

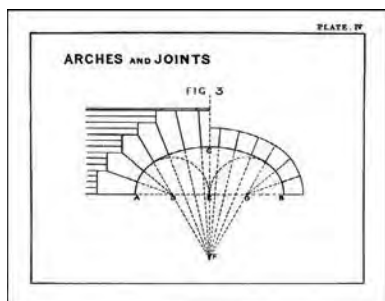
# stonexus

## MAGAZINE

NUMBER XV A TRIBUTE TO STONE, STONEMASONRY AND STONE ART

EDITOR / CURATOR  
GRAPHIC DESIGNER  
Tomas Lipps  
ASSOCIATE EDITOR  
Julie Kandyba

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www.stonefoundation.org  
email: tomas@stonefoundation.org



front cover:  
Head of a Buddha statue from Borobudur.  
Tropenmuseum, Amsterdam.  
photo: Niels from Amsterdam, NL  
via Creative Commons  
back cover:  
Ares, God of War by Jo Kley

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photos: T L  
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photo: Sean Adcock



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below:  
Tyddyn Isa Quay on the Afon (river) Dwyryd.  
photo: Sean Adcock



stone (ston) n.

1. a. Concreted earthy or mineral matter; rock.  
b. Such concreted matter of a particular type.  
Often used in combination.
2. A small piece of rock.
3. Rock or piece of rock shaped or finished for a particular purpose, especially a piece of rock that is used in construction.

nex-us (nek' sas) n., pl. nexi or nex-us-es.

1. A means of connection; a link or tie.
2. A connected series or group.
3. The core or center.

mag-a-zine (mag-uh-zeen), n.

1. A periodical containing a collection of articles, stories, pictures, or other features



# ARCHES AND JOINTS

FIG. 4

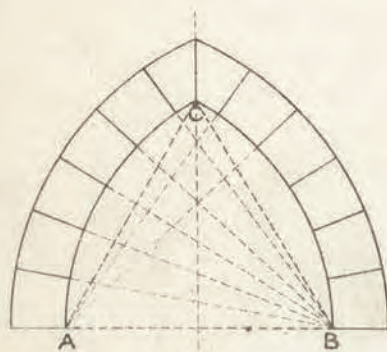
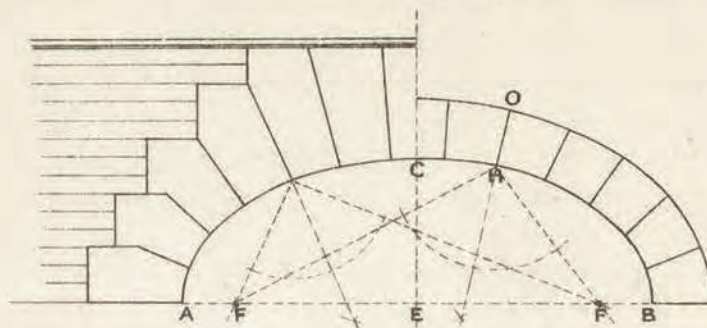


