng shui is the Chinese geomancy, an ancient practice which claims to use energy forces to harmonize individuals with their surrounding environment. Feng shui means, literally, "wind-water". “From ancient times, landscapes and bodies of water were thought to direct the flow of the universal Qi – “cosmic current” or energy – through places and structures. Because Qi has the same patterns as wind and water, a specialist who understands them can affect these flows to improve wealth, happiness, long life, and family; on the other hand, the wrong flow of Qi brings bad results. More broadly,

18 April 2022

feng shui includes astronomical, astrological, architectural, cosmological, geographical, and topographical dimensions. Historically, as well as in many parts of the contemporary Chinese world, feng shui was used to orient buildings and spiritually significant structures such as tombs, as well as dwellings and other structures”. https://en.wikipedia.org/wiki/Feng_shui

About the origin of geomancy, the item tells that the Yangshao and Hongshan cultures, which were neolithic cultures, provide the earliest known evidence for the use of feng shui. “Until the invention of the magnetic compass, feng shui relied on astronomy to find correlations between humans and the universe”. “A grave at Puyang (around 4000 BC) that contains mosaics— a Chinese star map of the Dragon and Tiger asterisms and Beidou (the Big Dipper, Ladle or Bushel)— is oriented along a north–south axis.” Wikipedia is referring to Xu et al., 2000. Then, we have that astronomical orientations existed in the East Asian region.



Let us consider again the Figure 8 previously proposed, showing the orientations of keyhole tombs, given by Saito’s data, in the article by Kidder, 2015, with remarks in Kidder, 2007 . Let us consider only those at level terrain.

We can see that there is a quarter which contains the less number of tombs facing the directions within it. It is the north-east one.

In geomancy, the northeast quarter is considered to be particularly inauspicious, because of one direction, known as the "demon gate". In Japan, it is referred to as Kimon, meaning ominous direction, or taboo direction.

“Geomancy, known in Japanese as kaso and derived from the Chinese feng shui, has

been practiced here for centuries, and was used in the building of two early Japanese capitals in the 7th and 8th centuries.” (Coleman, 1998).

In the “Japanese Religions: Past and Present”, by Reader, I. et al. 1993 it is told that “Another area of folk religion that continues to influence the lives and practices of many Japanese is a concern with divination and with lucky and unlucky days and directions, ... Fortune-telling and divination played a major role in Japanese life in earlier ages, with oracles consulted before undertaking new projects, and with diviners consulted about the correct day to start an enterprise or the best possible position in which to build a house. Many Japanese still take note of these things. Before building a new house, or before moving elsewhere it is common to consult a diviner to make sure that the proposed orientation of the house will not be unlucky. Certain directions (in particular the north-east, known as the *kimon* or ‘devil’s gate’) are especially unlucky and are avoided. Similar consultations take place when building a grave, for siting it facing an unlucky direction is believed to cause distress to the spirits of the dead and prevent them reaching a state of peace.”

See also <https://kappapedia.../kimon-demon-gate-legends.html> - “The north-east *ushi-tora* 丑寅 ox-tiger direction, is considered an un-auspicious region and needs protection from real and imagined enemies, fiends and demons”. In the zodiac, the animals associated with this 北東の方角 Northeastern region are *ushi-tora* 丑寅, that is the bull and the tiger. “Oni are therefore usually depicted with bull horns and tiger fangs, wearing loincloths made of tiger skin (Tigers were not known in Japan⁵)”.

The geomancy is used today as evidenced by an article in Los Angeles Times, author Joseph Coleman. The article has the following title “Using Stars, Calendar and Compass, Geomancers Keep Devil at the Gate”. And the Gate is the *Kimon*.

This title is particularly relevant, because of the reference to the calendar. To have more information we can see Leslie Williams, E. (2007). The author tells that in Yin-Yang Five Phase cosmology, earth plays a central role as the medium of change in the annual cycle. “Each of the four seasons corresponds to a separate phase and to one quarter of the cycle: spring to wood, summer to fire, autumn to metal, and winter to water. Earth is the center position of the cycle”.

“Earth active periods of seasonal transition are significant calendrical projections of the Feminine archetype and the Great Mother herself. These earth active periods are called “gates” (mon). All four gates are recognized as interstices of power in time and space, as portals of contact with spirits, both the generative and devouring aspects of the Great Mother. The four gates are: the Demon Gate, the Wind Gate, the Human Gate (or the rear Demon gate) and the Heaven Gate. The gate at the end of each active period marks the beginning of a lunar calendar season”, as told by Leslie Williams, E. (2007).

5 “Tigers first reached India and northern Asia in the late Pleistocene, reaching eastern Beringia (but not the American Continent), Japan and Sakhalin. Fossils found in Japan indicate the local tigers were, like the surviving island subspecies, smaller than the mainland forms, an example of insular dwarfism”. From [Quora](#).

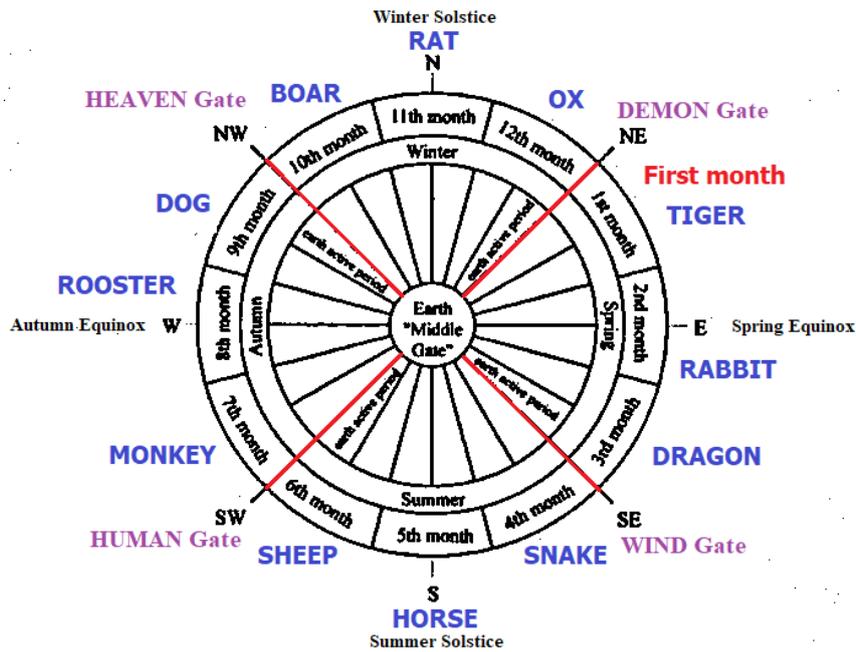


Fig. 10 - Here the Figure 4.8 from Leslie Williams, E. (2007). Note that the first month, and therefore the beginning of the year is corresponding to the Demon Gate. Let us note that the symmetry axis of the Daisenryo Kofun is NOT in the Demon Gate direction. Moreover, this Kofun is FACING the SSW diction.

About the Demon Gate, Leslie Williams tells that the first earth active period occurs at the transition of winter to spring, at the northeast quadrant of the compass; it is known as the Demon gate (Japanese kimon). The Demon Gate is an interstice indicative of the devouring Feminine archetype and is the most potent yin interstice of the calendrical cycle". The temporal gate is occurring at the New Moon of the Lunar New Year. It is an "ambiguous, dark phase of the moon", a merging of old and new. Leslie Williams is also telling that the "ambiguous term" demon (ki; oni) denotes "spirits of the dead", including "ancestral spirits", and "invisible yin spirits" that "bring misfortune and harm to humans" (Ogawa 1986).

"The Demon Gate is manifest in both time and in space. The Book of the Changes identifies the first trigram, "the Opposing," that corresponds to the Demon Gate as being analogous to "mountain", "stones", "roads", "doors and openings", "fruits and seeds", and "doorkeepers" (Baynes 1967; 278-79)" (Leslie Williams, 2007).

"Here a profusion of transitional, interstitial images is presented. In terms of remnants of Yayoi period ritual practice, mountains (and stones) are powerful interstices for spirits and the ancestral dead. Roads and crossroads have been previously identified as haunt of spirits and ghosts. Doors, gates, and openings are interstices pure and simple,

18 April 2022

regions at which opposites meet; keepers of these places are at the source of power. In addition, these places of physical transition delineate the spatial aspect of the Demon Gate juncture in the time/space continuum. Similarly, fruits and seeds embody the “beginning and the ends of plants (Baynes 1967), In these images, the merging of beginning and end is presented (see Ômori 1993), as in the Uroboros figure devouring its own tail and the yin-yang dyad; the process of change, as both life-taking and life-giving, is depicted. The Demon Gate is emblematic of earth, which together with woman makes up the Feminine archetype. The Demon Gate is literally death (Noguchi 1994) and burial of the dead in the earth.” (Leslie Williams, 2007).

'Per me si va ne la città dolente,
per me si va ne l'eterno dolore,
per me si va tra la perduta gente.

Giustizia mosse il mio alto fattore;
fecemi la divina podestate,
la somma sapienza e 'l primo amore.

Dinanzi a me non fuor cose create
se non eterne, e io eterno duro.
Lasciate ogni speranza, voi ch'intrate'.

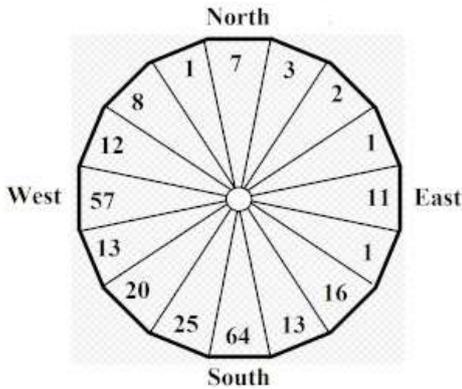
Dante, Inferno, at the Gate of Hell

Leslie Williams is mentioning the Yayoi period, which is the period before the Kofun period. In particular, we find that the Demon Gate seems being the remnant of Yayoi rituals. We will see rituals and the change of rituals, mentioned in several other section of our study.

It is often told that Japanese geomancy is derived from Chinese geomancy, or imported from China. It is also told that it is coming from the Taoism (also spelled Daoism)⁶. However, even population has been coming into Japan from outside. It seems that the first people that arrived in Japan was the Ainu people. “The Ainu are the indigenous people of the lands surrounding the Sea of Okhotsk, including Hokkaido Island, Northeast Honshu Island, Sakhalin Island, the Kuril Islands, the Kamchatka Peninsula and Khabarovsk Krai, before the arrival of the Yamato Japanese and Russians. These regions are referred to as Ezo (蝦夷) in historical Japanese texts.”

6 Taoism “is a religion and a philosophy from ancient China that has influenced folk and national belief. Taoism has been connected to the philosopher Lao Tzu, who around 500 B.C.E. wrote the main book of Taoism, the Tao Te Ching. Taoism holds that humans and animals should live in balance with the Tao, or the universe. Taoists believe in spiritual immortality, where the spirit of the body joins the universe after death” (from the item on Taoism, <https://www.nationalgeographic.org/encyclopedia/taoism/>).

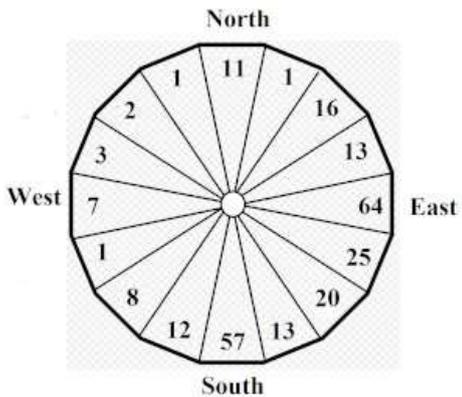
https://en.wikipedia.org/wiki/Ainu_people .



Rotation

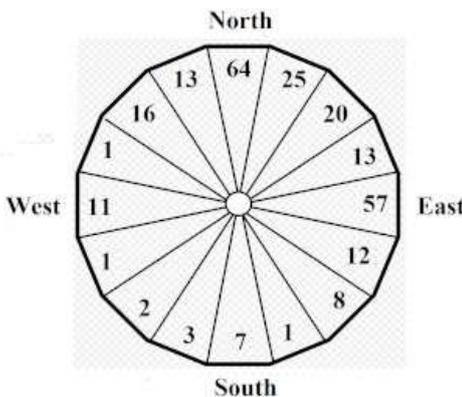
Here again, we can use the Saito's data, to stress the observation made by J. Edward Kidder, about the front and back of the kofun. That is, are we sure about the front in the square part? It is so, according to Saito.

In fact, Saito considered the orientation as in the upper panel in the image.



However we could rotate it of 90 degrees (middle panel) or of 180 degrees (lower panel), counterclockwise.

Then, we pass from 64 kofun in the South direction, to 64 kofun in the East direction, and, with the further rotation, to 64 kofun in the North direction.



Actually, we have two directions (yellow and blue) along the symmetry axis of the kofun, which are the most natural to consider. They can be distinguished by considering the square or the round part as the "front" of the tomb.

For what concerns the intermediate 90 degrees rotation (orange), it is problematic; what is the "front" in this case? Moreover, we could also assume a rotation of 270°, and then we can have 64 kofun in the West direction too.

Yamato

The Yamato people are an East Asian ethnic group and a nation that inhabits the Japanese archipelago, descended partly from the indigenous Jōmon people and partly from the Yayoi people who arrived on the archipelago from around the third century (see the list of references given in https://en.wikipedia.org/wiki/Yamato_people . “The term [Yamato] came to be used around the late 19th century to distinguish the settlers of mainland Japan from minority ethnic groups inhabiting the peripheral areas of the Japanese empire, such as the Ainu, Emishi, Ryukyans, Nivkh, Oroks, as well as Koreans, Han-Chinese, Taiwanese aborigines, and Micronesian peoples who were incorporated into the Empire of Japan in the early 20th century. Clan leaders also elevated their own belief system that featured ancestor worship into a national religion known as Shinto. The name [Yamato] was applied to the Imperial House of Japan or "Yamato Court" that existed in Japan in the 4th century; further, it was originally the name of the region where the Yamato people first settled in Yamato Province (modern-day Nara Prefecture). Generations of Japanese historians, linguists, and archeologists have debated whether the word is related to the earlier Yamatai (邪馬臺). The Yamato clan set up Japan's first and only dynasty”.

From <https://doyouknowjapan.com/history/kofun/>. “At some point during the 'Kofun period,' 'Yamato sovereignty' (the ancient Japan sovereignty) was established as the unified authority of Yamato (ancient Japan)”. The article tells that scholars consider Yamato linked to the building of the keyhole-shaped mounds.

“In the latter half of the third century and onward; large keyhole-shaped mounds which were considered to be imperial mounds, were significantly scaled up from the mounds in the early 'Kofun period' and appeared in Nara Basin. Then, from the middle to end of the fourth century, in a fifty year period, four large keyhole-shaped mounds of the 'okimi' (great king) class in scale of size were built in the Saki (also pronounced, "Sofu") region of the Northern Nara Basin. Furthermore, a gigantic 'Kofun' (tumulus) was built, taking nearly one century to construct on the Kawachi Plain by future generations of the regions subjects throughout the fourth century. Finally, at the end of the fourth century, advanced tumulus communities appeared in one area of the Kinai region (the five capital provinces surrounding the ancient capitals of Nara and Kyoto). There were numerous gigantic 'Kofun' (keyhole-shaped mounds) continuously built throughout Japan during the mid fifth century. However, it was around end of the sixth century that keyhole-shaped mound building ceased in Japan”.

The article is also discussing the political role of Yamato in the permission of building the tumuli. Then it continues telling that the Japanese external relations, from the fourth century onward, included military advances upon the Korean peninsula; “this resulted in the subjugation of the Silla (an ancient Korean Kingdom) and Paekche (an ancient Korean Kingdom), and furious battles with Goguryeo (an ancient Korean Kingdom). Inscriptions on the 'Gwanggaeto Stele' (Gwanggaeto Stele was built in '411' by King

18 April 2022

Jangsu of Goguryeo Jian, Jinling Province, China) and other documents support these historical events. In the fifth century, the five kings of Wa (Yamato, ancient Japan) dispatched envoys to China. Wa, authorized the use of iron acquired from the Korean peninsula to make farming tools, kacchu (armor) and weapons. Japan imported and assimilated some aspects of the Chinese and Korea cultures such as: written Chinese characters ("kanji" in Japanese), Buddhism, and Confucianism. ... Additionally, in the Zuisho (Book of the Sui Dynasty), there were reports confirming Wakoku's (ancient Japan) affluence and possession of rare goods following the conquest of Goguryeo and Silla. Bronze ware was introduced to Japan from the continent (Asian continent), but unlike other ancient Oriental regions the inception of iron ware usage was closer to the introduction of bronze ware. Thus, the bronze ware of Japan would not be implemented widely; Japanese people abruptly replaced bronze with superior efficient iron ware. Therefore, the Japanese people would have limited use for bronze ware: such as Bronze bells for Saishi (religious service) and other religious practices”.



Fig. 11 - Image Courtesy MET

<https://www.metmuseum.org/art/collection/search/44831>

Dōtaku (Bronze Bell) - 1st–2nd century – Japan -

Produced during the late Yayoi period, the distinctive clapperless Japanese bronze bells known as dōtaku are thought to derive from earlier, smaller Korean examples that adorned horses and other domesticated animals. Dōtaku were buried, singly, in pairs, and in large groups—occasionally with bronze mirrors and weapons—in isolated locations, often on hilltops, perhaps to ensure a community’s agricultural fertility. Later dōtaku had relatively thin walls and would not have resonated, so it assumed their purpose was primarily ritual.

After the discussion about the DEM maps and some kofun sites, we will consider again the replacement of bronze ritual bells.

18 April 2022

DEM Maps

As told by Akira Goto, we have that “several different interpretations [exist]: topographical, symbolic, political, as well as astronomical” for Kofun orientation. In the case of the topographical interpretation, DEM maps are fundamental.

For a study concerning topographical orientations, instead of using the satellite maps, such as those provided by Google Earth Pro, let us consider the maps from Spaceborne Digital Elevation Models (Yamazaki et al., 2017). Here some words from abstract of Yamazaki et al., 2017. “Spaceborne digital elevation models (DEMs) are fundamental input for many geoscience studies, but they still include nonnegligible height errors. [In Yamazaki et al., 2017, the researchers] introduce a high-accuracy global DEM at 3” resolution (~90 m at the equator) by eliminating major error components from existing DEMs. [They] separated absolute bias, stripe noise, speckle noise, and tree height bias using multiple satellite data sets and filtering techniques. After the error removal, land areas mapped with ± 2 m or better vertical accuracy were increased from 39% to 58%. Significant improvements were found in flat regions where height errors larger than topography variability, and landscapes such as river networks and hill-valley structures, became clearly represented. ... The newly developed DEM will enhance many geoscience applications which are terrain dependent.” Of course, DEM proposed in (Yamazaki, D., et al., 2017) is proper for studies of geoscience. However, it is also useful for investigating local landscapes, such as those of Kofun in Japan. And here we apply the model to Kofun.

We can use the web site <https://it-ch.topographic-map.com> . First, let me express many thanks to Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O’Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates (Yamazaki et al., 2017), for their fundamental work on digital elevation data and models, and many thanks to the excellent web site at link <https://it-ch.topographic-map.com> which is fundamental for the maps.

Before showing the maps, let me add some further references to documents provided by the Monuments and Sites Division, Cultural Properties Department, Agency for Cultural Affairs, 3-2-2 Kasumigaseki, Chiyoda-ku, Tokyo, 100-8959, JAPAN. URL: <http://www.bunka.go.jp/english> (References: “Monuments and Sites Division, Agency Cultural Affairs”). In the Volume 2, the coordinates of the Mozu-Furuichi Kofun Group are given. In the Volume 4, a reconstruction of monuments is given: from it is also clear that the name “keyhole” is misleading.

At the web page <https://en.wikipedia.org/wiki/Kofun> it is possible to find the list of UNESCO Kofun Groups.

Other sites can be obtained from the lists of Historical Sites of Japan, such as the following:

[https://en.wikipedia.org/... \(Ōsaka\)](https://en.wikipedia.org/.../Ōsaka), [https://en.wikipedia.org/... \(Tōkyō\)](https://en.wikipedia.org/.../Tōkyō),
[https://en.wikipedia.org/... \(Okayama\)](https://en.wikipedia.org/.../Okayama), [https://en.wikipedia.org/... \(Aichi\)](https://en.wikipedia.org/.../Aichi) and so on.

18 April 2022

Or it is possible to use the following lists such as

https://commons.wikimedia.org/wiki/Category:Kofun_of_Osaka_prefecture,

https://commons.wikimedia.org/wiki/Category:Kofun_of_Nara_prefecture

https://commons.wikimedia.org/wiki/Category:Kofun_of_Fukuoka_prefecture

and so on.

From Figures 12-21, giving some DEM maps, We can easily appreciate how the kofun are arranged in the local topography. In these figures, we concentrate on the region of the Mozu-Furuichi Kofun Group. We can easily see that the kofun orientations are in agreement with the local topography.



Fig. 12 – The region of the Mozu-Furuichi Kofun Group from a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates, 2017, for their fundamental work on digital elevation data and models, and many thanks to the excellent web site, which is fundamental for the maps. The location of the two parts of the group are marked by the red ellipses. The western part is the Mozu Group, the eastern part is the Furuichi Group.

18 April 2022



Fig. 13 – The region of the Mozu-Furuichi Kofun Group (western part) from a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the excellent web site, which is fundamental for the maps.



Fig. 14 a – The western part of the Mozu-Furuichi Kofun Group (see “Monuments and Sites Division, Agency Cultural Affairs”). The map is provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the excellent web site, which is fundamental for the maps. Note that two large kofun are clearly visible in the map. The largest one is the Daisenryo kofun. Let us note that the kofun are not in a “flat” area.

18 April 2022

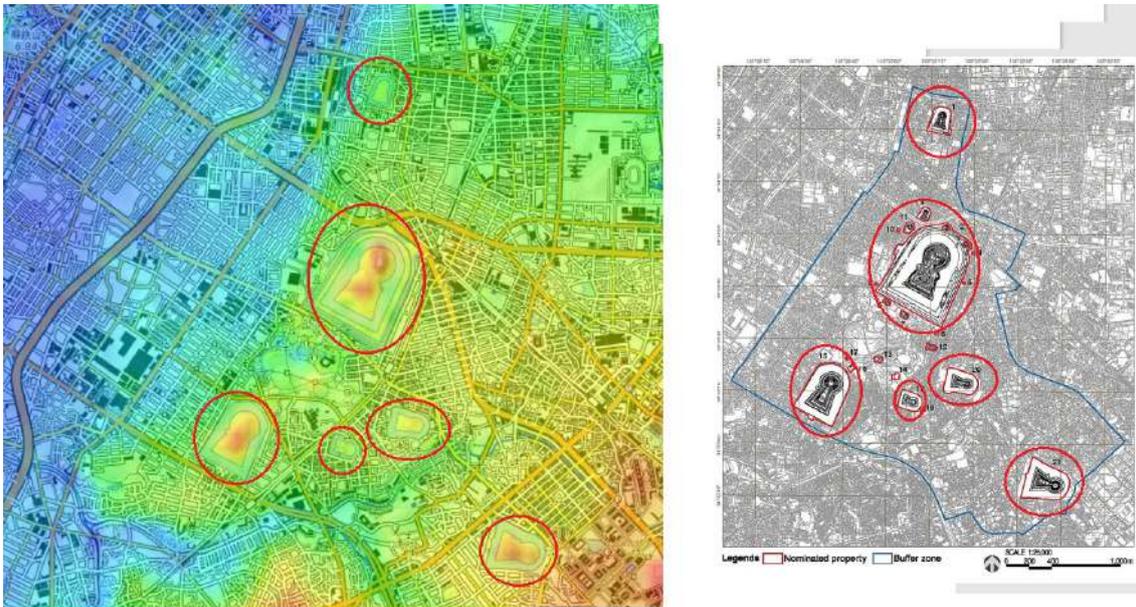


Fig. 14 b – The Mozu Group in the map provided by the web site <https://it-ch.topographic-map.com> on the left, and, on the right in a topographic map in “Monuments and Sites Division, Agency Cultural Affairs”. Many thanks to the excellent web site, it-ch.topographic-map.com, which is fundamental for the maps.

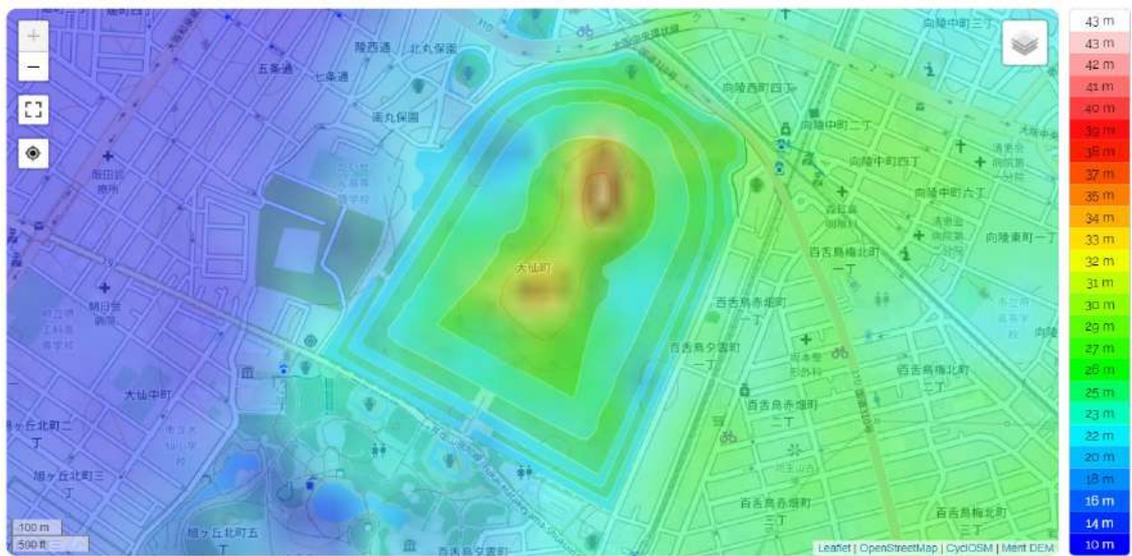


Fig. 15 – Daisen Kofun. The map is provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the excellent web site.

18 April 2022



Fig. 16 – Other kofun of west part of the Mozu-Furuichi Kofun Group (see “Monuments and Sites Division, Agency Cultural Affairs”). The map is provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the excellent web site. We can see, thanks to DEM that the kofun are properly adapted to the local topography.



大仙古墳, 国道310号, 大仙町, 堺区, 堺市, Prefettura di Osaka, 590-0035, Giappone (34.56342 135.48693)

Fig. 17 – Details of Kofun (see “Monuments and Sites Division, Agency Cultural Affairs”). The map is provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the excellent web site.

18 April 2022

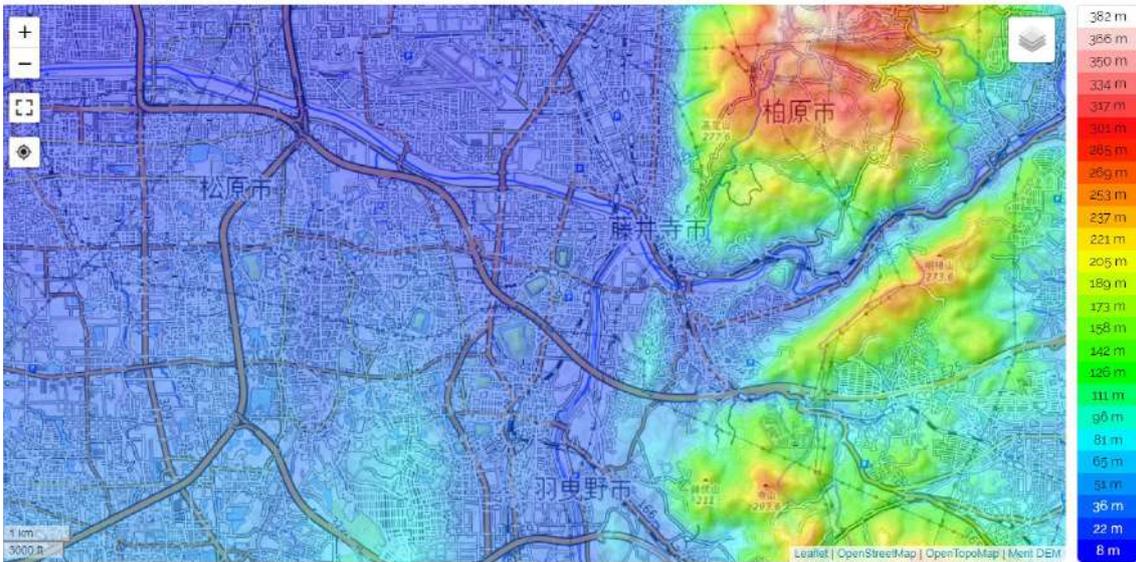


Fig. 18 – The east region of the Mozu-Furuichi Kofun Group (see “Monuments and Sites Division, Agency Cultural Affairs”) from a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks again.



Fig. 19 a – Kofun in the Furuichi Group (see “Monuments and Sites Division, Agency Cultural Affairs”) from a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks again.

18 April 2022

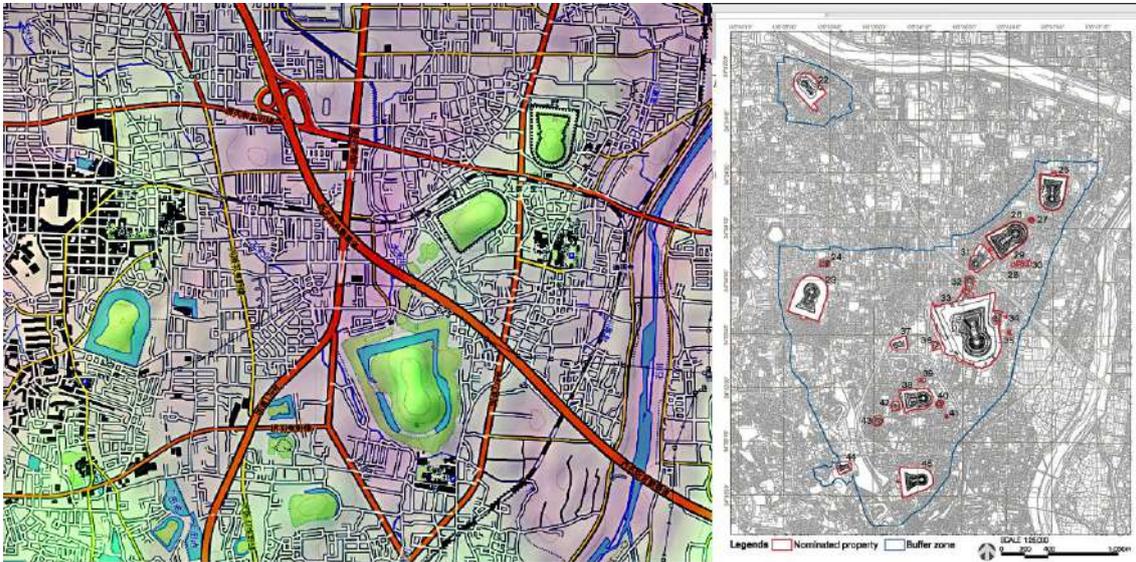


Fig. 19 b – Kofun of the Furuichi Group in a map provided by the web site <https://it-ch.topographic-map.com> (GIMP Retinex filtered) on the left; on the right, a topographic map from “Monuments and Sites Division, Agency Cultural Affairs”.



Fig. 20 – Two kofun in the Furuichi Group (see “Monuments and Sites Division, Agency Cultural Affairs”) from a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the site. Also here, we can see that the two kofun are adapted to the local topography.

18 April 2022

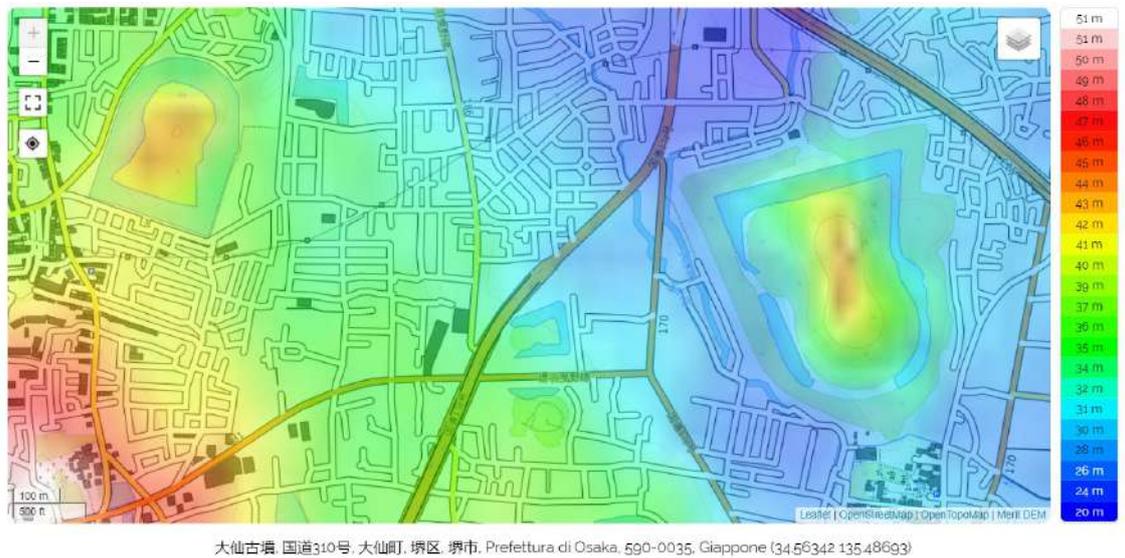


Fig. 21 – Two kofun in the Furuichi Kofun Group in a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to the site.



Fig. 22 a – Aotsuka kofun in Google Earth Pro (many thanks to Google Earth). The kofun has been restored. The vegetation from its surface was removed. The three levels of the circular structure are clearly visible.

18 April 2022

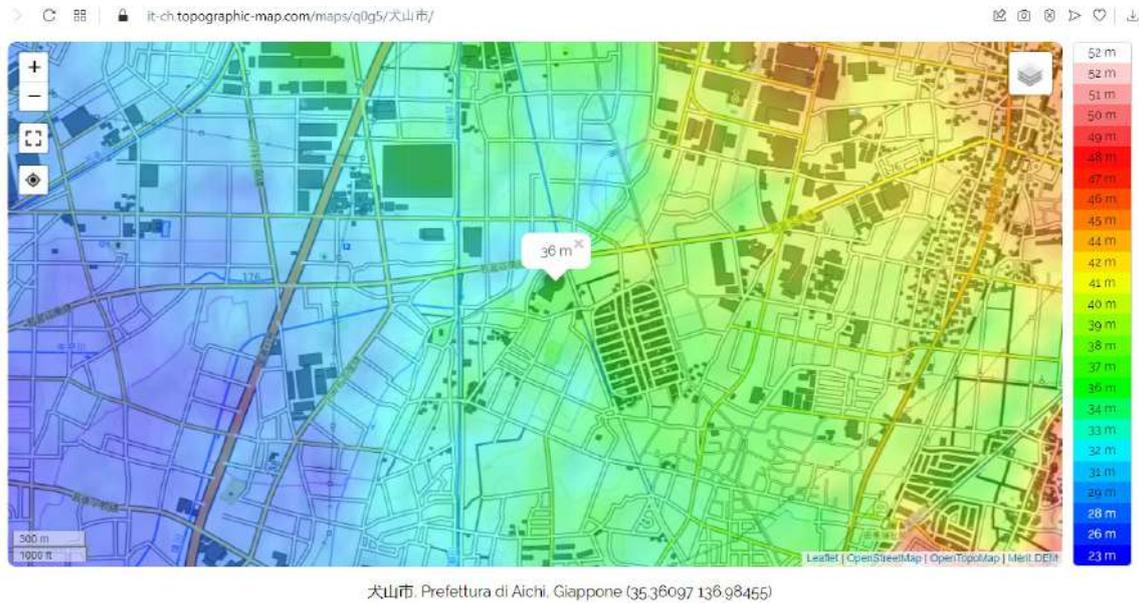


Fig. 22 b – The site of Aotsuka kofun in a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates, 2017, for their fundamental work on digital elevation data and models, and many thanks to the excellent web site, which is fundamental for the maps. Note that the kofun is following the local elevation profile of the hill.

Orientation of zenpōkōen kofun (second part)

Let us consider two examples of kofun. We can see them in the Figures 22 and 23. Trees and vegetation have been removed from the surfaces of the mounds, because of their restoration. In fact, the real appearance of a kofun was that of an artificial structure, an evident man-made structure, and not of a natural hill.

What is the orientation we can measure by means of satellites? As we did (Sparavigna, 2013, 2014, 2018) for the Sahara keyhole tombs, we can measure the orientation of the long axis of symmetry, as shown in the Figure 6 for Daisenryo (the direction is about north-northeast). However, the Torii gate is facing the square side of the mound. It means that this is considered the front of the tomb, and, as we will see in the following discussion, it is the direction which is facing this side that is considered in the description of kofun. In the case of Daisenryo, it is facing south-southwest.

In the Fig. 22, from Google Earth Pro, we can see the Aotsuka Kofun.

“The Aotsuka Kofun (青塚古墳) is a Kofun period burial mound, located in the Aotsuka

neighborhood of the city of Inuyama, Aichi in the Tōkai region of Japan. It was designated a National Historic Site of Japan in 1983. It is the second largest kofun found in Aichi Prefecture after the Danpusan Kofun in Nagoya.”

The item [wikipedia.org/Aotsuka Kofun](https://en.wikipedia.org/Aotsuka_Kofun) is also telling that “The tumulus is a zenpō-kōen-fun (前方後円墳), which is shaped like a keyhole, having one square end and one circular end, when viewed from above. It has a total length of 123 meters and is *orientated to face southwest*. It consists of a three-tiered posterior circular portion with a diameter of 78 meters and height of 12 meters, and a two-tier trapezoidal anterior portion, with a width of 62 meters, length of 45 meters and height of seven meters. The tumulus was formerly covered in *fukiishi* across its entire surface, and had rows of cylindrical and drum-shaped *haniwa*. It is believed to have been built in the middle of the 4th century in the early Kofun period.” [wikipedia.org/Fukiishi](https://en.wikipedia.org/Fukiishi) tells that “Fukiishi (葺石 or 葺き石 "roofing stone") were a means of covering burial chambers and burial mounds during the kofun period of Japan (c. 250–538). Stones collected from riverbeds were affixed to the slopes of raised kofun and other burial chambers. They are considered to have descended from forms used in Yayoi-period tumuli. They are common in the early and mid-Kofun periods, but most late Kofun-period tumuli do not have them.” The Aotsuka site of the kofun is open to the public.

| Name | Degrees, minutes | Decimal degrees |
|-----------------|------------------|-----------------|
| north | 0° 00' | 0.0° |
| north-northeast | 22° 30' | 22.5° |
| northeast | 45° 00' | 45.0° |
| east-northeast | 67° 30' | 67.5° |
| east | 90° 00' | 90.0° |
| east-southeast | 112° 30' | 112.5° |
| southeast | 135° 00' | 135.0° |
| south-southeast | 157° 30' | 157.5° |

| Name | Degrees, minutes | Decimal degrees |
|-----------------|------------------|-----------------|
| south | 180° 00' | 180.0° |
| south-southwest | 202° 30' | 202.5° |
| southwest | 225° 00' | 225.0° |
| west-southwest | 247° 30' | 247.5° |
| west | 270° 00' | 270.0° |
| west-northwest | 292° 30' | 292.5° |
| northwest | 315° 00' | 315.0° |
| north-northwest | 337° 30' | 337.5° |

Courtesy: <http://tamivox.org/dave/compass>

If we consider the orientation of the long axis, we find an azimuth of 33° (from the meridian line), between north-northeast and north-east. Therefore, we can find *an orientation towards the Big Dipper*, as those observed by Yoshitaka Hojo and Akira Goto , in 2021, for the long axis of the burial structures (see, Hojo and Goto, 2021; the orientation of the burial chambers have been considered). If we measure the eastern direction of the side of the trapezoidal front, which is representing an axis perpendicular

18 April 2022

to the symmetry axis, we find an azimuth of about 121° . In this case, the direction of this side is towards the sunrise, but is this the solar orientation that we have to consider? Or is it the opposite one, towards the sunset, that we have to measure? Let us stress that it remains the fact that the square side, the main side of the kofun, is *facing southwest*.

| | |
|--|---|
| 北鮮 <i>North Korea</i> hokuchō | 南北 <i>North-South (civil war)</i> nanboku |
| 北進 <i>advancing north</i> hokushin | 北京 <i>Beijing, Peking</i> pekin |
| 北空 <i>nothern skies</i> hokuten, kitazora | 台北 <i>Taipei, Taiwan</i> taipei |
| 北洋 <i>northern seas</i> hokuyō | 北上中 <i>proceeding north</i> hokujōchū |
| 以北 <i>north</i> ihoku | 北朝鮮 <i>North Korea</i> kita chōsen |
| 華北 <i>northern China</i> kahoku | 北向き <i>facing north</i> kitamuki |
| 北側 <i>northern side</i> kitagawa | 西北西 <i>west northwest</i> seihokusei |
| 北風 <i>northern winds</i> kitakaze | 東北東 <i>east northeast</i> tōhokutō |
| 真北 <i>directly facing north</i> makita | 北回帰線 <i>tropic of cancer</i> kitakai kisen |

北枕で寝る *sleep facing north* **kitamakura de neru**

From the Kanji Handbook, by Vee David, 2013



Fig. 22 c - Two axes and the meridian direction. The kofun is facing southwest.

