ICOMOS

INTERNATIONAL COUNCIL ON MONUMENTS AND SITES
CONSEIL INTERNATIONAL DES MONUMENTS ET DES SITES
CONSEJO INTERNACIONAL DE MONUMENTOS Y SITIOS
МЕЖДУНАРОДНЫЙ СОВЕТ ПО ВОПРОСАМ ПАМЯТНИКОВ И ДОСТОПРИМЕЧАТЕЛЬНЫХ МЕСТ

WORLD HERITAGE LIST N° 485

A) IDENTIFICATION

Nomination : Hierapolis-Pamukkale

Location : Province of Denizli

State Party : Turkey

Date : December 22, 1987

B) ICOMOS RECOMMENDATION

That the proposed cultural property be included on the World Heritage List on the basis of criteria III and IV.

C) JUSTIFICATION

Pamukkale, which literally means "cotton castle", is the name the Turks gave to the extraordinary site of Hierapolis after their conquest of Anatolia. The name was inspired by the preternatural landscape of bizarre forms created by calcite deposits from the hot springs that surface through a fault-- mineral forests, petrified cascades and terraced pools of an immense natural nymphaeum. Such a geological phenomenon is not rare. However in this superb setting in the foothills of the Cökelez mountains, it appears unusual because of the 100-200m cliff that has been formed by the spill and which dominates the plain of Cürüksu.

The Ancients could not believe these gigantic concretions were anything but extraordinary. Attributing healing powers to the hot springs (35°C) equal to their power to metamorphose the landscape, they founded a thermal station on the site in the late 2nd century. Though it is not certain that the project was instigated by Eumenes II (c. 197-159 B.C.), the idea for the new Hellenistic city, with its regular layout, definitely originated with the Attalid dynasty, the kings of Pergamum.

The history of Hierapolis followed the same course as many Hellenistic cities in Asia Minor. The Romans acquired full control of it in 129 B.C. along with all the lands of Attalus III, King of Pergamum, and it prospered under its new rulers. It was a cosmopolitan city where Anatolians, Greco-Macedonians, Romans and Jews intermingled. The hot springs which attracted throngs of people "taking the waters" also served another purpose : scouring and dying wool. Indeed, the thermal, holy city of Hierapolis was also an important textile centre.

During the 1st century A.D., despite being severely damaged by earthquakes on two occasions, Hierapolis continued to thrive and grow. According to ancient tradition, Philip the Apostle converted it and was crucified there by Domitian around the year 87. The Roman city was at its apex during the 2nd and 3rd centuries. As happened with Ephesus, decline did not set in until after 330 when Constantine solemnly consecrated Constantinople, the "new Rome." However, during the Byzantine period, Hieropolis did remain one of the two metropolises of the Phrygia Pacatiana as well as being a bishopric. Imposing Christian monuments and a fortress built on the cliff testify to this ultimate phase of its history.

ICOMOS recommends the inclusion of Hierapolis-Pamukkale on the World Heritage List on the basis of criteria III and IV.

- **Criterion III**. Hierapolis is an exceptional example of a Greco-Roman thermal installation expressly established on an extraordinary natural site. The therapeutic virtues of the waters were exploited at the various thermal installations which included immense hot basins and pools for swimming. Hydrotherapy was accompanied by religious practices, which were developed in relation to local cults. The Temple of Apollo, which includes several Chtonian divinities, was erected on a fault from which noxious vapors escaped. The theatre, which dates from the time of Severus, is decorated with an admirable frieze depicting a ritual procession and a sacrifice to the Ephesian Artemis. The necropolis, which extends over 2 kilometers, affords a vast panorama of the funerary practices of the Greco-Roman epoch.

- **Criterion IV**. The Christian monuments of Hierapolis, erected between the 4th and the 6th centuries, constitutes an outstanding example of an Early Christian architectural group with a cathedral, baptistry and churches. The most important monument, situated outside the northwest wall of the city, is the martyrium of St. Philip. At the top of a monumental stairway, the octagonal layout of the building is remarkable because of its ingenious spatial organization. Radiating from the central octagon are chapels, polygonal halls and triangular rooms which combine to culminate in a square structure encircled by rectangular cells bordered with porticoes.

ICOMOS Observations

The delimitation of the site of Pamukkale in the annex of the dossier conforms to that of National Park project drawn up in 1969, which has not yet received official authorization.