FIG. 5

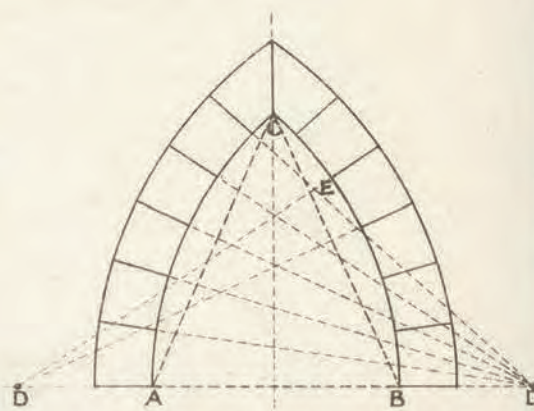


FIG. 6

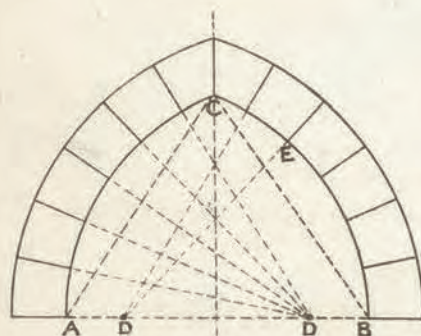


FIG. 7

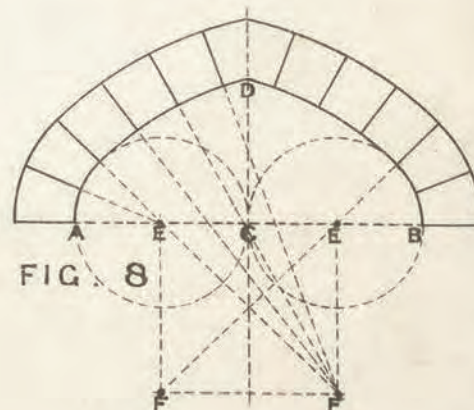


FIG. 8



# JO KLEY, STONE SCULPTOR

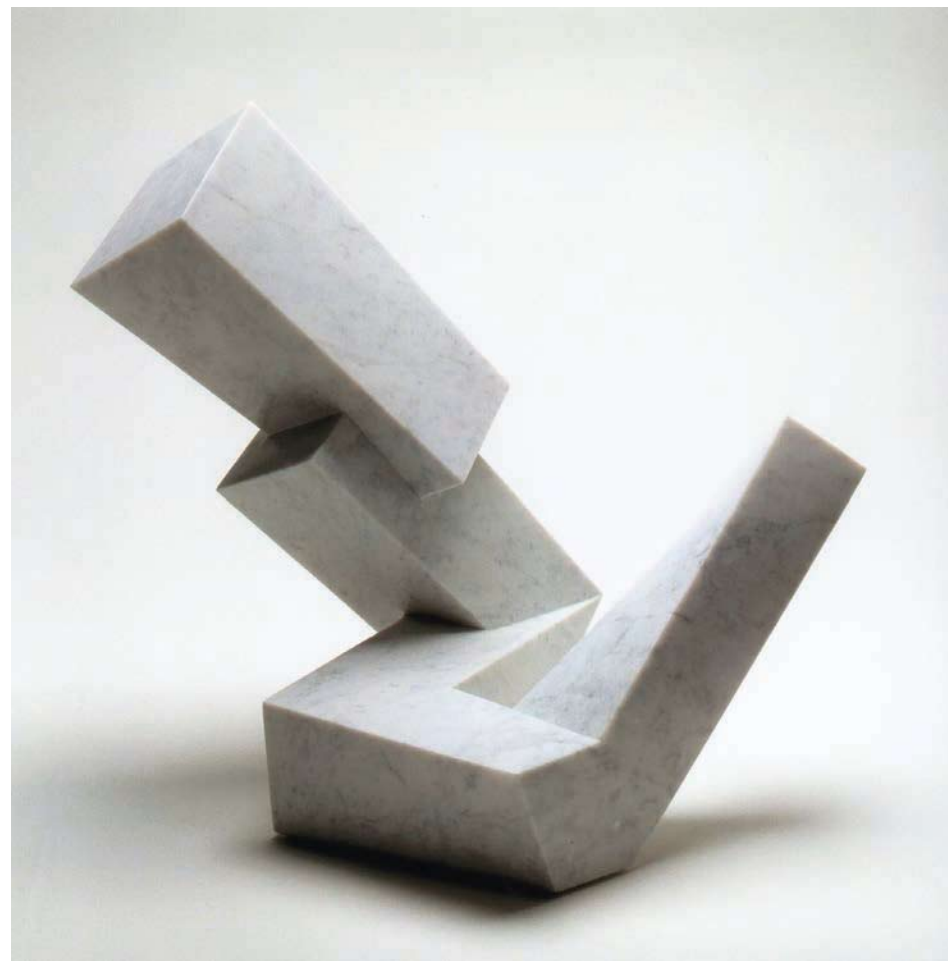
*energy in form. . .*

## ART/ENERGY

*We ourselves should constantly be aware of the significance of the term 'freedom of art' and we should defend this freedom as our utmost concern. Therefore I am free to state that an excellent stone sculpture embodies both a material and at the same time an immaterial energy; as a result I understand these kinds of objects as: energy in form!*

*What do I do? Normally I try to give the stone a fitting form using the means available to me. The work process opens my eyes and my perception. While I am working—chiseling, polishing, and making dust—new ideas arise for the next forms. For me the work process is at least as exciting as the finished sculpture. The form which remains at the end tells of its conception, revealing or mystifying—for at the end a small secret always remains. The form needs to have a certain power, it needs to breathe and be alive, to attract the observer's attention. I see my work as constant practising, working at my manual skills as well as tackling the material. And stone is my favourite material to work with. Marble, granite, limestone, alabaster. . .the palette is infinite, so it always presents a new challenge to find the most appropriate form.*





### *Ancient Greece . . .*

Its art and its gods have facinated me and have provided inspi-  
ration for a series of sculptures  
modeled on the classical deities.