Following Akira Goto, (2018), we have to consider the orientation of the burial chamber inside, to see if we have a “northern aspect”, in the case the chamber is aligned in the

18 April 2022

same direction of the symmetry axis, or an orientation towards the sunrise or the sunset, if the chamber is aligned perpendicular to the axis. Then, only an investigation inside the kofun can determine the relevant direction. About sunset, let us remember also that “the dead person’s head is turned to the north. If the body cannot be headed to the north for a certain reason, it may be turned to the west”.

Let us now consider the [Hiruiōzuka Kofun](#) (昼飯大塚古墳). It is a kofun burial mound located in what is now part of the city of Ōgaki, Gifu in the Chubu region of Japan. The site was designated a National Historic Site of Japan in 2000.

If we consider the orientation of the long axis, we find an azimuth of 55° (from the meridian line). Therefore, we can find an orientation towards the rising of the moon, on a *northernmost lunar standstill*, as mentioned in (Hojo and Goto, 2021).

If we consider the direction of the side of the trapezoidal front, which is representing an axis perpendicular to the symmetry axis, we find an azimuth of about 145° . *In this case, the “square” side of the kofun is facing the sunset.* If we consider the pathway on the kofun, we find about 141° .



Fig. 23 a - Hiruiōzuka Kofun in Google Earth Pro.
Many thanks to Google.

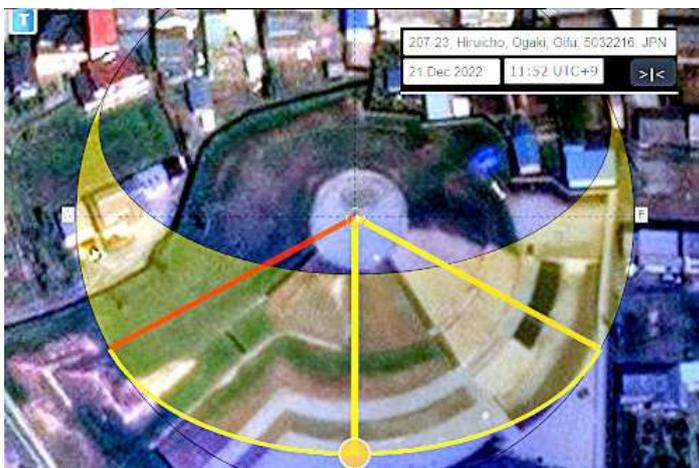


Fig.23 b – Many thanks to [suncalc.org](#).
The lines represent the direction of the sunrise, noon and sunset on the winter solstice.

18 April 2022

In the previous image (Fig.23 b), we can see a simulation obtained by means of suncalc.org: <https://www.suncalc.org/#/35.3876,136.5715,19/2022.12.21/11:50/0/1> . The figure shows the motion of the sun on a local astronomic horizon, from sunrise to sunset, on the winter solstice. Using the following link, the summer solstice is simulated: <https://www.suncalc.org/#/35.3876,136.5715,19/2022.06.21/11:55/0/1>

In the case that we use the trapezoidal base or the pathway on the mound, the direction is *not in the arc of the sunrise*. In any case, following Akira Goto, 2018, this kofun seems being characterized by a “southern aspect”. Actually, we could distinguish the orientation of keyhole kofun according to the arcs of sunrise, noon, sunset and north (hinotate, kagetomo, hinoyoko, and sotomo).

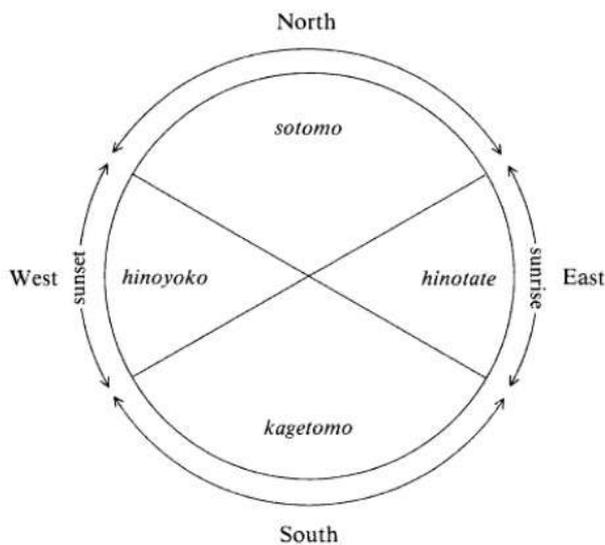


Fig.24 - From page 80 of Palmer, 1991.
“For the ancient Japanese, the directions of sunrise and sunset were east and west, with the solstices indicating the extreme points, and the changes on these days formed the norm for orientation”.

However, how is the kofun inside?

About Hiruiōzuka Kofun, Wikipedia tells the following. “The tumulus is a three-tiered structure, *orientated to the southwest* and has an overall length of 150 meters. The bottom tier of the structure and its surrounding moat are now underground due to generations of agricultural activity in the area. ... It was first excavated in 1980 by Nagoya University and was found to contain *three separate burial chambers, one with a stone sarcophagus in the north, one with a clay sarcophagus in the south and one with a wooden coffin in the west*. The stone sarcophagus had been looted in the Meiji period, and the clay sarcophagus was not excavated. The burial chamber with wooden coffin was found to contain many grave goods, including iron and steel swords, tools made from iron, along with jade balls, magatama, glass ornaments and Haji ware pottery

18 April 2022

fragments. The inside of the coffin was not excavated. Haniwa recovered from the site was in various forms, including cylindrical-shaped haniwa, and haniwa in the shape of houses, human figures and in the form of tools and shields” (Isomura Yukio and Sakai Hideya, 2012).

“The kofun has been restored to what archaeologists believe to be its original appearance, covered in fukiishi with haniwa and the moat was also restored, forming an archaeological park”. Wikipedia is also giving measurements of the kofun.

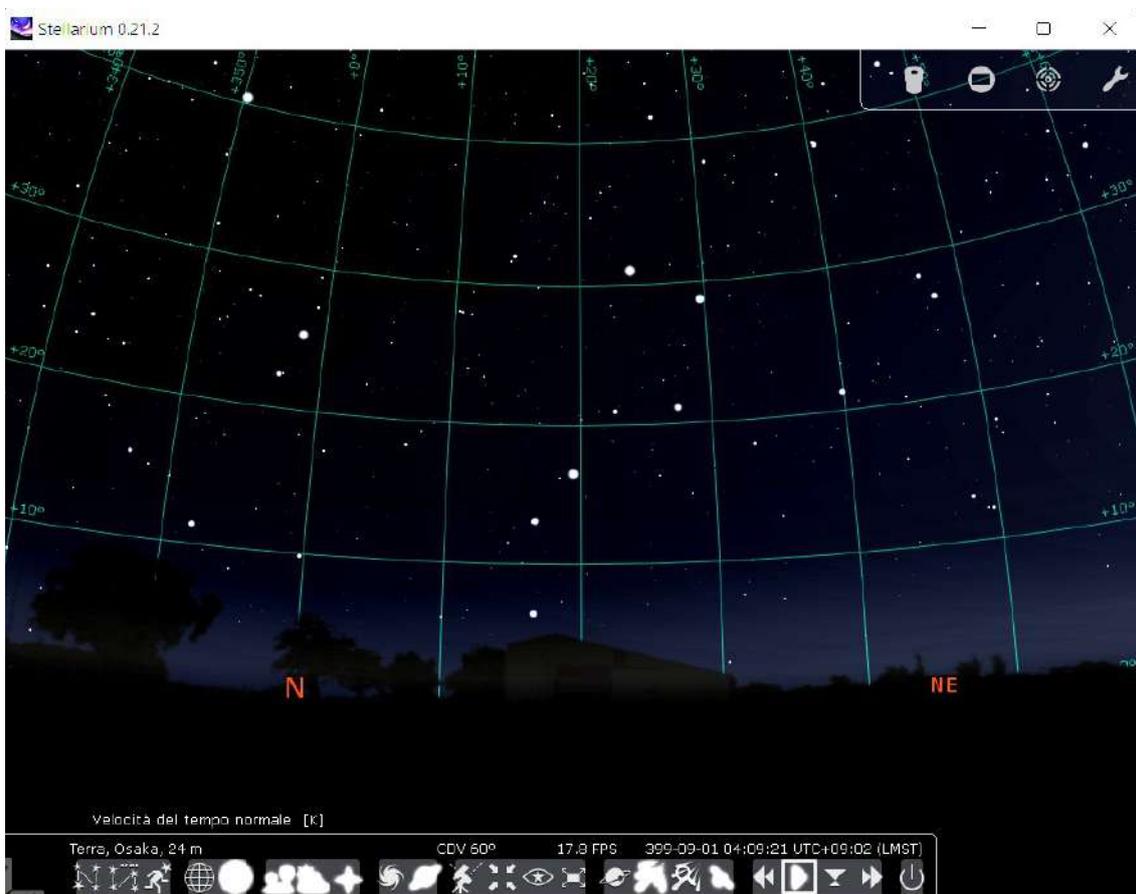


Fig.25 - The Big Dipper, 399 AD, Osaka, simulated by Stellarium.

Due North, facing South

In Hojo and Goto, 2021, page 92, we can see that, of the considered 31 kofun in the Kinki area, 26 have the burial chambers oriented towards the circumpolar stars and the Big Dipper (see the diagram in Hojo and Goto, 2021). If we consider a perpendicular axis, of course, we can find a sunrise orientation, but it is the “northern aspect”

18 April 2022

dominating the structure.

From (Goto, 2021), page 78 (see the figures in the page 79). “In his recent book, *The Orientation of Kofun and the Sun*, Hojo Yoshitaka reanalyzed astronomical orientation of kofun burial orientation (Hojo 2017). Using astronomical simulations and calculations, Hojo has convincingly shown that the burials characterized as “northern pillow” are mostly laid within a range of the circular movement of the Big Dipper. Since there was not a conspicuous “polar star” during the third to seventh centuries, Hojo has proposed a hypothesis that ancient people observed the circulation of the Big Dipper” or that people observed crossing the meridian of Dubhe or alpha-Big Dipper and possibly Alkaid or eta-Big Dipper. A simulation of the Big Dipper in the direction of the Ishizuyama Kofun, the third largest burial kofun in Japan, is also given in (Goto, Akira, 2021). The Ishizuyama Kofun has coordinates 34°33'14"N13, 135°28'38"E, south of Daisenryo Kofun.



Fig. 26 - Two beautiful images of Ishizuyama Kofun (up) and Daisenryo Kofun (right), from Google Earth.

Note the shadows.

In the Figures 14 a and 14 b it is possible to see that the Daisenryo Kofun is larger than the Ishizuyama Kofun.

18 April 2022

Let us consider now a kofun having its axis in the precise meridian direction. It is the Shionjiyama Kofun, a mausoleum grave in Yao, Osaka (see Fig.27).

From the web site kansaiculture.blogspot.com : “In eastern Osaka, along the edge of Mt. Takayasu (Shigi-san, where the well known mountain-top temple is located) there are a series of ancient burial mounds in an area known as Naka-Kawachi. The largest of these is the Shionjiyama Kofun”. This zenpōkōen kofun is 160m long. Archaeologists have uncovered “artifacts such as armor, mirrors, clay figures ceremonial burial goods (such as clay houses). Replicas of such period ceramics line the pathways atop the restored exterior surface of the kofun”. “In addition to the large kofun of Shionjiyama there are also a number of small tombs scattered around the neighboring mountainside; the temple of Jinkoji has a dense trail of them leading up toward Shigi-san. The Jinkoji tombs have similar construction in which an igloo-like dome is constructed with a stone interior, and a ceiling that is higher than the entrance doorway”.

In www.megalithic.co.uk , it is defined as Long Barrow in Honshū. “A reconstructed keyhole-shaped tumulus (160m) with reproduced tube-shaped haniwa's in a residential area. A museum attached.” We have already mentioned haniwa. In *Britannica*, haniwa, (Japanese: “circle of clay”) are defined as unglazed terra-cotta cylinders and hollow sculptures, which had been arranged on and around the kofun of the Japanese elite. “The first and most common haniwa were barrel-shaped cylinders used to mark the borders of a burial ground”. In the early 4th century, “the cylinders were surmounted by sculptural forms such as figures of warriors, female attendants, dancers, birds, animals, boats, military equipment, and even houses”. Using the following link www.megalithic.co.uk it is possible to locate some “long barrows” in Japan.



Fig. 27 a - Shionjiyama Kofun in Yao, Osaka, seen in Google Earth Pro. Many thanks to Google.

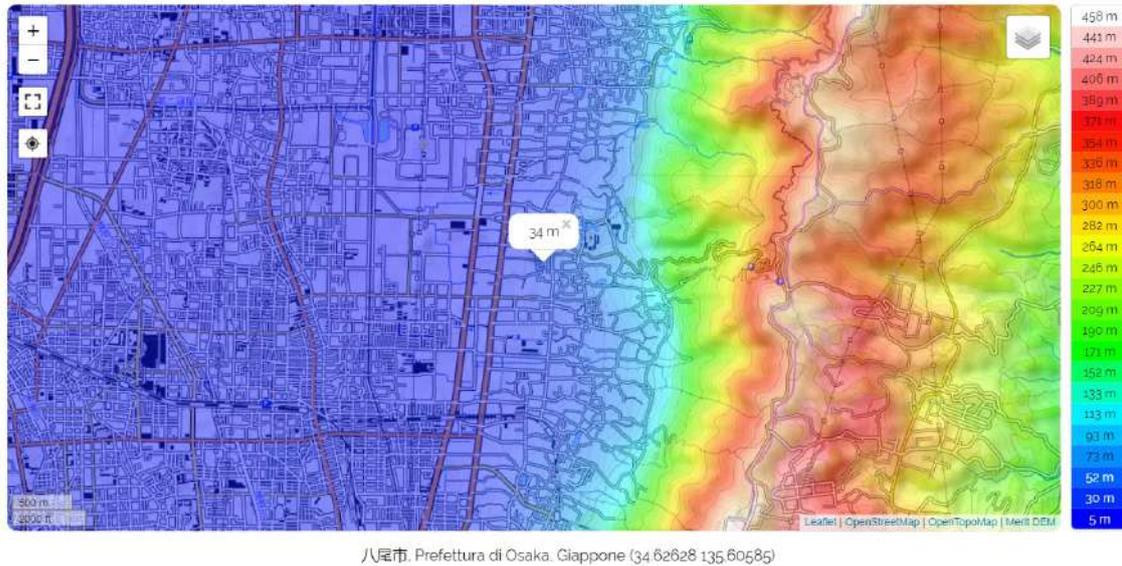


Fig. 27 b – The site of Shionjiyama Kofun in Yao, Osaka, in a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates, 2017, for their fundamental work on digital elevation data and models, and many thanks to the excellent web site, which is fundamental for the maps.

Due South, facing North

The Figure 28 shows Ojin-tenno-ryo Kofun (information and an image of a laser survey map in www.city.habikino.lg.jp). This kofun has its symmetry axis in the south-southeast direction. It is facing the north-northwest direction.

Ojin-tenno-ryo Kofun was built in the early 5th century. It is the largest in Furuichi Kofun Group. It is the second-largest Kofun after Nintoku-tenno-ryo Kofun at Mozu Kofun Group in Sakai City, which is the largest mounded tomb in Japan. The mound of Ojin-tenno-ryo Kofun has a round rear section with a diameter of 250 m. The square front is 300 wide. “The height of its mound is 36m, which corresponds to a building of 12-storey”. “They say that the amount of Ojin-tenno-ryo Kofun is mostly the same as that of Nintoku-tenno-ryo Kofun. ... it is estimated that Nintoku-tenno-ryo Kofun was built to mobilize more than a total of 6.8 million people, and it takes approximately 16years to build this huge mound”.

The kofun are surrounded by moat and banks. Around, satellite tombs, such as square and round-shaped mounds, are located.

“The east side of the moat and bank are distorted, [being] not in line symmetry with those of the west the west side. The cause of this distortion is due to the fact that though Futatsuzuka Kofun to see in front was built earlier than Ojin-tenno-ryo Kofun, then

18 April 2022

Ojin-tenno-ryo Kofun was built later on the residual space of the plateau”.

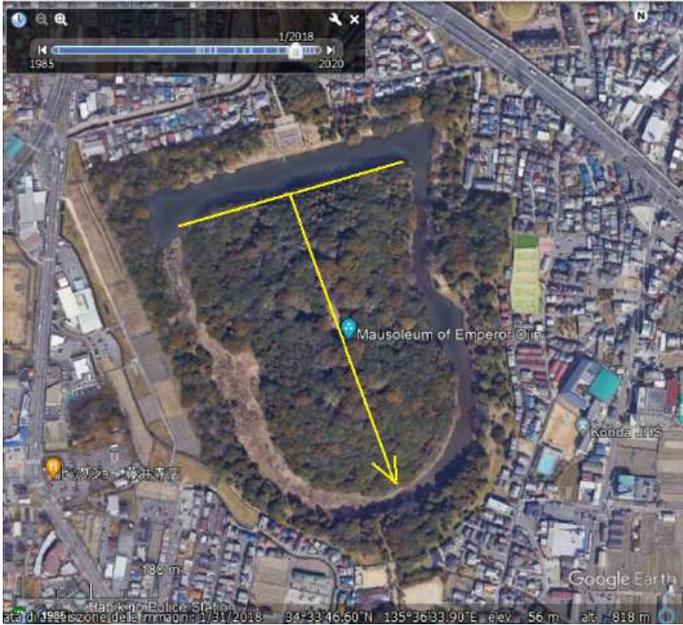


Fig.28 a - Ojin-tenno-ryo Kofun in Google Earth Pro. Many thanks to Google.

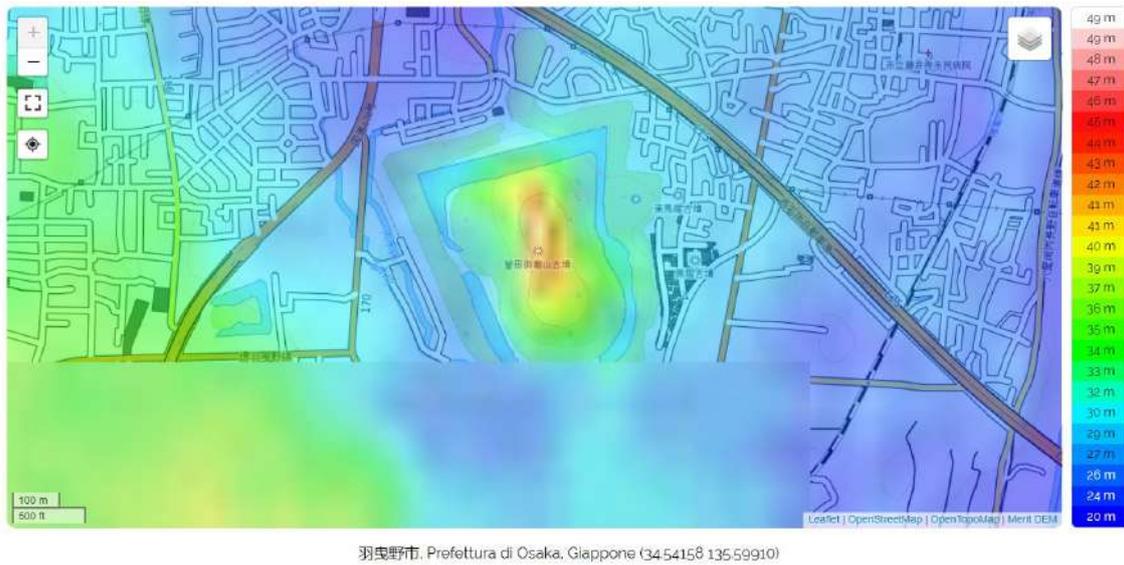


Fig. 28 b – The site of Ojin-tenno-ryo Kofun in a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates, 2017, for their fundamental work on digital elevation data and models, and many thanks to the excellent web site, which is fundamental for the maps.

18 April 2022

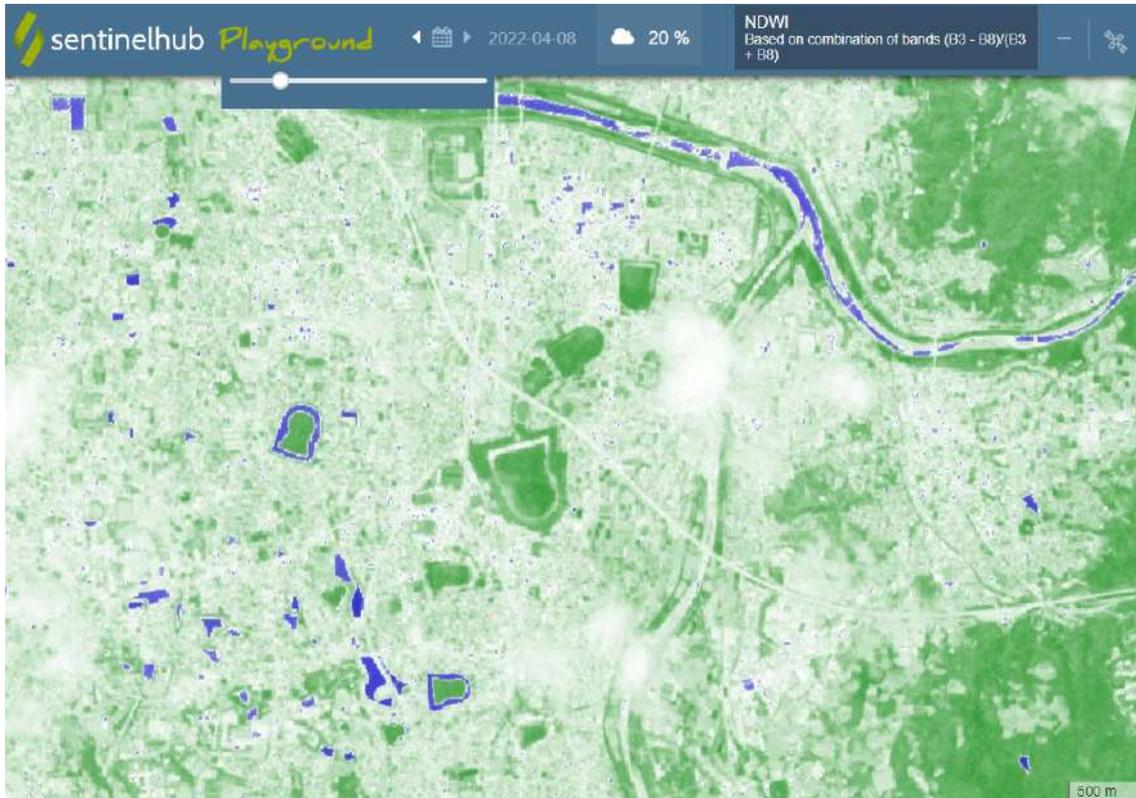


Fig. 29 – Sentinel Hub map of NDWI (based on combination of bands $(B3 - B8)/(B3 + B8)$), date of the map 8 April 2022. The Normalized Difference Water Index (NDWI) is a remote sensing derived index estimating the leaf water content at canopy level.

From [Wikipedia](#). Emperor Ōjin (応神天皇, Ōjin-tennō), also known as Hondawake no Mikoto (誉田別尊) or Homuta no Sumeramikoto (譽田天皇), was the 15th legendary Emperor of Japan, according to the traditional order of succession. No firm dates can be assigned to this Emperor's life or reign, but he is conventionally considered to have reigned from 270 to 310. According to the Shinto religion and Buddhism in Japan, Emperor Ōjin is the divine spirit of the deity Hachiman (八幡神).

Keyholes in Arabia

In the Figure 1, a keyhole tomb of Sahara is shown. Actually, in Arabia we can find keyhole tombs which have a shape which is a little similar to the kofun. I have read about these tombs in 2010, when I studied stone circles in Arabia (Sparavigna, 2010).

18 April 2022

The article showing keyhole tombs, that I mentioned in 2010 was Janežič, V., 2009. The author, Vanja Janežič, tells below a Google Earth image: “Note keyhole shaped burial mounds aligned along the path/road that cuts the desert kite”.

In the Fig.30, we can find these mounds, the longest of which is of about 15 meters.



Fig. 30 – Using in Google Earth Pro the coordinates given in (Janežič, V., 2009), we can see the keyhole mounds. The author, Vanja Janežič, tells below a Google Earth image: “Note keyhole shaped burial mounds aligned along the path/road that cuts the desert kite”. For the “desert kites” see please (Sparavigna, 2014).

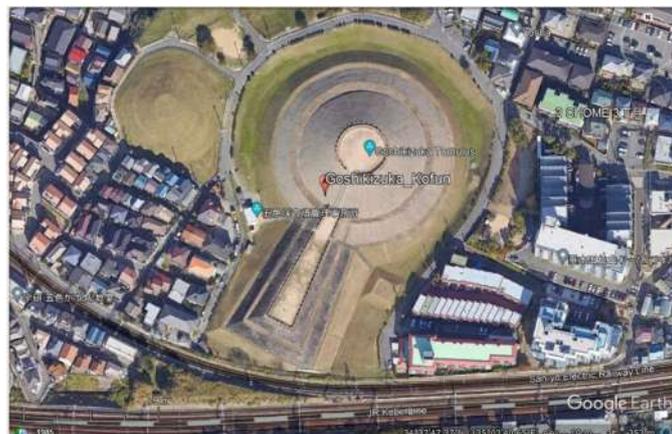


Fig. 31 - Goshikizuka Kofun

Goshikizuka Kofun

“Das Goshikizuka Kofun (jap. 五色塚古墳) ist ein japanisches Hügelgrab in sogenannter Schlüssellochform (前方後円) im Stadtbezirk Tarumi von Kōbe. Die gegen Ende des 4. Jahrhunderts oder zu Beginn des 5. Jahrhunderts geschaffene Grabanlage mit einer

18 April 2022

Hügellänge von 194 m (ursprünglich über 300 m) ist das größte Kofun der Präfektur.”
https://de.wikipedia.org/wiki/Goshikizuka_Kofun. The kofun is near the coast.



Fig. 32 - Goshikizuka Kofun in DEM map.

Why two parts?

We could ask ourselves why the keyhole-shaped kofun is composed by two parts. In fact, it is a tumulus made by two mounds.

In “Ancient Japan and religion”, in the “Nanzan Guide to Japanese Religions”, 2006, we can find an answer given by the author, Matsumura Kazuo.

“Kofun were the graves of the powerful, and the rituals of succession were held at the same time of the burial. Moats created a sacred space that separated kofun from the outside world. Three levels of upper, middle, and lower steps were carved into the burial mound, and clay figurines, shaped vessels, and jar pots were placed at each level. It appears that there were installed in order to prevent the entry of evil forces from the outer world. The slope of the upper level was covered by slate tiles, so that when the sun shines it is conspicuous, indicating that it was meant to be seen as a man-made monument. There was a stone burial chamber placed at the back part of the top of the mound. Shield and quiver figurines were placed at the corners of the chamber expressing authority and force, and a mansion-shaped figurine was placed in the center.

In some cases chair-and-serving-table figurines were placed in front of the mansion figurine and these are thought to have been used for ritual feasts for the dead. Also there are many cases where a platform was built at the top of the front part of the mound and clay figurines were placed there. *When we consider this, it seems that the back part of the mounds were the domain of the dead and the front part the domain of the living, the*

18 April 2022

back part being the place of succession and the front part being that of ascension (Mizuno 1986, pp.74-83; Kokugakuin Daigaku Nihon Bunka Kenkyūjo 1999, pp. 67-130).”

The observation that the front part is the domain of the living and the back part of the dead is very interesting, and it seems in good agreement with a geomantic view of two separate directions, one of the life, the other of the death.

Princess Pimiko

In the “Japanese Mythology A to Z”, by Jeremy Roberts (2009), about the Kofun period, it is told that it was lasting from approximately AD 250 to 552. “Anthropologists believe that by studying the mounds they have traced the expansion of the YAMATO clan from its origins in what is now the Nara Prefecture. Recent research strongly suggests a link between the Yamato clan and KOREA. Many anthropologists believe members of the clan may have originally come from there (see HORSE RIDER THEORY).”

“According to Chinese reports from the third century, Japan was divided into 30 kingdoms. All were under the authority of an empress or princess known as a Pimiko, an ancient form of the word himeko, or “princess”. The princess is said to have remained in a TEMPLE in close contact with the gods. Others served as her emissaries to the people. No written Japanese account of this society exists, but scholars believe that hints may be found in SHINTO myths and legends, many of which are thought to have originated in the Kofun period. For example, the story of AMATERASU tells of a powerful goddess who sent her grandson to rule the earth. This story may echo or reflect parts of Kofun society, such as the existence of a strong female figure as ultimate ruler. Historians and anthropologists who hope to find links to this time period sometimes study early Japanese stories” [Roberts, 2009].

Kofun religion

From factsanddetails.com/japan, we can find information about the religion in the Kofun Period. Information is coming from mythology, Shintoism and archaeological findings. The web site tells that Aileen Kawagoe wrote in Heritage of Japan website that “People of the Kofun age and from earlier times, had conducted many rituals of worship to the kami spirits of the mountains, sea, rivers and at roads through mountain passes which they thought tended to get blocked by “violent kami”.” In fact, “many ritual objects found buried in riverbeds or at the feet of mountains are evidence of those customs.” [Source of information, Aileen Kawagoe, Heritage of Japan website, heritageofjapan.wordpress.com]. We can find also that the Kofun Period held and attended agricultural ceremonies, such as festivals to pray for a good harvest and thanksgiving festivals. “Ritual life and magic governed their lives”. [Aileen Kawagoe]. People worshiped solar and weather deities and kami spirits. Also mountain, sea and

18 April 2022

water deities have been venerated. In the Kofun period, people continued shamanistic practices and divination rituals, as from the earlier Yayoi time. “Rituals, for example, where deer bones were heated and burnt, and fortunes read and told from the cracks were practised all over Kofun Japan.” This is told at the web site.

In factsanddetails.com/japan it is told that, according to “Topics in Japanese Cultural History”, the “Agriculture was the foundation of all economic activity in Japan until the start of this [20th] century. The most important kami, therefore, were those associated with agriculture. In many localities during the Tomb period and later, villagers worshiped a pair of kami, one male and the other female. The thinking was that the fertility of these kami was closely connected with the fertility of the land and that such worship would help ensure a bountiful harvest.”

The leaders of local clans worshiped the agricultural deities. “In time, many of these clans (uji) came to regard these agricultural deities as their ancestral founders. Local agricultural deities, in other words, became the ujigami (uji-founding kami) of the major local clans. As the confederation of clans in the Yamato area extended its hegemony over the other uji and peoples of the Japanese islands, their ujigami became more widely known. Of particular importance, of course, was the Yamato royal family, whose ujigami was Amaterasu, a female solar deity (often called the "sun goddess"). ... Worship of Amaterasu was an important duty of the Yamato king, who was as much a religious leader as he was a secular leader. After the Taika Reforms of 645, Amaterasu became, at least in theory, a kami of great importance for all of the Japanese islands.”

“Moving a few centuries back in time to the early tomb period, *religious life seems to have been dominated by women with special spiritual powers. These women functioned as shamans and were often political leaders as well. Female leadership in religious and political life was common throughout many parts of East Asia prior to the spread of Confucianism and Buddhism.* In Ryūkyū, for example, female shamans ... played a major role in local religious and political life until this century. The head priestess of Ryūkyū (Kikoe-Ogimi) was nearly as powerful as the king until the seventeenth century. In Japan, by the time of the Taika Reforms, female shamans no longer played a role in the official state religious ceremonies. A few centuries earlier, however, female shamans sometimes served as leaders of the Yamato Kingdom.”

The web site factsanddetails.com/japan is pointing out that there was a rejection of Yayoi Kami in the Kofun Period. Kawagoe wrote: “A great and long-lasting famine had spread across the whole of East Asia just before the start of the Kofun Period, from around AD 190 to 220. It was around the time when priestess Queen Himiko had ascended the throne (climatic historians say this was a time of a Little Ice Age). In Japan, people everywhere joined their rulers in imploring for assistance from their kami, using the ritual bronze spearheads, daggers, and bells. But it must have seemed that the kami were deaf to their pleas for the years of famine did not come to an end. [Source: Aileen Kawagoe, Heritage of Japan website].

Let us add what we can find told by Hironobu Ishino, in “Rites and Rituals of the Kofun

Period”, 1992. The Abstract tells that “The ritual of the Kofun period were closely connected with both daily life and political affairs. The chieftain presided over the principal rites, whether in the mountains, on the rivers, or along roadsides. The chieftain’s funeral was the preeminent rite, with a tomb mound, or kofun, constructed as its finale. The many and varied kofun rituals have been discussed elsewhere”. In this article, Hironobu Ishino concentrates on other kami rites and their departure from Yayoi practices. The burial rituals are discussed in *Kofun jidai no kenkyū* series in 13 volumes edited by Ishino et al. (1990-), Volumes 7 (Mounds and burial structures, 1991), 8 (Grave goods, 1991), and 9 (Haniwa, 1992).

By Ishino it is stressed that, in the Initial Kofun period, by which the author means “the period traditionally assigned to the very end of the Yayoi, bronze ritual objects were smashed, discarded and buried. ... Bronze bells in the Kinki region met a similar fate”.

“These samples tell a tale of the rejection by Yayoi peoples – whether in Tsukushi, Kibi, or Yamato – of bronze ritual objects and the Yayoi kami they stand for. The time when this happened was principally the end of the Late Yayoi and the Initial Kofun, or approximately AD 190 to 220. Himiko was a priestess as well as being monarch of Wa. Is it too far-fetched to assume that, when Himiko ascended the throne around 190, she and those who established her in power carried out an aggressive rejection of the Yayoi kami symbolized by the Yayoi bronze ritual objects? It was iconoclasm in the literal sense of the word. Why, we might ask, was it necessary to go to such extremes? ...

Once the Yayoi kami had been rejected it was necessary to seek new kami and then reveal them to the people. Himiko, as a result of her diplomatic negotiations with Wei in 239, acquires “an exquisite gift” of “one hundred bronze mirrors”, which she then “displayed to people throughout the land”. Can we not conclude that Himiko sought new kami from the kingdom of Wei and went about importing large quantities of bronze mirrors that symbolized them?” (Ishino, 1992).

Himiko, the monarch of Wa, had relations with Wei⁷, and this had “been verified by Yamao Yukihisa (1986) and Nishijima Sadao (1991), among other”. About the new kami, Ishino tells that “When we look for archaeological data that show the existence of these in the first half of the third century, we find ample evidence in keyhole-shaped tombs and bronze mirrors.” (Ishino, 1992).

“Keyhole-shaped tombs were originally constructed as religious structures, but before long became heavily political in character. It is doubtful that either Himiko’s foreign relations or her political rule could have continued for long if there had not existed a common system throughout the kingdom of Wa in the first half of the third century, a system of which the keyhole-shaped tomb was a symbol. That being so, are there any other remaining structures that reveal something of the revolution in rites and religious

7 Wei was one of the seven major states during the Warring States period of ancient China. Its territory lay between the states of Qin and Qi and included parts of modern-day Henan, Hebei, Shanxi, and Shandong. After its capital was moved from Anyi to Daliang (present-day Kaifeng) during the reign of King Hui, Wei was also called Liang.

18 April 2022

practices that occurred during the first half of the third century?” (Ishino, 1992).

Let us continue reading from [factsanddetails.com](https://www.factsanddetails.com) about the end of Yayoi and the beginning of the Kofun periods. “In those days in East Asia, there was a custom of practicing regicide which meant that they killed their rulers whom they blamed for the plight they were in. The rulers of the Wa kingdom were probably killed one after another, but when that didn’t stop the famine, the people ended up rejecting the Yayoi kami as well”.

As observed by Ishino in “Rites and Rituals of the Kofun Period”, there was a rejection of Yayoi kami: “ritual objects such as bronze bells and bronze spearheads were being broken and cast into rivers, or discarded inside abandoned houses or dumped or buried. Since the Yayoi kami had been rejected, the rulers then needed to seek and reveal new kami to their people”. And here we find Queen Himiko (or Pimiko), and her diplomatic missions to the Chinese kingdom of Wei. She probably imported new kami along with the gifts of “one hundred bronze mirrors”, that symbolized them, from the Chinese court. She revealed the new kami with the mirrors that she displayed to people.

Aileen Kawagoe stresses that “Historians believe that the new religion involved bronze mirrors and the construction of keyhole shaped tombs as religious structures. Queen Himiko’s reign had the effect of unifying many tribal or clan groups, and may also have brought about some common religious system that had the keyhole-shaped tomb as a central symbol”. [Aileen Kawagoe, Heritage of Japan website].

“To accommodate the demands of this new religious system, a new architectural structure came to be built.” Then, [factsanddetails.com](https://www.factsanddetails.com) describes the ritual sites and talks about the Kofun-Era Purification Rituals and Food Offerings. Again we find mentioned Aileen Kawagoe’s words: “Aqueduct systems have been found at the Makimuku and Hattori sites. These are thought to have been facilities to provide clean water for offerings to the kami in water purification rituals. These aqueduct systems usually comprising of wooden pipes ... continued to be constructed and used well into the fifth and sixth centuries. [Source: Aileen Kawagoe, Heritage of Japan website]

After the description of some ritual, we can find also told that ritual objects changed in popularity according to the prevailing religious beliefs of the times. “a changing pattern of ritual offerings over the centuries can be seen: 4th – 5th centuries: Magatama beads, mirrors, knives and swords, (green nephrite) bracelets, iron weapons and tools, steatite items were offered on top of iwakura boulder-top altars to invite the kami to descend to these altars. [Source: Aileen Kawagoe, Heritage of Japan website]. 6th – 7th centuries: Japanese copies of Chinese bronze mirrors, personal belongings, horse ornaments, pottery, metal miniatures and steatite items were popular as ritual objects. 7th – 8th centuries: Gold rings, horse ornaments, iron, ingots (similar to those found in tombs in the Korean Silla kingdom). Fragments of a Sassanian Persian glass bowl have been uncovered. Purification rites appear to have been conducted partly in the open and partly at the base of boulders, using ritual items of steatite, metal miniatures of weaving and spinning implements.”

18 April 2022

Let us see also the role of kings. The local chieftains “all derived their authority from their roles as priests of agricultural rites for the worship” of heavenly and earthly kami of the land, at appointed shrines. “As a centralizing state emerged during the Kofun age, the king or emperor at the apex of that state, even as Buddhism took hold in Japan as a new religion, could not ignore his role as the supreme kami-worshipping priest”. [Source: Aileen Kawagoe, Heritage of Japan website, heritageofjapan.wordpress.com]. The Yamato state’s earliest kings are strongly connected to worship at the Omiwa Shrine where the ancient rites for the worship of the kami of Mt Miwa was carried out. The Omiwa Shrine, as another early prototype of the shrine, had no central hall of worship (shinden) for the enshrinement of its “kami body”(shintai) because Mt Miwa itself was worshipped as the kami body. Of the six burial mounds built at the base of Mt Miwa, the fifth of them is believed to belong to King Suijin.” “Mountain worship rituals were performed by rulers from the shrine at the base of the mountain. According to the Hitachi no kuni fudoki a peg was used as a marker to show that above that point onwards was the place of the kami while parts below the peg marker could be made into fields for human cultivation.”