ICOMOS, July 1988

WORLD HERITAGE NOMINATION — IUCN SUMMARY

485: HIERAPOLIS - PAMUKKALE

Summary prepared by IUCN (April 1988) based on the original nomination and summary submitted by the Government of Turkey. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the committee.

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1. LOCATION:

Situated in south-eastern Turkey in the province of Denizli, 22km north-north-east of the town on the northern side of the Curuksu river valley, which at this point is some 6km wide. Size of the area not given. 37° 57'N, 28° 50'E

2. JURIDICIAL DATA:

The national park is proposed and has yet to be officially approved.

3. IDENTIFICATION:

The site is noted for its travertine terraces, with 20m high cliffs and waterfalls, situated along on the foothills of the Cokelez mountains. The highest terrace is about 200m above the Curuksu plain and extends some 6km between the villages of Pamukkale and Karahayit. Thermal springs and travertine pools are located near to the site of the Roman town of Hierapolis, at the south-eastern tip of the terraces and occupy an area 2,500m in length and 500m in width. Semi-circular pools occur in a step-like arrangement down the upper one-third of the slope; the steps range from 1-6m in height. Fresh deposits of calcium carbonate give the pools a dazzling white coating. The travertine deposits, Quaternary in age, are thought to originate from a fault in the contact zone between the Mesozoic crystalline rocks and the layers of the Neogen series. The water temperature averages 35°C with a flow of 25 litres per second (from four springs). The springs form part of a complex hydraulic system extending 70km to the north-west to Alasehir and west along the valley of the Menderes River. These canals take thermal water to nearby villages and agricultural areas, some over the years having accumulated travertine deposits up to 10m in height. The oldest rocks in the area are crystalline marbles, quartzites and schists and are located in the northern parts of the proposed park. Most of the rocks are, however, of the Pliocene period.

A vegetation map of the proposed park produced in 1969, showed land use, in descending order of area covered, as cultivated land, bare land subject to erosion, bare land, urban areas and maquis. Agriculture accounts for 33% of land cover with 41% classified as forest, meadow and pasture.

There are records of some 45 species of flowering plants, not all necessarily from the proposed park area. Within the Denizli province there are records of ten mammals (including wolf Canis lupus, jackal Canis ureus, bear Ursus arctos, chamois Capra hircus and boar Sus scrofa) and ten species of bird including great bustard Otis tarda.

Near to the site are the ruins of the Roman town of Hierapolis which was

founded at the end of the 2nd century BC, reaching its zenith at the end of the 2nd and 3rd centuries AD. In structure, it follows the hellenistic tradition with main buildings lining the main street which was 1km long, with side streets arranged at right angles. The buildings of major importance include the theatre, octagonus, monumental gate, nymphaeum and the necropolis. A major activity was the wool industry which benefited from the cleansing properties of the hot springs. The town became a bishopric in the 4th and 5th centuries.

4. STATE OF PRESERVATION/CONSERVATION:

A management plan was prepared in 1969 with assistance from the US Agency for International Development, but has yet to receive official approval. It defines three management zones, from a zone of maximum protection to an urban development control zone.

Tourist facilities are restricted to the edge of the archaeological area, and the site is largely free from instrusion by modern constructions, although parts of the lower town have been embedded by travertine deposits. A certain amount of reuse of old monuments is taking place, such as the road to the necropolis being covered with macadam and the use of some buildings as a museum and office by the Ministry of Culture and Tourism. All major buildings have undergone restoration work with emphasis now being placed on the theatre.

The archaeological area has several thousand visitors each year, a problem aggravated by the lack of supervision. Over the centuries, earthquake damage has occurred, but interestingly enough this aspect has contributed to the architectural development of the town.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

The nomination, as presented by the Government of Turkey, provides the following justification for designation as a World Heritage property:

b) Natural property

(ii) Man's interaction with his natural environment. Excellent example of man's attraction to a specific natural resource and his use of that resource through history.

(iii) Superlative natural phenomena. Warm, heavily mineralized water flowing from springs creating pools and terraces which are visually stunning.

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

485 HIERAPOLIS - PAMUKKALE (TURKEY)

1. DOCUMENTATION

i) IUCN Data sheet

2. COMPARISON WITH OTHER AREAS

There are 80 formal protected areas in the Mediterranean sclerophyll biogeographic province. None of these have comparable natural features to those found in Pamukkale which are the hot springs and travertine terraces surrounding them. The Nahanni and Yellowstone National Parks and World Heritage sites in Canada and the United States contain more extensive and less disturbed areas of this unique geological feature. Within Turkey, there are 18 national parks and a number of nature reserves, but none of these contain similar features. Pamukkale is one of 23 natural properties on Turkey's tentative list.

