File Name: 1040.pdf **UNESCO Region:** EUROPE AND THE NORTH AMERICA

SITE NAME: **Masada**

DATE OF INSCRIPTION: 16th December 2001

STATE PARTY: ISRAEL

CRITERIA: C (iii)(iv)(vi)

DECISION OF THE WORLD HERITAGE COMMITTEE:
Excerpt from the Report of the 25th Session of the World Heritage Committee

The Committee inscribed the Masada National Park on the World Heritage List under criteria (iii), (iv), and (vi):

> ***Criterion (iii):*** Masada is a symbol of the ancient Jewish Kingdom of Israel, of its violent destruction in the later 1st century CE, and of the subsequent Diaspora.
>
> ***Criterion (iv):*** The Palace of Herod the Great at Masada is an outstanding example of a luxurious villa of the Early Roman Empire, whilst the camps and other fortifications that encircle the monument constitute the finest and most complete Roman siege works to have survived to the present day.
>
> ***Criterion (vi):*** The tragic events during the last days of the Jewish refugees who occupied the fortress and palace of Masada make it a symbol both of Jewish cultural identity and, more universally, of the continuing human struggle between oppression and liberty.

Although the site was originally nominated as a mixed property, the Committee did not inscribe Masada National Park under natural criteria.
The Chairperson congratulated Israel on the inscription of its first site on the World Heritage List. In agreement with the State Party, the name of the property was changed to *Masada*.

BRIEF DESCRIPTIONS
Masada is a rugged natural fortress, of majestic beauty, in the Judaean Desert overlooking the Dead Sea. It is a symbol of the ancient kingdom of Israel, its violent destruction and the last stand of Jewish patriots in the face of the Roman army, in 73 A.D. It was built as a palace complex, in the classic style of the early Roman Empire, by Herod the Great, King of Judaea, (reigned 37 – 4 B.C.). The camps, fortifications and attack ramp that encircle the monument constitute the most complete Roman siege works surviving to the present day.

1.b State, Province or Region: Tamar Region

1.d Exact location: 32° 55' N, 35° 4' E

Israel National Comission
for UNESCO

State of Israel

MASADA

PROPOSED WORLD HERITAGE SITE
by the State of Israel

ISRAEL NATURE AND PARKS AUTHORITY

September 2000

1. MASADA - IDENTIFICATION

1.a. Country

The State of Israel.

1.b. Region

Between Dead Sea rift valley and the eastern side of the Judean Desert.

1.c. Name of Property

Masada National Park

1.d. Exact Location

Enclosed hereby a map with the requested data.

1.e. Buffer Zone

Enclosed hereby a map with the requested data.

1.f. Area of Site and Buffer Zone

Area of site – 276 ha.
Area of buffer – 28965 ha.

Masada
National Park

Agriculture &
Open Space

Judean Desert
Nature Reserve

Dead Sea

Tamar
Regional Council

Masada
World Heritage Site

Legend:

- Masada World Heritage Site
  276 hectare
- Buffer Zone - Nature Reserve
  24918 Hectare
- Buffer Zone - Open Space
  4047 Hectare

1:20000
0 0.3 0.6 Kilometers

Topography: Survey of Israel
Coordinate System: New Israel Grid
Cartography: GIS Unit, NPA

Masada
World Heritage Site

Legend:

- Masada World Heritage Site
  276 hectare
- Buffer Zone - Nature Reserve
  24918 hectare
- Buffer Zone - Open Space
  4047 hectare
- International Boundary

1:100000

N

0 1 2 3 Kilometers

Topography:
Survey of Israel

Coordinate System:
New Israel Grid

Cartography:
GIS Unit, NPA

Judean Desert
Nature Reserve

Agriculture &
Open Space

Masada
National Park

Tamar
Regional Concil

Dead
Sea

ISRAEL

JORDAN

597 395
595 000
590 000
585 000
580 000
575 000
570 000
565 000
560 843

218 314
220 000
225 000
230 000
235 000
240 000
244 550

2. JUSTIFICATION FOR INSCRIPTION

2.a. Statement of Significance

Masada is a cultural and natural heritage site, with universal importance. It is an isolated rock in a far corner of the Judean Desert, facing the Dead Sea and expressing the special geology and nature of that area. Its archaeological remnants relate to three periods of human habitation of the site, periods chronologically separated from one another and different in character from each other. Each stratum of habitation in Masada reflects, on the one hand certain uniqueness, and on the other a fabric of interwined human-cultural contexts of its period. In this chapter, we shall provide the unique features of Masada, thanks to which we believe that it is worthy of being a world heritage site.

Archaeological - Scientific and Historical Value

The three main periods represented at Masada, are:

- The period of King Herod the Great (reigned 37 - 4 BCE).
- The period of the Great Revolt - the revolt of the Jews against the Romans (66 - 73 CE).
- The early Christian period - which is called in Israel, the Byzantine Period (5th and 6th centuries CE).

Most of Masada site has been dug by a number of archaeological expeditions. The buildings that have been uncovered, as well as the other finds, have provided considerable scientific information on the relevant periods. They have confirmed information from the historical sources, regarding the story of Masada from the period of the Second Temple and the Great Revolt, as reported by the historian Josephus Flavius - the sole historic source on Masada.