Iron and swords

In factsanddetails.com/japan, we can find also the importance of the sword. “The god Futsu-no-mitama-no-ookami, enshrined in Isonokami Jingu Shrine, is the deification of the sword said to be owned by the god Takemikazuchi-no-kami. Futsu-no-mitama-no-ookami has been known from ancient times as the god who protects the state and keeps peace among the people, as well as being the patron god of the accomplishment of all things”. [Source: Isonokami Jingu Official Website]. In Japanese mythology, this god (the sword god) contributed to the subjugation of the country, defeating false gods and the rebels during the eastern campaign of Emperor Jimmu. Jimmu is the first emperor of Japan, that myth tells to have been enthroned in the 7th century B.C. “Thereafter, Emperor Jimmu commanded Umashimaji-no-mikoto, the ancestor of the Mononobe clan said to be the head of the warriors, to enshrine this sword eternally within the imperial court”. During the reign of Emperor Suijin, 1st century B.C., the sword was transferred into Takaniwa of Isonokami-furu, the present site. “Since then the emperors worshipped this shrine, donated many weapons in preparation for any emergency in the state and prayed for harmony in especially during times of war. The shrine also received the worship of famous generals and warriors. Many clans offered sacred treasures to the storehouse called Hokura and prayed for the safety of the imperial family and for the peace of the state. The most sacred area within the compounds of Isonokami Jingu Shrine is the Kinsoku-chi (literally, “forbidden area”), where the sacred sword was originally buried in its very center. In 1874 an excavation was conducted and many important ancient weapons and ornamental beads called magatama were unearthed, which were designated as national treasures or objects of important cultural property.”

From Harada, 2009, “Art of the Samurai. Japanese Arms and Armor”.

18 April 2022

“Along with the haniwa, the grave goods found buried in the kofun have proved informative about the customs of the wealthy classes of the time. Finds from the fourth-century tombs of the early kofun period include (rather than iron) mirrors, jewelry and other objects of jade, and equipment used in ceremonies on behalf of the spirit of the dead. In kofun of the middle period (5th-6th century), in addition to many bronze mirrors and jewels, great numbers of iron swords, arrowheads, armor, and horse equipment were deposited as well as silver and gold jewelry, pottery, and other such household and personal objects. More than 250 iron swords were excavated from the Shichi Kanyama kofun (middle kofun period) in Sakai City. The Uwanabe kofun in Nara, which dates to about the same time, contained many iron objects: 282 large and 590 small ingots, 102 axes, and 139 sickles. Because the kofun that were built in the Kinai region after the Yamato court had established a presence in the southern part of the Korean Peninsula contained many more iron implements and raw iron than did early kofun, it seems possible that much of that iron came from Korea. Certainly the shape of the ingots buried as grave goods in early tombs in the Korean kingdom of Silla” (Harada, 2009).

“The iron swords and sword mountings excavated tombs of the middle Kofun period and later are similar to those found in Korean tombs of the same period, bearing out statements in written texts that point to close connections between Japan and Korea, and probably also between Japan and mainland China, at the time. For example, the hilt of kantō tachi (a sword with ring-shaped pommel) in the collection of the Museum of Fine Arts, Boston, said to have been excavated from the Daisenryo kofun, closely resembles that of a sword found in the tomb of Munyeong, or Muryeong, emperor of Baekje (r. 501-23) at Gongju, Korea, together with an important tomb inscription dated to AD 525.” (Harada, 2009).

Stone objects



<https://www.metmuseum.org/art/collection/search/45537>

<https://www.alamy.com/stone-bracelet-ishikushiro-japan-kofun-period-ca-300710-date-ca-4th-century-japan-carved-green-tuff-d-12-in-13-cm-diam-3-12-in-89-cm-stone-image344590489.html>

Image Courtesy: The Harry G. C. Packard Collection of Asian Art, Gift of Harry G. C. Packard, and Purchase, Fletcher, Rogers, Harris Brisbane Dick, and Louis V. Bell Funds, Joseph Pulitzer Bequest, and The Annenberg Fund Inc. Gift, 1975.

18 April 2022

The web site at <https://www.metmuseum.org/art/collection/search/45537> tells about the object in the picture given in the previous paper the following. “This irregular disk with smooth radial fluting is a fine example of a type of carved stone object found in the keyhole-shaped burial mounds of central Japan from the fourth and fifth centuries. Works in this shape are called sharinseki (carriage-wheel stones) and are sometimes identified as stone bracelets. They seem, however, to be talismans with magical or religious significance. They do not appear in burials of the later Kofun period; perhaps their special meaning faded with the influx of Chinese and subsequently Buddhist culture that began in the sixth century”.

Amaterasu (in Italian and English)

Ecco come l’[Enciclopedia Italiana](#) del 1929 descrive la divinità solare. La voce è di Guido Perris.

“Nel pantheon giapponese è senza dubbio la divinità più importante. Il suo nome completo è Amaterasuô-mikami "La Grande dea che brilla nel cielo". Viene anche chiamata O-Hiru-me-no-muchi "La grande dea del sole" e, con pronuncia sinico-giapponese, Tenshōkō-daijin. Narrano i libri sacri dello scintoismo che Amaterasu nacque dall'occhio sinistro d'Izanagi⁸, e per la sua bravura ebbe dal padre il governo della piana del cielo (Takama-ga-hara). La dea del sole insegnò ai suoi sudditi la coltivazione del riso, l'educazione dei baco da seta e l'arte del tessere. Ma un giorno, infastidita da suo fratello Susano-o, si nascose nella grotta celeste (Ama-no-iwaya), ne chiuse l'ingresso con una roccia enorme, e fece così piombare l'universo mondo nelle tenebre più profonde. Le miriadi di dei si spaventarono e tennero consiglio per escogitare il mezzo di fare uscire dal nascondiglio la dea offesa”.

Ishikoritome fabbricò lo specchio (Yata-no-kagami), Tama-no-oya la gemma ricurva (yasakani-no-magatama) ed Ame-no-hiwashi dei festoni di stoffa (nigite).

“Tutti questi *oggetti divini* vennero sospesi ai rami dell'albero sacro trasportato per l'occasione davanti alla grotta dalla montagna Ame-no-kaguyama. Gli dei invocarono ritualmente la Grande dea del Sole ad uscire, ma inutilmente. Ed allora la divina e maliziosa Uzume si mise a ballare sfrenatamente, tanto da fare scoppiare in clamori di risa gli dei, che l'accompagnavano a suon di musica. A tanto allegro fracasso, Amaterasu vinta dalla curiosità sospinse un pochino la roccia per spiare dallo spiraglio che cosa fosse mai accaduto. Ma il divino Tajikara-o fu pronto a mettere il suo braccio poderoso nella apertura e a spingere via la roccia. Così Amaterasu tornò a risplendere nel mondo, ed il perfido fratello Susano-o venne severamente punito e bandito dal cielo”.

Nel mito troviamo presente lo *specchio*. Specchi sono stati ritrovati nei kofun (si veda ad esempio, Mirrors in Kurozuka Kofun).

In the Japanese pantheon, Amaterasu is undoubtedly the most important divinity. Her

8 Izanagi o Izanaki è una divinità shintoista il cui nome significa "Colui che invita", fratello e compagno della dea Izanami. Le due divinità crearono la terra di Yamato, il Giappone.

18 April 2022

full name is Amaterasuô-mikami, "The Great Goddess who shines in the sky". She is also called O-Hiru-me-no-muchi "The great goddess of the sun" and, with Sinic-Japanese pronunciation, Tenshōkō-daijin. The sacred books of Shinto say that Amaterasu was born from the left eye of Izanagi, and thanks to her skill, she had from the father the government of the sky (Takama-ga-hara). The sun goddess taught her people the cultivation of rice and of silkworms and the art of weaving. But one day, annoyed by her brother Susano-o, she hid herself in the celestial cave (Ama-no-iwaya), closed the entrance with a huge rock, and thus plunged the world into darkness. The myriads of gods and goddesses were frightened and held council to devise the means of getting the offended goddess out of hiding. Ishikoritome made the mirror (Yata-no-kagami), Tama-no-oya the curved gem (yasakani-no-magatama) and Ame-no-hiwashi the fabric festoons (nigite). All these divine objects were attached to the branches of the sacred tree, carried for the occasion in front of the cave from the Ame-no-kaguyama mountain. Gods and Goddesses ritually invoked the Great Goddess of the Sun to come out, but to no avail. And then the divine and mischievous Uzume began to dance wildly, and the gods and goddesses, who accompanied her to the sound of music, burst into clamor of laughs. At such a cheerful rumor, Amaterasu, overcome by curiosity, pushed the rock a little to spy on, but the divine Tajikara-o was ready to put his mighty arm into the opening and push the rock away. So Amaterasu returned to shine in the world, and her perfidious brother Susano-o was severely punished and banished from heaven.

In the myth we find the mirrors, the magatama and the fabrics that have been found in kofun (see for example, Mirrors in Kurozuka Kofun).

“Nello specchio aveva riconosciuto se stessa, il suo vero grande potere di dea benevola, ricevendo così la “conoscenza” di cui lo specchio diventa la rappresentazione.” Da [Amaterasu e il mito dell'eclissi](#).

Yata no Kagami

From [wikipedia.org](https://en.wikipedia.org/wiki/Yata_no_Kagami) “Yata no Kagami (八咫鏡) is a sacred mirror that is part of the Imperial Regalia of Japan.” “The Yata no Kagami represents "wisdom" or "honesty," depending on the source. Its name literally means "The Eight Ta Mirror," a reference to its size and octagonal shape. Mirrors in ancient Japan represented *truth* because they merely reflected what was shown, and were a source of much mystique and reverence (being uncommon items). Japanese folklore is rich in stories of life before mirrors were commonplace. ... In Shinto, the mirror was forged by the deity Ishikoridome; both it and the Yasakani no magatama were hung from a tree to lure out Amaterasu from a cave. They were given to Amaterasu's grandson, Ninigi-no-Mikoto, when he went to pacify Japan along with the sword Kusanagi. From there, the treasures passed into the hands of the Imperial House of Japan.”

The harvest ritual (November 23)

From <https://en.wikipedia.org/wiki/Niiname-no-Matsuri>

“The Niiname-sai (新嘗祭, also read Shinjō-sai and Niiname-no-Matsuri) is a Japanese harvest ritual. The ritual is celebrated by the Emperor of Japan, who thanks the Shinto deities for a prosperous year and prays for a fruitful new year. ... The first Niiname-sai for a new emperor is known as the Daijō-sai (大嘗祭), and is part of his enthronement ceremonies. In pre-modern Japan, the date of the Niiname-sai was moveable, taking place on the last Day of the Rabbit of the eleventh month of the old Japanese lunar calendar, but in the Meiji period the date was fixed at November 23, and this date became a national holiday, Labor Thanksgiving Day, in the Shōwa period after World War II”.

“During the Niiname-sai, an ancient Shinto ritual that says thanks for the crops of the previous year and prays for fruitfulness in the following year, the Emperor of Japan says thanks to the gods of heaven and earth.” “The first Niiname-sai following the accession of a new emperor is called the Daijō-sai (大嘗祭, also read Ōname-Matsuri and Ōnie-no-Matsuri).”

Besides receiving the regalia, the new Emperor is also receiving the treasure of old and new harvests.

Ishikoridome no Mikoto

From [wikipedia.org](https://en.wikipedia.org/wiki/Ishikoridome_no_Mikoto) “Ishikori-dome no Mikoto is a kami of mirrors in Shinto. She was regarded as an ancestral deity of Kagami zukuri no muraji (The mirror-making clans). In Japanese mythology, she created the exquisite Yata-no-kagami mirror which lures the sun goddess Amaterasu out of her cave and returns light to the world. Due to this achievement, Ishikori-dome is worshipped by makers of mirrors and stonemasons. She is worshiped as the god of casting and metalworking. She is enshrined in the Fuigo-jinja Shrine (Tennoji Ward, Osaka City), the Nakayama-jinja Shrine (Tsuyama City, Okayama Prefecture) the Kagamitsukurinimasu amaterumitama-jinja Shrine (Shiki-gun, Nara Prefecture), Iwayama-jinja Shrine (Niimi City, Okayama Prefecture).”

“Ishikoridome is a god appearing in the Japanese mythology. She was regarded as an ancestral deity of Kagami zukuri no muraji (the mirror-making clans)”. From <https://www.japanese-wiki-corpus.org/Shinto/Ishikoridome.html>, her name means “an old woman who casts a mirror from a stone mold”.

Magatama

From en.wikipedia.org/wiki/Magatama. “Magatama (勾玉, less frequently 曲玉) are curved, comma-shaped beads that appeared in prehistoric Japan from the Final Jōmon period through the Kofun period, approximately 1000 BCE to the 6th century CE. The beads, also described as "jewels", were made of primitive stone and earthen materials in

18 April 2022

the early period, but by the end of the Kofun period were made almost exclusively of jade. Magatama originally served as decorative jewelry, but by the end of the Kofun period functioned as ceremonial and religious objects. Archaeological evidence suggests that magatama were produced in specific areas of Japan and were widely dispersed throughout the Japanese archipelago from the Southern Koreanic kingdoms via trade routes.”

Insegne imperiali del Giappone

Da https://it.wikipedia.org/wiki/Insegne_imperiali_del_Giappone

“Le insegne imperiali del Giappone (三種の神器, Sanshu no Jingi o i Tre sacri tesori) sono la spada Kusanagi (草薙劍) ..., la gemma Yasakani no Magatama (八尺瓊曲玉) e lo specchio Yata no Kagami (八咫鏡). Conosciuti come i tre tesori sacri del Giappone, le insegne rappresentano tre virtù: il valore (la spada), la saggezza (lo specchio) e la benevolenza (la gemma)”.

“La spada si trova al tempio di Atsuta a Nagoya, lo specchio al tempio di Ise nella prefettura di Mie e la gemma al Palazzo imperiale di Tokyo. Dal 690 la presentazione di questi oggetti all'imperatore da parte dei sacerdoti del tempio è la parte centrale della cerimonia di insediamento sul trono imperiale. Questa cerimonia non è pubblica e gli oggetti, per tradizione, sono visti solo dall'imperatore e da determinati sacerdoti. Per questo non ne esistono fotografie o disegni conosciuti”.

“Secondo la leggenda, questi oggetti furono portati da Ninigi-no-Mikoto, il leggendario antenato degli imperatori giapponesi, quando la nonna, la dea del sole Amaterasu, lo inviò per pacificare il Giappone. Successivamente divennero il simbolo della divinità dell'imperatore, considerato il discendente di Amaterasu e come tale legittimato ad essere il supremo governatore del Giappone”.

Torifune (in Italian and English)

Da “La Mitologia Giapponese” di Paolo Villani (1982). “N. Matsumoto ha portato a termine una ricerca scientifica molto originale sulle forme di battelli e i problemi degli scambi culturali e dei trasporti nell'antichità ed ha osservato che alcune tradizioni popolari giapponesi contenevano la credenza nel torifune, la “barca-uccello”, che egli considera un simbolo del culto solare riscontrabile anche al di fuori della cultura giapponese. L'esistenza di tale credenza è riconfermata anche da importanti reperti archeologici e cioè alcune incisioni su campane di bronzo ed alcune decorazioni murali all'interno dei tumuli del periodo kofun. Si tratta di disegni di battelli a forma di gondola con degli uccelli sulle estremità anteriore e posteriore, talora sovrastati da due cerchi concentrici. Queste raffigurazioni ricordano molto da vicino quelle che si possono ammirare su alcuni tamburi di bronzo provenienti dal sud-est asiatico, tanto che l'autore non ha dubbi che la rassomiglianza sia prova dell'esistenza di scambi culturali avvenuti nell'antichità fra le due parti, e più in generale anzi tra le zone costiere

meridionali del continente euroasiatico e l'Asia orientale". (Villani, P., 1982)

N. Matsumoto carried out a very original scientific research on the shapes of boats and the problems of cultural exchanges and transportation in antiquity and observed that some Japanese folk traditions contained the belief in the torifune, the "bird-boat", that he considers as a symbol of the solar worship that can also be found outside of Japanese culture. The existence of this belief is also confirmed by important archaeological finds, namely some engravings on bronze bells and some wall decorations inside tumuli of Kofun period. These are drawings of gondola-shaped boats with birds on the front and rear ends, sometimes surmounted by two concentric circles. These representations are very reminiscent of those that can be admired on some bronze drums from Southeast Asia, so much so that the author has no doubts that the resemblance is proof of the existence of cultural exchanges that took place in ancient times between the two parts, and more generally between the southern coastal areas of the Eurasian continent and East Asia indeed

In (Villani, 1982), si discute anche il rapido passaggio dal periodo Yayoi al periodo Kofun.

“Lo stesso tipo di spiegazione non sarebbe però plausibile quando si passa all'analisi della cultura espressasi nel secondo periodo delle tombe a tumulo, durante il quale vengono a regredire tutte quelle caratteristiche culturali, precedentemente illustrate, proprie di una civiltà agricola, per far posto ad una cultura di tipo aggressivo, aristocratico, “nord-asiatico”, il cui avvento sarebbe inoltre essere stato piuttosto improvviso. *Per varie ragioni, Egami crede che il mutamento culturale non fu iniziativa del popolo di Wa, bensì la diretta conseguenza dell'invasione e della conquista da parte di una popolazione esterna, forse un ramo di stirpe tungusa, giunta in Giappone attraverso la Corea.* Sebbene ancora non sia stata scoperta alcuna prova diretta che fornisca una valida dimostrazione della teoria, l'autore si dichiara convinto che questo anello mancante verrà senz'altro scoperto in futuro. Il popolo di origine nord-asiatica, a cavallo e armato, sarebbe approdato nel Kyūshū o nell'Honshū occidentale nella prima metà del IV secolo e alla fine dello stesso secolo sarebbe avanzata verso la regione del Kinki per instaurarsi al potere come corte Yamato e portare a compimento l'unificazione statale del Giappone”. (Villani, P., 1982)

Let us pass to the analysis of the culture expressed in the second period of the tumulus tombs, during which all those cultural characteristics, previously illustrated, which are features of an agricultural civilization, regress to make room to an aggressive, aristocratic "North Asian" culture, whose advent would also have been rather sudden. For various reasons, Egami believes that the cultural change was not the initiative of the people of Wa, but the direct consequence of the invasion and conquest by an external population, perhaps a branch of the Tungus lineage, which arrived in Japan via Korea. Although no direct evidence has yet been discovered that provides a valid demonstration of the theory, the author declares himself convinced that this missing link will undoubtedly be discovered in the future. The people of North Asian origin, on horseback and armed, would have landed in Kyūshū or in western Honshū in the first

half of the fourth century and at the end of the same century they would have advanced towards the Kinki region to establish themselves in power as a Yamato court and bring completion of the state unification of Japan (Villani, 1982).

Yayoi (in Italian)

Yayoi, da [Dizionario di Storia](#) (2011). “Periodo della preistoria del Giappone (4° sec. a.C.-4° sec. d.C.). ... Della cultura Y. sono oggi distinte tre fasi principali: antica (350/300-100 a.C.), media (100 a.C.-100 d.C.) e tarda (100-300 d.C.). In questi sei secoli furono gettate le basi della civiltà giapponese, costituite dalla coltivazione del riso, integrata dalla metallurgia del bronzo e del ferro e da crescenti contatti con Cina e Corea. Nelle origini della cultura Y. sono evidenti alcuni elementi essenziali: l'agricoltura del riso in vasca si affermò definitivamente intorno al 400-300 a.C., in associazione alla fusione del bronzo e alla lavorazione del ferro”. La voce del Dizionario di Storia sottolinea che durante la media fase Yayoi si ebbe una forte espansione degli insediamenti agricoli da Kyushu fino a Honshu. Nella fase tarda Yayoi si formarono marcate divisioni sociali e si costituirono entità politiche regionali. Vi sono tracce inoltre di un intenso processo migratorio. L'aumento del numero degli insediamenti nel corso della fase media Yayoi e l'espansione dai bassopiani costieri a quote più elevate che dominavano le valli fluviali sono entrambi fattori che lasciano ipotizzare un incremento di tensioni tra gruppi. ... Suggestivi dati sulla fase recente del periodo Y. provengono da un testo storico cinese, il Weizhi (Cronaca di Wei, regno della Cina settentrionale, 220-265 d.C.) redatto intorno al 297 d.C., dove si narra che le genti wa dell'arcipelago giapponese nel 3° sec. d.C. possedevano una gerarchia sociale forse con «*capi-sciamani*» di sesso femminile e che documenta come i conflitti fossero endemici ed esistessero sistemi «legali» e di tassazione. I Wa coltivavano il riso e allevavano bachi da seta, non possedevano animali domestici, ma gestivano mercati formalmente autorizzati e regolamentati. Nel 238 e nel 240 o 243 d.C. la regina Himiko inviò ambasciatori in Cina; la prima spedizione le permise di essere riconosciuta dall'imperatore Wei come regina di Wa. I gruppi Y. occupavano inoltre in forma permanente villaggi cinti da fossato”. Il Dizionario di Storia sottolinea la risicoltura come complesso sistema di coltivazione, “probabilmente importato dalla Cina già nella sua fase evoluta”, e le innovazioni in campo tecnologico che accompagnarono la sua introduzione in Giappone.

“Himiko (170 – Nara, 248) è stata una regina giapponese. Tracce sull'esistenza di questa regina si trovano nel Wei Chih (Storia di Wei), una storia cinese dove facendo riferimento al più forte dei cento regni della Terra di Wa (l'attuale Giappone) si parla di questa regina sciamana nubile. La sua figura è attorniata dal mistero e nel Wei Chih si afferma che si occupava di magia e stregoneria e che dopo anni di guerre era riuscita ad ottenere il potere. Era sorvegliata da cento uomini e servita da mille donne e da un solo uomo, grazie al quale comunicava con il mondo esterno. Himiko nel 238 mandò un tributo all'imperatore cinese e così ottenne il riconoscimento ufficiale dell'Impero cinese.” Da it.wikipedia.org

From Yayoi to Kofun (Mark J. Hudson)

A fundamental article, to understand the Kofun period, and therefore also the kofun mounds is that entitled “Rice, Bronze, and Chieftains”, by Mark Hudson, 1992. In the article we can find detailed information and references about the Yayoi period, and its rituals and burial uses.

“An almost bewildering variety of burial types appears in the Yayoi”, and some continuing into the following Kofun period. “A number of burial types were discovered only in recent decades and are thus not mentioned in earlier English reviews such as Kaneko (1968)”. During the Yayoi period, it has been started the use of formal cemeteries in Japan. During the Jomon period, many burials were made inside the village perimeter – Hudson explains -, whereas the Yayoi graves were usually separated from the settlements. In the megalithic graves of Kyushu, “the corpse was placed in an earthen pit, a jar, or a wooden or stone coffin; the grave was then marked by a monolithic capstone”. “In the Fukuoka Plain area, pits with or without wooden coffins were the main burial type of the Early Yayoi. By the end of the Early phase burial jars for adults had appeared, marking the start of one of the most distinctive Yayoi burial customs. These jars were made specifically for use in primary burials. They should thus be distinguished from the small jars used for the secondary burial of adults known in eastern Honshu” [Hudson, 1992].

Hudson notes that the term “Initial Yayoi” is a term used by some Japanese archaeologists to refer “to the period from the burials included grave goods”. A grave is dating the beginning of the Middle Yayoi: in it we can find “the earliest example of the mirror-sword-jewel combination that was later adopted as the imperial insignia”. Let us also note that the Jar burials were not “elite graves”; many sites were composed by hundreds or even thousands of such jars, the majority of which had no artifacts inside. “Some jars, however, contain splendid collections of bronze weapons, mirrors, and other prestige goods. One jar at the Suku Okamoto 須碓岡本 site produced around 30 imported mirrors or fragments thereof. Such rich graves have been interpreted as the burials of the chieftains of the polities mentioned in the Wei zhi. These rich graves were often demarcated from other jar burials by position or by placement in an actual mound.” [Hudson, 1992].

Then, we find a very important observation. “Traditionally it was thought that burial mounds only appeared in Japan in the Kofun period, but over the past twenty years or so [please consider that Hudson wrote in 1992] it has become clear that mounds also existed in the Yayoi”.

The most common type of Yayoi burial places were the moated precincts. They were square or circular, and contained wooden-coffin or pit burials in the center of the precinct and sometimes in the moat. Some Japanese scholars consider these precincts under the category of mound-burials. “The first moated burial precincts appeared in the Kinai around the middle of the Early Yayoi. From there they spread to the Kanto by the

18 April 2022

Middle phase and to Kyushu from the end of the Yayoi to the beginning of the Kofun period (Tashiro 1987)." [Hudson, 1992]. "The division of space represented by these burial precincts can be seen as a reflection of settlement space at a time when many villages were also surrounded by deep moats (Mizuno 1990 , pp. 97-104). The ethnologist Obayashi Taryo (1987, pp. 170-72) has suggested" a symbolic link between the central burial area and the land-creation myth.

Hudson stressed the link between the moated precincts and the spread of moated villages and full-scale wet-rice agriculture.

What about the funerals? "In the case of the Yayoi we are fortunate that the Wei zhi provides some details of Wa funerals: When a person dies, they prepare a single coffin, without an outer one. They cover the graves with [earth] to make a mound. When death occurs, mourning is observed for more than ten days, during which period they do not eat meat. The head mourners wail and lament, while friends sing, dance, and drink liquor. When the funeral is over, all members of the whole family go into the water to cleanse themselves in a bath of purification". The purification is "reminiscent of later Shinto practices, - Hudson notes - though here it is strongly contrasted with a long period of uncleanliness during mourning".

"Some Yayoi mortuary rites are visible archaeologically. Features excavated around the Yoshinogari mound, for instance, have led to various suggestions as to ritual activities that may have been associated with that burial facility. Red-burnished ceremonial pottery found along a path that led from outside the village to the south "entrance" of the mound may have been used in rites conducted for the dead. Takashima (1990, p. 194) argues that the Yoshinogari mound served as a ritual focus of the local polity centered on the site, and that in this function it can be compared to later kofun mounds". [Hudson, 1992]

In the section of the article [Hudson, 1992], entitled "Power, Gender, and Ideology: A Third-Century Religious Revolution", the transition from Yayoi to Kofun is addressed. "Burial heterogeneity, however, clearly increased in the Yayoi". Hudson mentions Ellwood (1990, pp. 204-205), who proposes four basic themes. Here in the following the four themes reported by Hudson.

Theme 1: Female shamanism is repeatedly discredited, as in the story of the shamaness Yamato-to-momo-so-bime, who died by stabbing herself with a chopstick (see the [LINK](#))

Theme 2: The simultaneous worship of both female (Amaterasu) and male (Yamato-no-Okunidama) gods in the palace was considered inauspicious. Amaterasu moved to a nearby village, being care by a priestess, and later to Ise.

Theme 3: A vertical cosmology of ascensions to heaven via mouniains became important.

Theme 4: [Emperor] Sujin's revelatory dreams appear to replace the trance-mediumship of shamanesses, suggesting male spiritual supremacy.

Ellwood argues that these four themes are the opposite to a religion centered on female shamanesses and a “horizontal cosmology where spirits came across the sea; there was “no reference to the sun and little to heaven or to the masculine land deities” (Ellwood 1990, p. 207).” Ellwood argues for a Sujin “religious revolution” that roughly coincides with the Yayoi-Kofun transition.

Then, Hudson is commenting the Ellwood’s theory. He considers the archaeological evidence for ritual change at the end of the Yayoi. “There were two main aspects of this change: the abandonment of many Yayoi ritual practices and the establishment of a new ideological scheme centered around tomb mounds. We have seen that bronze bells and weapons—the major ritual artifacts of the Yayoi —dropped out of use in the Late phase. As Ishino succinctly puts it in his paper ... at the end of the Yayoi bronze ritual implements were “smashed, discarded, and buried.” ... Ishino argues that Yayoi beliefs were replaced by a ritual complex based on mirrors and tomb mounds”. (we have already referred to [Ishino, 1992]).

“The Kofun period is widely defined as the period in which the “tomb mounds” were in use (Yoshida 1979, p. 399). The question thus becomes: What are kofun? While a precise definition is difficult if not impossible, there are three main factors we need to consider: plan, size, and associated furnishings. In all cases the key word is standardization”. And then we can find Hudson mentioning the following three themes:

Theme 1 - Shape: Kofun had a hierarchy of shapes, with the keyhole plan being the most prestigious. “The origin of the keyhole shape is unclear, although various theories have been proposed (cf. Amakasu 1977, pp. 35-38; Tsude in press). The contrast between the rather amorphous shapes of Yayoi mounds and the standardized symmetry of the keyhole tombs seems hard to explain in the absence of continental prototypes, yet recent research suggests that the front section may have developed from the projections on Yayoi mounds. The ideological significance of the keyhole shape is unexplained, although it may reflect Chinese cosmological beliefs about the circle and the square as representations of heaven and earth. The rear part of the kofun (i.e., the circular part in the case of keyhole mounds) served as the actual burial. The front square section was attached onto this and is thought to have been a platform for conducting ceremonies for the deceased” [Hudson, 1992].

Theme 2 - Size: The larger kofun were huge, “comparable in size with the Pyramids of Egypt and the other great tombs of the ancient world. Apart from sheer massiveness, many kofun were also built to strict proportions (see Hojo 1989)”.

Theme 3 - Burial facilities and grave goods. Here we find Hudson explainin the main features of kofun. They possess stone-lined burial chambers, carved “down into the top of the mound, very long cedar-log coffins, and grave goods comprising mirrors, swords, beads, and iron weapons and agricultural tools”. Around “the mound were placed facing stones and special ritual ceramic jars and stands, which later evolved into haniwa”. Hudson tells that all of these features first appeared together at the Hashihaka 箸墓 kofun in Sakurai City, Nara in the late third century. The Hashihaka kofun became the

standard for keyhole-shaped kofun.

In the Theme 3, Hudson is mentioning a reference which is important for *the orientation of the body inside* the burial chamber. “*Some elements of the kofun ritual system show Chinese influence: Tsude (in press) mentions coffin orientation, three-stepped rear mound construction, and a fondness for vermillion. In the Kinai and the regions directly influenced by Yamato power, chieftains were often buried with their heads pointing north (see fig. 2 in Tsude in press). This was something that was not seen in the Yayoi period, and that Tsude believes indicates Confucian influence.*” [Hudson, 1992].

And also, “More importantly, the combination of mirror, sword, and curved jewel (magatama 勾玉)—which first appeared in Kyushu in the Middle Yayoi —was adopted by the Yamato polity as a symbol of its authority”. [Hudson, 1992]

In the conclusions, Hudson notes the following: "when characterizing the social and religious nature of the Yayoi we must be careful to avoid stereotyped generalizations of the Yayoi/ ritual/matriarchical versus Kofun/political/patriarchical type". That is, it is necessary to avoid to fall "into the easy trap of seeing the Yayoi as the structural opposite of the Kofun", or to set a marked contrast between a peaceful, agricultural, magico-religious, "South-east Asian" Yayoi and Early Kofun period with a practical, warlike, "North Asian".

Hudson is also remembering the figure of Pimiko and her status in the political and religious framework of the ancient society. He stresses that the Chinese texts "specifically mentions Pimiko conducted diplomacy in her own name ... Edwards himself sees Pimiko not as filling the role of a female shamanistic queen, but as a woman who filled the primarily male role of a divine king".

Trance and dream

In the Oxford Encyclopedia of Women in World History, Bonnie G. Smith tells at page 415 the following.

“Despite these predominantly male symbols, strong female ones, probably from Neolithic phase of prehistory, found their way into Daoism. The Daoists associated women with exorcism, healing, communication with deities and ghosts, the natural order, and earth (yin) as the complement of heaven (yang). The fifth-century Santian neijie jing describes non-being giving rise to the three breaths, which create the jade mother of divine mystery. She gives birth to Laotzi (the legendary founder of Daoism),and he creates the world.” (Smith, 2008).

“Gender symbols also changed after the rise of a Japanese state. According to Ellwood, stories found in Kojiki and Nihonshoki might reflect a Korean invasion and the emergence of a new dynasty ruled by Jimmu Tenno in the late third or early fourth centuries C.E. First, Amaterasu (sea) married Yamato no Okunidama (land). Then Amaterasu is associate with the sun. She and Yamato no Okunidama coexist as divine couple, heaven and earth. But the Japanese banished Amaterasu’s shrine to Ise, on a

18 April 2022

remote peninsula. Yamato, therefore, reigned supreme, *and priests, who interpreted dreams, replaced priestesses, who had once interpreted oracles*". (Smith, 2008).

The waves

The abstract of an article entitled "Yayoi Wave, Kofun Wave, and Timing: The Formation of the Japanese People and Japanese Language", by Wontack Hong (2005), tells the following: "A sudden change in climate, such as the commencement of a Little Ice Age, may have prompted the southern peninsular rice farmers to cross the Korea Strait ca. 300 a.C.E. in search of warmer and moister land. This may answer the timing of the "Yayoi Wave". Evidence confirms the seminal role played by peninsular peoples in the formation of Middle and Late Tomb culture and the inadequacy of the "evolutionary" thesis, restoring our attention to the "event" thesis. Around 300-400 C.E., a drought may well have forced the Paekche farmers around the Han River basin to search for a new territory. This may answer the timing of the "Kfoun Wave".

Kofun (G. Poncini, in Italian)

Ecco alcuni estratti dalla voce "KOFUN" di G. Poncini, nell'Enciclopedia dell' Arte Antica (1995). Il termine Kofun significa letteralmente «antico tumulo». Indica quindi una sepoltura, "generalmente non ipogea, costituita da un tumulo a pianta circolare, oblunga o di varie forme, che caratterizza in Giappone l'omonimo periodo". Il periodo si sviluppa tra la fine del III e quella del VII sec. d.C. La cultura funeraria è condizionata dalle classi economicamente e politicamente dominanti. Nella cultura dei kofun si distingue tre fasi: iniziale (III-IV sec.), media (V sec.), tarda (VI- VII sec.). Nelle fasi iniziale e media, i kofun "si configurano come monumenti politici edificati per esaltare l'autorità di un capo, secondo l'esempio delle tombe cinesi e coreane, nella fase tarda si assiste a un proliferare di tumuli di dimensioni minori (mediamente meno di 15 m di diametro), contenenti talora più sepolture, destinati soprattutto a una burocrazia locale addetta al controllo della produzione agricola sempre più fiorente: dei **c.a centomila k.** noti finora in Giappone, si calcola pertanto che almeno il 90% appartenga alla fase tarda."

In (Poncini, 1995) we find told that the number of kofun is about one hundred thousand. Some authors have recently asserted, in a MDPI published study about the orientation of 158 kofun, that "This study has never been carried out in Japan due to the very large number of Kofun and to the fact that access to the perimeter is usually forbidden". The number of kofun is really large (100,000). However, as we have previously seen, the orientation of kofun and burial chambers inside them have been studied by Japanese researchers (see Goto, A., 2018, Hojo and Goto, 2021, and references therein). Let us continue with (Poncini, G., 1995), where we find discussed the orientation of kofun too.

Nella loro forma originaria, osservata nel Kyushu e nel Kinki, "di semplice fossa atta a contenere una bara, secondo la teoria tradizionale il k. sarebbe il risultato

dell'evoluzione della tomba megalitica di forma geometrica del periodo Yayoi con evidenti influssi continentali, soprattutto coreani". I kofun erano disposti sulla superficie del terreno o su una terrazza sopraelevata. Il tumulo crebbe via via in dimensioni e con forme differenti. "Le recenti ricerche hanno tuttavia documentato già nel primo e medio periodo Yayoi la presenza nel Kinai di tumuli di sezione circolare (enfun) e quadrata (hōfun), di esigue dimensioni, adibiti a sepolture singole o collettive, generalmente delimitati da fossati; sono inoltre emerse alcune sepolture della fine del periodo Yayoi con elementi comuni *al tumulo classico a forma di toppa di serratura (zenpōkōen, letteralmente «davanti quadro, dietro tondo»)*, destinato ad assumere, tra il IV e il V sec., aspetti monumentali. *Tuttavia è stato pure rilevato che, a differenza del prototipo Yayoi, il classico zenpōkōen presenta costantemente l'orientamento della salma verso N, il che sembrerebbe sintomatico del sorgere di nuove concezioni religiose contemporaneamente al consolidarsi di questa struttura funeraria*" (Poncini, 1995). However, it has also been noted that, unlike the Yayoi prototype, the classic zenpōkōen constantly presents the orientation of the body to the North, which appears to be symptomatic of an emergence of new religious concepts, contemporary to the consolidation of this funerary structure.

"I tumuli di tipo enfun e hōfun, tra la fine del III e la metà del IV sec., evolsero in forme più complesse, come quella a base quadrata sormontata da una cupola (jōenkahōfun), oltre alla tipologia classica del k. zenpōkōen. Quest'ultimo, particolarmente diffuso nelle regioni del Kinki, del Mare Interno e del Kyushu settentrionale, si presenta spesso in dimensioni maestose e circondato da ampi fossati: oltre al celebre k., presente nella prefettura di Osaka, dell'imperatore Nintoku (lungo 486 m e alto 36 m, la cui volumetria complessiva supera quella delle piramidi egizie), e quelli, di poco inferiori, degli imperatori Ōjin e Richū, ne sono noti c.a 40 di lunghezza superiore ai 200 m". In (Poncini, G., 1995) si sottolinea che "la cella funeraria disposta verso la sommità del tumulo non riprende generalmente la forma esterna del kofun [the funerary chamber, arranged near the top of the mound, does not generally reproduce the external shape of the kofun]. La medesima struttura zenpokoen che di solito presenta la parte anteriore squadrata a trapezio e quella posteriore tumuliforme, può avere talora una forma squadrata sul retro, come è stato riscontrato in c.a 300 tumuli (un decimo del totale dei k. zenpokoen noti in Giappone), nessuno dei quali supera i 200 m di lunghezza" (Poncini, 1995).

Sempre in (Poncini, 1995) troviamo altri dettagli sull'evoluzione della cella funeraria, dove ad un certo punto, compare un corridoio davanti ad essa. "Tra la seconda metà del VI sec. e la prima metà del. VII alle strutture tradizionali dei k. si aggiungono, sul davanti o sul retro del tumulo, prolungamenti di base quadrata, secondo i più complessi modelli continentali: la cella funeraria è preceduta da un corridoio d'accesso cui si aggiunge talora un ambiente supplementare indipendente destinato a contenere le offerte al defunto.

Questa appendice strutturale si accompagna alla diminuzione delle dimensioni generali del tumulo che si riscontra nella tarda fase della cultura dei kofun" (Poncini, 1995).

La dimensione dei kofun andò poi a ridursi e nacque il fenomeno del loro raggruppamento in aree adibite a centinaia di sepolture. Ciò è attestato dai molti siti con “suffisso toponomastico senzuka (letteralmente «mille tombe»), p.es. Toki-senzuka, Shinoda-senzuka, Takayasu-senzuka (prefettura di Osaka), Toriya-senzuka (prefettura di Nara) e Iwaba-senzuka (prefettura di Wakayama)”. (Poncini, 1995) continua con dettagliate considerazioni tra le varie differenziazioni strutturali dei kofun e l'espressione dell'ordine dettato dallo Yamato e dalle situazioni politiche nella prefettura di Nara.