3. INTEGRITY

The proposed Pamukkale national park, as one part of the total the nomination, is the focal point for the natural values of the site. The surrounding area is mostly cultivated land with a mix of irrigated crops, pasture and some forest. Villages in the immediate area are populated by some 56,000 residents. Tourist infrastructure includes hotels, swimming pools and picnic facilities. These are restricted to the edge of the archaeological ruins and are heavily used by local people. The travertine terraces are reported to be in no serious immediate threat except from natural phenomena (eg. earthquakes).

The legal status for the area is still under review and a formal national park is yet to be approved. The management plan prepared in 1969 has not been adopted and is in urgent need of updating. The size of the site is not known and its precise boundaries are not clear. There is no information on staff levels, budget or administrative structure.

4. ADDITIONAL COMMENTS

The natural features of the site provide the setting which attracted the original Roman town of Hierapolis. They, thus, form an important backdrop for the cultural landscape which now dominates the area. The relative emphasis placed on the geological and mineralogical aspects of the nomination, however, are subordinate to those given to the historical and archeological features.

TURKEY

NAME **Hierapolis**-Pamukkale

MANAGEMENT CATEGORY Proposed national park

BIOGEOGRAPHICAL PROVINCE 2.17.05 (Mediterranean Sclerophyll)

GEOGRAPHICAL LOCATION Situated in south-east Turkey, in the province of Denizli, 22km north-north-east of the town on the northern side of the Curuksu River valley, which at this point is some 6km wide. The Curuksu is a tributary of the Menderes River which, passing through the western extension of the Taurus Mountains, creates a deep V-shaped canyon to the immediate north of the region. 37°57'N, 28°50'E

DATE AND HISTORY OF ESTABLISHMENT Although a management plan for the area was prepared in 1969 and the creation of a national park proposed, this has yet to be officially approved.

AREA None given, but the management plan suggests it be of sufficient size to include all the significant natural and historical features associated with the site.

LAND TENURE State ownership

ALTITUDE Around 500m, rising to 1,840m in the Cokelez mountains, to the immediate north of the park Peaks further out but surrounding the park rise to 2,308m (Babadag) and 2,571m (Honaz).

PHYSICAL FEATURES The chief features of the site are its 20m high travertine cliffs and waterfalls. The travertine terraces lie along the foothills of the Cokelez mountains, the highest being about 200m above the Curuksu plain and extending some 6km between the villages of Pamukkale and Karahayit. The famous thermal springs and travertine pools are located on the site of the Roman town of **Hierapolis**, at the south-eastern tip of the terraces and occupy an area 2,500m in length and 500m in width. Semi-circular pools occur in a step-like arrangement down the upper one-third of the slope; the steps range from 1-6m. Fresh deposits of calcium carbonate give the pools a dazzling white coating. The travertine deposits, Quaternary in age, are thought to originate from a fault in the contact zone between the Mesozoic crystalline rocks and the layers of the Neogen series. The water temperature averages 35°C with a flow of 25 litres per second (from four springs). The springs form part of a complex hydraulic system extending 70km to the north-west to Alasehir and west along the valley of the Menderes River. These canals take thermal water to nearby villages and agricultural areas, some over the years having accumulated travertine deposits up to 10m in height. The oldest rocks in the area are crystalline marbles, quartzites and schists and are located in the northern parts of the proposed park. Most of the rocks are, however, of the Pliocene period.

CLIMATE The climate is quite mild, in summer being cooler than the nearby

plains. Temperatures are high in July and August, average maximum of 34°C, with January temperatures dropping to an average of 1°C. Humidity is high in summer and precipitation highest in December, January and February, mostly in the form of snow, up to 35cm. Winds are most frequently from the north-west.

VEGETATION In 1969 the vegetation map of the proposed park, showed land use cover, in descending order of area - to be, cultivated land, bare land subject to erosion, bare land, urban areas and maquis. The extended area around the site is largely agricultural, accounting for 33% of land cover but with 41% classified as forest, meadow and pasture. Agricultural crops produced under irrigation include wheat, barley, corn, chick peas, lentils, cotton, tobacco, sugar beet and opium poppies. Fruit and vegetables are also grown. There are records of some 45 species of flowering plants, not all necessarily from the proposed park area.