*clockwise from top left:*

DEMETER

*red granite h: 40 cm*

VENUS and ADONIS

*limestone and Carrara marble  
h: 55 cm and 60 cm*

HERMES

*marble, Portugal h: 30 cm*

ATHENE

*marble, Carrara h: 60 cm*

DIONYSOS

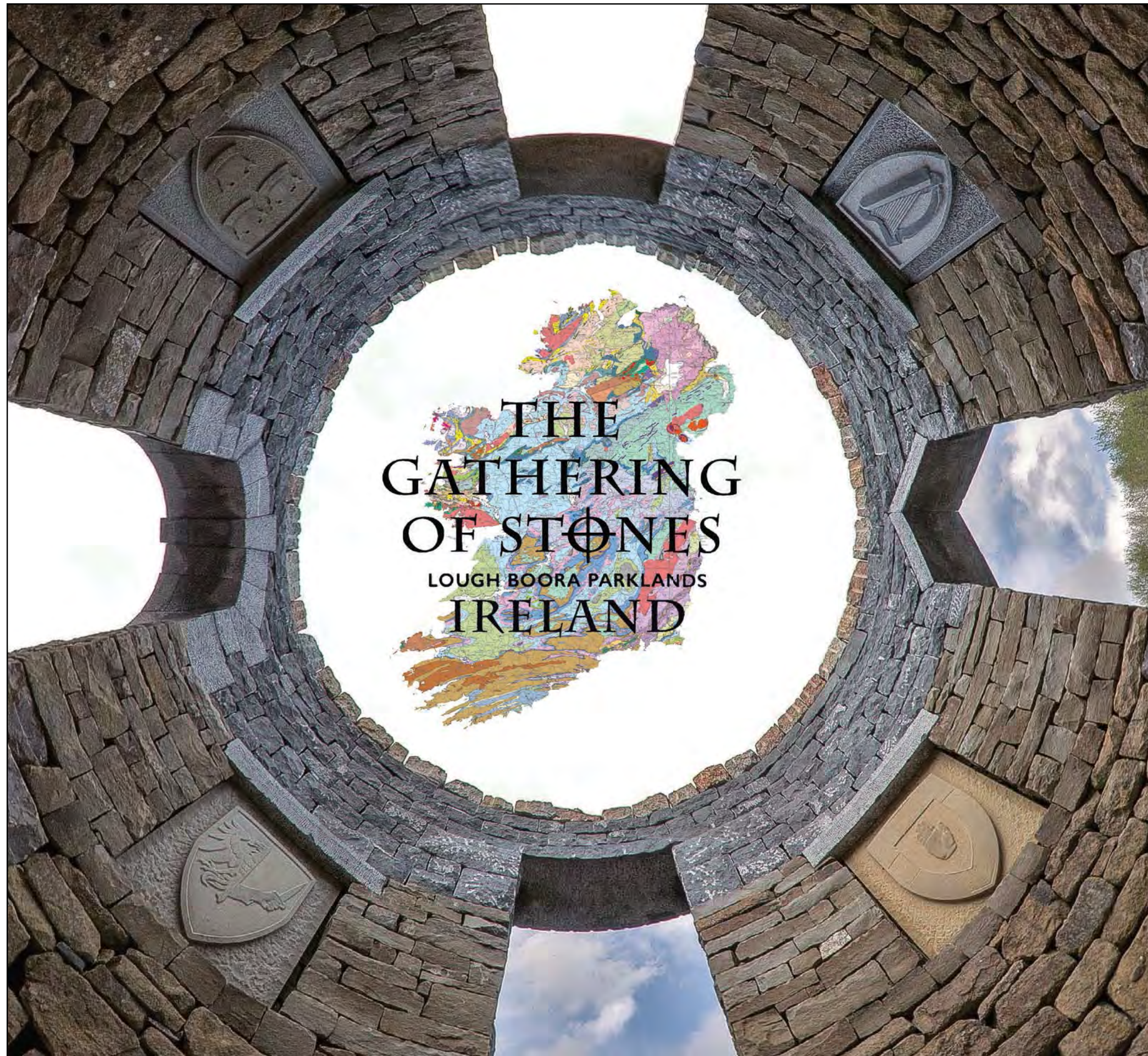
*red marble h: 60 cm*

ZEUS

*marble, Carrara h: 55 cm*







# THE GATHERING OF STONES

by Ken Curran and Sunny Wieler

Photos by Sunny Wieler, Louise Price,  
Tom Egan, Paul James & Gerry Dolan

## Context:

THE GATHERING, IRELAND 2013 began as a State-backed tourism drive but became much more as it was embraced, shaped and directed by the Irish people themselves. Aimed at encouraging the Irish diaspora to return to Ireland, The Gathering was not a single event but an umbrella framework within which the grassroots initiatives of private individuals and non-governmental organisations resulting in more than 5,000 varied activities nation-wide, including family reunions, community gatherings, sports, arts and cultural events.