In (Poncini, 1995), troviamo anche la descrizione dei ricchi corredi funebri dei kofun. “Disposto generalmente attorno alla testa e ai fianchi del defunto, esso consiste soprattutto in gioielli, bracciali, orecchini, anelli, perle, pendenti fra cui i caratteristici magatama (v.), pettini in lacca, e persino oggetti in vetro. Legate probabilmente a funzioni magico rituali sembrano le grandi spade cinesi iscritte e con l'impugnatura decorata da figure animali traforate, come pure gli specchi, disposti in ordine preciso intorno alla testa e sul petto dei defunti, contenenti spesso iscrizioni datate” (Poncini, 1995). Gli specchi più antichi sono di fabbricazione cinese, mentre i più recenti di produzione locale. Vi è poi il vasellame locale di foggia continentale. “Nelle tombe aristocratiche sono state rinvenute anche corone d'oro o in bronzo dorato simili a quelle del regno coreano di Koguryō (v. coreana, arte)” (Poncini, 1995). E poi i nobili hanno “armi e bardature: archi, punte di freccia, faretre, lance, spade, pugnali, scudi, selle con finimenti”. E poi ci sono gli ornamenti litici finemente decorati (bracciali, vasi, cilindrici o a forma di biwa). Dalla seconda metà del IV secolo, la bara lignea viene inserita all'interno di un sarcofago in terracotta o in pietra, talora sagomato a forma di *imbarcazione*. Spiega (Poncini, 1995), che questo tipo di sepoltura parte dalla zona di origine del Kinki per estendersi “alle attuali prefetture di Shiga, Aichi, Gifii e Mie, il che attesta l'estendersi a E della sfera di influenza dello Yamato”.

In (Poncini, 1995) si sottolinea che, “al di là delle differenze morfologiche, i k. furono costruiti secondo un'unità di misura fissa per dati periodi: tra il IV e il V sec., p.es., si usò un'unità corrispondente a 23 cm, mentre tra la metà del V e la metà del VI sec. ne fu scelta una di 25 cm corrispondente all'unità adottata nel Sud della penisola coreana e successivamente quella cinese dei Wei Orientali (534-550), corrispondente a 35 cm”.

“Oltre al *Kinai*, *culla della cultura dei k.*, sono state identificate alcune importanti aree di diffusione: quella di Kibi, che comprende parte delle prefetture di Okayama e Kagawa, sulle due rive opposte del Mare Interno, quella di Izumo, che comprende le prefetture di Tottori e Shimane, quella di Hyūga, nella parte orientale del Kyushu, che appare più affine alla cultura del Kinai che non a quella del vicino ma più isolato Kyushu settentrionale”. In (Poncini, 1995) troviamo anche menzionati il Nōbi, con le prefetture di Gifii e Aichi, lo Jōmō, con la prefettura di Tochigi. Poi c'è il Kyushu settentrionale “che annovera, nelle prefetture di Fukuoka, Kumamoto, Saga e Oita, oltre cento tombe” (Poncini, 1995).

“L'introduzione del buddhismo verso la metà del VI sec. e il conseguente diffondersi della pratica dell'incinerazione segnò il declino della cultura funeraria dei k. osteggiata

anche per motivi economici dalle autorità politiche, come appare nell'editto emanato nel 646 dall'imperatore Kōtoku, il quale, constatato il generale depauperamento provocato dalle spese per i sepolcri monumentali, stabilì le norme di sepoltura per ciascuna delle sei classi sociali, fissando il numero delle giornate lavorative da impiegare nella costruzione delle tombe e vietando di deporvi oggetti preziosi” (Poncini, 1995).

Da (Poncini, 1995) e dalla ricca bibliografia ivi menzionata, appare chiaro che sia i kofun che la loro orientazione sono stati ampiamente studiati in Giappone e continuano ad esserlo attualmente. Dato che l'orientazione della camera funeraria non ha generalmente la stessa orientazione del kofun, analisi con satellite non portano a conclusioni significative. Cosa diversa sono le strutture a keyhole del Sahara.

Tipo Coreano (in Italian and English)

Da Arte Giapponese, di G. Poncini, in Enciclopedia dell' Arte Antica (1994).

“Lo sviluppo e la diffusione dei tumuli, sintomatica della formazione di una prima compagine statale, si concentra soprattutto nell'area fra Osaka, Nara e Kyoto, divenuta dal VI al VII sec. centro dello Yamato. Il tumulo originario, a sezione circolare o ellittica (enfun) e quadrata (hōfun) assume successivamente una forma composita di sepoltura quadrata a cupola (jōenkahōfun) e infine a «toppa di serratura» (zenpōkōenfun) con piattaforma trapezoidale antistante e tumulo sul retro. Tale forma viene generalmente associata all'autorità centrale dello stato Yamato e alla sua espansione. Questo tipo di sepoltura, infatti, pur rimanendo concentrato maggiormente nella zona d'origine, si diffonde, a distanza di c.a 50-100 anni, prima nei territori limitrofi e successivamente, a notevole distanza, nelle aree agricole più ricche, dal Kyushu al Kantō. La cronologia dei tumuli, stabilita inizialmente attraverso le iscrizioni datate degli specchi metallici rinvenuti in essi, si è venuta via via basando sulle caratteristiche strutturali delle sepolture. *Mentre le prime tombe presentano un varco alla sommità del tumulo, da cui veniva calata la bara entro un cubo megalitico, verso il V sec. compare il tipo coreano di camera sepolcrale dotata di corridoio laterale di passaggio.* Gli haniwa (v.), i c.d. cilindri d'argilla, cavi e modellati a mano, alti mediamente 40-50 cm, ornavano l'esterno della tomba, posti sulla sommità, lungo il corpo a cerchi degradanti o lungo le falde, formando un recinto e contribuendo alla compattezza del tumulo; essi sono l'espressione artistica più rilevante e originale dell'epoca.”

The development and spread of the funerary mounds, being the symptom of the formation of a first governance, is concentrated above all in the area between Osaka, Nara and Kyoto, which became, from the sixth to the seventh century, the center of the Yamato. The original mound, with a circular or elliptical (enfun) and square (hōfun) section, subsequently assumes a composite form of a square domed burial mound (jōenkahōfun) and finally becomes a "keyhole" (zenpōkōenfun), with a trapezoidal platform in front and a round mound on the back. This form of tumuli is generally associated with the central authority of Yamato state and its expansion. This type of

18 April 2022

burial mounds, while remaining more concentrated in its area of origin, spreads after a period of 50-100 years, first in the neighboring territories and, subsequently, at a considerable distance in the richest agricultural areas from Kyūshū to Kantō. The chronology of the mounds, initially established through dated inscriptions on the metal mirrors found in them, was gradually based on the structural characteristics of the burials. While the first tombs present an opening at the top of the mound, from which the coffin was lowered into a megalithic cube, towards the fifth century the Korean type of burial chamber appears with a lateral passage corridor. *Haniwa*, the so-called hollow clay cylinders modeled by hand, 40-50 cm high, adorned the outside of the tomb, placed on the top, along the bulk in degrading circles or along the slopes, forming an enclosure and contributing to the solidity of the mound; they are the most relevant and original artistic expression of the time.

Takamatsuzuka (archaeoastronomy)

A late kofun is the Takamatsuzuka Tomb (高松塚古墳, Takamatsuzuka Kofun) or "Tall Pine Tree Ancient Burial Mound" in Japanese. It is an ancient circular tomb in Asuka village, Nara Prefecture, Japan. https://en.wikipedia.org/wiki/Takamatsuzuka_Tomb

“The tomb is thought to have been built at some time between the end of the 7th century and the beginning of the 8th century. It was accidentally discovered by a local farmer in the 1960s. The mound of the tomb was built of alternating layers of clay and sand. It is about 16 metres (52 ft) in diameter and 5 metres (16 ft) high. Excavation yielded a *burial chamber with painted fresco wall paintings* of courtiers in Goguryeo-style garb. The paintings are in full color with red, blue, gold, and silver foil representing four male followers and four serving maidens together with the *Azure Dragon, Black Tortoise, White Tiger, and Vermilion Bird groups of stars*. The paintings are designated a National Treasure. For whom the tomb was built is unknown, but the decorations suggest it is for a member of the Japanese royal family or a high-ranking nobleman”. The item of Wikipedia is mentioning the Kitora Tomb, in Asuka.

It is also told that “In 2012, similar mural was found in a tomb in Mongolia. The round mound, thought to be built by Göktürks in the 7th century, was excavated by Mongolian and Kazakh researchers. The mural depicts Azure Dragon and White Tiger with a procession of Chinese and Sogdian, and other Caucasoid traders.”

The Kitora Tomb (キトラ古墳, Kitora Kofun) is another late kofun. Here some details from https://en.wikipedia.org/wiki/Kitora_Tomb “The tomb is believed to have been constructed some time between the 7th and early 8th centuries, but was only discovered in 1983. A small stone chamber, the Kitora Tomb is a little over 1 metre in height and width and about 2.4 metres long, just large enough to bury a single person. The four walls are aligned with the cardinal points of the compass, and respectively feature the Black Divine Tortoise of the North, the Azure Dragon of the East, the Red Phoenix of the South, and the White Tiger of the West. On the ceiling of the chamber there is also an astronomical chart that has been the focus of much research and debate by scholars

18 April 2022

in the field of archaeoastronomy. In addition, the 12 zodiac animals-headed figures with human body are painted on the wall, which may be one of the oldest remaining zodiac murals in East Asia."

From the "Astronomy Across Cultures: The History of Non-Western Astronomy", by Helaine Selin, 2012: "What is significant about Takamatsu Zuka Kofun is that it clearly shows the influence of Chinese and Korean cosmology on Japan in the Asuka Era (late 6th to early 8th centuries). In 1998, another such tomb, located about 1 km to the south of Takamatsu Zuka Kofun on Mount Abe and named Kitora Kofun (after the Kitaura area of Asuka village), was explored. The tomb was not actually entered but probed with a sub-miniature camera. It was dated within the same Asuka period as Takamatsu Zuka Kofun. While there are some remarkable similarities, there are also some anomalous differences in the paintings of the two tombs. (See Inokuma, Izumimori, Kawakami, Sawada, et al, 1999). In Kitora Kofun, the paintings of the animals of cardinal directions are in somewhat better condition than those of Takamatsu Zuka Kofun, in which some paintings appear to have been defaced in ancient times. The animals were painted in a freer style than those found in the tomb to the north. There also are more stars in the Kitora tomb paintings of the sei shuku as well as many other constellations not found in the Takamatsu Zuka tomb".



Fig. 33 - *The Black Turtle and the Snake in Kitora Tomb.* Image Courtesy <http://benedante.blogspot.com/2015/07/the-ancient-star-chart-in-kitora-tomb.html>



Fig. 34 - *Yashima Gakutei (1786-1868) - Dea con drago e sol nascente, Periodo Edo, c.1825. Xilografia su carta, nishiki-e con pigmenti metallici e gauffrage. Goddess with dragon and rising sun, Edo period, c.1825, Xylography on paper, nishiki-e with metal pigments and gauffrage. Museo Arte Orientale, Torino. Picture taken by the author.*

Black Turtle and Snake

In the image given above, showing one of the painting on the walls of the Kitora tomb, we can see the Black Turtle and the Snake. This is an interesting combination.

In [Wikipedia](#), an item on Chinese numismatic charms, we find mentioned the Four Divine Creatures: “the Vermillion Bird (朱雀, zhū què) which represents the south and symbolizes the summer, the White tiger (白虎, bái hǔ) represents the west and symbolizes the autumn, the Azure Dragon (青龍, qīng lóng) represents the east and symbolizes the spring, and the the black tortoise (or black warrior) coiled around by a snake (玄武, xuán wǔ) represents the north and symbolizes the winter”. However, an astronomical interpretation has been proposed too.

In the conclusions of a discussion by Stefan Maeder, 2011, it is told that, “incorporating the results of comparative studies relating to the history of myths and religions in relation to astrology and astronomy it was argued that the symbol combination on the reverse side of a charm-coin of Yung T’ung Wan Kuo-type represents three hitherto unidentified early Chinese constellations. They surround the pole of the ecliptic together with the Big Dipper asterism. The position of the snake on the upper ‘northern’ section of the coin in relation to the turtle on the lower ‘southern’ section allows for an interpretation as a north-south axis. This interpretation is supported by the fusion of snake and turtle (玄武 = Genbu in Japanese) as representing north in funerary wall paintings from the fifth to the eighth centuries A.D. from China, Korea and Japan. Furthermore this circumstance points towards a higher antiquity for the symbolism rendered on the coin in relation to the well-known Chinese, Korean and later Japanese practice of representing north by the ‘black warrior’ (turtle combined with snake),” and the other three points of the compass.

I cinque elementi

Da https://it.wikipedia.org/wiki/Si_Ling - I Siling sono le quattro bestie guardiane della mitologia cinese, note nell'Onmyōdō giapponese col nome Shishin o Shijin, si dice alla voce di Wikipedia. Ci sono Quattro Animali (Cinese: 四象, pinyin: Sì Xiàng) che “sono quattro creature mitologiche nelle costellazioni cinesi. Ognuno dei Quattro Animali rappresenta un punto cardinale e una stagione dell'anno, associate alle direzioni del cielo, ognuno con le proprie caratteristiche e origini”. “Inoltre, vi è un quinto animale leggendario, (Cinese: 黄龙, pinyin: Huáng-lóng), detto il Drago Giallo del Centro. La direzione cardinale associata a questo animale è appunto il "centro", e il suo elemento è la Terra”. “Ogni membro del Siling ha sette costellazioni ad esso associate”, seishuku nella tradizione giapponese. I Cinque Animali sono : Drago Azzurro 青龍, Uccello Vermiglio 朱雀, Tigre Bianca 白虎, Tartaruga Nera 玄武, Drago Giallo 黃龍.

| I Cinque Elementi | | | | | | | | | |
|-------------------|-------|--------|---------------|----------------|--------------------------|-----------------|-----------------|-----------|---------------|
| Nome | Kanji | Hangŭl | Trasl. pinyin | Trasl. Hepburn | Trasl. McCune-Reischauer | Nome Umano | Punto cardinale | Stagione | Elemento |
| Drago Azzurro | 青龍 | 청룡 | Qīng Lóng | Seiryū | Chōng Ryōng | Mang Zhang (孟章) | Est | Primavera | Legno |
| Uccello Vermiglio | 朱雀 | 주작 | Zhū Què | Suzaku | Ju Jag | Ling Guang (陵光) | Sud | Estate | Fuoco |
| Tigre Bianca | 白虎 | 백호 | Bái Hǔ | Byakko | Baekho | Jian Bing (監兵) | Ovest | Autunno | Metallo |
| Tartaruga Nera | 玄武 | 현무 | Xuán Wū | Genbu | Hyōn Mu | Zhi Ming (執明) | Nord | Inverno | Acqua (Terra) |
| Drago Giallo | 黃龍 | 황룡 | Huáng-lóng | Ōryū (Kirin) | Hwang Lyōng | - | Centro | - | Terra |

Shitennō and the four directions

The Shitennō are protectors of the four directions. They ward off evil, guard the nation, and protect the world from malicious spirits, hence the Japanese term Gose Shitennō 護世四天王, literally “four world-protecting deva kings.” *Each represents a direction, season, color, virtue, and element.* They originated in India but were later adopted into the Buddhist pantheon in China and Japan. They are venerated as *temple guardians* and protectors of the nation. In China, statues of the four are often placed near temple entrances, but in Japan, effigies of the four are more commonly placed around the central deity on the main altar. The four are commanded by Taishakuten, Lord of the Center. They are nearly always dressed in armor (yoroi 鎧), looking ferocious (funnūsō 忿怒相), and carrying weapons or objects. They are also typically shown standing atop evil spirits (known as Jaki in Japan).

Shitennō iconography is related to the Four Celestial Emblems (dragon, red bird, tiger, turtle) of China, who also guard the four cardinal directions. In Japanese statuary, the Shitennō are almost always portrayed in animated warrior poses rather than static postures of ease or meditation.

Text adapted from <http://www.onmarkproductions.com/html/shitennō.shtml>

See also <http://www.onmarkproductions.com/html/buddhism.shtml>

18 April 2022



Fig. 35 - Tenno, Uno dei Re Protettori. Legno di cipresso (*hinoki*), h. 119 cm. Giappone, periodo Fujiwara, XII secolo. Museo Arte Orientale, Torino. Il museo è in possesso di una coppia di statue (*Ni-tenno*, due *tenno*) dall'atteggiamento fiero che, calpestando figure mostruose, levano il braccio originariamente dotato di un'arma oggi perduta. Questa coppia è tratta dal gruppo dei Quattro Grandi Re degli Orientali (*Shi-tenno*) che la cosmologia buddhista colloca ai lati del Monte Meru. Come protettori, in Giappone gli *Shi-tenno* furono posti ai quattro angoli intorno all'immagine principale del tempio. Le due statue del MAO sono scolpite nella tecnica *ichiboku zukuri* in un singolo blocco di legno, salvo le braccia. Fotografia dell'autrice.

Three Periods

From <https://www.britannica.com/art/Japanese-art/Tumulus-or-Kofun-period>

About kofun, it is told the following. “Some authorities have suggested that the development of these tombs was a natural evolution from a Yayoi period custom of burial on high ground overlooking crop-producing fields. While partially convincing, this theory alone does not account for the sudden florescence of mound tombs, nor does it address the fact that some aspects of the tombs are clearly adaptations of a form preexisting on the Korean peninsula. Indeed, implements and artifacts discovered within these tombs suggest a strong link to peninsular culture.”

Britannica tells that “three *distinct* shifts in tomb style can be discerned that define the chronology of the period: Early Kofun of the 4th century, Middle Kofun covering the 5th and early 6th centuries, and Late Kofun, which lasted until the beginning of the 8th century and during which tomb burials were gradually replaced by Buddhist cremation ceremonies. The Late Kofun roughly coincides with the periods known to art historians as the Asuka (mid-6th century–645) and the Hakuho (645–710).”

“Tombs of the *Early Kofun period* made use of and customized existing and compatible *topography*. When viewed from above, the tomb silhouette was either a rough circle or, more characteristically, an upper circle combined with a lower triangular form, suggesting the shape of an old-fashioned keyhole. The tombs contained a space for a

18 April 2022

wooden coffin and grave goods. This area was *accessed through a vertical shaft* near the top of the mound and was sealed off after burial was completed. The deceased were buried with materials that were either actual or symbolic indicators of social status. The grave goods were intended, as well, to sustain the spirit in its journey in the afterlife. They included bronze mirrors, items of jewelry made from jade and jasper, ceramic vessels, and iron weapons. Adorning the summit of the mound and at points on the circumference midway, at the base, and at the entrance to the tomb were variously articulated clay cylinder forms known as haniwa (“clay circle”).”

“After the 4th century, tomb builders *abandoned naturally sympathetic topography* and located mounds in *clusters on flat land*. There are differences in mound size, even within the clusters, suggesting levels of social status. The scale of these tombs, together with construction techniques, changed considerably. The tomb generally assumed to be that of the late 4th-century emperor Nintoku, located near the present-day city of Ōsaka, measures nearly 1,600 feet (490 metres) in length and covers 80 acres (32 hectares). It is alternately surrounded by three moats and two greenbelts. Approximately 20,000 haniwa were thought to have been placed on the surface of this huge burial mound.”

“In the later part of the 5th century, *the vertical shaft used to access the early pit tomb was replaced by the Korean-style horizontal corridor leading to a tomb chamber*. This made multiple use of the tomb easier, and the notion of a family tomb came into existence. Also notable from the 5th century is the archaeological evidence of horse trappings and military hardware in tombs. Haniwa representing warriors and stylized military shields are also prominent. Contemporaneous Chinese records refer to the Five Kings of Wo (Japanese: Wa) to describe the rulers of Japan in this period, and Chinese and Korean documentation refers to Japanese invasions of the Korean peninsula in the late 4th and early 5th centuries. There is evidence that multiple Japanese diplomatic missions to China in the 5th century requested from the Chinese rulers suzerainty over portions of the southern Korean peninsula. These diplomatic and military forays combine with the grave goods of the period to suggest a strong military cast to 5th- and 6th-century culture. However, in time these accoutrements of war and symbols of physical power are found in ancillary tombs rather than in the grave sites of known leaders. This suggests a gradual consolidation of power and the formation of a specialized military service within the kingdoms.”

Britannica continues stressing that the Japan’s close relationship with Korean and Chinese cultures during the Kofun period had a strong influx on peninsular craftsmen. “This is reflected in the production of sue ware mentioned above and in the high quality of metalwork achieved. Mirrors are a particularly fine example of the development of metal craft”. Then Britannica remembers the Amaterasu myth of the cavern.

“Late Kofun tombs are characterized by schemes of wall decoration within the burial chambers. Two especially important tombs have been excavated in the area just to the south of present-day Nara. The Takamatsu tomb (1972) and the Fujinoki tomb (1985) suggest high levels of artistic achievement and a sophisticated assimilation of continental culture. The Takamatsu tomb is noted for its wall paintings containing a

design scheme representing a total Chinese cosmology. Included are especially fine female figure paintings. At Fujinoki exquisite and elaborate metalwork, including openwork gold crowns, a gilt bronze saddle bow, and gilt bronze shoes, was discovered. Design motifs show evidence of Chinese, Central Asian, and Indian sources.”

Late Kofun Period

From “Monuments and Sites Division, Agency Cultural Affairs”, Volume 6. “In the Late Kofun period, apart from several giant examples, the sizes of even the large-scale keyhole tombs shrank to around 100 m and the mound structures also became simplified. *In addition, the burial facilities shifted to corridor-style stone chambers under the influence of the Korean peninsula* (see Figure 2-97, also Appendix 3.a Supplementary information related to kofun “III. Burial Facilities, Grave Goods, and Funerary Rituals”). In the case of the corridor-style stone chamber, the chambers were constructed at the same time as the mound, and multiple individuals could be buried one after another in a single tomb’s burial facility. This differed greatly from the burial facilities seen up to that time, suggesting a transformation of the funerary rituals, themselves. Funerary rituals using the whole mound top as a stage were no longer performed (Figure 2-98). As for the grave goods, horse trappings came to occupy a central position instead of weapons and armor (see Appendix 3.a Supplementary information related to kofun “III. Burial Facilities, Grave Goods, and Funerary Rituals”). (See the Figures in “Monuments and Sites Division, Agency Cultural Affairs”, Volume 6). Additionally, dense clusters of tens to hundreds of small mounded tombs appeared during this period; these clusters of small mounded tombs (gunshufun) are distinguished from mounded tomb groups, or kofun groups (kofungun). In the majority of cases, these clusters were made up of round tombs, with diameters of 10 m to 20 m, characterized by their high uniformity. The construction of densely packed clusters of small mounded tombs signifies that the cultural tradition of kofun building had spread to a wider range of people, in particular, low-ranking people outside of the elite class that had dominated tomb-building until then. This indicates that the very meaning of kofun had evolved.”

It means that the tombs of the late period, those with the burial chamber/corridor system, are different from the tombs with a keyhole shape, based on pits (see Figures in "Monuments and Sites Division, Agency Cultural Affairs", Volume 6). The layout of a keyhole tomb is given in the Volume 6, for the late Kofun period. We find a corridor-style stone chamber. However, in this reference there is no mention of corridors aligned with the long axis of the kofun or perpendicular to the symmetry axis, that is parallel to the trapezoidal base.

18 April 2022

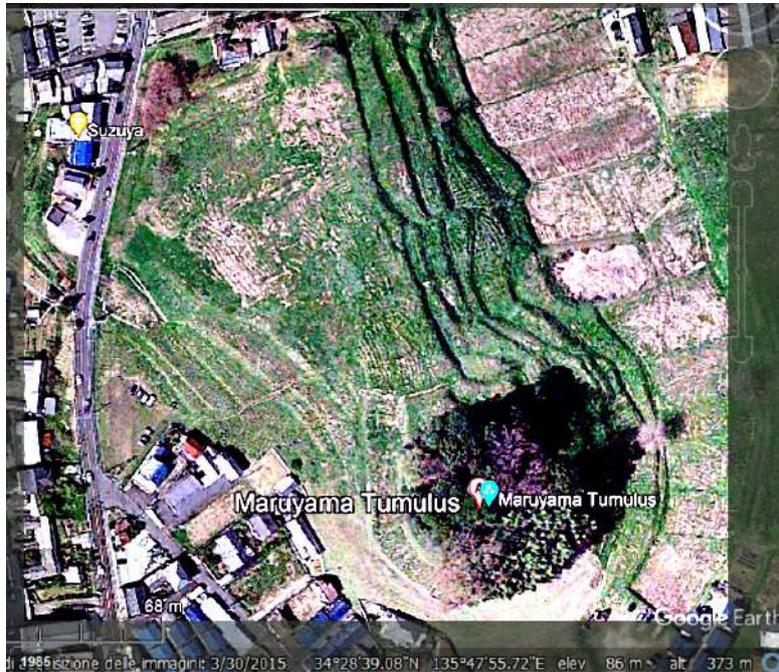


Fig. 36 – Maruyama Tumulus

Misemaruyama Kofun (見瀬丸山古墳)

From <https://www.japanese-wiki-corpus.org/building/Misemaruyama%20Kofun.html>

The Misemaruyama Kofun (Ancient Tomb) is a zenpoken fun in Mise-town, Gojyo-town and Ogaru-town, in Kashiwara City, Nara Prefecture. “It is presumed to have been constructed in the latter half of the sixth century, and the theory that it is the mausoleum of Kimmei Emperor and Soga no kitashihime is widely accepted among scholars.”

The kofun is placed on a slope of a hill. It is an extremely large. The back circular part 115 meters in diameter. This kofun is the largest in size in Nara Prefecture, the sixth largest even in Japan. “Moreover, its corridor-style stone chamber is 28.4 meters in total length, ranking first in size across the country. The dromos with its ceiling covered with six pieces of huge natural stone 4.8 meters in length is 20.1 meters in length, more than 1 meter in width and 1.5 meters in height. The burial chamber is 8.3 meters in length, 4.1 meters in maximum width, in which two hollowed-out house-shaped stone coffins were placed in an L-letter shape. ... As shown in the name of Maruyama (round mountain), many people had regarded this tomb simply as an old round tomb or a round barrow, and in old days this tomb was called Gojyono Maruyama Kofun. Since the Meiji period it has been called by the present name, but locally it is still called Maruyama Kofun because its back round part lies in Gojyono-town and a large portion of its front part in Ogaru”.

18 April 2022

“When a child living Kashihara City was playing with his friends in 1991, he found an entrance to the dromos of a corridor-style stone chamber outside the hedge of this ancient tomb. The father of the child who heard this story entered the inside through the dromos with his child on the early morning of May 30 before he went to work, and took photographs of the inside of the stone chamber.”

Modifying the nature

“Located high on a mountain side near Yashiro Station in Chikuma City, Nagano, is the Mori Shogunzuka Kofun. This late Kofun Period keyhole-shaped burial mound dates to the 4th Century AD and was built for a local ruler during the period. Known for centuries by the locals, it had been plundered by grave robbers numerous times ... By 1992 the tomb had all of its exterior stonework rebuilt, its decorative pottery that once adorned its top replaced with replicas. The surrounding land was cleared, revealing numerous additional circular burial mounds, and the Mori Shogunzuka Kofun Museum was built at the base of the mountain, where the tomb's interior structure and remaining artifacts are displayed.” (Robert Grey, 2014, A Tomb with a View. Available at the link <https://en.japantravel.com/nagano/a-tomb-with-a-view/12925>)



Fig. 37 - “Located high on a mountain side near Yashiro Station in Chikuma City, Nagano, is the Mori Shogunzuka Kofun.” (Courtesy Google Earth).

18 April 2022



Fig. 38 - The kofun in a frame from the remarkable video <https://www.youtube.com/watch?v=G5UKUNiEH9o> by Japanese Journey

In <https://www.megalithic.co.uk/article.php?sid=29800> we can find told that “The crooked shape, head nodding, indicates that this tumulus was constructed by modifying the natural mountain ridge and that it has no astronomical meanings”.

Keyhole Tombs in Korea

From <https://factsanddetails.com/japan/cat16/sub105/entry-5294.html>

“In recent years keyhole tombs have been found in areas of the ancient Kaya (Gaya) confederacy on the southern Korean peninsula. The keyhole tombs that have thus far been discovered there were built between the 5th and the 6th centuries. Whether they were built for a local chieftain influenced by Japanese culture or for a Japanese immigrant is debated. Some scholars say the keyhole tombs in Korea are evidence of Japanese culture influencing Korean culture. Other scholars say it is the other way around: another example of Korean culture influencing Japanese culture. ... Kawagoe wrote: Thirteen keyhole-shaped tombs dated to the latter half of 5th century to the first half of 6th century – have been found in Korea, all located in South Cholla province in the area of the Yongsan River basin — six of these have been excavated. All 13 tombs were surrounded by moats with many Korean-made “haniwa”-like cylindrical potteries placed on top of these mounds. The tombs also had corridor-style stone chambers, some of which with walls that are painted with red coloring...closely resembling corridor-style tombs in North Kyushu dating to the 5th and the 6th century”. [Source: Aileen Kawagoe, Heritage of Japan website, heritageofjapan.wordpress.com]

Pits and corridors

From <https://jref.com/articles/kofun-period.208/>

“The appearance of tomb mound buildings at the end of the third century in Japan is so sudden that early archaeologists thought the tombs reflected either conquest or influence from outside the archipelago. The identity of the contributing society was sought among the tomb-building cultures of China and northern Korea”. However, in 1952, the Japanese archaeologist Kobayashi Yukio demonstrated that “there were no similarities in mound shape of burial chamber between Japan and the continent. ... The earliest tomb mounds of the Kofun period were built in the Kinai Region (畿内, Kyōto-Nara-Ōsaka). From there, tomb building spread to northern Kyushu ... *Early tombs had either round or keyhole-shaped mounds.* Keyhole tombs may have either front-square and rear-round mounds (前方後円墳 zempō-kōen-fun) or front-square and rear-square mounds (前方後方墳 zempō-kōhō-fun). *The front mounds may have originally served as a place for funerary rites; the main burial is usually in the rear mound.* ... Burial facilities consisted of a wooden coffin buried directly in the summit of the mound or placed in a stone chamber of the tateana sekishitsu (竪穴式石堂, lit. vertical hole, stone chamber”) style. **To construct a stone chamber, a pit was sunk into the top of the mound and lined with brick-sized stones.** A floor of smooth clay was prepared for the wooden coffin. Then ceiling rocks were laid to seal the chamber; finally, the earth was mounded over the top. Clay cylinders and funeral sculptures (埴輪 haniwa) were often placed on the tomb summit over the grave. Usually, the surface of the tomb was paved with rocks. ... In the late fourth century, tomb building spread further into eastern and northern Japan and to the western coastal areas. The tombs assumed a greater variety of shapes, square or gourd-shaped, formed by two round mounds joined together. Alternate burial facilities were also developed: large stone coffins were placed in the **pit-style chambers** or directly into the ground, and wooden coffins were embedded in prepared clay enclosures rather than stone chambers. ... In the fifth century, the character of the tombs underwent drastic changes. ... Wide moats became a common feature, dramatically increasing the area of the tombs (e.g. the Daisen-Kofun, the tomb of Emperor Nintoku in Ōsaka, or the Ōjin Mausoleum). ... [During the Middle Kofun-Period] A new type of tomb chamber called yokoana-shiki-sekishitsu (横穴式石堂, lit. “horizontal hole, stone chamber”) was also transmitted from the Korean peninsula in the fifth century. **Equipped with a corridor entrance,** this kind of chamber was oriented so that one could walk into it, rather than only being accessible through the ceiling like the pit-style chamber. To construct a corridor-style chamber, a level surface was provided on the mound, and the stone chamber was then built upon the flat surface. The entrance to the corridor was positioned so that it opened onto the slope of the mound. Finally, the earth was piled over the chamber, embedding it in the centre of the mound, e.g. the Ishibutai Kofun (石舞台古墳) in Asuka, Nara Prefecture. The corridor allowed the tomb to be used not just once but several times, and in the late Kofun period, family tombs became quite popular.”

18 April 2022

From http://www.miyazaki-archive.jp/d-museum/mk-heritage/en/specialmention/urial_thought.html “Tombs in East Asia underwent a major transformation, from pit-type burial facilities such as pit-style stone chambers to tunnel-type burial facilities. These tunnel-type burial facilities spread throughout East Asia under the influence of the Chinese mainland (brick-chambered tombs), passing south on the Korean Peninsula from Koguryo to Paekche and Kaya, and then on to the Japanese archipelago. Stone chambers appeared from the second half of the 4th century to the beginning of the 5th century. In northern Kyushu, stone chambers with a side entrance appeared, which then developed into corridor-style stone chambers. While these stone chambers were only found in a limited number of areas during the 5th century, including Kinai, by the 6th century they were being built throughout the Japanese archipelago.”

Kofun (tumulus) (古墳) from [/www.japanese-wiki-corpus.org/](http://www.japanese-wiki-corpus.org/)

“Shapes: Beginning with the round barrow shape and square tumulus which are the basic shapes, there are many kinds of kofun such as hakkaku-fun (octagonal tumulus) (Noguchino Ono-haka) and candy-wrap (keyhole shape with one more handle) shape mound (Kushiyama Kofun and Tatetsuki Kofun). In addition, there are the zenpo-koen (keyhole-shaped tomb) mound, zenpo-koho (square front, square back) mound, soen (double round) shape mound and soho (double square) shape mound, which all have two tumuli. Major kofun usually have two tumuli. There are many different shapes of mortuary spaces where the dead are entombed. A representative of a zenpo-koen (keyhole-shaped tomb) mound is Daisen (大山 also written as 大仙) Kofun in Sakai City, Osaka Prefecture. Because such a long time has passed since their construction, most kofun have trees growing on them, but the true state of a kofun at the time of completion was without trees. Such examples are Goshiki-zuka Kofun and Mori Shogun-zuka Kofun, which have both been restored to their original states.”

“Mortuary Spaces: There are two types of mortuary spaces of kofun - pit type and horizontal tunnel type. The pit type consisted of a hole which was made from the surface of a tumulus called a Boko (a tunnel to put a coffin in), where a coffin was placed at the bottom, and filled with sand again. Because of the structure, an added burial was impossible, and there was no space where people were able to move around. There are pit-type sekkaku (stone surrounding wooden coffins), nendokaku (clay surrounding wood coffins), and hakoshiki-sekkan stone coffins and wood coffins. Regarding the pit-type sekkaku, after placing a wooden coffin at the bottom, stones (building stone) are built up as walls and then ceiling stone is placed as a cover. The style was popular from the beginning to the middle of the Kofun period (tumulus period). For nendokaku, a wooden coffin placed at the bottom was wrapped in layers of clay which is considered a brief version of a pit-type sekkaku. This was popular from the middle of the beginning/middle of the Kofun period. Hakoshiki-sekkan consisted of making an enclosure with stones around the dead body like a box, and is the burial method from the Jomon period. The wooden coffin method was to simply place a wooden coffin and make no space in the tunnel; this is a burial method from the Yayoi

period.”

“As for the types which have horizontal tunnels, mortuary spaces are built on the ground or on a surface during construction of a tumulus and the tumulus is then built on it. Other types include Yokoana-shiki sekishitsu (horizontal stone chamber) and Yokoguchi-shiki sekkaku (stone sarcophagus with side entrance). Yokoana-shiki sekishitsu consists of a tunnel part as a passage (called sendo) and a room part for entombment (called genshitsu). When looking at the rock chamber from above, if the passage is located at the center of the burial chamber, it is called Ryosode-shiki and if the passage is located toward right side or left side, it is called Katasode-shiki. There are a variety of coffin types, such as stone coffins, wooden coffins and kanshitsu (dry lacquered) coffins. After an entombment, the passage is blocked by Heisokuishi (piled stones) or Tobiraishi (door stone), but added burial is possible when the block is removed. This method became popular from the late Kofun period. Yokoguchi-shiki sekkaku was originally a stone coffin which was placed in a rock chamber and the stone coffin itself became a mortuary space; many of this type can be seen at the end of the Kofun period.”

“Coffins: In the Kofun period, a dead body was placed in a coffin and then buried. There were wooden, stone and ceramic coffins and so on depending on the materials used. A hollowed out wooden coffin is called a "Sakitake-shiki mokkan" (split bamboo type wooden coffin) and made of a big tree which is divided into two pieces; the inside of both pieces is then hollowed out and became a cover and body of the coffin. However, the term "Sakitake-shiki" might be inappropriate because a big tree cannot be easily spilt like bamboo. A wooden coffin type called "combinational type" consists of four rectangle-shaped panels, a cover, bottom part, side plates for the right and left sides, and two small square-shaped panels, which are sometimes used as partitions.”

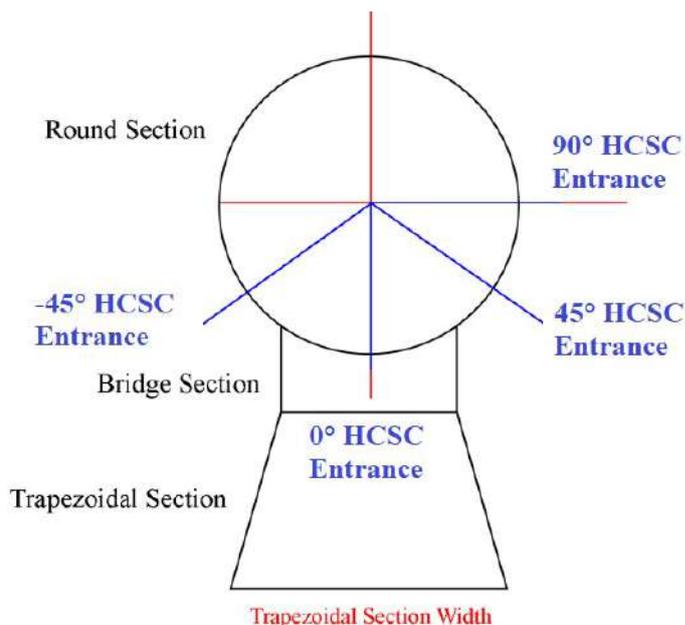


Fig. 39 – In (Lee, D., 2014), it is told that the corridor has a theoretical entrance orthogonal to the symmetry axis. However, offset is present in seven known cases.

Yöngsan River basin keyhole-shaped tumuli

The Yeongsan River is a river in south-western South Korea.

From (Lee, D., 2014): “With the exception of Charabong Tomb, all of the YSR keyhole-shaped tumuli are believed to have horizontal corridor stone chambers (HCSC), which have an entrance orthogonal to the long axis of the tomb, usually at the side of the round section, or at a 45° angle to the left if standing at the center of the round section and looking toward the trapezoidal section (see Figure 4-1, here Figure 39). These entrances open into the stone burial chamber. Among the seven tumuli where this HCSC offset angle is known, all the keyhole-shaped tumuli in the Kwangju regions have an offset of 45°, while Sindök Tomb and Changgobong Tomb in the south have an offset angle of 90°. Curiously, Yongdu-ri Tomb has an offset angle of 0°, which means that the orientation of the HCSC was parallel to the long axis of the tomb. Ch’iram-ni Tomb had an offset of minus 45° which is very unusual, and even caused some scholars to doubt if it was a keyhole-shaped tumulus at all.”

| Tomb Name | HCSC Offset Angle |
|---------------------|-------------------|
| Ch’iram-ni Tomb | -45° |
| Wölgye Tomb | |
| Changgosan Tomb | |
| Sindök Tomb | 90° |
| Yogi-dong Tomb | |
| P’yosan Tomb | |
| Myöngghwa-dong Tomb | 45° |
| Wölgye-dong Tomb 1 | 45° |
| Wölgye-dong Tomb 2 | 45° |
| Söngwöl-li Tomb | |
| Kosöng-ni Tomb | |
| Yongdu-ri Tomb | 0 |
| Changgobong Tomb | 90 |
| Charabong Tomb | n/a |

A table adapted from (Lee, D., 2014). Then, in the case of Korean keyhole kofun, the rule of a corridor perpendicular to the symmetry axis seems not true.

18 April 2022

The entrance

From (Lee, D., 2014), it seems that a sort of rule exists regarding the direction of the corridor in Korean Kofun. Let us try to find an example of Japanese keyhole Kofun with a corridor passage and an evident entrance from satellite images. It is the Watanuke Kannonyama Kofun (綿貫観音山古墳), a Kofun located in the Watanuki neighborhood of the city of Takasaki, Gunma Prefecture in the northern Kantō region of Japan. The site dates from the late 6th Century. en.wikipedia.org.

The Watanuki Kannonyama Kofun is located on a plain on the west bank of the Ino River, six kilometers east of the city of Takasaki, and is constructed facing north, according to Wikipedia. That is, the side of the square part is facing North (actually north-northwest).



Fig. 40 - Watanuke Kannonyama Kofun.