FAUNA Within the Denizli province there are records of ten mammals (including wolf Canis lupus, jackal Canis ureus, bear Ursus arctos, chamois Capra hircus and boar Sus scrofa) and ten species of bird including great bustard Otis arda.

CULTURAL HERITAGE Near to the site are the ruins of the Roman town of **Hierapolis** which include the theatre (with the best preserved 'scaena' in Asia Minor), many tombs and the old 'thermae'. The town was founded at the end of the 2nd century BC, reaching the peak of its development under the Romans at the end of the 2nd and 3rd centuries. In structure, it follows the hellenistic tradition with the main buildings lining the main street which is 1km long, with side streets arranged at right angles. The buildings of major importance include the theatre, octagonus, monumental gate, nymphaeum and the necropolis. A major activity was the wool industry which benefited from the cleansing properties of the hot springs. The town became a bishopric in the 4th and 5th centuries.

LOCAL HUMAN POPULATION The town of Denizli (population 61,000 in 1965, estimate 231,000 in 1985) is the nearest urban centre, with villages in the surrounding area adding a further 56,000 to the total population. Some 70% of the population is engaged in agricultural activities.

VISITORS AND VISITOR FACILITIES Tourist infrastructure has been built by both the municipality of Denizli and by private enterprise and includes hotels, motels and swimming pools. The area is frequented by local people (24% of total visitors in late 1960s) and is a popular picnic spot. Other nearby resorts include Karahayit, 5km from Pamukkale, which also has thermal springs. At present, there is only one access road into the site with branches, one to the north to the village of Karahayit, the other to Kurtluca. The number of visitors rose from 1,720 in 1962 to 24,670 in 1968.

SCIENTIFIC RESEARCH AND FACILITIES The archaeological site of the town of **Hierapolis** has been extensively investigated and partially restored by teams provided by the Italian government (funded by the Ministry of Foreign Affairs and Ministry of Culture and Ambiente, as well as the National

Research Council). From 1957 to 1977 these were under the direction of P. Verzone and from 1979 under D. de Bernardi Ferrero. The investigations elucidated the plans of the town and the main town buildings. The Italian mission included archaeologists, engineers and architects. The **Hierapolis** Museum is presently an official institution funded and supported by the Turkish government.

CONSERVATION MANAGEMENT Tourist facilities are restricted to the edge of the archaeological area, and the site is largely free from instrusion by modern constructions, although parts of the lower town have been embedded by travertine deposits. A certain amount of reuse of old monuments is taking place, such as the road to the necropolis being covered with macadam and the use of some buildings as a museum and bureau by the Ministry of Culture and Tourism. All major buildings have undergone restoration work with emphasis now being placed on the theatre.

A management plan was prepared in 1969 with assistance from the US Agency for International Development, but has yet to receive official approval. It defines three management zones, from a zone of maximum protection to an urban development control zone.

MANAGEMENT PROBLEMS The archaeological area has several thousand visitors each year, a problem aggravated by the lack of supervision. Over the centuries, earthquake damage has occurred, but interestingly enough this aspect has contributed to the architectural development of the town.

STAFF The management plan proposed a staff consisting of a superintendent, administrative officer, chief of visitor services and chief of maintenance.

BUDGET No information

LOCAL ADMINISTRATION The Municipality of Denizli has prime responsibility, but the site is owned by the State and the city of Denizla.

REFERENCES
There are 15 main references listed in the submission document to the World Heritage Committee. Others include:

Anon. (1969). Master plan for protection and use. Pamukkale National Park.
Anon. (1987). Pamukkale (Hierapolis). NET. Turistik Yayinlar sonayi ve Ticaret A.S.

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LISTE DU PATRIMOINE MONDIAL N° 485

A) IDENTIFICATION

Bien proposé : Hiérapolis-Pamukkale

Lieu : Province de Denizli

Etat partie : Turquie

Date : 22 décembre 1987

B) RECOMMANDATION DE L'ICOMOS

Que le bien culturel proposé soit inscrit sur la Liste du Patrimoine mondial au titre des critères III et IV.