## Conception:

*Remember, remember, the third week of September!*

Annually for ten years during the third week in September Inis Oirr, one of the Aran Islands off the west coast of Ireland, has hosted a convergence of the stone tribe—the *Féile na gCloch* (Festival of Stone).

Inis Oirr is overlaid by the densest concentration of dry stone walls in the country. It is a very special place for lovers of dry stone and those who attend leave feeling revitalized and more enthusiastic about the craft than ever.

The camaraderie and passion for the craft experienced on the island inspired the Dry Stone Wall Association of Ireland's members and fueled a desire to hold similar events across the country that would promote Irish dry stone heritage and the practice of the craft itself.

In 2012, Tomas Lipps, Director of the international Stone Foundation was invited to speak at *Féile na gCloch*. After the festival Sunny Wieler, Chairman of the DSWAI, invited Tomas to stay with him in Dublin while he conducted research for the articles he would write about Irish stonework for *STONEXUS* Magazine in issues XII and XIII.

Still enthused from the festival, the two men discussed future collaboration between the DSWAI and the Stone Foundation. As the Guinness flowed so too did concepts for possible projects.

Immediately upon returning home, Tomas conceived of an installation in the middle of Ireland that would celebrate Irish culture. He imagined stones being gathered from around Ireland, brought to the center of the island and used to construct a stone circle. Tomas transmitted his idea to the DSWAI principals and the seed was sown.

Coincidentally Nick Aitken, Scottish Master Dry Stone Waller and DSWAI forum member, contacted the group suggesting that an event be held for The Gathering in the centre of Ireland featuring a variety of stone types and a spiral design that represented Ireland's cultural heritage. Nick and Tomas' emails arrived only days apart.

It was clear that the timing was right, a creative concept was forming and with it, an opportunity for the DSWAI to do something as an organization that would put it on the map as a group dedicated to promoting awareness of the craft of dry stone walling in Ireland and ensuring its survival there.

Tomas and Nick's proposals were floated at an Extraordinary General Meeting of the DSWAI and were initially met with dissent. Some had reservations about embarking on such a large project at such an early point in the DSWAI's development. After discussion, however, the majority present agreed to pursue the concept further—and the rest, as they say, is history.

## Evolution:

Communications between the early initiators and the newly formed Gathering of Stones Organizing Committee fostered the development of the concept to a prospective design. Agreement was reached on certain key elements:

A circle, or circles.

A Midlands location.

Various types of stone gathered from the four provinces.

The incorporation of several walling styles and other features.

The creation of a monument to Irish culture and Ireland's dry stone heritage. . .

*left: The interior of the central structure; embedded in the walls are the crests of Ireland's four provinces. Clockwise from the top left: Munster, carved by Victor Daley; Leinster, carved by Julia Gebel and Christian Helling; Ulster, carved by Alex Pantelienko; and Connacht, carved by Christian Helling. The Gathering of Stones logo was designed by Tomas Lipps.*









## STONE STRUCTURES OF THE NORTH WALES SLATE INDUSTRY

*by Sean Adcock*

Much of the United Kingdom’s cultural heritage is inextricably linked to industry. In South Wales the development of the coal industry helped mould communities and landscapes; in North Wales the exploitation of slate played a similar role. Throughout the 19th century North Wales dominated world slate production and several hundred quarries operated at one time or another. The waste heaps of these quarries still pockmark the countryside, providing an indelible reminder of the past.

Today most towns and villages in and around the quarrying areas contain terraces of distinctive small stone quarrymen’s cottages; in some instances whole villages are essentially comprised of such cottages. At Mynydd Llandegai near Bethesda two parallel rows of cottages were built for local quarrymen each with an acre of land creating a regular rectilinear pattern of fields bounded by dry stone walls and slate pillar fences, making a signal contribution to the landscape.