“An archaeological excavation was conducted by the Gunma Prefectural Board of Education from 1967 to 1968. The tumulus has a two-tiered construction and a double horseshoe-shaped moat. From the excavated Sue ware pottery, the date of construction is estimated to be the latter half of the 6th century AD. Haniwa were found in various locations around the tumulus, but no trace of fukiishi were discovered. The haniwa were of especial interest, as they depict men, women, boys and girls, in various costume,

18 April 2022

including what appear to be warriors in armor and with shields, farmers and aristocrats. ... The burial chamber is a horizontal trapezoidal stone-lined room in the middle of the posterior circular portion, opening towards the southwest. It was found to be intact. The dimensions were the largest found in Gunma Prefecture, with a total length of 12.65 meters. The wall stones are andesite blocks, and the ceiling stones are sandstone. The blocks weigh up to 22 tons, but as there is no source for these materials from the neighborhood of the burial mound, it was necessary for these stones to be transported from a considerable distance to construct this tomb. The grave goods included two bronze mirrors, gold, silver and glass jewelry, iron swords, iron spearheads, fragments of armor, horse harnesses, saddles, stirrups and Sue ware, Haji ware, copper water bottles and other containers, many of which were found to be in excellent preservation. These included copper water jars and iron helmets thought have been made in Northern Qi, and a copper water bottle and a mirror that were identical to objects excavated from the burial chamber of the Tomb of King Muryeong of Baekje in Gongju, South Korea. As these objects must have been cast from the same mould, it indicates a strong connection between the rulers of the Keno region of ancient Japan and the ancient Korean Peninsula”.

In this kofun, we can see that the corridor is, more or less, perpendicular to the long axis of the structure. But this corridor is pointing toward the sunset.

Gunshufun Tumuli and Kinship in Late kofun era

In the “Routledge Handbook of Premodern Japanese History”, 2017, Friday K. F. Editor, we can find more details about the evolution from pits to corridor-style chambers.

“In the sixth century – the Late Kofun era – society transformed drastically, as is clearly reflected in several major changes in mortuary practices. These changes include a decline in the construction of large keyhole-shaped tumuli, a drastic increase in the construction of minor circular burial mounds in clusters (referred to as gunshufun), and the adoption of corridor-style horizontal burial chambers (referred as yokoana-shiki sekishitu) that could be opened for additional interments after the initial burial”.

“While the decline in the construction of keyhole-shape tumuli indicates that such tombs came to be restricted to fewer, and even higher-ranking elites, the appearance of gunshufun indicates that far more people came to be buried in mounded tombs in the Late Kofun era than before. Scholars interpret gunshufun as a reflection of the central policy incorporating more people into its own social system, and of more people rising to the social class that allowed them to be buried in mounded tombs. It may also be that ideology of the central polity changed, and keyhole-shaped tumuli were no longer as important as symbols of power as they had been in the Early and Middle Kofun eras.”

The adoption of the corridor-style horizontal burial chambers was important because the size of the chamber would become a status symbol, regardless of the form and size of the tomb itself. This drastic change may have been initiated by King Keitai (r.

18 April 2022

507-531 or 534). *For the first time in the Kofun era, burial chambers of the same structure and style were constructed in all mounded tombs, from the largest keyhole-shaped tumuli - such as Keitai's own – to small circular tombs less than 20 meters in diameter.*”

“The adoption of the corridor-style horizontal burial chambers was in a sense inevitable, because kinship structure changed in the sixth century. According to a very innovative study by Tanaka Yoshiyuki (1953-2014), while brothers and sisters had been buried together until the beginning of the sixth century, fathers and children who were not selected to be the heir came to be buried together from the early sixth century on. From the middle sixth century, mothers were also buried with their husband. In other words, burial chambers had to have a structure that would allow additional interments, resulting in a corridor-style burial chamber that could be reopened later.”

Then, the adoption of the corridor-style chamber, instead of a pit, was due to an evolution in the society.

Imashirozuka kofun is, possibly, the mausoleum of Emperor Keitai, yielding large quantities of huge haniwa.



Fig. 41 - Imashirozuka kofun

Emperor Keitai (継体天皇, Keitai-tennō) (died 10 March 531) was the 26th legendary emperor of Japan, according to the traditional order of succession. No firm dates can be assigned to this emperor's life or reign, but he is conventionally considered to have

18 April 2022

reigned from 3 March 507 to 10 March 531. Let us note that he lived quite after **Emperor Nintoku** (仁徳天皇, Nintoku-tennō), also known as Ohosazaki no Sumeramikoto (大鷦鷯天皇), that was the 16th Emperor of Japan, according to the traditional order of succession. The tomb of Emperor Nintoku is the Daisen Kofun. Following (Friday, K. F., Ed., 2017), we can argue that the Daisen Kofun has a pit burial chamber and not a corridor-style one. While the existence of Emperor Nontoku is generally accepted as fact, no firm dates can be assigned to this Emperor's life or reign. He is conventionally considered to have reigned from 313 to 399, although this date is doubted by scholars.

Pit-dwelling-style stone lined chamber at the square end

<https://web-japan.org/atlas/historical/his15.html>

This web page is discussing the Daisen Kofun, “One of the Largest Mausoleums in the World Believed to Be the Tomb of a Fifth-Century Emperor”.

“In the Japan of the late third to late seventh centuries, the custom was to bury people of high social status in tombs that were covered with large mounds of earth. Such constructions are called kofun in Japanese archaeology, and the period is known as the Kofun Period (ca 300-710). These burial mounds come in various shapes and sizes and the characteristic form in Japan is the keyhole-shaped tumulus. The Daisen Kofun, with an overall mound length that exceeds about 500 meters (1,640 feet), ranks in scale alongside the Mausoleum of the First Emperor of the Ch'in dynasty in China and the Great Pyramid of Khufu in Egypt”.

“This huge tomb is located in the middle of a cluster known as the Mozu Tumuli, which consists of 92 large and small kofun lying within an area of roughly 16 square kilometers (6.2 square miles) in the city of Sakai in Osaka Prefecture. In the Kinki region (located in west central of Japan) during the Kofun Period, the leaders during the flourishing days of Yamato hegemony favored the use of key-hole-shaped burial mound, and nearly all of the historical tombs of emperors and empresses that are currently administered by the Imperial Household Agency are of this form”.

“It is said that the Daisen Burial Mound was built in the 5th century as the tomb of Nintoku, the 16th Emperor. It appears that the slopes of the mound and the moat around it were used for some kind of religious rites, since unglazed pots and hollow circular clay figures modeled on people and animal forms, known as haniwa, have been unearthed. Excavations in 1872 discovered a stone sarcophagus in a pit-dwelling-style stone lined chamber that was buried beneath the mound at the square end. Gold-plated armor, a helmet, and an iron sword were also found.” There is also the Kurohimeyama tomb, which has a burial pit in the square part, as told in (Fukunaga et al., 2018).

“One such example of a medium-sized keyhole-shaped mounded tomb is Kurohimeyama. Measuring 144m long, this mounded tomb was built in the second quarter of the 5th century, slightly after Kondagobyoyama, just outside the Furuichi

18 April 2022

group. The excavation of the pit-style burial chamber in the frontal mound resulted in the discovery of 24 sets of iron armor, the greatest amount of armor found from a single tomb to date. All 24 sets consisted of iron helmets and iron cuirasses, and twelve of them were accompanied by neck and shoulder guards. It is important to note that these suits of armor were discovered in the front part of the mounds; as mounded tombs were built for the individual interred in the rear mound, the iron armor can be said to have thus been deposited in a subordinate burial chamber. An even larger quantity of iron may thus have been deposited in the main burial chamber of the round rear mound; unfortunately the main burial chamber had been destroyed before the archaeological excavation conducted in 1946.”

In Fukunaga et al., 2018, it is also stressed the appearance of the ‘satellite tombs’, accompanying a giant keyhole-shaped tumulus. “The practice of building such satellite tombs is witnessed only in the 5th century”. The authors link these tombs to the fact that “the system of social ranking or stratification” in polity of the 5th century grew more complex.

From https://en.wikipedia.org/wiki/Kurohimeyama_Kofun. “The Kurohimeyama Kofun (黒姫山古墳) is a Kofun period keyhole-shaped burial mound, located in Mihara ward of the city of Sakai, Osaka in the Kansai region of Japan. The tumulus was designated a National Historic Site of Japan in 1957 with the area under protection expanded in 1978. The Kurohimeyama Kofun is a zenpō-kōen-fun (前方後円墳), which is shaped like a keyhole, having one square end and one circular end, when viewed from above. It is located in the wide flat land of the Minamikawachi region between the Furuichi Kofun Cluster and the Furuichi Kofun Cluster. The tumulus has a total length of 73 meters, with a 43-meter diameter posterior circular portion, and is orientated to the west. It was once covered in fukiishi and had rows of cylindrical haniwa. There was a ceremonial platform extending off of the northern edge of the central constriction and the tumulus was surrounded by a moat with a width of 15 meters and depth of two meters. The tumulus is believed to have been associated with the Tajihi clan, a powerful tribe which controlled this area around the mid-fifth century”.

“In 1946, a **pit-type stone burial chamber was detected in the anterior rectangular portion**, and this was first excavated in 1947, with five more excavations occurring between 1948 and 2000. Finds included 359 cylindrical haniwa, each measuring 80 centimeters in height by 40 centimeters in diameter, with a slightly recessed bottom. In addition, 25 or more lid-shaped haniwa at intervals between the cylindrical haniwa. From within the burial chamber, 24 sets of armor were found, mounted in an upright position in two rows. This is the largest number of armor which has been found at any site in Japan. In addition, there were 24 iron swords, 9 iron spearheads, 6 iron stakes, 56 iron arrowheads, and 5 knives, along with other items. The burial chamber itself was for meters long and was covered by eight sandstone blocks forming the ceiling, and river stones to provide drainage on the floor. **The burial chamber which was presumed to have existed in the posterior circular mound was apparently robbed in antiquity, and there is no trace remaining”.**

18 April 2022



Fig. 42 – The Kurohimeyama kofun.

From the web site:

<https://www.city.sakai.lg.jp/foreign-language/english/visitors/enjoying/sightseeing/kofunkombs.html> some further information.

“Kurohime-yama Kofun is a keyhole-shaped tomb situated facing west and located between Sakai's Mozu and Furuichi Kofungun in the cities of Habikino and Fujiidera. The round rear part has a diameter of 67 meters, while the front part has a width of 64 meters. With a total length of 114 meters and a height of 11 meters, the tomb has a two-tier structure. Archeological surveys have revealed an area around the outer moat that was used for rituals and other functions. **Kurohime-yama Kofun was discovered and surveyed by Suenaga Masao in 1947** soon after the end of World War II. Although Suenaga found that the burial chamber in the round rear part of the tomb had been destroyed by grave robbers, a stone chamber was discovered in the middle of the square front part of the tomb. Inside the chamber were found 24 suits of armor and a large number of iron weapons and arms, creating a stir at the time. The Tomb was designated a national Historic Site in 1957 (with surrounding areas added in 1978), and environmental work was performed on the site from 1989 to 1992. The iron armor underwent conservation treatment and is currently on display at the Mihara History Museum”.

Nintoku-tenno-ryo Kofun

From “Monuments and Sites Division, Agency Cultural Affairs”, Volume 6.

“Nintoku-tenno-ryo Kofun, a keyhole-shaped mounded tomb located in the central part of the Mozu area, is the largest kofun in Japan. It was constructed on the western edge

of the plateau, with its square front part facing toward the south so that the contours and the principal axis of the mound would run parallel to each other. The location and mound direction were apparently selected with clear consideration of how it would be viewed from Osaka Bay. On the bank of Nintoku-tenno-ryo Kofun, Chayama Kofun and Daianjiyama Kofun are situated. As they are located on the bank of Nintoku-tenno-ryo Kofun, these three are treated as one component part.”

“In the close vicinity around the moat of the Nintoku-tenno-ryo Kofun, there also exist many tombs such as Nagayama Kofun, Genemonyama Kofun, Tsukamawari Kofun, Osamezuka Kofun, Magodayuyama Kofun, Tatsusayama Kofun, Dogameyama Kofun, Komoyamazuka Kofun and Maruhoyama Kofun. Nintoku-tenno-ryo Kofun’s mound length is 486 m, and its total length, including the moat, is 840 m. The height of the round rear part is 34.8 m. The mound has three tiers, and projections are attached to both sides of the constricted part”.

And then we can find an important description of what we could guess being inside the tumulus. “According to the Edo-period geographical booklet of Sakai “Zen-kai sho shi” (1757), **a stone coffin was used in the burial facility in the round rear part**; with a length of around 318 cm and a width of approximately 167 cm, making it the largest stone coffin in Japan. In 1872, **on the south slope of the square part, a pit-style stone compartment and a chest-shaped stone coffin were uncovered**, from which grave goods were unearthed. Sketches made at the time revealed that the burial goods included armor made of gold-plated bronze plates, the only example of its kind, as well as glass containers assessed as having been brought from West Asia. On the sketches, it is written that the stone compartment was constructed by piling up river rocks and that its internal measurements were as large as 3.9 m by 2.4 m. For the coffin, an oblong chest-shaped stone coffin with projections for securing ropes (nawakake tokki) was used; it is recorded that its length was between 2.4 m and 2.7 m and its width was 1.45 m. The grave goods were returned to the chamber, and the chamber and the coffin were both reburied and preserved in this condition” [from Volume 6].

“The mound is surrounded by a triple moat and Nintoku-tenno-ryo Kofun is the only giant keyhole-shaped kofun with this characteristic. The total area, including the triple moat, is a sprawling 480,000 m². One trial calculation, indicates that the construction of the gigantic mound and the extensive moat would have required 15 years and eight months and, assuming a maximum of 2,000 laborers per day, a total of 6.8 million people. Both cylindrical and representational haniwa were found from the mound and moat, and Sue ware jars were unearthed from the projections. It is estimated that 29,000 cylindrical haniwa were arranged at this site. The human-shaped haniwa unearthed from the outer moat are early examples of their kind, while the horse-shaped haniwa are examples of particularly large-sized items. **The construction period is dated to the mid-Middle Kofun period**”[from Volume 6]. The period is therefore from the middle to end of the fourth century. The Emperor (Nintoku-tennō), the 16th Emperor of Japan, according to the traditional order of succession, had conventionally reigned from 313 to 399 (Ponsonby-Fane, 1959).

18 April 2022

In the Daisen Kofun, we have two burial chambers, one in the front square part, the other in the rear round part. Who could have been buried there, Emperor and Empress? May be, could it be better the Emperor and his Bodyguard? No, we have seen that the keyhole kofun were made for a single person. The chamber in the square part was a subsidiary place for precious objects. In any case, we have an axis, and evident axis, which is linking the two parts of the mounds, with two burial chambers inside. And this is the axis of the “bridge” between the two parts of the mounds. It is the axis of the kofun. This is the axis that we have to consider for the orientation of kofun, not the perpendicular one.



Fig. 43 - Daisen kofun. Possible position of the two burial chambers.

Let us report other observations from “Monuments and Sites Division, Agency Cultural Affairs”, Volume 6. Each of the kofun is comprising a burial facility, directly related to the burial of a body, “and it is thought that apart from a few exceptions, many of them are still in their original positions. While burial facilities of kofun and grave goods vary widely, depending on the period [see the Figure 2-12 in the given reference], the type of the former and the quality and quantity of the latter are always relative to the size of the mound throughout the whole Kofun period: the larger the kofun, the higher the rank of its burial facility is. ... the Middle Kofun period, which was the peak of the Kofun period. ... The burial facility consists of a pit that was dug from the top of the mound when it was largely completed, and a coffin and a compartment (kaku) that were installed within it [see Photo 2-3 of the given reference]. **While mounded tombs in other parts of the world usually involved a construction process in which burial**

18 April 2022

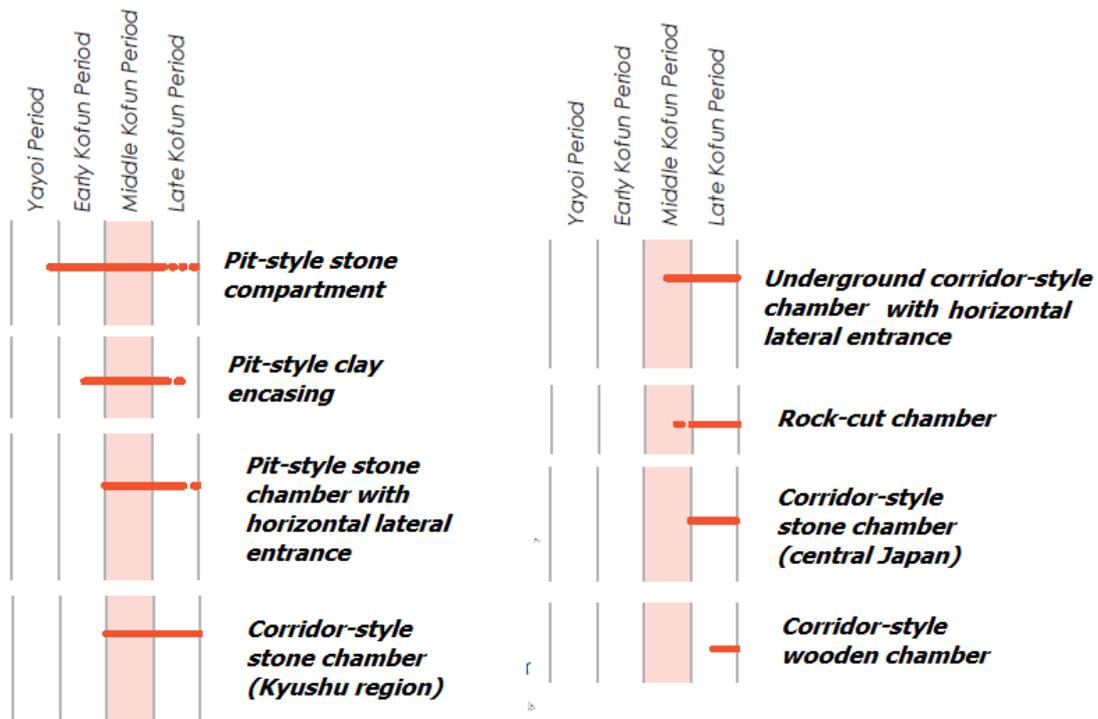
facilities were first built and then covered with piles of earth, kofun on the Japanese archipelago, where burial facilities **were dug into the mound top during the final stage of construction or after construction had completed**, are very distinctive in the way burials were conducted and how the mounds were used ... The body of the deceased was interred in a stone or wood coffin, which was then often placed in an outer compartment. Coffins include oblong chest-shaped, boat-shaped and box-shaped examples. The burial compartments are of two types: a stone compartment with stones piled up around the coffin, and a clay encasing around the coffin. Compartments were mainly used as the burial facilities of large-scale tombs, while in many of the small-scale tombs, a wooden coffin was placed directly into the grave pit” [from Volume 6].

From “Monuments and Sites Division, Agency Cultural Affairs”, Volume 8, other observations can be extracted. The Reference is stressing that “tombs come in certain standardized shapes and share a common structure. Although the mounds today look like hilly forests, underneath the current land surface there are complex and elaborate earthen architectural constructions. They have symmetrical, geometrical structures, composed of circles, triangles and squares, as well as horizontal surfaces (terraces) and **sloping sides built at standardized angles**. The construction of each kofun was made possible by sophisticated design and construction techniques (e.g., for piling up earth for the mound). In addition to the structural beauty of the mounds themselves, decorative elements such as fukiishi (paving stones) and haniwa (clay figures) covering the surface of the mounds are another major feature of kofun. Furthermore, the burial facility, which fulfills the main function of the tomb, is located in a pit dug into the top of the mound after its construction had almost been completed. **Judging from these features, kofun mounds are believed to have been designed as stages for executing burial and other funerary rituals**. This differs significantly from the purpose of many of the burial mounds found in other parts of the world, in which the burial facilities were made first, with stones or soil piled on top as a covering. As described above, kofun are mounded tombs characterized by the following features: the external surface served as a stage for funerary rituals; they were built in several shapes and display an extremely wide range of sizes; and their structure follows standard plan-types. With a high concentration of such tombs, the Mozu-Furuichi Kofun Group is genuinely outstanding even from a global perspective” (from Volume 8).

Please see the figure 3.1 of the given Reference which is showing the structure of the Tsudo-shiroyama Kofun.

“The mound of each kofun not only housed the body of the deceased in a grave pit dug into the top of the mound, but also served as a stage for funerary rituals, ... Most burial mounds found throughout the world are piles of earth or stone covering a burial chamber. In contrast, the mounds of Japan’s kofun are considered to have functioned as a stage for conducting funerary rituals, including the burial itself. In Japan’s kofun, burial chambers were left open after the completion of mound construction or chambers were opened up by digging into the top of the mounds after completion, then the burial ceremonies were performed decorating the flat top and tiers of the mounds to serve as

the stage for the ceremonies. The kofun was an important architectural facility used as the stage for funeral rituals” (from Volume 6).



The figure given above is adapted from the Figure 2-12 Pag.40 of the “Monuments and Sites Division, Agency Cultural Affairs”, Volume 6. It is showing the style of the burial chambers, according to the periods.

Ancestors

In Live Science, Harry Baker is reporting about the people buried during the kofun period, in an article entitled “Ancient bones reveal previously unknown Japanese ancestors”, September 20, 2021. DNA analyses “confirm a long-standing theory about the genetic origins of modern-day Japanese populations”. The researchers have found a third, “and previously unknown, group of ancestors that migrated to Japan around 2,000 years ago, of modern-day Japanese populations”.

Ancient Japan can be divided into three periods: the Jomon period (13,000 B.C. to 300 B.C.), with a small population of hunter-gatherers, the overlapping Yayoi period (900 B.C. to A.D. 300), during which farmers migrated to Japan from Asia and agriculture

18 April 2022

developed, “and the Kofun period (A.D. 300 to 700), when modern-day Japan began to take shape” (Baker, 2012).

In (Baker, 2012), it is told that previous research suggested two main genetic origins of today Japanese populations in the hunter-gatherers of Jomon period and in the farmers of Yayoi period. “Now, an analysis of the DNA found in ancient bones has revealed a third genetic origin during the Kofun period, when a group of previously unknown ancestors migrated to Japan, researchers reported in a new study”. “At the start of the Yayoi period, there was an influx of people from China or Korea with experience in agriculture. ... The Yayoi period transitioned into the Kofun period”. During this period, the first political leaders emerged. “However, until now, it was unclear if the Kofun transition was the result of a third mass migration or just a natural continuation of the Yayoi period.”. (Baker, 2012) tells that previous research had suggested a third genetic input from immigrants at the time.

In a new study, Shigeki Nakagome, School of Medicine at Trinity College Dublin in Ireland, and his team have analyzed the genomes of 12 individuals. “Nine dated to the Jomon period, and three were from the Kofun period, making it “the first study that generated whole-genome sequence data from Kofun individuals,” Nakagome said” (Baker, 2012).

“The results revealed that, as predicted by others, a third genetically distinct group of Japanese ancestors migrated to the country during the Kofun period. These ancestors came from East Asia and were most likely Han people from ancient China, Nakagome said” (Baker, 2012). In (Baker, 2012), it is told that the new findings “are not unsurprising to other historians who had suspected that this third group of Japanese ancestors existed” (Baker, 2012).

Let us note that “The Kofun individuals sequenced were not buried in keyhole-shaped mounds [reserved for high-ranking individuals], which implies that they were lower-ranking people,” Nakagome said. “To see if this East Asian ancestry played a key role in the transition [the transition from farming to an imperial state during the Kofun period], we need to sequence people with a higher rank.” (Baker, 2012).

The study is given in (Niall et al. 2012). Abstract tells that “Prehistoric Japan underwent rapid transformations in the past 3000 years, first from foraging to wet rice farming and then to state formation. A long-standing hypothesis posits that mainland Japanese populations derive dual ancestry from indigenous Jomon hunter-gatherer-fishers and succeeding Yayoi farmers. However, the genomic impact of agricultural migration and subsequent sociocultural changes remains unclear”. The study reports about 12 ancient Japanese genomes from pre- and post-farming periods. “Unexpectedly, - researchers tell - we identify a later influx of East Asian ancestry during the imperial Kofun period. These three ancestral components continue to characterize present-day populations, supporting a tripartite model of Japanese genomic origins”.

18 April 2022

A cluster

en.wikipedia.org/Saitobaru_Kofun_Cluster , <https://miyazaki-kofun.jp/en/about/>



Fig. 44

From the web site <https://miyazaki-kofun.jp/en/>

“A number of keyhole-shaped burial mounds, called kofun, were constructed on the Miyazaki Plain. Among these kofun, which are unique to Japan, were the Saitobaru Burial Mounds. Whereas the scenery surrounding the other kofun which scatter the Japanese archipelago have undergone natural changes with the passage of time, the Miyazaki Plain remains much the same as it did in its prosperous times long ago. In order to preserve the appearance and shape of the kofun, the Miyazaki Plain features almost no surrounding buildings, the only kofun site in Japan to do this. (The Miyazaki Plain is unique among kofun sites in that it offers a landscape that leaves the original appearance and shape of the kofun intact, with almost no surrounding buildings.)”

A remarkable video is showing the kofun landscape.

18 April 2022



Fig. 45 - Kofun of the Ōmuro Kofun as seen in Google Earth. Note the south-west and west orientations of the entrance (Courtesy Google Earth).

Ōmuro Kofun group

Ōmuro Kofun Group (大室古墳群) is a group of late Kofun period burial mounds located in the Matsushiro neighborhood of the city of Nagano in the Chubu region of Japan. https://en.wikipedia.org/wiki/Ōmuro_Kofun_group

The Ōmuro Kofun Group is a necropolis consisting of over 500 tumuli spread across two valleys, approximately six kilometers southeast of Nagano city. “The tombs were built over a 250-year period from the 5th to the 8th centuries. They have been grouped by archaeologists into five groups (Kanaiyama, Kitatani, Kajo, Omurodani, and Kitayama) by their geographic location, stretching across an area of roughly 2.5 square kilometers. There is only one keyhole-shaped kofun (zenpō-kōen-fun (前方後円墳)), but at least 330 smaller circular-shaped kofun (empun (円墳)) Most of these circular-shaped kofun have a diameter of approximately ten meters, and there is no other burial mound cluster in Japan where there are so many such circular-shaped kofun in such a small area. ... Theories that these tombs were built by immigrants to Japan from the ancient Korean states of Goguryeo or Baekje remain controversial. Excavated grave goods include Sue ware and Haji ware pottery, bronze mirrors, armor, swords, horse

18 April 2022

fittings and jewelry. The number of horse bones found was unusually large, and included the skull of a horse which was buried in the vestibule of one of the horizontal burial chambers” (Wikipedia mentions Isomura et Sakai, 2012).

To visit the kofun n.2 in the figure above, please see the video at the following link <https://www.youtube.com/watch?v=G5UKUNiEH9o>

Archaeology in Japan (M. Hudson, in Italian)

Un articolo di Mark Hudson del 2002, intitolato “L'archeologia dell'Estremo Oriente: Giappone”, in “Il Mondo dell'Archeologia”, ci spiega come essa si sia sviluppata ed evoluta nel paese del Sol Levante.

“Nel XVIII e XIX secolo si assiste in Giappone ad un forte impulso per l'antiquariato e per il collezionismo di oggetti antichi, ma l'inizio delle ricerche archeologiche condotte in maniera scientifica si fa coincidere con gli scavi intrapresi nel 1877 dallo zoologo americano E.S. Morse (1838-1925)”. Dai ritrovamenti nel deposito di Omori a Tokyo, Morse definì la ceramica ivi trovata come “decorata a corda”. Il termine Jomon è la traduzione giapponese di questa definizione. Il termine entrò gradualmente in uso per indicare il periodo Neolitico nell'arcipelago, oggi datato dal 10.000 a.C. circa al 300 a.C. Oltre a Morse, altri archeologi occidentali furono H. von Siebold (1852-1908) e N.G. Munro (1863-1942). Inizialmente, gli studiosi giapponesi ed occidentali concentrarono le loro indagini sui popoli citati nei testi tradizionali. Testi di questo tipo sono il Kojiki (Memorie degli antichi eventi) del 712 d.C. e il Nihon shoki (Cronache o Annali del Giappone) del 720 d.C. Si cercò quindi di ritrovare i popoli menzionati nei testi antichi nei reperti archeologici.

Gli studi iniziali sul periodo Jomon furono fortemente condizionati “dall'ideologia imperiale del periodo Meiji (1868-1911) che riteneva come veritieri i miti sull'origine” degli Yamato, cioè i giapponesi, miti contenuti nel Kojiki e nel Nihon shoki (Hudson, 2002). Nel mito, Jimmu, il primo imperatore della storia e che era discendente dalla dea del sole Amaterasu, aveva conquistato l'arcipelago giapponese sottomettendo i suoi originari abitanti (Hudson, 2002). I reperti Jomon venivano quindi interpretati come le vestigia dell'antico popolo pregiapponese, e legati a popolazioni quali gli Ainu “o i loro mitologici antenati” (Hudson, 2002). “In questa prospettiva fu interdetto lo scavo dei grandi tumuli sepolcrali (kofun), che si riteneva contenessero le spoglie degli antichi sovrani e con i quali si faceva iniziare il periodo imperiale detto Yamato o Kofun, corrispondente all'età del Ferro giapponese”. Negli anni Trenta, finito il periodo Meiji, si ebbe l'allentamento delle posizioni ideologiche ed in Giappone penetrarono schemi di pensiero positivisti e marxisti. Inoltre, “il prosieguo degli scavi archeologici portò all'identificazione della cultura Yayoi (300 a.C. - 300 d.C. ca.), dal nome di un quartiere di Tokyo dove ceramica di quel tipo fu rinvenuta nel 1884 da un allievo giapponese di Morse” (Hudson, 2002).

Venne così scoperta e riconosciuta la cultura Yayoi, che si basava sulla coltivazione del riso e dall'uso di strumenti in bronzo e in ferro. Si arrivò così allo schema cronologico

Jomon-Yayoi-Kofun (300 ca. - 645 d.C.), che è quello ancora oggi adottato.

Segue in (Hudson, 2002) una dettagliata spiegazione di cosa ha comportato l'ideologia “sempre più marcatamente nazionalistica adottata dallo stato giapponese negli anni Trenta e Quaranta” sugli studi ed i rapporti tra l'archeologia e l'antropologia. Con la sconfitta del Giappone nella seconda guerra mondiale, si ebbe gli archeologi “una maggiore libertà dalle costrizioni ideologiche e la possibilità di studiare in modo scientifico il passato del Paese attraverso ricerche archeologiche che ripresero con intensità subito dopo la fine del conflitto” (Hudson, M. 2002).

Hudson, 2002, riporta svariati esempi del nuovo corso degli studi.

“Nel 1952 e 1954 la legislazione relativa alla protezione dei beni culturali fu ampliata ad includere anche i reperti archeologici: secondo la legge giapponese, tutti gli oggetti sepolti nel terreno appartengono ai loro originari proprietari, anche se vissuti secoli addietro e qualora non sia possibile rintracciare i loro discendenti, i reperti vengono presi in custodia dalle organizzazioni statali” (Hudson, 2002). Allo stesso tempo, lo studio basato sulle mitologie imperiali venne sostituito da un metodo didattico basato prevalentemente su indagini archeologiche. Si ebbe anche uno scavo con “una valenza simbolica” nel 1953, “quando molte persone provenienti da classi sociali diverse presero parte agli scavi del tumulo funerario di Tsukinowa [un kofun], nella prefettura di Okayama, diretti da Y. Kondo, professore di Archeologia all'Università di Okayama” (Hudson, 2002). Segue in (Hudson, 2002) la discussione della vertiginosa crescita del numero di indagini archeologiche, che accompagnò la ricostruzione nel Giappone postbellico. “Attualmente l'interesse del pubblico per l'archeologia alimenta un'industria turistica con milioni di persone che visitano siti famosi, come Yoshinogari a Saga”.

L'articolo si conclude nel modo seguente, dicendo che “l'archeologia giapponese fondamentalmente si basa ancora su una concezione storico-culturale sviluppatasi negli anni Trenta; questo peculiare orientamento, *unito alle difficoltà linguistiche*, fa sì che il Giappone rimanga poco noto agli archeologi occidentali, sebbene possieda una delle scuole archeologiche più antiche e attive di tutta l'Asia”.

Land of Rising Sun

Edwina Palmer, “Land of the Rising Sun. The Predominant East-West Axis Among the Early Japanese”, 1991, tells at page 75. “One explanation for the lack of axial alignment discernible among Japanese burial mounds of the Tumulus Period may be that at that stage (third-fifth centuries) the Japanese had not internalized the continental concept of cardinal orientation. Senda interprets the Japanese creation myth of Nihon Shoki in which “Kyushu and Shikoku were expresses as having one body and four faces” as “a reflection of the quadrivial viewpoint of the ancient people”. But this could easily be an embellishment to the original myth by the eight-century compilers of Nihon Shoki, who had most certainly been influenced by the Chinese world-view and who were also no doubt anxious to show out their acquisition of continental refinements.” [Palmer, 1991]

18 April 2022

“In Kojiki there is only one other indication of a quadrivial world-view, and this is when Emperor Nintoku climbs a mountain to view “the land of the four quarters”. Philippi notes that this probably refers to “the ancient custom of land-viewing (kuni-mi), a ritual ceremony in which the emperor climbed a hill or mountain and surveyed the state of the land”. The expression describing the practice in this passage is clearly Chinese-influenced” (Palmer, 1991).

Let us remember that Emperor Nintoku (仁徳天皇, Nintoku-tennō) was the 16th Emperor of Japan, according to the traditional order of succession. “He is conventionally considered to have reigned from 313 to 399, although this date is doubted by scholars” https://en.wikipedia.org/wiki/Emperor_Nintoku

From page 80 of (Palmer, 1991): “For the ancient Japanese, the directions of sunrise and sunset were east and west, with the solstices indicating the extreme points, and the changes on these days formed the norm for orientation”. We used previously the image proposed by Palmer.

Hinomaru, the Japanese flag

“In 1859, when Japan was opened to foreign commerce, the need of a national, as distinguished from an imperial flag, became felt, and the Hinomaru, as a red ball on a white ground, was appropriated for this purpose, while a representation of the Kiku or Chrysanthemum, was adopted as the badge figured on the standard borne before the Mikado when he appears in public, I am inclined to believe, with a Japanese authority referred to by Mr. McClatchie, that this is not really a Chrysanthemum, but was originally intended for the Sun. Some further evidence however on this point is desirable. The number of number of petals, sixteen, corresponds to the number of rays which proceed from the Sun figured on the flag of the War department. This number is not selected at haphazard. It is one of those produced by multiplying two on itself (2^n), of which there are examples in the four cardinal points, the eight kwa or diagrams of Chinese philosophy, the thirty-two points of the compass and the sixty-four hexagrams of the Yih-king” (W. G. Aston, 1893).

Feng-shui again

Edwina Palmer, 1991, is mentioning the influence of Chinese culture in the planning of Japanese capitals. “The chief factor in the planning of the location of the new capitals was the consideration that had likewise governed the construction of the Chinese capitals: the practice of geomancy or topomancy, ‘divination from the forms of the physical environment’, known as feng-shui. This is an elaborate and syncretic form of divination that assumes its main characteristics around the second or third century BC in China. It involves choosing a site and orienting it so that it may acquire a maximum of ch’i, ‘file breath’, and a minimum of sha, ‘noxious influences’, through careful observation of physical features, especially mountains and watercourses, in relation to

18 April 2022

yin and yang, the Five Elements, the cardinal points, asterisms, the sexagenary cycle, and so on. The result is the choice of a site that is sheltered, sunny, airy, well drained, and aesthetically pleasing to boot. It is not clear exactly when feng-shui geomancy was first brought to the attention and concern of the Japanese; clearly like many other aspects of imported Chinese culture, it was not ‘suddenly’ introduced in the seventh century, but the Japanese may well have known about it for some centuries earlier.” (Palmer, 1991).

“Feng-shui in China was a paramount importance for auspicious siting of graves, **but burial mounds, or kofun, in Japan were not necessarily oriented likewise to the cardinal points.** Figure 1 (of the article by Palmer, see here the Fig. 39) shows the cluster of round and keyhole-shaped tombs at Miwa in Nara Prefecture. Many scholars believe these tumuli to epitomize Yamato mound building and a cursory glance presents the impression that there is little consistency among them as regards their orientation” (Palmer, 1991).

Palmer reports the following (from Wheatley, pp.44-45): “There is reason to believe that, when the Japanese islanders adopted the tumulus tomb, what really appealed to them was its form and that they had only an imperfect awareness of its function. It may not be without significance that the groups who initially espoused the burial mound were located in central Japan, remote from northern Kyushu, the region where continental influence was experienced most immediately. It is not unreasonable, therefore, to assume that the earliest mound builders had little direct knowledge of continental mortuary practices”.

Palmer adds that “Whereas the main axis in China was always north-south, in Japan it became northeast to southwest. ‘This may well be a variation from the Chinese to accommodate the different weather conditions that prevail in Japan [Feuchtwang]’, in particular perhaps the seasonal prevailing wind directions.”

As previously reported, Palmer is mentioning a lack of axial alignment discernible among Japanese burial mounds of the Tumulus Period. So, what is the orientation mentioned by Palmer? It is in the use of words in Japanese.

Palmer makes a survey of frequency of occurrence of the cardinal points in Nihon Shoki, a text completed in 720 AD, that is only eight years after Kojiki. The survey reveals a “similar prosperity, despite much more Chinese influence”:

| | |
|-------------|----------|
| southeast 3 | north 25 |
| northwest 6 | south 44 |
| southwest 6 | west 92 |
| northeast 7 | east 112 |

The inter-cardinal points appear in moderation. “It is probably no coincidence that of these, northeast is the most frequent, but indisputably east and west overwhelmingly predominate, especially east”.

Palmer adds the following observations. “It could be that the east-west axis was the most important axis of orientation that it predominates numerically in these texts; on the other hand, it is possible that the north-south axis, especially perhaps north, was in some way ‘unmentionable’, or taboo; or a combination of these two hypotheses, or some other reason. There are in fact three references, two in Kojiki and one in Nihon Shoki, that indicate that there are some kind of taboo associated with north and south, and they hint at the reason being a combination of the two possibilities mentioned above.”

Stone circles and winter solstice

In the Palmer’s discussion we find also mentioned the work by Yoshimura Teiji, who argued that, before the introduction of the Chinese lunar calendar, the Japanese had a solar calendar. “Among his many items of evidence, he includes the prehistoric stone circles, the largest of which are in the Akita Prefecture, date around 3,000 years ago, and which are aligned to sunrise on the morning of the winter solstice. Yoshimura goes on to suggest that the predominant north-south axial world-view of much China and Europe is based on reference to the Pole Star, which is fixed, and that peoples who held this world-view consequently held space to be static. He proposed that the Japanese world-view was based on the east-west axis, in turn based on the sun, which not only moves across the sky daily from east to west but rises and sets in different positions on the horizon throughout the year. As such, it might be expected to have produced a somewhat more flexible or dynamic concept of space”.

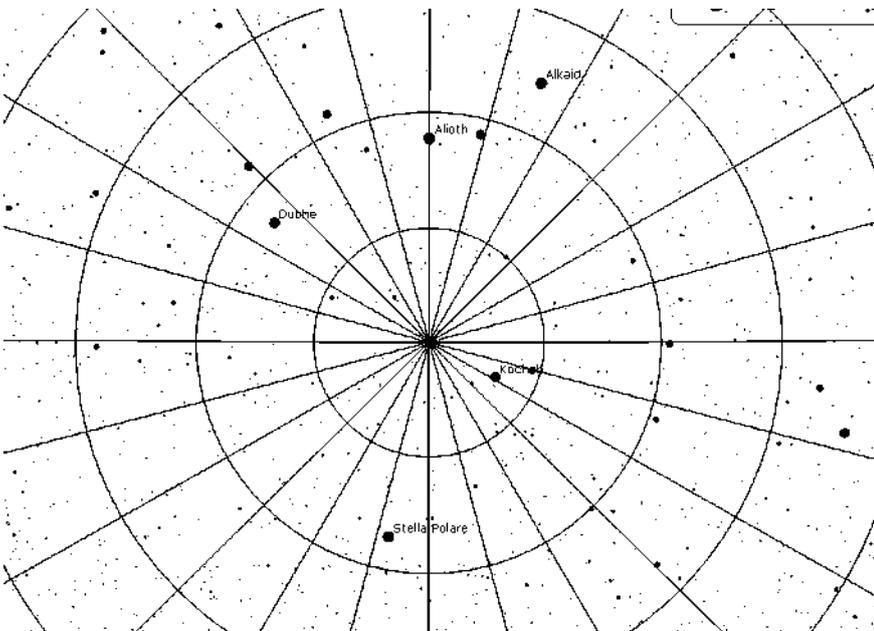


Fig. 46 - Simulation from Stellarium, 1,000 BC. No Polar Star at the celestial pole, no star at all.