C) JUSTIFICATION

Pamukkale -littéralement "le château de coton"- est le nom que les Turcs donnèrent, après la conquête de l'Anatolie, au site extraordinaire de Hiérapolis où, à la faveur d'une faille, des sources thermales chargées de calcite ont créé un paysage irréel peuplé de constructions fantastiques : forêts minérales, cascades pétrifiées, succession des vasques en gradins d'un immense nymphée naturel. Ce phénomène géologique n'est pas rare. Il revêt ici une apparence particulière en modelant, dans un cadre superbe, au pied des monts Cökelez, une falaise de 100 à 200m de haut qui domine la plaine de Cürüksu.

Les Anciens ne s'étaient pas résignés à considérer comme banales ces concrétions gigantesques. Prêtant aux sources qui jaillissent à 35 degrés centigrades des vertus curatives égales à leur pouvoir de métamorphose du paysage, ils fondèrent, vers la fin du IIe siècle avant J.C., une station thermale sur le site même : l'initiative de cette ville neuve hellénistique, caractérisée par son plan régulier, revient à la dynastie des Attalides, rois de Pergame, même s'il n'est pas sûr qu'Eumène II (ca. 197-159 av.J.C.) en fut l'instigateur.

Hiérapolis connut le destin de beaucoup de cités hellénistiques d'Asie Mineure. Passée définitivement sous contrôle romain en 129 avant J.C. avec tout l'héritage du roi de Pergame, Attale III, elle prospéra sous ses nouveaux maîtres. C'était une ville cosmopolite où se cotoyaient Anatoliens, Gréco-Macédoniens, Romains et Juifs. Les sources chaudes qui attiraient des foules de curistes avaient une autre utilisation : elles servaient à dégraisser et à teindre la laine. Ville thermale, ville sainte, Hiérapolis était aussi un centre important de l'industrie textile.

Au Ier siècle de notre ère, en dépit des séismes qui la ravagèrent à deux reprises, elle restait prospère et peuplée. Une tradition ancienne veut que l'Apôtre Philippe l'ait évangélisée et y ait été crucifié, sous Domitien, vers l'an 87. Les IIe et IIIe siècles marquèrent l'apogée de la ville romaine. Le déclin ne s'amorça - comme pour Ephèse-qu'après 330 lorsque Constantin inaugura solennellement la "Nouvelle Rome", Constantinople. Encore faut-il souligner que Hiérapolis resta, à la période byzantine, l'une des deux métropoles de la Phrygia Pacatiana et le siège d'un évêché. D'imposants monuments chrétiens, une forteresse bâtie sur la falaise témoignent de cette ultime phase de son histoire.

L'ICOMOS recommande l'inscription de Hiérapolis-Pamukkale sur la Liste du Patrimoine mondial au titre des critères III et IV.

- **Critère III.** Hiérapolis est un exemple exceptionnel d'ensemble thermal gréco-romain installé volontairement dans un site naturel extraordinaire dont les virtualités thérapeutiques ont été systématiquement exploitées sous forme d'immenses bassins de natation et de piscines chaudes, dans divers établissements thermaux. L'hydrothérapie n'était pas dissociée des pratiques religieuses, elles-mêmes mises en rapport avec des cultes locaux. Le temple d'Apollon, avec qui étaient regroupées plusieurs divinités chthoniennes, était bâti sur une faille d'où sortaient des vapeurs délétères; le théâtre du temps des Sévères est décoré d'une admirable frise retraçant une procession rituelle et un sacrifice à Artémis éphésienne; la nécropole, qui s'étire sur deux kilomètres, offre un panorama très étendu des cultes funéraires de l'époque gréco-romaine.

- **Critère IV.** Les monuments chrétiens de Hiérapolis, construits entre le IVe et le VIe siècle, constituent un exemple éminent d'ensemble architectural paléochrétien avec cathédrale, baptistère, églises. Le monument le plus important, situé hors les murs au nord-ouest de la ville, précédé d'un escalier monumental, est le martyrium de Saint Philippe. Cet édifice de plan octogonal est remarquable par la savante organisation d'un espace central disposant autour de l'octogone chapelles rayonnantes, salles polygonales ou pièces triangulaires afin de s'inscrire dans un carré ceint de cellules rectangulaires et entouré de portiques.

Observations de l'ICOMOS

La délimitation du site de Pamukkale annexée au dossier est conforme à celle du projet de Parc national élaboré en 1969 mais qui n'a encore reçu aucune approbation officielle.

ICOMOS, Mai 1988