It is likely that this concept developed from *tyddynod* or smallholdings located alongside the quarries during their early development as workers eked out a subsistence living from quarry and land. This created a distinctive landscape wherein many of the cottages sit derelict today in a patchwork of small fields with decaying networks of dry stone walls.

The need for quarry housing was notable within the quarries too and remains of lime mortared barracks—rows of houses used as week-day accommodation by those who lived too far away to walk to and from work on a daily basis—are relatively commonplace. In Rhiw Bach, high above the already remote Penmachno slate workings, the quarry even contained its own small village.

*photos by the author*

Deserted in 1953, it still contains almost complete remains of houses, streets, church-cum-school, dry stone garden walls, sheds and even a dry stone post and rail fence.

All quarries required a range of buildings in order to carry out their work. These were inevitably built from the most convenient raw material—slate. Most quarries have the remains of some buildings. Dry stone blast-shelters with their thick walls have survived the ravages of time well and smaller dry stone buildings such as garderobes and toilets can occasionally be found perched on walls alongside waste heaps.

Many quarries had retaining walls of some description. Commonplace are the impressive remains of 2 and 3 metre walls that formed tramway embankments, created terraces or platforms, eked workspace from a hillside and retained slate waste.

Other structures can be found with the vast numbers of quarries giving rise to a diversity of remains. Examples include corbelled arches, vousoired arches, lintelled passages through walls, inclines, canalised water races and ‘launder pillars’ built to get water to water wheels housed in stone pits or towers. At the National Slate Museum in Llanberis the largest (and still operating) water wheel on the British mainland is housed in a dry stone tower that was built in 1870 and is over 8 metres high.

The need to provide access to various levels has led to a plethora of staircases. One large, impressive set in Dinorwic runs for two hundred metres at an average gradient of around 1:3.

*Abandoned quarries such as Dinorwic, facing page, and Rhosydd, shown above, contain impressive wonders of the walling milieu. These quoins are a metre and a half to two metres long.*





right and above: The famous overhanging 'wailing wall' at the Gorseddau quarry in Cwm Ystradlyn. It borders a tramway, protecting it from waste spillage. Why it is curving out rather than leaning in is a matter of conjecture. An interesting idea put to me recently suggests it could be the up-hill portion of a long corbelled vault-to-be, half of a structure that would provide the continuing passage of the tram through a tunnel whilst enabling the quarry to dispose of thousands of tons of waste overhead. It would then resemble the much shorter passage shown above, at Hafod y Wern (Bethesda) built as part of a narrow work platform.

far right, above: Leaning like drunken sailors is a procession of 'launder pillars' at Hafod y Wern quarry. Remnants of an industrial age aqueduct, these pillars supported the troughs that brought water from its source to turn the wheels that powered the machinery.

bottom right: The entry to the 'dead-end tunnel' that traversed the raised A incline at Dinorwic quarry (see page 44) until waste was dumped to one side and the incline became a retaining wall.

below: Masterful stonemasonry—a carefully built structure at Rhosydd quarry, purpose unknown.







photo: Gunawan Kartapranata  
via Creative Commons

## THE BOROBUDUR TEMPLE COMPOUND

is one of the greatest Buddhist monuments in the world. It was built in the 8th and 9th centuries AD during the reign of the Syailendra Dynasty. The monument is located in the Kedu Valley, in the southern part of Central Java, Indonesia.

The main temple is a stupa built in three tiers around a hill which was a natural center: a pyramidal base with five concentric square terraces, the trunk of a cone with three circular platforms and, at the top, a monumental stupa. The walls and balustrades are decorated with fine low reliefs, covering a total surface area of 2,520 square meters. Around the circular platforms are 72 openwork stupas, each containing a statue of the Buddha.

The vertical division of Borobudur Temple into base, body, and superstructure perfectly accords with the conception of the Universe in Buddhist cosmology. It is believed that the universe is divided into three superimposing spheres, *kamadhatu*, *rupadhatu*, and *arupadhatu*, representing respectively the sphere of desires where we are bound to our impulses, the sphere of forms where we abandon our desires but are still bound to name and form, and the sphere of formlessness where there is no longer either name or form. At Borobudur Temple, the *kamadhatu* is represented by the base, the *rupadhatu* by the five square terraces, and the *arupadhatu* by the three circular platforms as well as the big stupa. The whole structure shows a unique blending of the very central ideas of ancestor worship, related to the idea of a terraced mountain, combined with the Buddhist concept of attaining Nirvana.