18 April 2022

Well, let us just mention the fact that, in Europe, we have not ancient orientations according to the “Pole Star”, because the star that today is known as “Pole Star” was not indicating the position of the celestial pole. In fact, the position of the celestial pole changes during time, with respect to the fixed stars. In 1,000 BC, the position of the celestial pole is shown in the previously given simulation by Stellarium. We can see that the Pole Star (Stella Polare) was far from the position of the celestial pole.

Probably, Yoshimura Teiji was considering the position of the celestial Pole, mentioning it as a star.

Takaki

In Palmer, 1991, we find mentioned the following from Waida (1976).

“Various forms of the solar cult, which local political dependents had long enjoyed, ... came under imperial control in the second half of this [the sixth] century. This meant the concentration and centralization of the solar cult to the ruler’s household, whose sanctuary had been located at Ise since 477. The cult object worshipped by the imperial household by the imperial household as protecting kami seems to have been the sun itself. Known then perhaps as Takaki (or Takamimusubi), the sun was served by the female shamanic priest who officiated the solar cult as ‘wife of the sun’.”

Then, Palmer continues in the following manner. “Historically, the entrance of Amaterasu into the history of Japanese religions belonged to a recent phenomenon. There is general agreement among scholars that the name of the Sun Goddess, Amaterasu, was established only at the end of the seventh century. It is certainly true that the imperial household had been engaged in the solar cult during the previous centuries, but the solar god worshipped in those days was probably known by the name of Takaki (or Takamimusubi), not Amaterasu. Takaki had been served by the female shamanic priest officiating at the solar cult as his wife. In the course of the time, the ‘wife of the sun’ came to be homologized with the sun itself, elevated to divine status, and personified as Hirume (meaning ‘the wife of the sun’). Perhaps this Hirume was the immediate origin of Amaterasu. Understandably, the sacred institution of the saigū (or the office of a virgin priestess) at the shrine of Ise played no small part in the creation of the conception of a feminized sun and the Sun Goddess Amaterasu. This is probably why Japanese mythology points to two deities, Takaki (or Takamimusubi) and Amaterasu, as the ancestral kami of the imperial household” (Palmer, 1991).

Palmer, 1991, concludes with a provisional chronology of sun worship.

18 April 2022

By 3,000 years ago (Early to Mid-Jōmon): development of sun worship?

By 300 B.C.-A.D. 300 (Yayoi period): zenith of sun cult; bipolar division of space with orientation based on directions of sunrise/sunset; direction of sunrise on midwinter solstice deemed most important direction.

From late third century: introduction of Chinese world-view by Yamato leaders evident in orientation of *kofun*.

From fourth to early ninth centuries: Chinese quadrivial world-view with predominant north-south axis used in conjunction with 'indigenous' axis for construction of palaces, capitals, provincial cities, etc.

From sixth or seventh century? Gradual realignment of chief axis to northeast-southwest, perhaps to accommodate both systems of orientation, evident in, for example, *jōri* field patterns.

Mirrors in Kurozuka Kofun

The Kurozuka Kofun (Japanese 黒塚古墳) is a keyhole-shaped burial mound. The kofun belongs to the Yanagimoto Kofun group. The Kurozuka kofun has a total length of 132 m and a height of 11 m. It is located in Yanagimoto-chō in Tenri City (Nara Prefecture) near Yanagimoto Station. The Japanese name roughly means "Black Hill Kofun". The Kurozuka Kofun is believed to have been built in the second half of the 3rd century. During excavations in 1997/1998, many bronze mirrors depictions of gods and animal deities (*sankakubuchi shinjūkyō*) were found in the Kurozuka Kofun. Due to the large number, it is one of the most important mirror finds in Japan.

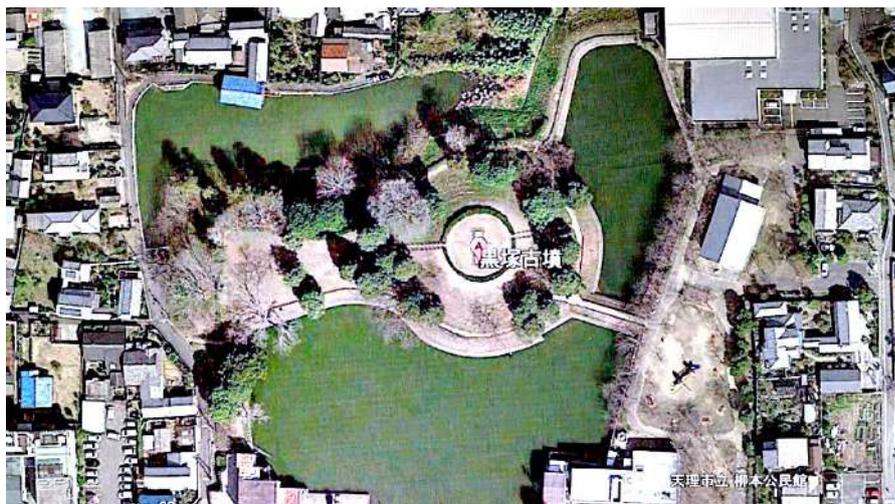


Fig. 47 - Kurozuka Kofun (Courtesy Google Earth)

18 April 2022

Fig. 48 - Sujinryo Kofun (Courtesy Google Earth)

In (Edwards, 1999), we find detailed information.

“Kurozuka is part of a cluster of six large keyhole mounds, all from the Early Kofun period, centering on Sujinryo. The easternmost of this group, Kushiya kofun, presents an unusual shape in which rectangular platforms jut out from opposite sides of a central round portion.” The kofun is judged to be the newest in the group (late fourth century). “Sujinryo, which remains unexcavated owing to its designation as an imperial tomb, is regarded as dating from the first part of the fourth century.” Andoyama kofun and Minami Andoyama kofun, lying north and west of Sujinryo, are designated as haizuke, or subsidiary tombs. They too remain unexcavated” (Edwards, 1999).

The Tenjinyama kofun, which is located just west and south of Sujinryo, was excavated in 1960. A part of the tumulus was destroyed during the construction of a roadway. The excavation exposed a stone chamber in the round portion of the keyhole. The investigators found the remains of a rectangular wooden box, containing 41 kg of cinnabar. “Twenty bronze mirrors lay neatly arranged around the perimeter of the box, and three more were placed just outside the group. No evidence was found of a human burial associated with these objects, raising the possibility that the stone chamber, and perhaps the mound itself, had been built to house a cache of precious goods. Examples are known elsewhere of subsidiary mounds that served as repositories for grave goods only” (Edwards, 1999).

The orientation of Kurozuka Kofun

The Kurozuka Kofun is a keyhole kofun, which has a pit-style burial chamber. We can see it in detail in the video “Excavating Oyamato Kofun Group - Uncovering Early Kofun Period Mounded Tombs”. <https://www.youtube.com/watch?v=jg2J-wbfa30>

18 April 2022

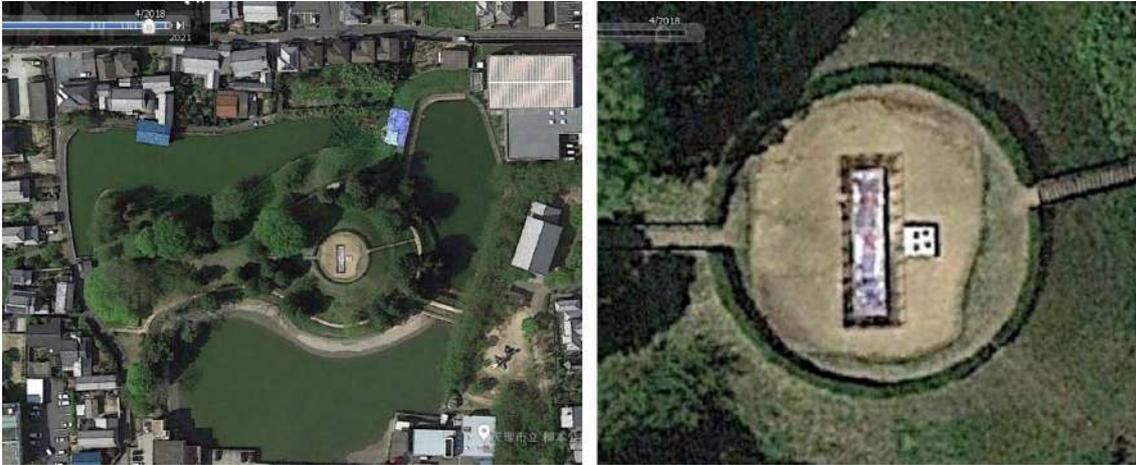


Fig. 49 – On the left, the kofun, and on the right, the burial chamber seen from above (Courtesy Google Earth)

The burial chamber is orthogonal to the symmetry axis of the kofun. This fact has been stressed by Akira Goto, that the chamber can have an orientation different from that of the kofun. In this case, we have a chamber where the body was in the position of the kitamakura. Here in the following, a screen shot of the video showing the excavation of the burial pit, which is long and narrow.



Fig. 50 – A frame from <https://www.youtube.com/watch?v=jg2J-wbfa30>

In this kofun, a large set of Shinjū-kyō (神獸鏡) "deity and beast" mirrors has been found (triangle-rimmed mirrors). These are Japanese round bronze mirrors decorated

18 April 2022

with images of gods and animals from Chinese mythology. One of these mirrors was found where there was the position of the head of the corpse. Six mirrors were of the “TLV” kind.

From [Wikipedia](#): “The *shinjū-kyō* style of bronze mirror originated from the Chinese magic mirrors and was frequently produced during the Han dynasty, Three Kingdoms, and Six Dynasties (1st–6th centuries CE). With the spread of Chinese bronze casting technology, *shinjūkyō* were also produced in Japan and the Lelang Commandery and Daifang Commandery in the Korean peninsula. ... Archaeological excavations of Japanese tombs from the Kofun period (3rd–7th centuries) have revealed numerous *shinjūkyō*, and Japanese archeologists divide them into subtypes including: *sankakuen-shinjūkyō* (三角縁神獸鏡, "triangular-rimmed deity and beast mirror"), *gamontai-shinjūkyō* (画文帯神獸鏡, "wide image-band deity and beast mirror"), *hirabuchi-shinjūkyō* (平縁神獸鏡, "flat-rimmed deity and beast mirror").”

Some scholars believe that the mirrors found in the Kurozuka kofun “are the original mirrors that Emperor Cao Rui presented to Queen Himiko, but others disagree”.



Fig. 51 a – A triangle-rimmed mirror, as shown in two frames from <https://www.youtube.com/watch?v=jg2J-wbfa30>



Fig. 51 b – A TLV mirror is a type of bronze mirror, popular during the Han Dynasty in China. They are called TLV mirrors because of the presence of symbols resembling letters T, L, and V which are engraved on them. They were produced from around the 2nd century BCE until the 2nd century CE.

DOI: 10.5281/zenodo.3976738



Fig. 52 – Sakurai Chausuyama Kofun (Courtesy Google Earth)

The orientation of Sakurai Chausuyama kofun

Information about Nara kofun can be obtained from the **Archaeological Institute of Kashihara** (many thanks to this Institute for the available documents in English), at <http://www.kashikoken.jp/museum/yamatonoiseki/yamatonoiseki.html> , and http://www.kashikoken.jp/museum/yamatonoiseki/kofun/translation/english/Sakurai_Chausuyama.pdf

“In the southeast portion of the Nara basin, there are a total of six colossal keyhole tombs with mounds of 200 m or greater in length. Beginning with Hashihaka tomb, these were built one after another within the Early Kofun period. They are considered to represent the royal tombs of the initial Yamato polity. Of these colossal keyhole tombs, the two tombs Sakurai Chausuyama and Mesuriyama were built slightly apart from the rest, on the southern fringe of the urban area in the modern city of Sakurai. The Sakurai Chausuyama tomb is located in Tobi, in the city of Sakurai”. It was excavated in 1949–50, and in 2009 the round portion of the mound was reexcavated. “The mound was constructed in three tiers for the round portion and two tiers for the rectangular portion of the keyhole shape, and was entirely covered with cobbles. The long and narrow rectangular portion gives the mound a shape resembling a round handheld mirror. The mound was built by shaping the natural soil of a hilly extension, in the manner of sectioning off the end of a ridge. There is no surrounding moat, but a large-scale rectangular precinct was established around the mound”.

“At the top of the round portion is a rectangular platform 9.2 m east–west by 11.7 m north–south, on the perimeter of which an enclosure in the form of a tightly built palisade was made of logs around 30 cm in diameter. Lined up along the inside of the

18 April 2022

palisade were double-rimmed jars with holes made in their bottoms prior to firing. These are considered to be the origin of jar-shaped haniwa. **In the center of the platform, parallel to the main axis of the tomb, a large-scale vertical stone chamber was built.** The walls of the stone chamber rose up in vertical fashion, the stones were painted with **cinnabar**, giving a magnificent crimson appearance. The chamber floor, which was also the bottom of the pit dug for the chamber, was paved with flagstones that had been painted crimson. An earthen bed for the coffin was made, and on this survived the bottom portion of a wooden coffin of umbrella pine, 4.89 m long and 27 cm thick (maximum). Twelve huge ceiling stones provided a framework, upon which a covering of red clay which had been painted with red iron oxide was laid, tightly sealing the stone chamber”. The kofun was robbed, but a wide variety of goods were found inside: mirror fragments, beads, items of jasper, weaponry including iron arrowheads and swords, and various tools. From the fragments, it was estimated that no fewer than 81 mirrors were present, “including naikō kamon (interconnected-arc design), TLV, triangular-rimmed, and animal-motif band mirrors. It is thought that probably more than 100 mirrors were included as grave goods in the stone chamber. The tomb’s scale, its vertical stone chamber and wooden coffin, and the contents of the grave goods all bear the majestic dignity befitting a royal tomb. It is thought to have been built in the latter half of the third century, in the generation following Hashihaka, and either preceding or simultaneous with the Nishi Tonzuka tomb”.



Fig. 53 – Shimanoyama Kofun (Courtesy Google Earth)

The three burial chambers of the Shimanoyama tomb

From the site of the **Archaeological Institute of Kashihara**, at the link

18 April 2022

http://www.kashikoken.jp/museum/yamatonoiseki/kofun/translation/english/13_Shimanoyama:e.pdf

This is a keyhole-shaped tomb with the mound 200 m in overall length, located at Tōin, in Kawanishi-chō, in the district of Shiki, Nara prefecture. It is situated in the center of the Nara basin. “Artifacts were collected from this tomb from the Edo period until the start of the Shōwa era, and in addition to being mentioned in Unkonshi (Treatise on rocks) written by the eighteenth century collector of rare and unusual rocks Kiuchi Sekitei, specimens of bracelet-shaped stone objects and beads, etc., are in the collections of not only this museum [Museum of the Archaeological Institute of Kahsihara, Nara Prefecture], but older households in the tomb’s environs, ... The **burial facility in the round part of the mound is inferred to be a vertical stone chamber**”. Excavation was conducted in 1988 and subsequently the Archaeological Institute of Kashihara and Kawanishi-chō have conducted 13 excavations from year 1995. “In their second excavation in 1996, **a clay compartment was found at the top of the front (rectangular) portion of the mound**. The compartment was built within a 10.5 m long by 3.4 m wide pit, situated toward its northern side. The scale of the compartment was 8.5 m in overall length, by a width of approximately 2 m. At the center was placed a 7.5-m long split-log coffin of Japanese umbrella pine, covered twice over with clay. Within the coffin, **cinnabar** had been spread over the area where the interred was placed, and near the head position were three bronze mirrors, three stone replicas of lidded containers, and ... Also, 80 wheel-shaped stone objects, ... **The possibility of the principal interred figure being female has been pointed out from the near absence of weapons among the grave goods. Further, it has become clear that another burial facility exists in between the round and front portions of the mound**. The extent of this feature has been detected only at its top ... Also, from investigations of the mound, it has become clear that the mound was built in three tiers, that the sloping side of each tier was paved with cobbles, that cylindrical haniwa were closely lined up in rows ... This tomb was built in the latter part of the fourth century, and is a representative large-scale keyhole tomb that can be placed in the transition between the Early and Middle Kofun periods, and there are opinions linking it with the chiefly lineages of the Ōyamato tomb group in the southeastern Nara basin, and those seeing it linked with the chiefly lineages of the Kazuraki region”.

Muro Miyayama tomb

http://www.kashikoken.jp/museum/yamatonoiseki/kofun/translation/english/14_Muro_Miyayama:e.pdf

The kofun is located in Muro, Gose, Nara prefecture. It is a keyhole-shaped mound of 238 m in overall length. This is the largest tomb in the southwestern portion of the Nara basin (the Kazuraki region).

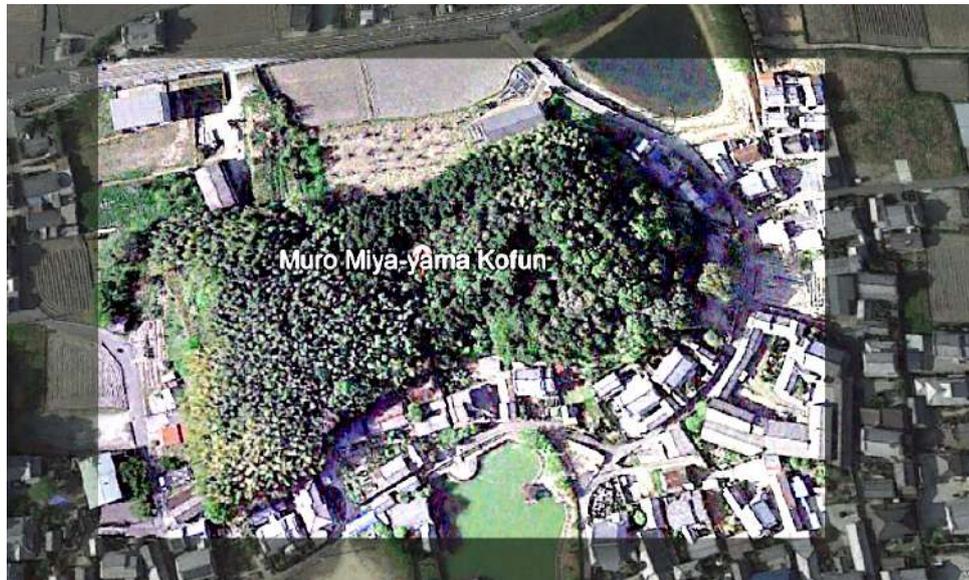


Fig. 54 - Muro Miyayama (Muro no Ōbaka) tomb

“The tomb is located on level ground directly to the northern side of the Koseyama tomb group, which numbers more than 500 clustered tombs standing atop the Koseyama hills. The front (rectangular) portion of the keyhole mound points west, ... The traces of the moat are not distinct, but standing atop the outer rampart on the northern side is Nekozuka, a square mound 70 m on a side, regarded as a subsidiary tomb. ... The area to the southeast of the mound is currently a pond, and it is thought that originally a shield-shaped moat encircled the tomb. The mound is constructed in three tiers, and as exterior facilities the presence of surface cobbles and haniwa rows have been confirmed. **At the top of the round portion of the mound there are two burial facilities lined up north and south.** The southern burial facility is a vertical stone chamber containing a chest-shaped sarcophagus of ... badly robbed ... Above the ceiling stone of the vertical chamber stood haniwa ... The northern burial facility has not been excavated, but the ceiling stones of its vertical chamber are exposed. ... There are also two burial facilities in the rectangular portion of the mound, and there are records of 11 mirrors and more than 170 beads and other items having been recovered. The current whereabouts of these materials are unknown. Additionally, material of a wooden coffin has been recovered, which is on display in this museum. Further, a burial facility consisting of a clay compartment has been detected at the top of the square projection on the rectangular portion, from which lacquered goods, iron swords, cuirass fragments, iron arrowheads, and so forth have been recovered”.

This kofun is dated from the Middle Kofun period (the beginning of the fifth century).

Cinnabar

18 April 2022

“Three red pigments were used in prehistoric periods: red ocher, vermilion, and lead oxide. Of these pigments, vermilion has a vivid red color and was a valuable pigment in ancient times worldwide. The chemical name of vermilion is mercuric sulfide and it is refined from cinnabar ore. In ancient Japan, the long period characterized by the hunting-gathering lifestyle known as Jomon gave way to the spread of the Yayoi culture, which was based on wet-rice agriculture, beginning about 500 B.C. ... The funerary use of vermilion for decorating the physical remains and the inner surfaces of burial facilities began in the mid-Yayoi period and continued until the late Kofun period, dating from the 4th century B.C. to the 6th century A.D. It is thought that vermilion was used in funeral ceremonies for the following purposes: (i) Antisepsis of dead body, (ii) Staining textiles, (iii) Decorating the wooden coffin, (iv) Ritual rite using burial goods, and (v) Symbol of power”. (Kawano et al., 2014).

“In Japan, the funerary use of cinnabar lasted from the mid-Yayoi period till the late Kofun period (4thc entury BC–6th century AD)”. (Gliozzo, 2021).

Saki Ishizukayama, Sakiryoyama, Saki Takatsuka Kofun



Fig. 55 - Image courtesy Ministry of Land, Infrastructure, Transport and Tourism.

At the link [wikimedia.org/wiki/File:790911](https://commons.wikimedia.org/wiki/File:790911) we can see three kofun. Description 日本語: 佐紀石塚山古墳、佐紀陵山古墳、佐紀高塚古墳。空中写真 CKK793-C6-21 を

18 April 2022

使用。Date 11 September 1979 Source 国土情報ウェブマッピングシステム
Author 国土交通省 - Description : Saki Ishizukayama Tomb, Sakiryoyama Tomb,
Saki Takatsuka Tomb. Aerial photograph CKK793-C6-21 is used. - Source Land
Information Web Mapping System - Author Ministry of Land, Infrastructure, Transport
and Tourism - Camera location 34° 41' 58.32" N, 135° 47' 17.88" E Kartographer
map based on OpenStreetMap. Details at the following link:

<http://www.kashikoken.jp/museum/yamatonoiseki/kofun/sakimisasagiyaama.html>

Shields

The three kofun seen before are in the Saki Tumuli Area.

<http://www.hgeo.h.kyoto-u.ac.jp/soramitsu/kofun.html>

<https://www.japanese-wiki-corpus.org/jp/building/佐紀盾列古墳群.html>

that we can see in the following image.

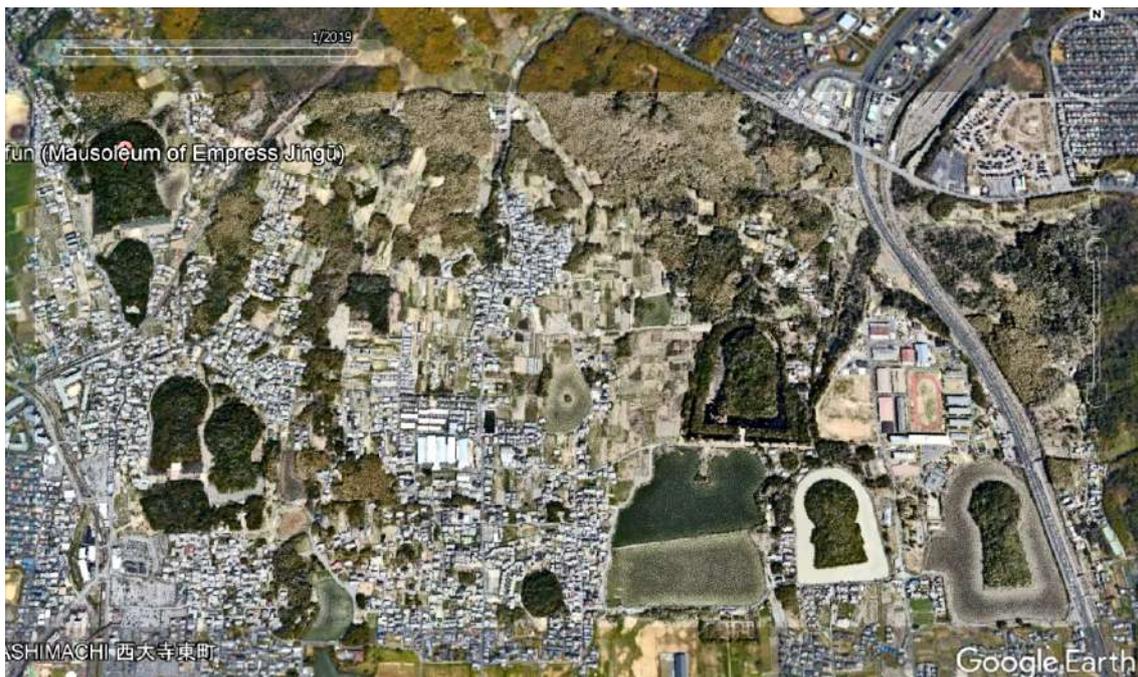


Fig. 56 - Saki Tumuli area (Courtesy Google Earth)

18 April 2022

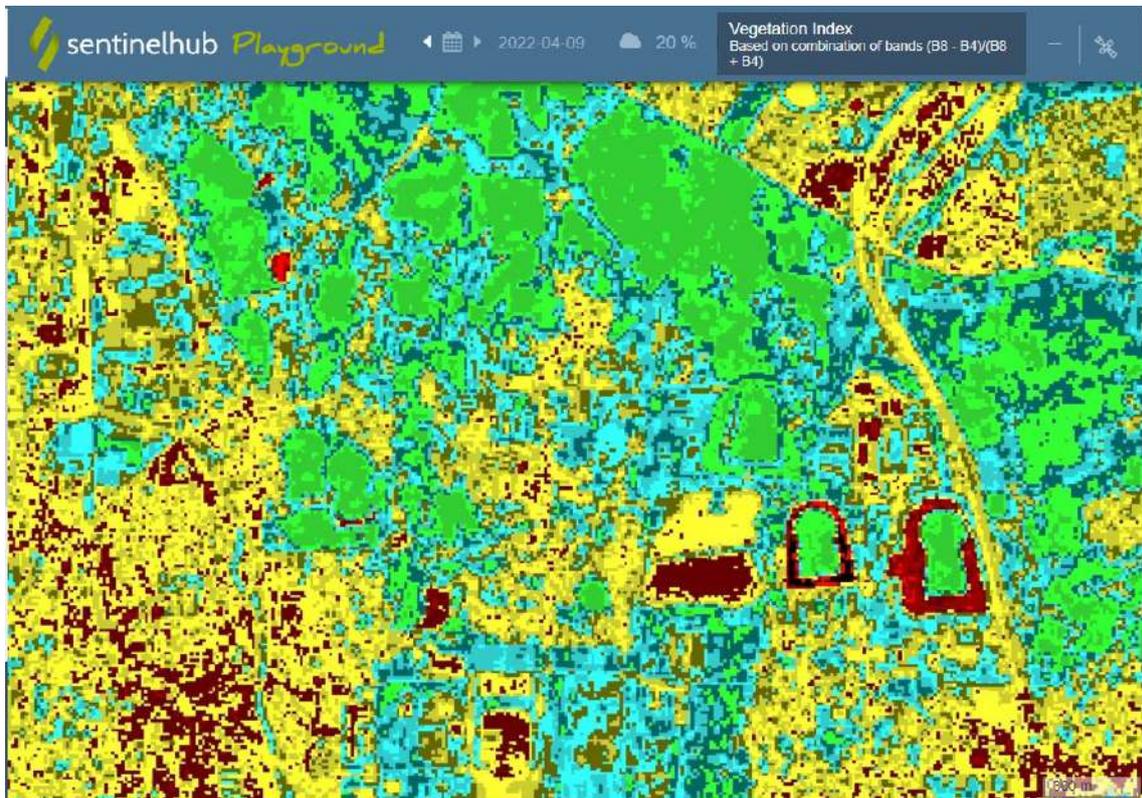


Fig. 57 – Sentinel Hub map of the Saki group, according to the Vegetation Index (based on combination of bands $(B8 - B4)/(B8 + B4)$). Date of the map is 9 April 2022. As told before, the Vegetation Index is used to enhance the contribution of vegetation properties to the remote sensing.

Many thanks to Sentinel Hub for the remarkable services and maps.

18 April 2022

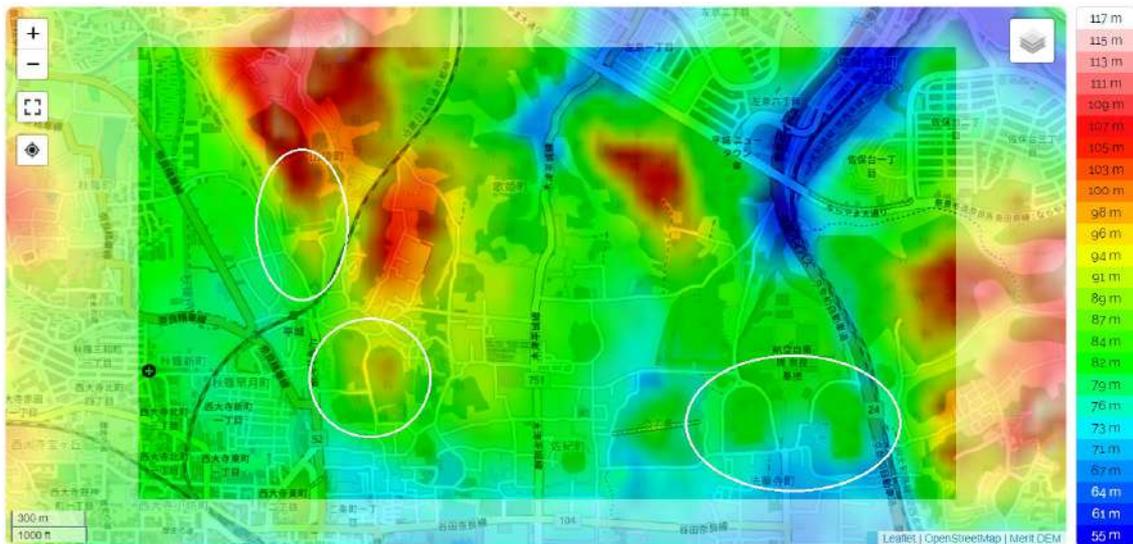


Fig. 58 – The Saki group in a map provided by the web site <https://it-ch.topographic-map.com>. Many thanks to Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates, 2017, for their fundamental work on digital elevation data and models, and many thanks to the excellent web site, which is fundamental for the maps. The location of larger kofun is marked by the white ellipses. From this elevation map it is clear that the orientation of the mounds is linked to the local topography.

In the English version of the link <https://www.japanese-wiki-corpus.org/jp/building/佐紀盾列古墳群.html>, it is told that the Sakitatenami tumulus group (Saki tumulus group), located in Sofu, Nara City, is a group of tumuli that include many mausolea of emperors of Yamato. Tumuli had been constructed on the south slope of the Saki hill. The site is discussing the origin of the name of the group.

It is likely that the name of tatenami (shield-row) was used because the shape of the surrounding moat was like a shield (tate). They are lined up in parallel, with the rear circle on the north side and the front part on the south side. It is presumed to be a new word that became established after the relocation of the capital to Heijo. In "Kojiki", the tomb of Naruto is in "Saki no Tatanami".

18 April 2022



Fig. 59 - Soldiers having a shield. The Kofun period (AD.250-AD.592) art, Haniwa terracotta clay figure. Saitama Japan. Courtesy Syandery. www.pinterest.it



Fig. 60 - On the left, a drawing of a soldier with a shield, Kofun period, from <http://archaeology.jp/sites/2008/sakura.htm>
Many thanks to Nitasaka Satoshi, author of the web-page.

Why is a kofun defined as key-hole and not shield?

Nakayama Otsuka Kofun and others

From the “Mirrors on Ancient Yamato: The Kurozuka Kofun Discovery and the Question of Yamatai”, by Walter Edwards, 1999.

“Lying less than a kilometer to the northeast of Kurozuka, Nakayama Otsuka, believed to be one of the oldest tombs in the Oyamato group, was selected as the first to be investigated” (Edwards, 1999).

“It was with high hopes that work began in July 1993 on the round portion of the key-hole, where excavators soon uncovered a vertical stone chamber ... The lowermost tiers of the chamber rose vertically for about 50 cm, and were then corbeled sharply inward, leaving a narrow opening at the top to be covered with ceiling stones ... Although the wooden coffin had totally disintegrated, judging from traces left on the clay floor it was large in size, and clearly must have been put in place early in the construction process, most likely when the vertical sections of the wall were finished; the upper portion of the chamber had then been built over it.” (Edwards, 1999).

“After two seasons of work at Nakayama Otsuka, the Kashihara Institute moved on in 1995 to its next project, the 120 m Shimo Ikeyama kofun located 300 m to the north and west. Here, too, a vertical chamber was found, 6.8 m long by 1.3 m at the northern end and 0.9 m at the southern, with walls first rising vertically, then corbeled inward ...” (Edwards, 1999).

“The most remarkable aspect of the tomb came to light only after work on the burial chamber was completed. In February 1996, a subsidiary chamber was uncovered just to the northwest of the main chamber, It measured but 50 cm square and contained a single bronze mirror of the naiko kamon style. Still clinging to its surface were the remnants of the cloth in which it had been wrapped. Woven from fur and floss silk, and bearing a striped pattern, the cloth is thought to be an indigenous product, perhaps the same kind of item mentioned in Wei zhi as presented by Himiko’s envoys to the Wei court. The mirror and its cover had been placed in a box made with the kyocho technique, ... Both the gauze and the box represent imported Chinese technology, and at the time of discovery were the oldest examples of their kind known in Japan” (Edwards, 1999).

18 April 2022

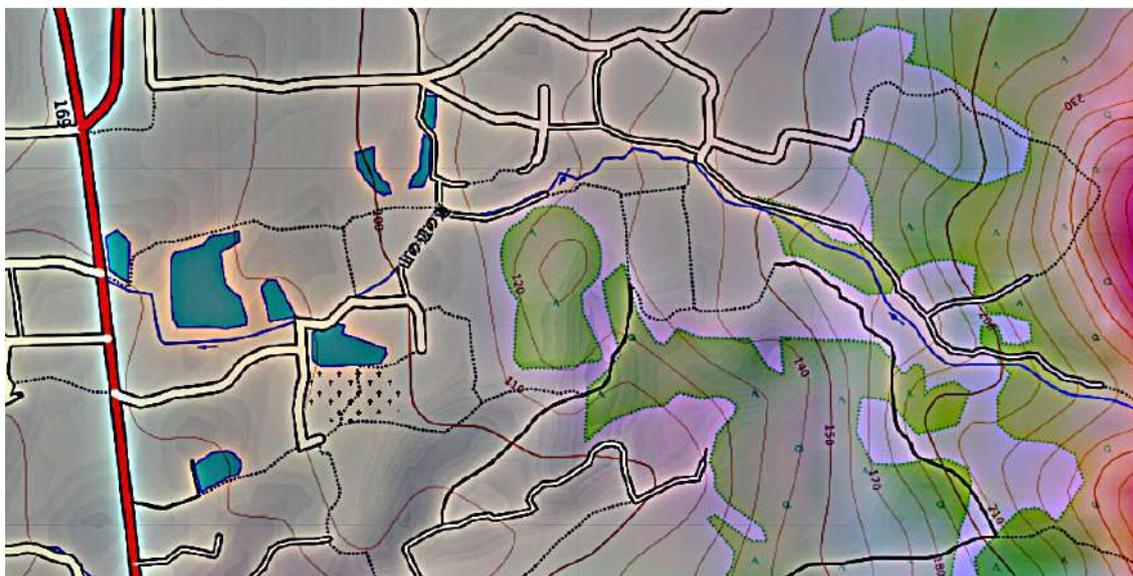


Fig. 61 - Nakayama Otsuka (southern position) and the Nishitonozuka Kofun ($34^{\circ} 34' 07.74''$ N, $135^{\circ} 51' 04.18''$ E) in map provided by the web site <https://it-ch.topographic-map.com>.

18 April 2022

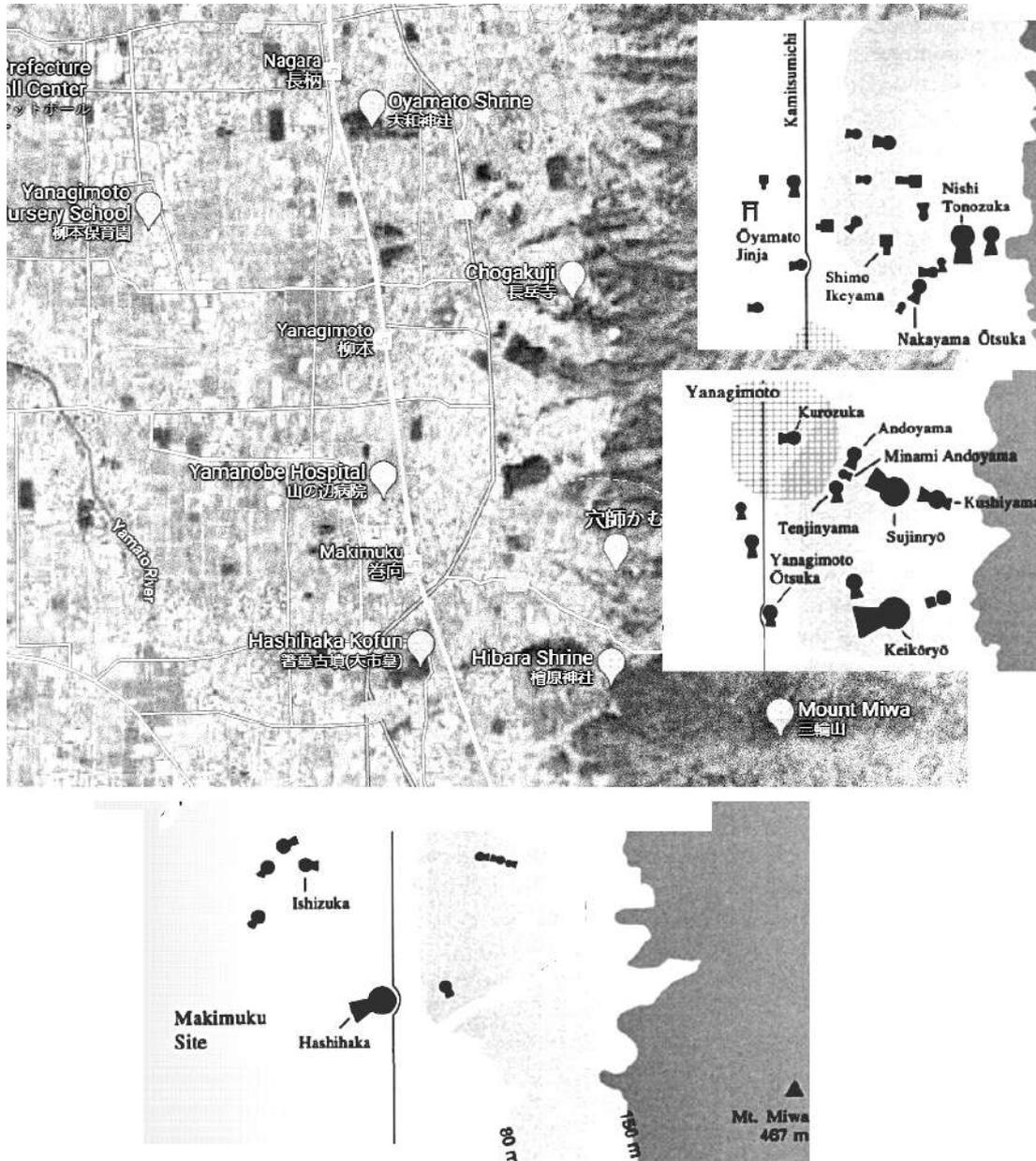


Fig. 62 - The kofun in the Nara basin, in an image from Google Maps after its enhancement, and the cluster as we can find in (Edwards, W., 1999).