The Temple should also be seen as an outstanding monument of the Bhuddist Syailendra Dynasty that ruled Java for around 5 centuries until the 10th century.

The Borobudur Temple Compound consists of three monuments: namely the Borobudur Temple and two smaller temples situated to the east on a straight axis to Borobudur. The two temples are Mendut Temple, whose depiction of Buddha is represented by a formidable monolith accompanied by two Bodhisattvas, and Pawon Temple, a smaller temple whose inner space does not reveal which deity might have been the object of worship. Those three monuments represent phases in the attainment of Nirvana.

The compound was used as a Buddhist temple from its construction until sometime between the 10th and 15th centuries when it was abandoned. Since its re-discovery in the 19th century and restoration in the 20th century, it is again a Buddhist archaeological site.

# AXIS MUNDI

by Tomas Lipps

### Criterion (i):

Borobudur Temple Compound with its stepped, unroofed pyramid consisting of ten superimposing terraces, crowned by a large bell-shaped dome is a harmonious marriage of stupas, temple and mountain that is a masterpiece of Buddhist architecture and monumental art.

### Criterion (ii):

Borobudur Temple Compound is an outstanding example of Indonesia's art and architecture from between the early 8th and late 9th centuries that exerted considerable influence on an architectural revival between the mid-13th and early 16th centuries.

### Criterion (iii):

Laid out in the form of a lotus, the sacred flower of Buddha, Borobudur Temple Compound is an exceptional reflection of a blending of the very central idea of indigenous ancestor worship and the Buddhist concept of attaining Nirvana. The ten mounting terraces of the entire structure correspond to the successive stages that the Bodhisattva has to achieve before attaining to Buddhahood.

The boundaries contain the three temples that include the imaginary axis between them. Although the visual links are no longer open, the dynamic function between the three monuments, Borobudur Temple, Mendut Temple, and Pawon Temple is maintained.

There is a growing rate of deterioration of the building stone, the cause of which needs further research. There is also a small degree of damage caused by unsupervised visitors. The eruption of Mount Merapi is also considered as one of the potential threats because of its deposit acidic ash as happened in 2010.

The original materials were used to reconstruct the temple in two phases in the 20th century: after the turn of the century and more recently (1973-1983). Mostly original materials were used with some additions to consolidate the monument and ensure proper drainage which has not had any significant adverse impact on the value of the property. Though the present state of Borobudur Temple is the result of restorations, it retained more than enough original material when re-discovered to make a reconstruction possible.

*This succinct synthesis is from Borobudur Temple Compounds, a UNESCO document.  
photos by Tomas Lipps unless otherwise attributed*



# THE CHANDI BOROBUDUR RESTORATION SAGA

The British governed Java from 1811 to 1862. Sir Thomas Stamford Raffles, the head of the colonial government there had an intense interest in Javanese culture and history (he later wrote a book on the subject).

He traveled widely on the island and when in 1814 he was told of a great monument on the Kedu plain, Sir Thomas may or may not have gone there himself (accounts vary) but he did commission H.C. Cornelius, a Dutchman with experience in surveying temples to investigate the site.

In that same year Cornelius arrived at Borobudur to find a hill covered with trees and bushes and studded with fragments of carved stone and remnants of walls. He assembled a labor force of a few hundred locals to cut trees, burn undergrowth and dig up and clear away earth and stones. Enough was removed to get an idea of the structure though not in any detail. From 1817 on, sporadic small-scale excavations were made with no known outcome.



In 1834 the Dutch District Officer for the region, C.L. Hartmann, developed an interest in the site and started a program to clean up the entire structure, discovering in the process that Borobudur was not just a temple crowning a hill—it was a hill (enveloping, as the UNESCO borings would later find, a natural rise in the landscape).

In 1842 he focused his attention on the large stupa that crowned the structure. Treasure hunters had, some time before, broken into it and there was nothing of value found inside except for an ill-formed Buddha statue. This statute, the *Unfinished Buddha*, became a source of controversy. More of that later. . .

Hartmann himself left no record of his activities; that a Buddha associated with the stupa had been found is known only because the villagers talked of it. The site-clearing revealed that the ruins were ideally situated for views over the surrounding countryside (and, presumably, for pleasant breezes) and a bamboo tea-house was built atop the structure in anticipation of visitors.

In 1872 Isodore Van Kinsbergen was the first to photograph Borobudur's statues and reliefs. Continued excavation and considerable cleanup was needed but as Van Kinsbergen's photos show, the temple stood clear of the earth and trees that once covered it. It is reported that he applied a coating of bamboo ash mixed with lime and clay to enhance the reliefs when photographing them.

above, left: A romantic painting of the site commissioned by Raffles.

above, right: Van Erp establishing a level plane for the paving.

facing page: Photo by van Erp of the temple near the end of his work there in 1911. Note that the chattra, or pinnacle, has not yet been removed.

In 1882 concern for the monument's deterioration prompted a proposal to demolish it, remove the reliefs and install them in a museum. This radical plan was rejected when a somewhat more positive report on the monument's condition was made.

## *The surprising discovery*

in 1885 by Dutch engineer J.W. Yzerman of the structure's original base—replete with hundreds of linear metres of carved reliefs which had been buried in the act of widening the base—brought renewed interest in Chandi Borobudur. (See page 61.)

Despite this, when King Chulalongkorn of Siam visited Borobudur in 1896, the Dutch gave him eight wagon loads of statues and bas-reliefs to take home, including five of the best Buddhas and two complete lions. These now reside in the National Museum in Bangkok.

In 1898 a Mr. L. Serrurier stated “. . .the best procedure is to carefully sprinkle all of the upper part of the temple with dilute



sulphuric acid since this kills all living organisms.”<sup>1</sup> (No comment on what it would do to the stone.) By this time a crustaceous moss or lichen had become a problem, enveloping entire galleries with grey/green growth. Other chemicals were used, but not named; record keeping was less than diligent.

The excavations and removal of accumulated soil and vegetation by Cornelius and Hartmann exposed stones that had been buried, hidden from sight for centuries. Once safe beneath a mound of bio-mass, they were now vulnerable to scavenging by enterprising locals (and foreign royalty) and began to migrate away from the ill-managed site.

Meanwhile, “Yzerman's discovery in 1885 finally led to a government decision to take up seriously the problem of physically safeguarding Borobudur, and a Commission of three was set up in 1900. Dr. Brandes, a brilliant art historian, was appointed Chairman. The other two members were van Erp, an army engineer officer, and Van de Kamer, a construction engineer in the Department of Public Works.

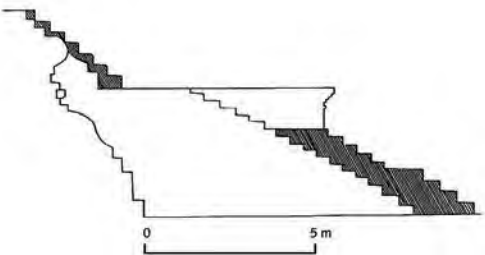
“Van de Kamer had earlier become known for his fantastic plan to shelter Chandi Borobudur from rain and sunshine by constructing a huge umbrella over it, made of galvanized iron plates and supported by 40 iron pillars.

“Van de Kamer's plan was the first proposal considered. . . the other two members objected to the cost and to the effect the ‘umbrella’ would have on the appearance of the monument. The Commission then agreed (1902) to submit a three-fold plan to the government. First, the immediate dangers should be averted by re-setting the corners, removing stones that endangered adjacent parts,

## *The Case of the Hidden Foot. . .*

In 1885 Dutch archaeologist J.W. Ijzerman noticed a sizable separation in the temple's structure and in investigating that he discovered what came to be known as the ‘hidden foot.’ It was buried behind a massive encasement that had evidently been built to retain the structure. He removed the encasement, section by section, revealing 160 carved panels which were subsequently photographed by Javanese photographer Kassian Cephas.

In 1891 the original base and the carvings were reburied.



above: Schematic from UNESCO report, The Restoration of Borobudur. The profile of the original base is shown at the left, the encasement and steps added later, to the right. The etched section represents the fifth of five stages of construction.

During the Japanese occupation of Java a Japanese soldier/scholar directed the excavation of the southeast corner—the one visible today—and rediscovered the ‘hidden foot.’

Following the UNESCO restoration of 1973-83, that corner was left uncovered so visitors today can be aware of the nature and extent of the original base. The photographs of the buried reliefs taken by Kassian Cephas are displayed in the Karmawibhanga Museum.

## *The Case of the Unfinished Buddha and the Questionable Finial. . .*

H.C. Cornelius during his initial investigations in 1814 reported having observed the large hole in the east side of the great stupa. He did not mention having found anything within it.

In 1834 an aristocratic European visitor described a broken stupa devoid of artifacts.