18 April 2022

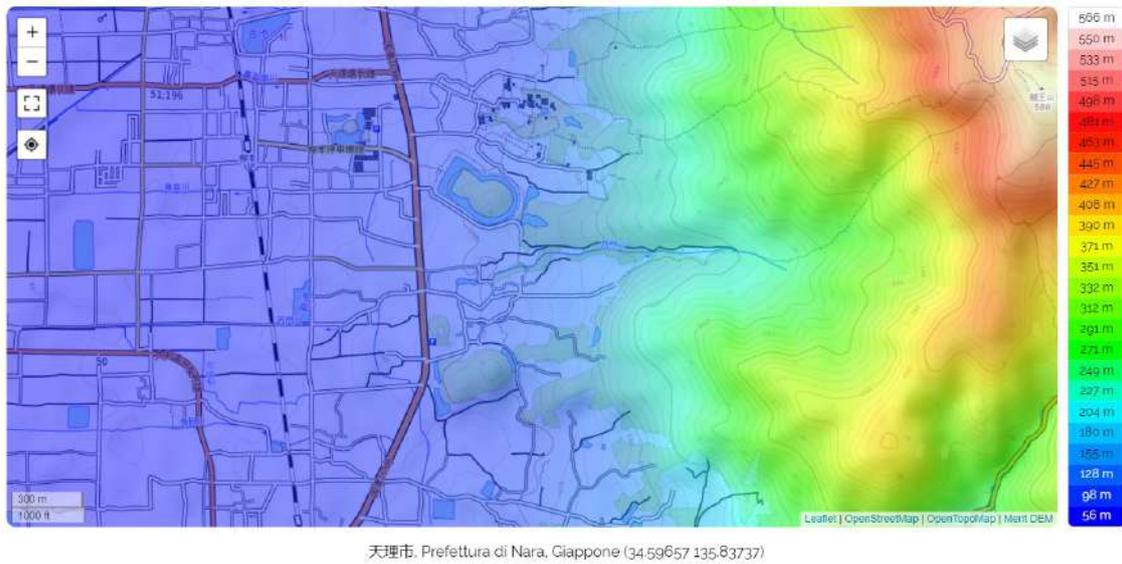


Fig. 63 – Kofun of the Nara basin in a map provided by the web site <https://it-ch.topographic-map.com>

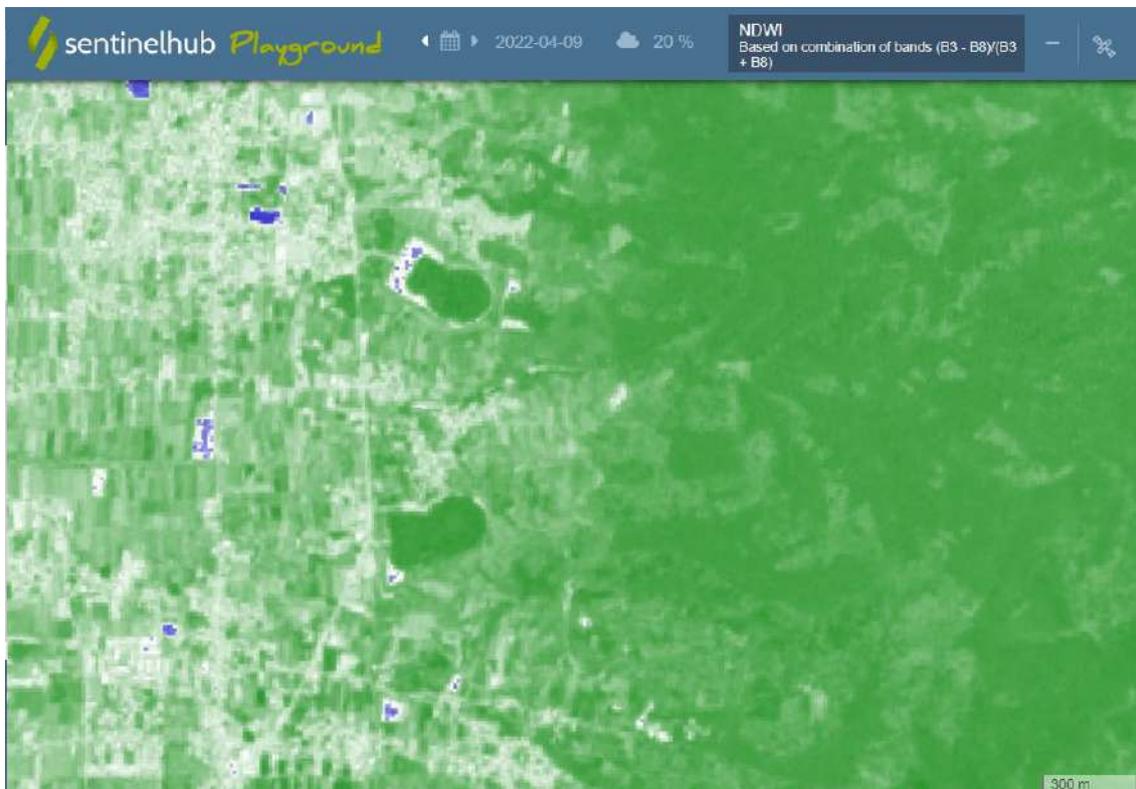


Fig. 64 – NDWI map - Courtesy Sentinel Hub.

18 April 2022

In the previous figure we can see a map NDWI from the Sentinel Hub. A NDWI map is based on combination of bands $(B3 - B8)/(B3 + B8)$. The date of the map 9 April 2022. NDWI means Normalized Difference Water Index and it is a remote sensing derived index estimating the leaf water content at canopy level. In the following image, we can see the same area in a SWIR map, that is a map based on short-wave infrared B11 and B12 bands.

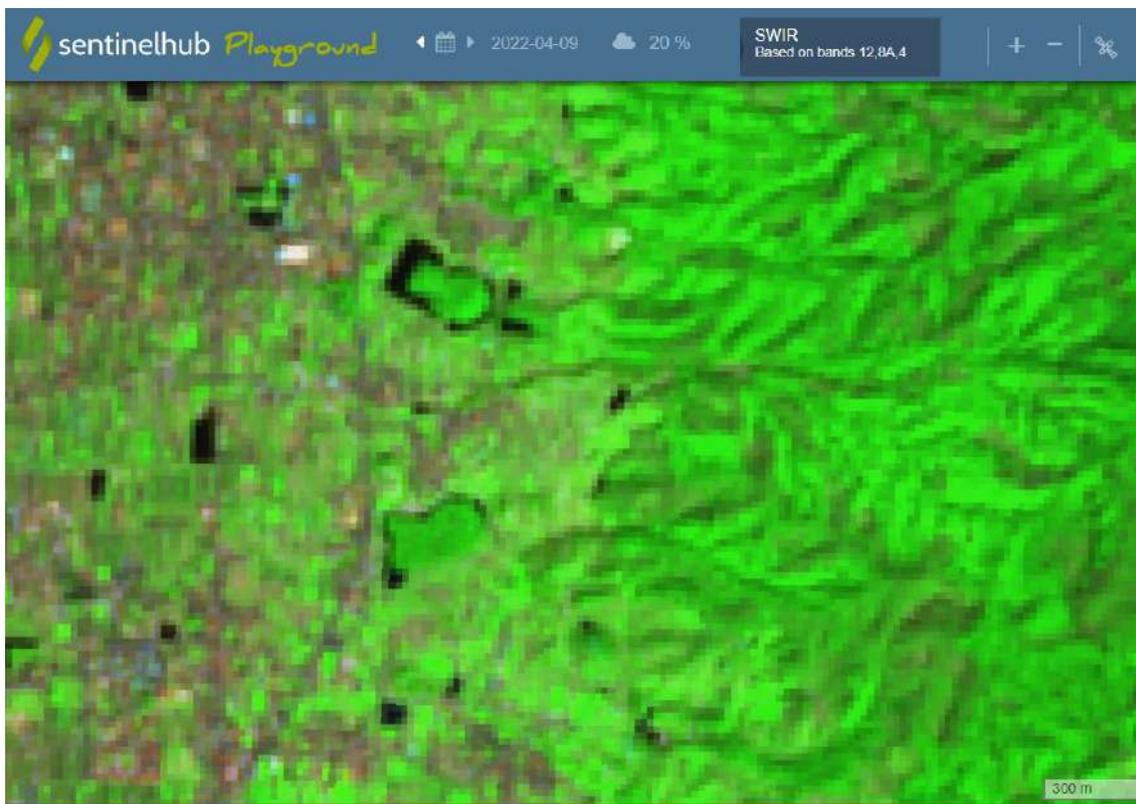


Fig. 65 – Courtesy Sentinel Hub.

Mountains in the east

In the paper entitled “Mountains in the east, tombs in the west”, Hojo explored “the significance of the location of large Kofun burial mounds in the Nara basin and on the Osaka plain, examining their latitude and longitude. The research revealed that the latitude of each burial mound’s center, where its burial chamber is located, coincides with specific peaks in the mountain range to the east of the Nara basin. This implies that

each mound was located to the exact west of a peak by design. This planned layout may reflect the Yamato dynasty's belief that the eastern direction, in which the sun rises, was sacred, and that their ancestors originated in the mountains in the east" (Hojo, 2013).

The Mirrors and the Queen Mother of the West

The Nara basin is considered by Barnes, 2014.

The abstract tells that "This article continues the argument proposed in Barnes 2007 that Early Kofun rulership was predicated on knowledge of Chinese Queen Mother of the West mythology. A variety of archaeological and textual data, plus consideration of the historical circumstances in Japan's relation to the continent, are pulled together to support the idea that the Queen Mother was both legitimator of political rulership and a ruler's guide in the afterlife. It is shown archaeologically that the Miwa polity of the Early Kofun period was territorially circumscribed and could not have ruled over the entire western archipelago. The spread of the Mounded Tomb Culture beyond Miwa can be explained by the existence of a charismatic avatar of the Queen Mother (Himiko?) who attracted adherents for their own benefit. The Early Kofun burial system can be interpreted in terms of Queen Mother attributes, beginning with the monumental tombs themselves, their stone chambers, and the various pseudo jade objects and bronze mirrors—the most important of which bear the image of the Queen Mother herself. It is further argued that Amaterasu is likely the extension of Queen Mother ideology as reconstituted between the fifth and seventh centuries, continuing the important political functions of legitimating the rulership of historic Japan" (Barnes, 2014).

Here in the following some excerpts from the text by Barnes.

"[Kofun] represent the emergence of an elite that was separated from commoners socially, economically and politically. The [Kofun] period is known in Japan for its "stratified society," and social stratification in Western theory is acknowledged as the threshold for state formation. The tombs manifest this social system by being spatially isolated from commoner burials, by involving an impressive amount of labor in construction that the elite were able to muster, by containing many prestige goods of rare or valuable materials that were unavailable to commoners, and by the ability to employ craftspeople to make those goods or obtain finished items from afar. It is well known in worldwide archaeological studies that stratified chiefdom organizations and early state organization often have robust ritual systems. The form of rule in these societies is often described as a "theocracy." In the past, the MTC (Mounded Tomb Culture) has not been interpreted as representing a ritual system, though a few archaeologists suspected that there may have been some influence of Daoism from China in Early Kofun ritual. [Barnes] would like to expand this suspicion to propose a hypothesis that in fact the Early Kofun ritual system, as manifested in burial ritual, was based on the Chinese Daoist mythology of the Queen Mother of the West" (Barnes, 2014).

18 April 2022

The Queen Mother is present on the mirrors, so Barnes tells the following.

“Kobayashi Yukio believed that the disbursement of triangular-rimmed (TR) mirrors from the Kinai to peripheral chieftains was a crucial strategy for creating political alliances in the Early Kofun period. This idea replicates the Chinese strategy of giving precious goods to distant chieftains to ensure their alliance; Himiko herself is said by the Weizhi to have received bronze mirrors from the Wei dynasty court. ... Most triangular rimmed mirrors, the *dominant Early Kofun grave good*, bear the godly figures of the *Queen Mother of the West*, her husband King Father of the East, and the Queen’s feral companions - tigers and dragons. Mirrors with these deity beast designs only began to be produced in China in the second century A.D., after a millennial movement there to receive a manifestation of the goddess herself. The Queen Mother cult was alive and active particularly in northeast China just at the time of the Wa Disturbance (Wa no hanran 倭の反乱, 146–189 A.D.), after which Himiko was elevated as the Wa 倭 paramount in Japan”. Barnes mentions the “Yellow Turban Revolt (184–205), a Daoist revolt against the Late Han 漢 dynasty that contributed greatly to its downfall. Since the Queen Mother is a figure from early Daoist cosmology, it would not be surprising if the Queen Mother myths entered Japan at the same time as the mirrors - either with political refugees or traders, given the times of unrest and population movements during the Daoist rebellion. The big question is, then, did Late Yayoi rulers know the Queen Mother story, and did this story serve as a ruling ideology from the late second to early fourth centuries A.D.? The historical context makes both these possibilities very likely, and the Early Kofun burial ritual also supports them, as we shall see below” (Barnes, 2014).

Who was the Queen Mother of the West? Barnes tells that the Queen Mother myth may have begun in the Late Shang 商 period (thirteenth to twelfth centuries B.C.). The Queen is said to have resided in the western mountains, then “beyond the boundaries of Chinese civilization”. She was responsible “first and foremost for maintaining cosmic harmony and order. By the Han dynasty, she had been “domesticated” through pairing with a husband, King Father of the East”. The Queen Mother “was associated with mountains, caves and a variety of material objects including jade, headdress and staff ... Cahill thus concludes that the Queen Mother confers both legitimacy or the right to rule and the power necessary for ruling on Yü.... She is worshiped in the sacred, superior, and legitimizing role of the teacher for centuries to come. It is this last attribute of legitimizer that is most important to understanding the possible role of the Queen Mother cosmology in Early Kofun rulership. If the Queen Mother could “confer the right to rule,” then all local rulers in the archipelago who heard of her would probably want that ultimate heavenly stamp of approval” (Barnes, 2014).

The article by Barnes continues telling that “The Mounded Tomb Culture is the materialization of social stratification. This has never been in doubt in Japanese archaeological treatises, but major questions - how, where, and why the components of the MTC suddenly came together in a coherent burial ritual - have never been answered. Could that underlying *raison d’être* be Queen Mother mythology? First and

18 April 2022

foremost is the mounded tomb itself. Although Late Yayoi mound-burials could be quite large, forty meters to a side, the earliest keyhole-tombs in the Makimuku Tomb Cluster dating to the early third century were over twice as long: ninety meters. By the mid-third century, the construction of Hashihaka tripled this length: to 280 meters. This is theoretically recognized as the monumentalization of ruler burials, and the creation of monuments is common in stratified societies” (Barnes, 2014).

Besides the monumentalization, Barnes analyses the myth of the Queen Mother, which a series of specific questions.

“She is said to live on a mountain; was the keyhole tomb an attempt to create an artificial mountain? The Queen Mother is also said to have lived in a cave or “stone apartment.” One of the most striking innovations of the Early Kofun burial system is the development of the pit-style burial chamber made of stones. This burial facility has no antecedent in Yayoi archaeology. Could the creation of a stone chamber represent provision of a cave or “stone apartment” as the Queen’s residence was sometimes called? The Queen Mother carried a staff. Although wooden staffs have been discovered in Late Yayoi contexts, the provision of beadstone (jasper and green tuff) staffs is a new development in Early Kofun. They are not only interred in burials but represented also on haniwa 埴輪, the clay funerary sculptures arranged on the tomb’s surface. The Queen Mother was associated with tigers, especially tigers’ teeth. ... Can the sudden exuberant production of magatama 勾玉 curved beads in the Early Kofun period be related to this? Magatama have existed in Japan since the Jōmon 縄文 period, and are often speculated to represent animal fangs or claws. We know that the meaning of objects can change through time in different social contexts. Did magatama acquire the interpretation of tiger teeth in Early Kofun? Jade and other beadstone magatama in Early Kofun are obviously elite objects, but did they come to be chosen for burial rather than just personal adornment because of the Queen Mother associations? ...” (Barnes, 2014).

And Barnes is giving several other references to the myth.

And Amaterasu?

Gina Barnes, in her discussion about the Queen Mother of the West tells that there is no mention of her in the Japanese texts. “However, the creation myths and the early chronicles have copious references to the goddess Amaterasu Ōmikami ... and her cult. ... Amaterasu means “heaven shines,” and her symbol in Shinto shrines throughout Japan, except the Miwa shrine, is a mirror. The mirror has long been seen as a sun symbol, as it reflects the sun’s rays and shines, lighting up the world. When Amaterasu withdrew into a cave (as the Queen Mother lived in a cave?), the world grew dark (a solar eclipse? Queen Mother as controller of the universe?). ... Amaterasu and the Queen Mother also have weaving in common. ... As controller of the cosmos, the Queen

18 April 2022

Mother was responsible for bringing together the Weaving Girl and Oxherd Boy (the stars Vega and Altair) every year on the seventh day of the seventh month. This was also the date that the Queen Mother met with rulers of the Zhou and Han dynasties. Finally, the Weaving Girl in some myths is said to have been the Queen Mother's granddaughter. Amaterasu herself was a weaver, as we know from the story of her contest with her brother Susanoo ... , who flung a flayed piebald horse into her weaving room. Como proposed that Amaterasu was a "silkworm goddess," thus formalizing her association with weaving. Amaterasu also fits the pattern of paired female-male rulership. She and her brother Susanoo competed to rule heaven. A dual-gender rulership system ... in the early chronicles was identified by Takamura Itsue in 1966. Pairs of ruling males and females, such as Saho Hiko and Saho Hime ... , are commonly ascribed in the chronicles to both creation myth ruling structures as well as earthly ruling structures. ... We do not know what the Early Kofun people called the Queen Mother, but probably not her Chinese name Xiwangmu, or as read in Japanese, Seiōbo. When discussing the birth of Amaterasu in the Japanese creation myths, the Nihon shoki refers to her initially as Ōhirume no Muchi, then by the combined name Amaterasu Ōhirume no Mikoto, or just Amaterasu Ōmikami" (Barnes, 2014).

So we have two goddesses, having the same attributes but different names. Barnes infers that "a Queen Mother cult in Early Kofun Japan focused on a female shamaness who was able either to communicate with the Queen Mother, regardless of what she was called, or to serve as her analog on earth. Just as the name Himiko does not appear in the Japanese chronicles, neither does the name Queen Mother. However, the Japanese chroniclers have included many important female shamanesses. The second century historical context was ripe for the introduction of Queen Mother mythology into Japan, and many of the personal attributes of shamanesses in the Nihon shoki fit her myth. Many objects of the Early Kofun burial ritual system conform to the Queen Mother's attributes, and we know that the most valued mirrors actually bore the Queen Mother image, and that they were used both for political and cosmological ends" (Barnes, 2014).

In Deal, 2017, it is told that "the extent to which Daoist practices have influenced the development of Kofun period religiosity is much debated". Gina Barnes argued that the rulers of the Kofun period used the Daoist legend of the Queen Mother of the West in support of their ruling authority and in relation to afterlife beliefs connected with kofun building. "Other scholars find Barnes's evidence circumstantial at best and argue that her thesis cannot be sustained on the basis of current evidence. ... The issue of the Queen Mother notwithstanding, it is clearly the case that the Kofun period was increasingly influenced by Chinese cultural ideas and images. The Takamatsuzuka tomb in Nara prefecture is a significant example of this influence" (Deal, 2017).

Kojiki and Niho shoki

From William E. Deal (2017). Religion in archaic Japan.

Kofun period archaeological evidence is often matched with the textual record found in the *Kojiki* and *Nihon shoki*. As suggested earlier, there have been efforts to read accounts of the descent of the imperial family from the lineage of gods described in these two texts to the archaeological record. Thus, at least some scholarly assumptions about the meaning of *kofun* artifacts, spatial orientation, and connections to ruling power are tied to mytho-historical accounts in texts compiled at least 100 years after the end of the Kofun period. Further destabilizing the historical credibility of texts like the *Kojiki* is the fact that their relatively seamless narrative of imperial lineage back to the descent of the gods is not matched by the archaeological record. There are ideological agendas at play in the *Kojiki* and *Nihon shoki* that reflect the need for the increasingly powerful great kings and queens—later referred to as emperors and empresses—to consolidate and legitimate their claims to authority. These narratives tell us more about the period in which they were written than the earlier time periods they purport to recount.

The Ancient Burial Mounds

In the book entitled “The Ancient Burial Mounds of Japan”, 1893, we can find the description of surveys made by Romyn Hitchcock, who accompanied Gowland, of the ancient tombs in Japan. We can find that the keyhole tombs are defined as “double mounds”. Here some passages from the book.

Several distinct methods of burial have been prevailed in Japan at different periods. These may be distinguished as follows:

- 1) Burial in artificial caves.
- 2) Burial in simple mounds of earth.
- 3) Burial in mounds with rock chambers or dolmens.
- 4) Burial in double mounds or imperial tumuli.

In the book we can find photographic plates of caves, dolmens and double mounds tumuli.

18 April 2022

The first fifteen Mikados were nearly all buried in the Province Yamato. The first Mikado, Jimmu Tennō, who is reputed to have lived in the seventh century B. C., and died at the good old age of 127 years, is said to be buried at a famous hill in Yamato, known as Unebi Yama. This small hill rises from the broad Yamato plain, a conspicuous object for miles around. The spot of burial is in the plain near the base of the hill, and is now surrounded by a fine stone fence. The photograph (Pl. xxxvi) was taken from the hillside. The large inclosure is entered through a broad gateway opposite the cluster of houses seen on the right. A fine, graveled walk surrounds the inner inclosure, and on certain days only the people are permitted to enter and make their devotions in front of the *torii* or temple gateway, which is to be seen at the middle of the inner wall, facing south. Every year the Mikado sends an officer to this place to make offerings to his departed ancestor. This ceremony takes place in the presence of officials and a company of soldiers on the 3d of April.

(Hitchcock, 1893)

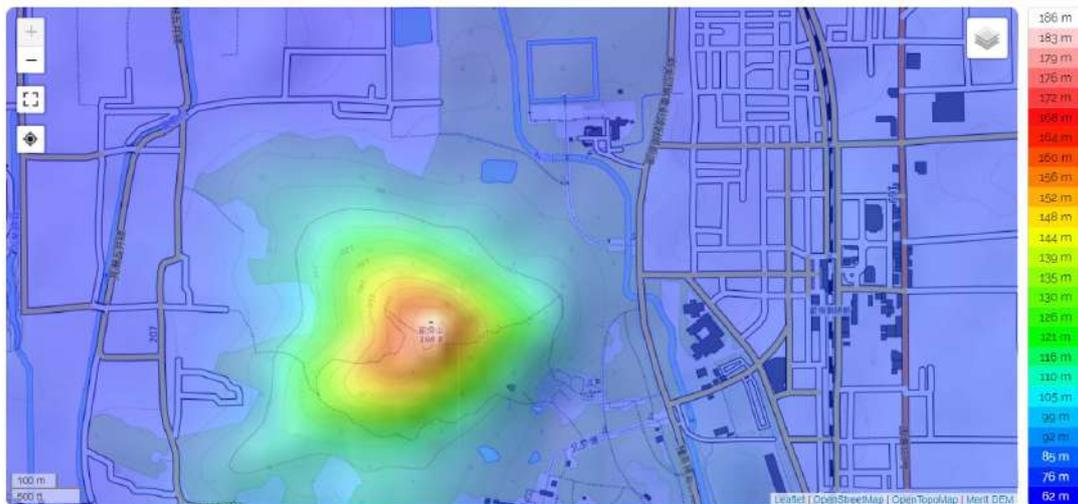
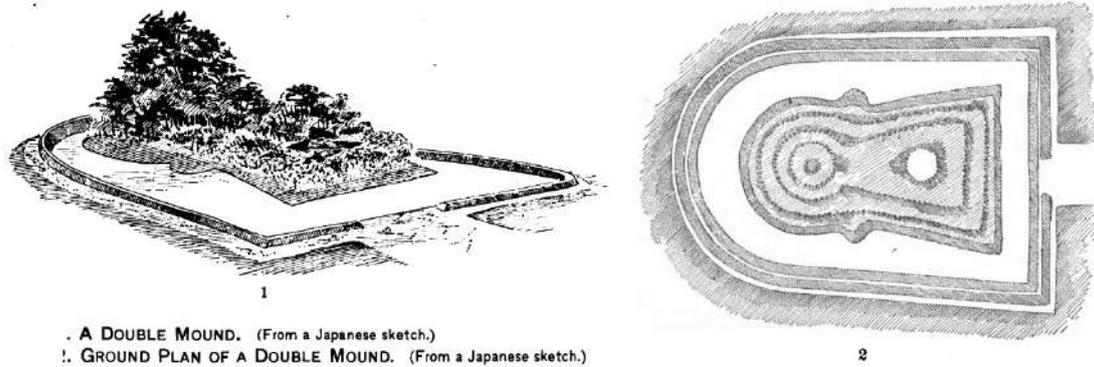


Fig. 66 – Unebi Yama in a map provided by the web site <https://it-ch.topographic-map.com>.

“The imperial tombs are known as Misasagi. To the right, and a little beyond the enclosure of the first emperor, there is a conspicuous white wall surrounding a mound. This is the Misasagi of the second emperor. This mound and other imperial tombs of the same era belong to a type which I believe is peculiar to Japan. They will be designated double mounds because the two ends are elevated with a depression between them. The mounds are entirely surrounded by deep moats filled with water” (Hitchcock, 1893).



Then, the author complains that the original form of the mounds has been altered by Japanese Government, in order to embellish the tumuli. Here it is reproduced Pl. XXXVII which was copied from Japanese drawings. “For these, and for the others of the same character, I am indebted to the courtesy of Mr. K. Yamanouchi, secretary of the Imperial Household department. The first drawing on the left purports to represent the earliest form of double mounds. Here we see the wide moat and two distinct elevations with a depression between them. The deep depression is the result of weathering and was not a part of the original design. The south end is straight, the north end rounded. The interment was at the top of the northern elevation” (Hitchcock, 1893).

The ground plan is more clearly shown in the lower drawing. The sides are constricted to correspond with the depression at the top. The two lateral projections are not often seen. The sides of the mound are terraced as represented. This terraced structure will soon receive closer attention. The interment was in the center of the smallest circle, at the top of the rounded end. This form of mound is ascribed by the Japanese to the period from Jimmu Tennō to 640 A. D. As this period embraced about twelve centuries it may be accepted as probably correct.

Then, the author tells about Nintoku Tenno burial mound, Keitai Tenno burial large mound, and of the two mounds near Nara known as Onabe and Konabe. Then he describes the mound of Ojin Tenno in Kawachi. After, Hitchcock mentions two mounds in Kodzuke. And here we find a chamber with an entrance at the side. The author stresses that "in this respect it differs from all the mounds I have seen".

Mr. E. Satow has described two mounds in Kodzuke, one of which is shown in Pl. XLII as represented in his drawing. In shape it is a double mound, but it has a chamber with an entrance at the side and in this respect it differs from all the mounds I have seen. This mound is 36 feet in height, 372 feet long, and 284 wide. The chamber is entered through a passage 33 feet in length. There are two chambers, separated by a low sill of stone, the outer 24 feet in length, the inner 6 feet, the height being about 6 feet. Mr. Satow concludes that these mounds date from about 50 B. C., but this is very uncertain.

...

Reference has been made to the terraced character of these mounds. This structure is shown in a Japanese drawing of a mound of a later date than that ascribed to the double mounds, reproduced in the upper right-hand figure of Pl. XXXVII. This form of mound is said to date from about the seventh century. It is a single mound.

This terraced structure is exceedingly interesting because of the remarkable method adopted to protect the terraces from being washed away by the heavy rains of spring and early summer. Along the borders of the moat and around the edge of each terrace, also planted in circles at the top of the mound, around the place of interment, there have been discovered rows of closely placed cylinders of clay of peculiar form. These are hollow cylinders, very roughly made, with one or more lateral apertures.

One of these cylinders is well represented in Pl. XXXVII, copied from a Japanese drawing. This one measured: Height, 16 inches; greatest circumference, 22 inches. The top is constricted, and this feature will be referred to further on. Another one measured as follows: Height, 10 inches; circumference at base, about 30 inches; circumference at top, about 24 inches.

18 April 2022



Fig. 67 – An image courtesy Steven Zucker, Smarthistory co-founder. Cylindrical Haniwa, 5th-6th century (Kofun period), excavated from Futagozuka tumulus, Kagashi, Ishikawa, terracotta (Tokyo National Museum).

<https://www.flickr.com/photos/profzucker/30167741314/in/photostream/>

The bridge

From <http://archaeology.jp/remains/nisanzai-kofun/>

A huge wooden bridge for funerary rites at a king's tomb is discovered!

It is an article on the Nisanzai Kofun, Sakai City, Osaka Prefecture. Middle Kofun period (mid-fifth century) - **Wooden bridge feature, in situ (near the round portion of the mound, from the southeast)** - The pictures in the article show the wooden bridge position, adapted from Hakkutsu sareta Nihon rettō 2020 [Excavations in the Japanese Archipelago, 2020] (Bunkachō [Agency for Cultural Affairs], ed., Kyodo News, 2020).

“Located on a tableland overlooking Osaka Bay, the Mozu Tomb Group (Historic Site) is composed of kofun (tombs) of various sizes starting with the largest one in Japan, Nintoku Tennōryō Kofun, ... Nisanzai Kofun is a large-scale keyhole-shaped mound sitting at the southeastern edge of the Mozu Tomb Group, the third largest tomb in the group, and seventh for Japan as a whole. It ... is thought to represent the last of the kingly graves of the Mozu Tomb Group. At present, the mound is under the custody of the Imperial Household Agency as a tomb possibly connected with the imperial line, whereas the surrounding moat portion is under the management of the city of Sakai.

18 April 2022

Excavations were conducted by the city from the 2012 to 2015 fiscal years, centering on the inner moat towards the side of the mound, and during the first year an investigation was carried out simultaneously by the Imperial Household Agency as well”.

The archaeological investigations resulted in the discovery of a huge wooden bridge spanning the moat. “The following are among the facts that were clarified as a result of the investigations. (1) The overall length of the mound is 300.3 m. (2) The period of construction was the mid-fifth century. (3) The slope of the first tier of the mound was unpaved or only sparsely paved with cobbles, indicating that the trend towards sparing effort in tomb construction had begun. (4) From within the moat, in addition to ceramic haniwa many wooden implements were recovered, including fan-shaped decorations for a ceremonial sunshade, objects shaped like ceremonial fans and parasols, a wooden serving platter and a spade; thus along with haniwa, wooden sculptures had been lined up on the mound and atop the ramparts, and rituals utilizing wooden implements had been conducted”. In the inner moat, there were seven rows of post-holes, with a wooden bridge spanning the moat. “The bridge lay along the main axis of the mound, and its scale is estimated to have been approximately 12 m wide and stretching 55 m in length. Intentionally removed after but a brief period, it is thought to have been built to cross the moat in conjunction with funerary rites, and after serving a vital role as staging apparatus for those rites, it was promptly removed once they had ended”.

The article ends telling that the discovery of wooden bridge allows “a glimpse of one bit of the funerary rites conducted at a colossal mound thought to be a kingly tomb. (Uchimoto Katsuhiko)”.

In the following Figure, it is shown the kofun in satellite image, and a drawing from the article, adapted to show the position and the orientation of the bridge.

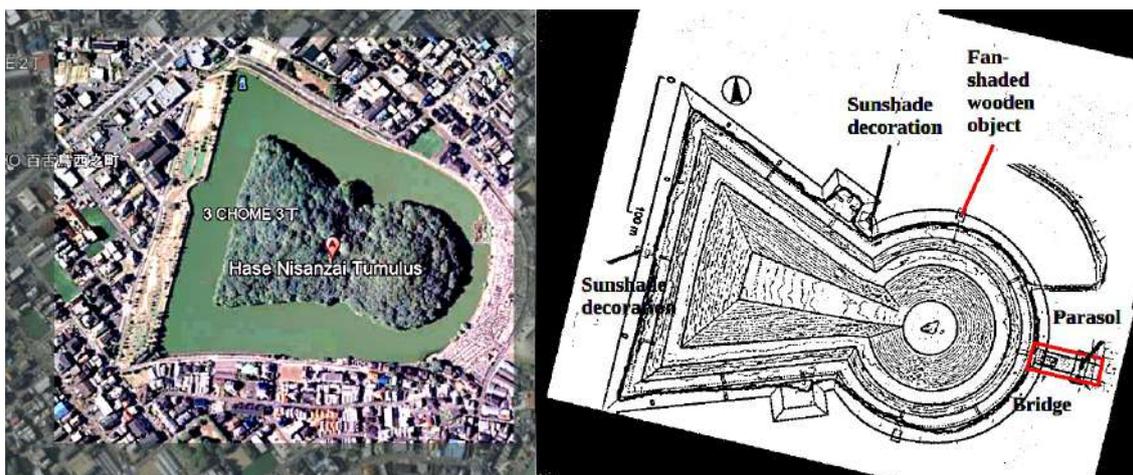


Fig. 68 - The Nisanzai Kofun and the position of the wooden bridge for crossing the moat during the funeral rites.

Funeral Rites

“Japanese funeral rites”, published by the Transactions of the Asiatic Society of Japan, 1891, is an article by Arthur Hyde Lay, where the author is reporting about the Japanese funeral rites. Here we consider the part regarding the ancient tumuli. “Some Japanese archaeologists affirm that in the earliest period of Japanese history no burial system obtained, ... In proof of their assertion they adduce the fact that no graves dating from a period prior to 700 B. C. have been discovered” (Hyde Lay, 1891).

“Various ceremonies were observed on the occasion of a death. The body was deposited in a moya, or mourning-house, and left there until the preparation for permanent inhumation were completed”. The obsequies were performed for seven days and seven night or eight days and eight nights. During this period, food, fruits and drink were placed as oblations in the moya, and a fire, niwabi, was kept alight in front of the building. “Music also was played ... , and to the sound of melody the survivors trod slow measures , at the same time weeping and wailing and chanting the praises of the dead. The statements of Japanese history on this subject are to some extent corroborated by an old Chinese manuscript, entitled Kanjo, in which it is related that the Japanese observe the custom of leaving their dead in the mourning - house for fourteen days; that the surviving relatives give themselves up to sorrow, lamentation and fasting till the time appointed for permanent burial arrives; and that they pay frequent visits to the moya, where they sing songs and go through slow and rhythmical dances” (Hyde Lay, 1891).

About the moya, the article tells that the probably it was the deserted house that became the mourning house. It is also told that of the word miya signifies both “palace” and “temple”. The house “would naturally acquire a sacred character when tenanted only by the death, partly on account of the awe with which death is everywhere regarded, but more especially by reason of the deification of the Chief immediately after his decease. It was, however, customary from an early period to raise a special house to serve as a moya, for we read in Volume 1 of the Kojiki The edifice was built of wood. Its pillars were merely planted in the ground and had no firm foundation, and the style of architecture resembled closely that of the modern Shinto temple , which is but an adaptation of the old Japanese house”. Music was performed for sure. “According to Japanese history, however, the custom dates from the time of Amaterasu no Kami.”

“The head of the family superintended personally all the burial ceremonies of memners of his hosehold. He fixed the spot for the grave, settled the period of mourning, and conducted in person all the dances. The term jisosai was applied to such ancient burials. The feeling of bereavement on the part of the survivors found expression in funeral laudations, called shinobigoto” (Hyde Lay, 1891).

“The length of time during which the corpse was kept in the moya was gradually extended as preparations for the burial became more elaborated. ... in the case of persons of very high rank, years sometimes elapsed before all was ready”. The Nihongi tells that the body of Emperor Jimmu remained in the moya for nineteen months,

18 April 2022

Emperor Suiko for eighteen months, Emperor Anko for three years and so on. “the body seems to have been deposited in the earth enclosed by the moya, until the time for permanent interment arrived, when the remains were removed to the appointed place. ... Laborers were in the interim employed in constructing the coffin and funeral pile. The cortège, which accompanied the remains from their provisional shelter to their last resting-place, consisted of:” and it follows the list.

We find kisarimochi (bearing food on his head), hokimochi (broom bearers), mikebito (cooks), usume (pounders of rice), nakime (hired mourners), monomasa (superintendent of the funeral), lantern bearers, watatsukuri (assistants to the ceremonies), besides of course the bereaved relatives. “The mourners carried with them to the grave tamake (bowls containing rice) and gyoku -wan (bowls holding water); and the rear - guard of the procession was formed by attendants, waving aloft flags of blue , of red , and of white colours , and by musicians playing solemn music” (Hyde Lay, 1891).

“In the Goryoki a description is given of the sarcophagi of several of the former Emperors, which have recently been exhumed, They were composed of plates of hard stone, and were of considerable size. That of Chuai Tenno (AD 162-200), fashioned of large stone blocks, was nine feet and three feet five inches breadth; while that of Kenso Tenno (AD 485-487) was fifteen feet long and four feet eight inches broad” (Hyde Lay, 1891).

Anciently the formation of a grave was a very simple matter. A shallow hole was dug in the earth, the remains placed inside, and a small mound of earth thrown up on the top to mark the spot. This simple grave-heap developed by degrees into the earthen tumulus, which increased in size with the dignity of the deceased. Such tumuli were finally evolved into mounds partly of earth and partly of stone. Until the reign of the Emperor Kōgen (B.C. 214-158) funeral piles were thrown up on mountain sides. The Emperor Jimmu's burial place, for instance, is to be found on the North-West side of Mount Unebi, in Yamato. The tumulus erected in his honour is fifteen feet in height and three hundred and sixty in circumference. In the case of Emperor Kaika (B.C. 157-98), the custom of selecting a commanding position for the mound was departed from, and from his time tumuli were constructed either upon level ground or on an elevation. The last named Monarch is said to have introduced certain rules to be observed in forming Imperial tumuli.

18 April 2022

“The practice of constructing the memorial pile partly of stone arose about the same time that that material displaced wood in the manufacture of coffins. The idea, it is believed, originated with the Emperor Sujin, who about the year 70 BC caused stone to be brought from Osakayama in order to build a fitting mausoleum for his son. During the reign of the succeeding Sovereign the art of building cairns was much studied.” (Hyde Lay, 1891).

“As regards the materials used and the manner in which they were put together, we gather from the Shoryoshiki that a foundation was laid of small stones which were rendered cohesive by lime and then beaten into a compact mass and allowed to dry.

Upon this basis was placed the stone receptacle, **care being taken to lay the coffin in such a position that the head of the corpse should be towards the North**; and above were laid three or four large stone slabs” (Hyde Lay, 1891).

The author is talking about kofun. “To complete the pile, gravel, sand, and earth were heaped up, until it had assumed the desired proportions, when the summit was rounded off symmetrically. The tumuli were originally built in three tiers, and in circular form. Some of them, however, were not quite round, the portion facing the North -- the quarter from which reverence was shown to the departed by friends visiting the spot -- being cut square.” (Hyde Lay, 1891).

friends visiting the spot—being cut square. Round the bases of the mounds, moats, from fifteen to twenty-five feet wide, were dug, and their summits were occasionally surmounted by trees. No rule existed to determine the size of and area covered by the tumuli, and they are consequently to be found of all sizes. As regards the objects buried along with the dead, earthenware alone has been discovered in mounds of the earliest period. With the gradual elaboration of the funeral piles, however, there arose the custom of placing within the cairns articles of value, which were either put inside the sarcophagus or covered by the earth at the side of it. *Kudatama* and *magatama* (stone ornaments curved and cylindrical in shape), *kingwan* and *ginkwan* (rings of gold and silver), pottery, coins, &c. have at various times been dug out of old mounds. In the time of Emperor Yūryaku (A.D. 459-479) no expense was spared in constructing sepulchres and much poverty was the result among the people, who, imitating the example of the Court, spent their money too freely upon tombs and on articles to deposit therein. This we learn from notifications issued in later times to check lavish expenditure of that sort.

18 April 2022

We arrive to a legend, which is explaining why haniwa were used.