It is said that when, in 1842, H.L. Hartmann entered the great stupa, he found only an ill-formed Buddha statue and removed it.

But Hartmann himself left no record, at least none that survived, of finding such a Buddha—that is known only through accounts given by the villagers. Nor is there any indication where, and in what way, the statue was situated therein.

The carelessly carved statue has an ugly face, mismatched arms and an unfinished hand. The likelihood of it being a rejected article used for fill, combined with the uncertainty surrounding its discovery, must have affected the mind of Theo van Erp, Borobudur's first restorer. He was a conscientious scholar as well as a soldier, engineer, architect and artist, and he believed that the authenticity of the restoration of the monument was vitally important. He therefore chose not to include the statue in the reconstructed stupa. (and he was doubtlessly

aware that an empty stupa symbolized the Buddhist concept of *sunyata*—nothingness).

He made a similar decision with regard to the *chattra*, a triple-tiered stone pinnacle atop the main stupa. It had been reconstructed from a very few fragments of the original *chattra* and after it had been put in place and photographed, he thought it too conjectural and ordered it to be removed.

Today it stands behind the unfinished Buddha outside the Karmawibhanga Museum where photographs of the buried carving on the ‘hidden foot’ are displayed.



photo: Effendy Bong, courtesy of BAB Publishing, Indonesia.

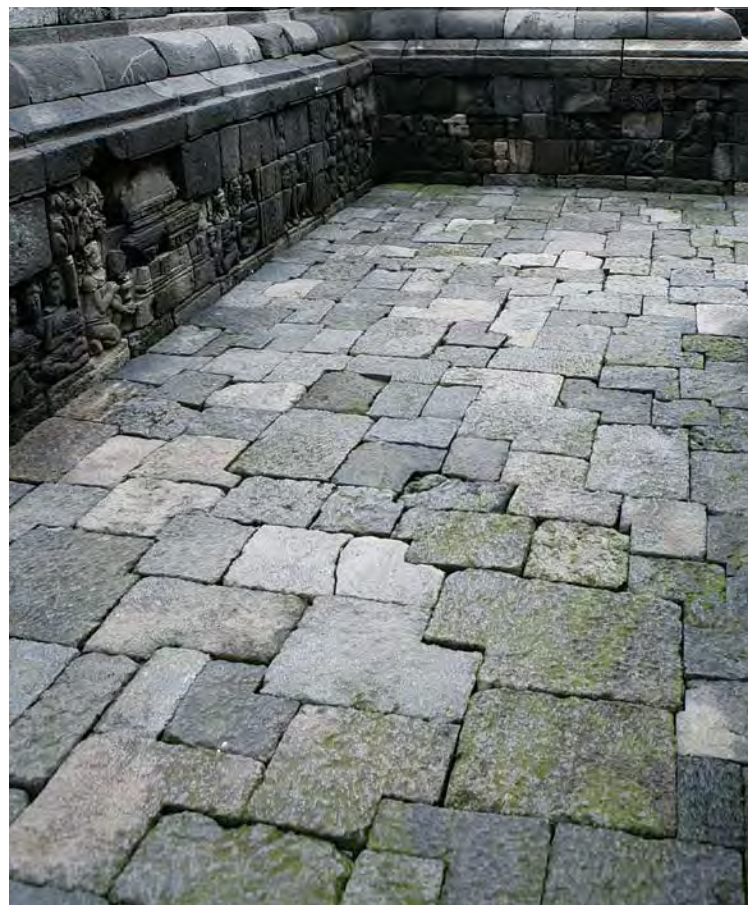
below left: The unfinished Buddha from the main stupa at the Karmawibhanga Museum. Behind it is the three-tiered top of the main stupa's chattra.

photo: Okkisafire via Creative Commons

below: The pinnacle as restored, before its removal. photo: Theo van Erp







# IMMORTAL HEAD. . .FACE OF GLORY RAHU. . .THE DEVOURER KALA. . .TIME

above: The giant head with no lower jaw, the arched portal with the sea-dragons or Makara at the base on either side—these are elements of the Kala-Makara, a style then current in northern India. This portal opens onto the upper level and terraces on which stand the central stupa surrounded by three rings of Buddhas, 72 in all, sitting within perforated stone stupas.

facing page: The central stupa and the smaller perforated ones that surround it, one of which has been left open to show the Buddha within. For some reason the apertures in the lower two rings are diamond-shaped, those in the upper ring are square.

below: Cross section through Chandi Borobudur.  
image by Gunawan Kartapranata via Creative Commons