“The custom of immolating attendants for service in the future life was, according to Nihongi, of ancient date. The wretched victims were buried up to the neck in the earth, and formed what was called hitogaki, that is to say, a human hedge, round the mausoleum. In the year I, BC on the occasion of the interment of Prince Yamato Hiko, the number of persons sacrificed was larger than usual, and their shrieks and cries, ... reached the Emperor's ears and touched his heart. His pity for the miserable sufferers was excited to such a degree that he summoned all his high officers, ... Thereupon, a courtier, Nomi no Sukune by name advanced and humbly requested leave to propound a scheme whereby the cruel and wanton sacrifice of human life might be abolished. He proposed to substitute for living men figures of clay and to set them up at sepulchers. His Majesty, delighted with the humane idea, immediately approved his plan, and proclaimed that earthen images were in future to be used, and that on no account must human life be taken on the occasion of a funeral. Nomi no Sukune was appointed Hanishi no Muraji, Chief of the Sculptors and, during the remainder of his life time, acted as Superintendent of the skilled carvers whom he brought from his native province of Izumo. The office of Director of the Imperial funeral ceremonies was also filled by his descendants. The clay images of men, placed around graves, were styled tsuchi-ningyo. They were of all sizes . An image nine inches in height and two inches in breadth was, some time ago, discovered at Kakinuma, Hataragōri, Musashi; one dug up at Hiraisomura, Naragōri, Hitachi, was two feet long, and so on. Shortly after the introduction of Buddhism, the practice of arranging statues round a grave fell into disuse” (Hyde Lay, 1891).

The text continues with the description of the festival in honor of the dead.

“The lavish expenditure upon tumuli and valuable articles buried with the dead, which began about the end of the fourth century, has been noticed before. Mausolea were erected at the cost of much money and labour, and precious stones, swords, etc., were placed within, alongside of the dead. Into such an evil did the desire to show honour to the dead develop that, in many cases, death in a family meant the reduction of the family to poverty. This state of affairs reached a crisis about the time of the Emperor Jomei (A.D. 629-641) . His Majesty” had a funeral of extreme magnificence. Emperor Kotoku, grandson of the above mentioned Monarch, directed his energies in eradicating useless and excessive expenditures. First, he issued a notification forbidding the erection of a moya to persons other than those of Imperial rank. “He promulgated edicts, proclaiming that no man, be prince or peasant, must exceed in the matter of expensive burials”. The effect was that “although the whole system of burial by degrees became more simple, notifications had again and again in later times to be directed against excessive outlay upon funerals” (Hyde Lay, 1891).

Then, we arrive to the last period of the ancient tumuli.

18 April 2022

The mausolea of that period were composed of large rough blocks of hard stone. In the centre a special chamber lined with lime was made for the coffin, and after the completion of the structure, the coffin was introduced through an aperture left in the side for that purpose. The hole was closed up by a large stone slab. Stone steps usually led up to this part of the pile. No rule fixing the location, shape, or size of cairns existed up till 695 A.D., in which year certain sepulchre regulations were issued. The tombs of persons of Imperial blood were alone to be fashioned of stone; while the tumuli of individuals, not of "the blood," but possessing titles not inferior to that of *Shōchi* 小智 were to be made of gravel. The common people were forbidden to construct a mausoleum of any kind. The plebeian dead were to be interred in the ground, and the earth thrown on the top of the grave was not to rise above the level of the ground. The spot was to be marked by a simple headstone (*sekihi* 石碑). It was decreed also that cemeteries (*maisōchi* 埋葬地), should be provided throughout the country, and that burial must be effected within the limits prescribed. The size of the grave and tombstone was to be regulated by the status of the deceased.

At page 518 we can find the measures of tumuli and the number of workmen employed.

"In 702 A.D. the notification, forbidding the construction of a tumulus and enjoining burial in the ground and the raising of a simple memorial stone, was extended so as to include all persons below the rank of Sammi, with a few specified exceptions. It was thus only with the beginning of the eighth century that headstones came into general use, though they had been employed some time previously in isolated cases. A gravestone had, as early as the year 460 A.D., been set up over the last resting place of one Shoshibe no Sugaru, a mighty man of valour at the Court of Emperor Yūryaku" (Hyde Lay, 1891).

From the book entitled "Himiko and Japan's Elusive Chieftom of Yamatai: Archaeology, History, and Mythology", 2007, by J. Edward Kidder, Jr.

18 April 2022

Sacrifices, both animal and human, doubtless had a long history, but are difficult to trace archaeologically. Horse sacrifice should have come in from northern Asia along with other mortuary practices around the middle of the fifth century and would have allowed the deceased aristocrat to take his trusted mount with him to the next world. The Taika Reform was supposed to have banned it. At the time of Empress Kōgyoku just before the middle of the seventh century animals were still being sacrificed at shrines in hopes of improving weather conditions, but none is mentioned in the rituals connected with Emperor Temmu's illness forty years later. Temmu's Buddhist persuasion had led him to ban the killing of animals, and one can assume that his order was directed toward that practice, which was therefore discontinued during his reign.

“The archaeology has confirmed the existence of horse sacrifice in the Kofun period”. “The account of how the haniwa were initiated is well-known. Clay images were made to replace live burials at imperial tombs. The story of live burial has no credibility among Japanese, but the Wei zhi tells the same story on the death of Himiko. The wishful thinking that only slaves might have been conscripted was encouraged by the recent discovery of a mokkan, but the Nihon shoki suggests otherwise”. In Kidder, 2007, the author continues with hitobashira in dams and river sacrifices.

Misasagi

From the “Things Japanese, Being Notes on Various Subjects Connected with Japan for the Use of Travellers and Others”, 1905.

“These mounds vary in shape and character. The largest are those known as misasagi, the Japanese word for the tombs of emperors, empresses, and prince of the blood. In the most ancient times, say the Japanese antiquarians, the tombs of the Mikados were simple mounds. At some unknown period, however ... a highly specialized form of tumulus came into use for this purpose, and continued for several hundreds of years without much change. It consists of two mounds – one conical, and the other of a triangular shape – merging into each other ... the whole being surrounded by a moat, and sometimes by two concentric moats with a narrow strip of land between. The interment took place in the conical part, the other probably serving as a platform on which were performed the rites in honor of the deceased. ... The slope of the tumulus is not regular, but is broken up by terraces, on which are placed in rows, at intervals of a few inches, curious cylinders coarsely made of baked clay ... They are buried in the earth, ... one purpose was no doubt to prevent the earth of the mounds from being washed away by rain ... The misasagi vary greatly in size”.

“In some, perhaps in most, cases the misasagi contains a large vault built of great unhewn stones without mortar. The walls of the vault converge gradually towards the top, which is then roofed by enormous slabs of stone weighing many tons each. The

18 April 2022

entrance was by means of a long, low gallery, roofed with similar stones, and so constructed that its right wall is in line with the right wall of the vault. During the later period of mound-building, the entrance to this gallery always faced south, - a practice which had its origin in the Chinese notion that the north is the most honorable quarter, and that the deceased should therefore occupy that position in relation to the worshippers. Sarcophagi of stone and pottery have been found in some of the misasagi”.

<https://www.rekihaku.ac.jp/english/outline/publication/rekihaku/138/witness.html>

Archaic Funerary Rites

We have seen that in the “Japanese funeral rites”, by Arthur Hyde Lay, in the cortège, which “accompanied the remains from their provisional shelter to their last resting-place,” there were the lantern bearers. Why?

Let us read what it is told in “The Funerals of the Japanese Emperor”, by François Macé. “From an archaeological point of view, the “archaic funerals” belong to the kofun 古墳 (ancient mound) period, which extends from the 3th to the 6th century, and to the beginning of historical times up to the end of the 7th century. The first part of this period is characterized by enormous mounds ... These tombs, which one began to erect during the lifetime of the sovereign”. As stressed by the author, the building of these tombs absorbed “a very considerable part of the wealth of the country”, due to the laborers employed and for the cost of the objects that were placed near the sarcophagus. “Especially the arms buried in them must have represented a significant part of the available iron” (Macé, 1989).

“The funerary rites which went together with these constructions are known to us only for the end of the period. These funerals were centered around the rite of the mogari 殯, a provisional depository for the body between death and definitive burial. For this rite a special building was constructed, the *mogari palace* wherein the body was placed and also, as it seems, the women who had surrounded the deceased were confined.” (Macé, 1989).

Probably this confinement of women was due to possible pregnancy.

“The mogari lasted mostly three to six months but could also take a year or more. The last great mogari, celebrated for Emperor Tenmu 天武, lasted more than two years. During that period, memorial eulogies were delivered and lamentations held on the New Year days and in the 3th and 6th months. Also dance and music sessions were occasionally organized. Besides these public and masculine rites, there probably existed rituals celebrated within the mogari palace with women as the main participants. ... The mogari was concluded by a last rite during which the list of sovereigns from the divine ancestor, Amaterasu, up to the deceased was recited. At that moment the deceased emperor was given his posthumous name and thereby incorporated into the group of his ancestors. Then, *in the middle of the night, with torch light and the sound of martial music, the body was transported to its tomb.* This last ceremony took place around the

18 April 2022

10th or 11th month, that is, at the time of the celebration of the feast of the partaking of the first fruits —feast which, as we saw already, was linked to the enthronement of the new emperor” (Macé, 1989).

“One can characterize this mogari rite by three traits: duration, paroxysm, and a cyclical conception of time. The mogari was, before anything else, a length of time during which the survivors were confronted with the degeneration of the corpse. But, differently from what happened in many other societies and from what will happen later in Japan itself, this duration was not conceived in the first place in function of its point of departure, death, but rather in function of the date of burial which had to take place towards the end of the year. Although these Japanese rites are known to us only at a time when their sinicization was already far advanced, one finds in them traces of paroxysmic behavior. The first indication thereof is the long duration itself of the mogari”. Besides phenomena of an extreme behavior in mourning, violence was triggered by the death of the emperor. The “period of mourning was also a time of social disorder: rapes and many coup attempts and rebellions. These disorders were in a way necessary for the good progression of the rite. Since the death of the emperor brought along, in a sense, the death of time and society, one had to assume this death in the form of the disintegration of the corpse and in the form of social and political disorder, so that a new order might be born in the person of the new emperor and in the access of the deceased to the state of ancestor” (Macé, 1989).

In “The Funerals of the Japanese Emperor”, François Macé is mentioning asobibe rituals.

Asobibe

From [en.wikipedia.org/wiki/Asobi_\(ancient_Japan\)](https://en.wikipedia.org/wiki/Asobi_(ancient_Japan)). Asobi were Shinto priestesses devoted to the goddess Ame-no-Uzume-no-Mikoto. “Originating as performers of shamanistic rituals performed to appease the souls of the dead, asobi originally functioned as priestesses designed to deal with death. Though they played a role in conducting royal funerals, with the introduction of Buddhism and Confucianism in the 700s, the place of asobi in royal funerals disappeared, and they instead became known for their imayō songs”.

“Asobi priestesses worshipped the goddess Ame-no-Uzume-no-Mikoto and believed themselves to be her descendants. The term asobi is said to come from a myth about the goddess Ame-no-Uzume on the origins of the Japanese nation recorded in the Kojiki (Record of Ancient Matters). The myth is as follows: Amaterasu had a brother by the name of Susano-no-Mikoto. He repeatedly pranked Amaterasu which drove her to hide away in a rock cave. Her retreat brought darkness to the celestial realm and gods gathered at the cave. Ame-no-Uzume-no-Mikoto danced in front of the gathered gods. Divinely possessed, she became half-naked and exposed her breasts and lower body to the crowd. This made the gods burst into laughter. Upon hearing the commotion, Amaterasu peeked out of the cave to quell her curiosity”.

18 April 2022

“Ame-no-Uzume's actions are labeled in the Kojiki as Asobi, which directly translates to "play". Ame-no-Uzume's actions were essentially a shamanistic ritual now interpreted as the archetypal funerary ritual performed to appease the soul of the dead. Before changes in the early 700s, asobi functioned as priestesses designed to deal with death and the relief of society from potential chaos and communal paralysis. They brought collective renewal in times of loss through transformational magic. From the myth as well as their social function, the archetypal image of asobi became that of a priestess and entertainer who mediated the worlds of light and darkness, or life and death”.

“Asobi-be. The special lineage group who served the royal morticians were called the asobi-be. Asobi-be lineage was succeeded by female clan members, but included some male members who worked as assistants. The asobi-be had exclusive access to royal coffins during enshrinement. They performed ritual dances and incantations that were passed down secretly through generations. Their rituals were considered crucial for deaths in the imperial court so they were granted immunity from conscript labor and taxes. ... After the introduction of the Taihō Reform Code of 701 and the Yōrō Code of 718, unsavory views of asobi-be emerged. ... After being pushed out of their role in funerary proceedings, asobi women were forced to find a new way to survive which led them to use their traditional dances and songs to survive.”

Satellite and LiDAR

As we have seen, and this is clearly told by J. Edward Kidder Jr. in his discussion and by A. Goto, referring to Y. Hojo's works and collaboration, we have a large literature in Japanese about kofun and their orientation. We have also seen that a predominant “southern aspect” of the burial places is mentioned. So, is it interesting any analysis by means of satellites? Let us stress that an inspection inside the kofun is necessary to determine the orientation of burial chamber, which is not necessarily the same as that of the mound (see Goto, 2018, Hojo and Goto, 2021). If the analysis is that we can obtain by means of the maps from Spaceborne Digital Elevation Models (DEMs), as that proposed by Yamazaki, Ikeshima, Tawatari, Yamaguchi, O'Loughlin, Neal, Sampson, Kanae and Bates, in 2017, and implemented at the web site it-ch.topographic-map.com, the answer is positive for sure. We have the possibility to evaluate the orientation of kofun in the local environment, according to its topography. By the way, an analysis by means of satellite optical imagery (Google Earth) could be useful to survey the state of preservation of kofun sites, and to check if they have been damaged by natural events of human activities.

Of course, for a more detailed topography of specific mounds, LiDAR investigations are fundamental, such as that recently proposed by Mitsumoto, J., et al. (2022), for the analysis of the Tottori-kamitakatsuka mounded tomb, and by Jun Mitsumoto for the Tsukuriyama Kofun Group.

Discussion on orientation

First, let us stress once more that kofun have been built also using the natural topography, and therefore, as previously told, the use of Spaceborne Digital Elevation Model based on Multiple Satellite Data Sets is fundamental to investigate the specific topography and the related orientation of the structure. We have also seen, in several of the references given above, that we have to distinguish at least two periods for the building of the double mounds, today known as keyhole kofun. In the first period, we have a structure made by two mounds, with a burial pit at the center of the round rear part, and a subsidiary chamber in the front square part (an example is the Daisenryo kofun). In the second period, the pit in the round part is substituted by a chamber with a corridor (in fact, more than one chambers can be present in kofun too). Therefore, when we have to consider the orientation of the double mounds, we have to distinguish them at least according to these two main periods.

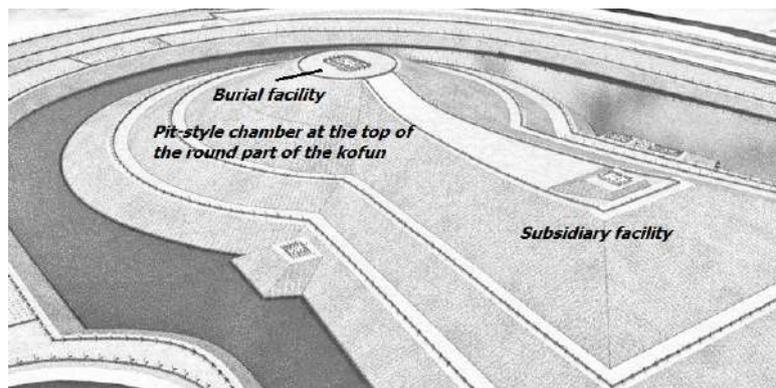


Fig. 69 - An image adapted from beautiful Figure 2-11 of Monuments and Sites Division, Agency Cultural Affairs, Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan, Volume 6. The caption tells “Virtual reconstruction of a kofun to the time of its construction (Ojin-tenno-ryo Kofun)”. It is available at the following link https://www.bunka.go.jp/.../r1419077_06.pdf . We can see the burial facility, under which there is the burial pit with the sarcophagus, has the same orientation of the symmetry axis of the kofun. The same we can see in the Photo 2-3 of the above mentioned volume. The caption tells “An oblong chest-shaped stone coffin in a pit-style stone compartment dug into the top of the mound”. And the same in the Figure 3-1 of volume 8 too, with caption “Earthen constructions with distinctive appearances”. Many thanks to the Monuments and Sites Division of the Agency of Cultural Affairs for its precious documents on Kofun.

In the first period, the main axis of the kofun, that is the axis of symmetry has to be considered, because it is the only one existing. The front of the kofun is considered the

18 April 2022

square one. So, if the symmetry axis is due North, the kofun is oriented to face South. The burial chamber seems had been oriented according to the symmetry axis, as shown in the illustrations of the volumes of Monuments and Sites Division, Agency Cultural Affairs. However, we have seen the case of the Kurozuka kofun, Nara, which is facing west, but its burial pit, narrow and long, is oriented along the north-south axis. Then, the position of the body was that of kitamakura. In the same Nara area, there is the Sakurai Chausuyama kofun, which its axis due North, facing South, with a burial chamber which is oriented parallel to the axis of the kofun. Again kitamakura. As stressed by Akira Goto, the burial chamber can have a different orientation from that of the axis.

In the second period, the structure remains that of a double-mound, and the main axis needs to be considered too. However, we have a corridor added inside. Is it true that the corridor is *more or less* always perpendicular to this axis? This is a question to solve. If it is perpendicular, what is its direction, to the left or to right of the symmetry axis? Explicitly, if the symmetry axis is due North and the main side facing South, is the corridor facing the sunrise on East or the sunset on West? If the symmetry axis is due East and its main side facing West, is the corridor facing South? It seems so, because of geomancy. However, the answer is in the Japanese literature on Kofun for sure. From satellite images, it is very hard to understand where is the entrance of the corridor. An observer has to use Google Earth in the Street View, if possible, and move around the kofun, and carefully inspect its surface. And the observer has to do this for a large number of them.

For what concerns the orientation of the burial chamber, see please Akira Goto (2018). In Goto, 2018, we find the “northern pillow” and the “southern aspect” mentioned. Let us suppose, again, that we have the main axis of a keyhole kofun with an Eastern generalized orientation, generalized in the sense that the kofun has its axis oriented in the arc of sunrise from summer solstice to winter solstice. In this case, the main front is facing West (in the arc of sunset from summer solstice to winter solstice). If a corridor is present, a “southern aspect” is requiring it oriented to the noon. This orientation is fundamental to have the natural light for the illumination of corridor and chamber. Therefore, the orientation of the second period kofun, those with corridors, can have been determined by the best use of natural light, and not only by the use of geomancy.

After the second period of double mounded kofun, we find that tumuli have a round shape and a corridor. Let us remember what we have told before. “After an entombment, the passage is blocked by Heisokuishi (piled stones) or Tobiraishi (door stone), but added burial is possible when the block is removed. This method became popular from the late Kofun period”. So, the corridor was used for the passage of several bodies, and then operations were favored by a noon orientation.

As we have seen, the archaic funerary rites took a very long time, during which the tumuli were prepared. So, operations were favored by noon light, but funerary rituals took place also during the night. In this complex ritual, had the orientation of the tumulus a specific meaning, or was only the orientation of the burial chamber being fundamental? According to Yoshitaka Hojo, the burials were characterized as “northern

18 April 2022

pillow” (kitamakura). Then, it seems that it is the orientation of the burial chamber, the orientation which is the fundamental one.

We have seen, at the beginning of this study, that kitamakura is linked to Buddhism and that Taoism and geomancy have special rules about the orientation of tombs. For what concerns the sun, we can see that kofun are mainly facing the south and west directions. Are these orientation linked to Amaterasu, the kami of Yamato? This is a further interesting question, because it seems that the myths about this sun goddess are a late elaboration, with respect to the Kofun period.

Hopewell culture

Large mounds are present also in America.

From “Advanced Civilizations of Prehistoric America, The Lost Kingdoms of the Adena, Hopewell, Mississippians, and Anasazi”, by Frank Joseph, 2009.

Though this description might apply to a typical site of North America’s ancient Hopewell culture, it just as faithfully portrays an archaeological zone in Watanuki Kannonyama Kofun, Gunma prefecture, Japan. Most experts in American prehistory are unaware that the earthworks they investigate have their overseas counterparts in the Land of the Rising Sun. Remarkably, parallels between those counterparts and earthworks here are both numerous and astonishingly close. Even in mounds that are peculiarly Japanese, points of comparison with monumental construction in pre-Columbian America are unavoidable.

An outstanding example is the massive structure at Shimane-ken, a

colossal burial mound curiously shaped to resemble a keyhole. Such unusual structures are known as *zempokoefun*, or burial tumuli with a rounded rear mound attached to a rectilinear mound at the front. At 1,458 feet long and 28 feet high, it is one of ancient Japan’s grandest material achievements. Like some Hopewell sites found near Chillicothe, Ohio, or at Pinson, Tennessee, it was first laid out in courses of flagstone and gravel, then covered over with clay and capped with earth. Unlike anything similarly discovered so far in North America, however, a passageway leads from the eastern-oriented entrance to the innermost recesses of the mound.

18 April 2022

Shimane-ken was contemporary with Late Hopewell, circa AD 300. Mound building in Japan began during the middle phases of the Jomon Period (3000 BC–1000 BC), resumed in the Early Yayoi Period (around 400 BC), and culminated during the Kofun Period (AD 250–600). Jomon means “cord mark” and refers to the impressed rope patterns featured on pottery of the period. The name Yayoi derives from the site (Yayoi-chos) near Tokyo, where that culture was first identified. Kofun is a name of the particular burial tumuli associated with the first centuries AD. The end of the Jomon Period coincides with North America’s Adena period, when large-scale mound building was going on throughout the Ohio Valley.

References

1. Amakasu Ken (1977). The significance of the formation and distribution of kofun. *Acta Asiatica* 31:24—50.
2. Aston, W. G. (1893). The “Hi No Maru,” or National Flag of Japan. *Transactions of the Asiatic Society of Japan*, 1893.
3. Baker, H. (2012). Ancient bones reveal previously unknown Japanese ancestors. September 20, 2021. LiveScience, <https://www.livescience.com/ancient-bones-reveal-japanese-ancestry.html>
4. Barnes, Gina L. (2014). A Hypothesis for Early Kofun Rulership. *Japan review: Journal of the International Research Center for Japanese Studies*, volume 27. page range 3-29. URL <http://doi.org/10.15055/00007148>
5. Barnes, Gina L. (2015) *The Archaeology of East Asia: The Rise of Civilization in China, Korea and Japan* (Oxford: Oxbow books, 2015), 271-275; 331-360.
6. Borup, Jørn (2008). *Japanese Rinzaï Zen Buddhism*, BRILL, Religion.
7. Brown, Delmer M. (1993). *The Cambridge History of Japan, Volume 1: Ancient Japan*. Cambridge University Press. p. 114. ISBN 0521223520.
8. Bunkachō [Agency for Cultural Affairs] (2020). *Hakkutsu sareta Nihon rettō 2020 [Excavations in the Japanese Archipelago, 2020]*. Ed., Kyodo News, 2020.
9. Chamberlain, Basil Hall (1905). *Things Japanese. Being Notes on Various Subjects Connected with Japan for the Use of Travellers and Others*. Publisher: John Murray. Original from: Harvard University
10. Coleman, Joseph (1998). Using Stars, Calendar and Compass, Geomancers Keep Devil at the Gate. *Los Angeles Times*, <https://www.latimes.com/archives/la-xpm-1998-feb-01-mn-14456-story.html>
11. Deal, W. E. (. 2017). Religion in archaic Japan. In *Routledge Handbook of Premodern Japanese History*. Editor: Karl F. Friday. Publisher: Taylor & Francis. ISBN: 9781351692014, 1351692011
12. Denoon, D., Mark Hudson, Gavan McCormack, Tessa Morris-Suzuki. *Multicultural Japan: Palaeolithic to Postmodern*. Cambridge University Press, 20 nov 2001.

18 April 2022

13. Edwards, W. (1999). Mirrors on Ancient Yamato: The Kurozuka Kofun Discovery and the Question of Yamatai. *Monumenta Nipponica*. Vol. 54, No. 1 (Spring, 1999), pp. 75-110 (36).
14. Ellwood, Robert S. (1990). The Sujin religious revolution. *Japanese Journal of Religious Studies* 17/2-3: 199-217.
15. Frank, Joseph (2009). *Advanced Civilizations of Prehistoric America, The Lost Kingdoms of the Adena, Hopewell, Mississippians, and Anasazi*. ISBN: 9781591439813, 1591439817, Published: December 21, 2009, Publisher: Inner Traditions/Bear
16. Friday, K. F., Ed. (2017). *Routledge Handbook of Premodern Japanese History*. 2017. ISBN:9781351692021, 135169202X . Publisher:Taylor & Francis
17. Fukunaga, Shin'ya, Thomas Knopf, Werner Steinhaus, Eds. *Burial Mounds in Europe and Japan. Comparative and Contextual Perspectives 2018* ISBN:9781789690088, 1789690080 Publisher: Archaeopress Publishing Limited
18. Gliozzo, E. (2021). Pigments—Mercury-based red (cinnabar-vermilion) and white (calomel) and their degradation products. *Archaeological and Anthropological Sciences*, 13(11), 1-53.
19. Goto, Akira (2016). Solar Kingdom of Ryukyu: The formation of a Cosmovision in the Southern Islands of the Japanese Archipelago. In: *Journal of Astronomy in Culture* 1 (2016), 1, p. 79–88.
20. Goto, Akira (2018). A Short History of Archeoastronomy in Japan: With focus on alignment studies of stone circle, settlement and burials. In *Harmony and Symmetry. Celestial regularities shaping human culture.: Proceedings of the SEAC 2018 Conference in Graz*. Edited by Sonja Draxler, Max E. Lippitsch & Gudrun Wolfschmidt. SEAC Publications; Vol. 01.
21. Goto, Akira (2021). *Cultural Astronomy of the Japanese Archipelago: Exploring the Japanese Skyscape*. London, New York: Routledge (Routledge Studies in the Early History of Asia) 2021.
22. Gowland, W. (1897). The dolmens and burial mounds in Japan. In: *Archaeologia* 55 (1987), p. 439–524; Gowland, William (1907). *The burial mounds and dolmens of the early emperors of Japan*. Publisher London : Royal Anthropological Institute of Great Britain and Ireland
23. Grey, Robert (2014). *A Tomb with a View. The Mori Shogunzuka Keyhole Tomb in Chikuma, Nagano*. Japan Travel. <https://en.japantravel.com/nagano/a-tomb-with-a-view/12925>
24. Harada, Kazutoshi (2009). *Art of the Samurai. Japanese Arms and Armor, 1156-1868*, Metropolitan Museum of Art (New York, N.Y.), 2009. Editor: Morihiro Ogawa, ISBN: 9781588393456, 1588393453
25. Hitchcock, R. (1893). *The Ancient Burial Mounds of Japan*. WASHINGTON : GOVERNMENT PRINTING OFFICE .
26. Hojo, Y. (1989). The study of keyhole shaped tombs and Japanese archaeology. *Archaeological Review from Cambridge* 8/1: 81-90.

18 April 2022

27. Hojo, Y. (2013). Mountains in the east, tombs in the west. Quarterly of Archaeological Studies (Society of archaeological studies), Vol.59, No.4 (236), March, 2013, <https://kokogakukenyukai.jp/kaishi/con236eng.html>
28. Hojo, Y. (2017). The Orientation of Kofun and the Sun. Tokyo: Doseisha 2017.
29. Hojo, Yoshitaka, and Akira Goto (2021). Construction of archaeology and ancient history research methods based on cooperation with astronomy. Impact 2021, no. 2 (2021): 90-92.
30. Hudson, M. (2002). L'archeologia dell'Estremo Oriente: Giappone, in Il Mondo dell'Archeologia (2002). <https://www.treccani.it/enciclopedia/l-archeologia-dell-estremo-oriente-giappone>
31. Hudson, M. J. (1992). Rice, Bronze, and Chieftains: An Archaeology of Yayoi Ritual. Japanese Journal of Religious Studies · May 1992 DOI: 10.18874/jjrs.19.2-3.1992.139-189
32. Hyde Lay, A. (1891). Japanese funeral rites, Published by Yokohama, 1891; Transactions of the Asiatic Society of Japan, Volume 19. Asiatic Society of Japan, 1891.
33. Ishino, Hironobu (1992). Rites and Rituals of the Kofun Period. Japanese Journal of Religious Studies. Vol. 19, No. 2/3, Archaeological Approaches to Ritual and Religion in Japan (Jun. - Sep., 1992), pp. 191-216 (26 pages).
34. Isomura Yukio, Sakai Hideya (2012). (国指定史跡事典) National Historic Site Encyclopedia. 学生社. ISBN 4311750404.(in Japanese)
35. Janežič, Vania (2009). Khaybar Desert Kites, available at <https://alsahra.org/wp-content/uploads/2009/02/khaybar-desert-kites.pdf>
36. Kaneko, Erika (1968). A review of Yayoi burial practices. Asian Perspectives 9 (1966): 1-26.
37. Kawano, M., Takeuchi, A., Takahashi, K., Imazu, S., & Minami, T. (2014). Determination of sources of vermilion used in Japanese burial mound of Yayoi and Kofun periods. ISIJ international, 54(5), 1155-1158.
38. Kidder, J. Edward Jr. (2007). Himiko and Japan's Elusive Chiefdom of Yamatai: Archaeology, History, and Mythology. University of Hawaii Press, 28 feb 2007 - 448 pagine
39. Kidder, J. Edward Jr. (2015). Makimuku, Himiko and Yamatai: Solving the Puzzle. Available at <https://icu.repo.nii.ac.jp/>
40. Lee, Dennis Hyun-Seung. Keyhole-shaped Tombs and Unspoken Frontiers: Exploring the Borderlands of Early Korean-Japanese Relations in the 5 th–6 th Centuries. University of California, Los Angeles, 2014.
41. Leslie Williams, E. (2007). Spirit Tree. Origins of Cosmology in Shintô Ritual at Hakozaki. Publisher: University Press of America. ISBN:9780761834168, 0761834168
42. Macé, François (1989). The Funerals of the Japanese Emperor. Nanzan Bulletin 13 (1989): 26-57.
43. Maeder, Stefan (2011). The Big Dipper, Sword, Snake and Turtle: Four Constellations

- as indicators of the ecliptic pole in Ancient China? In Nakamura, T., Orchiston, W., Sôma, M., and Strom, R. (eds.), 2011. *Mapping the Oriental Sky. Proceedings of the Seventh International Conference on Oriental Astronomy*. Tokyo, National Astronomical Observatory of Japan. Pp. 57-63.
44. Matsumura, Kazuo (2006). *Ancient Japan and religion*. In *Nanzan Guide to Japanese Religions*. 2006. ISBN: 9780824830021, 0824830024. Editore: University of Hawai'i Press. Editori: Clark Chilson, Paul Loren Swanson. Collaboratore: Nanzan Shūkyō Bunka Kenkyūjo
 45. Miller, Bryan K. (2009). *Power Politics in the Xiongnu Empire*. Publicly Accessible Penn Dissertations. 12. <http://repository.upenn.edu/edissertations/12>
 46. Mitsumoto, J., Yamaguchi, Y., & Ryan, J. (2022). LiDAR 測量による岡山県赤磐市鳥取上高塚古墳の墳丘の検討. *Analysis of the Tottori-kamitakatsuka mounded tomb through airborne LiDAR survey*. *Dynamics of Civilizations*, 1, 67-81. DOI 10.18926/63028
 47. Mitsumoto, Jun. *LiDAR Mapping of the Tsukuriyama Kofun Group: Research History of Three Dimensional Surveys*, http://out-of-eurasia.jp/en/publications/mexico/pdfs/05_ch4.pdf
 48. Mizuno Masayoshi (1990). *Bunmei no dojo—Shimaguni no genzo 文明の土壌—島国の原像 [The foundation of civilization —The original state of an island nation]*. Tokyo: Kadokawa.
 49. Monuments and Sites Division, Agency Cultural Affairs. *Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan. Volume 2*, link www.bunka.go.jp/.../r1419077_02.pdf
 50. Monuments and Sites Division, Agency Cultural Affairs. *Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan. Volume 4*, link www.bunka.go.jp/.../r1419077_04.pdf
 51. Monuments and Sites Division, Agency Cultural Affairs. *Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan. Volume 6*, link www.bunka.go.jp/.../r1419077_06.pdf
 52. Monuments and Sites Division, Agency Cultural Affairs. *Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan. Volume 8*, link www.bunka.go.jp/.../r1419077_08.pdf
 53. Monuments and Sites Division, Agency Cultural Affairs. *Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan. Volume 10*, link www.bunka.go.jp/s.../r1419077_10.pdf
 54. Monuments and Sites Division, Agency Cultural Affairs. *Mozu-Furuichi Kofun Group Mounded Tombs of Ancient Japan. Volume 12*, link www.bunka.go.jp/.../r1419077_12.pdf
 55. Niall P. Cooke, Valeria Mattiangeli, Lara M. Cassidy, Kenji Okazaki, Caroline A. Stokes, Shin Onbe, Satoshi Hatakeyama, Kenichi Machida, Kenji Kasai, Naoto Tomioka, Akihiko Matsumoto, Masafumi Ito, Yoshitaka Kojima, Daniel G. Bradley,

- Takashi Gakuhari, Shigeki Nakagome (2012). Ancient genomics reveals tripartite origins of Japanese populations. *Science advances* 7.38 (2021): eabh2419.
56. Obayashi Taryo (1987) Jomon to Yayoi no haka: Minzokugaku teki kaishaku. Jomon and Yayoi graves: An ethnographic explanation]. In Yayoi bunka no kenkyu 8: Matsuri to haka to yosooi, Kanaseki & Sahara eds., 165-73.
 57. Owa Iwao (1983). Amatrasu Omikami to Zempo Kofun no Nazo. Rokko.
 58. Palmer, Edwina (1991). Land of the Rising Sun. The Predominant East-West Axis Among the Early Japanese. *Monumenta Nipponica*. Vol. 46, No. 1 (Spring, 1991), pp. 69-90 (22 pages). <https://www.jstor.org/stable/2385147>
 59. Patel, Kasha (2017). A Burial Site Fit for an Emperor. NASA Earth Observatory <https://earthobservatory.nasa.gov/images/145935/a-burial-site-fit-for-an-emperor>
 60. Poncini, G. (1994). Arte Giapponese, Enciclopedia dell' Arte Antica (1994) in TRECCANI https://www.treccani.it/enciclopedia/arte-giapponese_%28Enciclopedia-dell%27-Arte-Antica%29/
 61. Poncini, G. (1995). KOFUN in Enciclopedia dell' Arte Antica, available link https://www.treccani.it/enciclopedia/kofun_%28Enciclopedia-dell%27-Arte-Antica%29/
 62. Ponsonby-Fane, Richard Arthur Brabazon. (1959). The Imperial House of Japan. Kyoto: Ponsonby Memorial Society. OCLC 194887.
 63. Reader, Ian, Esben Andreasen and Finn Stefansson (1993). Japanese Religions: Past and Present. University of Hawaii Press, May 1, 1993 – Religion.
 64. Renshaw, Steven, and Saori Ihara (2000). A cultural astronomy in Japan.” In: Selin, H. (ed.): *Astronomy Across Cultures: The History of Non-Western Astronomy*. Dordrecht: Kluwer 2000, p. 385–407.
 65. Renshaw, Steven (2015). Cultural astronomy in Japan. In: Ruggles, Clive (ed.): *Handbook of Archaeoastronomy and Ethnoastronomy*, Vol. 3. New York: Springer 2015, p. 2197–2203.
 66. Roberts, Jeremy (2009). *Japanese Mythology A to Z* ISBN:9 781438128023, 1438128029 Editore: Facts On File, Incorporated
 67. Saito, Hisho (2010). *A History of Japan*. Taylor & Francis, ISBN: 9781136924637, 1136924639
 68. Saitō Tadashi (1953). Kofun hōi kō. *Kokogaku zasshi*, 39 (1953) 110–116.
 69. Saitō Tadashi (1961). *Nihon kofun no kenkyu*. (Tokyo: Yoshikawa Ko bunkan, 1961), 265–272.
 70. Sakai, Atsuharu (1949). *Japan in a Nutshell: Japanese psychology, tradition, customs and manners*. Yamagata Print. Company
 71. Selin, Helaine (2012). *Astronomy Across Cultures: The History of Non-Western Astronomy*. Springer Science & Business Media, 6 dic 2012
 72. Smith, Bonnie G. (2008). *The Oxford Encyclopedia of Women in World History*, Volume 1. Oxford University Press, Page 415.

18 April 2022

73. Sparavigna, A. C. (2010). Arabia: from craters to stone circles. arXiv preprint arXiv:1011.2111.
74. Sparavigna, A. C. (2012). The Chinese Pyramids and the Sun. arXiv:1211.0915. DOI: <https://doi.org/10.48550/arXiv.1211.0915>
75. Sparavigna, A. C. (2013). Neolithic Mounds of Tassili and Amguid in the Satellite Google Maps. Archaeogate, Article 1513, ISSN 1973-2953, (2013), Available at SSRN: <https://ssrn.com/abstract=2776906>
76. Sparavigna (2014,a). A Prehistoric Solar Observatory in the Middle of Sahara Desert. Philica, Philica, 2014, <10.5281/zenodo.3362222>. <hal-02264633>
77. Sparavigna, A. C. (2014,b). Desert kites and stone circles of the Syrian Desert in satellite images. Archaeoastronomy and Ancient Technologies, 2(1), 1-7.
78. Sparavigna, A. C. (2018). Exercises in Archaeoastronomy - 3 - Keyhole structures of the Sahara. PHILICA Article number 1245. DOI: 10.5281/zenodo.1184089
79. Steele, John (2001). Review of “East Asian Archaeoastronomy: Historical Records of Astronomical Observations of China, Japan and Korea”. Physics Today 54, 12, 56 (2001); <https://doi.org/10.1063/1.1445553>
80. Suenaga, Masao (1961). Nihon no kofun, Tōkyō, Asahi Shinbunsha, Shōwa 36.
81. Takashima Chuhei (1990).Comment in Shinpojumu: Wakoku Tairan to Yamataikoku [Round table discussion: The Wa Unrest and Yamatai]. In Wakoku tairan to Yoshinogari [Yoshinogari and the Wa Unrest],117-247.
82. Tashiro Katsumi (1987). Hokeishukobo 方形周溝墓 [Square moated burial precincts]. In Yayoi bunka no kenkyu 8: Matsuri to haka to yosooi, Kanaseki Sc Sahara, eds” 148-53.
83. Tsude Hiroshi (1992). The Kofun 古墳 period and state formation. Acta Asiatica 63: 64-86.
84. Vee David (2013). Kanji Handbook (JLPT All Levels) This Japanese Character Dictionary and Kanji Textbook Uses an Innovative and Effective System. Tuttle Publishing. ISBN: 9781462910632, 1462910637
85. Villani, Paolo (1982). LA MITOLOGIA GIAPPONESE TENDENZE DI RICERCA IN GIAPPONE NEL SECONDO DOPOGUERRA. Il Giappone Vol. 22 (1982), pp. 115-138 (24 pages). Published by: Istituto Italiano per l’Africa e l’Oriente (IsIAO)
86. Xu, Zhenao, W. Pankenier and Yaotiao Jiang (2000). East-Asian Archaeoastronomy: Historical Records of Astronomical Observations of China, Japan and Korea. Earth Space Institute Book Series. CRC Press. ISBN 978-90-5699-302-3. Reviewed by John Steele at <https://physicstoday.scitation.org/doi/full/10.1063/1.1445553>
87. Waida Manabu (1976). Sacred Kingship in Early Japan: A Historical introduction, in History of Religions, 15, 4.
88. Wheatley, Paul (1971). The pivot of the Four Quarters, University of Edinburgh Press, 1971, pp.426.28.
89. Wontack, Hong (2005). Yayoi Wave, Kofun Wave, and Timing: The Formation of the

18 April 2022

- Japanese People and Japanese Language. *Korean Studies*. Vol. 29 (2005), pp. 1-29 (29 pages)
90. Yamazaki D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J.C. Neal, C.C. Sampson, S. Kanae & P.D. Bates (2017). A high accuracy map of global terrain elevations. *Geophysical Research Letters*, vol.44, pp.5844-5853, 2017 doi: 10.1002/2017GL072874
 91. Yoshida Shoichiro (1979). Kofun jidai [The Kofun Period], Entry in *Sekai kokogaku jiten* [An encyclopedia of world archaeology]. Tokyo: Heibonsha.
 92. Yoshimura Teiji (1981). *Nihon Kodai Reki no Shomei*, Rokko Shuppan.