Architectural Value

Herod built Masada in three phases during the time of his reign, and most of the archaeological remnants on the mountain top are from his period. Herod, King of Judea, of Edomite origion, about whose personality much has been written, was known among other things as the Builder King. He left his mark on many places in the Land of Israel, and it would appear that

he reached on his pinnacles of his building at Masada, the heights of vision, daring and genius. Herod brought to this remote, harsh place the best of the skill of Roman construction and culture in real time. Herod was thoroughly familiar with Roman culture and admired it, and it was important to him to bring the "last word" in Roman architecture, the architectural ornamentation, the customs of the Roman court and even to consume goods and tools used by the Romans. Since bringing authentic building materials from Italy and Greece was costly, Herod found local solutions that appeared to look like the genuine article.

Herod's daring and the skills of his artisans succeeded in turning Masada into a king's fortress, which could serve, if necessary, as a fortress and a place of protection, and alternatively as a pleasure palace where the king could indulge in the hedonistic delights he loved so much. In any event, it was a place where solutions could be found to all the things necessary for a man's existence.

Masada's uniqueness in this matter:

- A water system - Water is the source of life and its importance in isolated desert location is all the more significant. The solution which Herod found for this, in addition to the cisterns dug out on the mountain top, was the digging of twelve cisterns on two levels on the northwestern slope of the mountain to which two aqueducts brought the flood waters of two wadis in the region. One flood in the winter could provide enough water to fill the cisterns to ensure an abundant water supply for the entire year, not only for drinking and washing but also for the pleasures of the swimming pools and the bath-house.

- The Northern Palace - This was the private palace of King Herod who succeeded in finding the best shaded and coolest place on Masada, overlooking breathtaking landscape. Its problematic location, a narrow place on a steep slope dropping down into an abyss, did not deter a man like Herod. He knew where to find the rock that was geologically most solid (as proven by modern testing), to carve it and fashion it according to his will into three steps (or terraces) by hewing and construction and place upon it a palace with columns decorated in stucco, Pompii-style frescoes popular at the time, mosaics and the like. The palace was built of soft lime stone, not locally available. On its eastern side the king's private bath-house was built on the slope, while on its western side, steps were built reaching all the terraces of the palace. A number of sections which were built on the palace's

southern side, made access difficult for anyone who was out of favor with the king.

- The Roman Siege System – This is the only complete system of its kind that survived from the Roman period and there is an excellent view of it from the mountain. The system is made up of eight Roman camps, a siege-wall and a ramp of earth and wood built on the western, more gradually sloping, side of Masada, on which (according to Josephus Flavius) the battering ram, which breached the wall, was carried up. The point where the breach was made is clearly seen today, as well.

National Value

Josephus Flavius's account of the revolt of the Jews, who realized that their end was near and preferred to commit suicide and die as free people as opposed to the option of living in slavery and degradation in Rome, became in the 20th century the Myth of Masada. The Myth was one of the corner stones of the Zionist Movement, whose desire was to renew the Jewish life in Zion, which is the Land of Israel.

The pinnacle of the identification with the Myth, as an example of valor and sacrifice, was during the Second World War. At that time the Jewish population in the country was threatened from the north and south by Nazi and pro-Nazi forces, and a plan was formulated, called "Masada on Mt. Carmel", along the lines of the ancient model. According to this plan, the Jewish population would be gathered together on Mt. Carmel, to defend itself against the enemy - the few against the many, liberty or death.

In the end, there was no need to implement this plan, but its implications were preserved in the national consciousness for many years to come, and no doubt contributed to Masada's becoming a pilgrimage site for members of the youth movements, the pre-State underground movements and of soldiers and school pupils after the State of Israel was founded in 1948.

Religious Value

While Masada is not considered a sacred place, the archaeological finds indicating the existence of religious rites at the place have granted it religious significance, as well.

The synagogue on Masada is one of the few synagogues that existed at the time when the Second Temple stood in Jerusalem. In our times, Jews

from all over the world flock to Masada to celebrate their children's Bar Mitzvah, ceremonies accompanied by prayers and great emotions.

The Byzantine Church on Masada, is one of the first churches of early Christianity, and it is the southernmost church in the Judean Desert. The church is located in the center of the mountain top, at a high point, and its walls have been preserved to a considerable height. In addition to this, some of its mosaics and unique wall decorations (inlay of potsherds and stones in the wall plaster) have been preserved.

The Byzantine complex also includes hermits' cells, a communal dining room and kitchen and agricultural devices.

The church attracts many visitors and groups of Christian pilgrims who hold religious ceremonies there.

Aesthetic Values

Masada mountain is part of the western border fault scarp on the shore of the Dead Sea, incised by wadis that separate it from the sequence of the rock to the west and left it an isolated mountain.
This isolation resulted in its being sought after by man as a place of refuge and protection.

The mountain towers over its surroundings, and anyone standing on it sees the primeval and untamed landscape of the Judean Desert and the Dead Sea. A considerable effort has been invested by various factors to prevent construction on the periphery viewed from Masada and to leave the primeval landscape untouched.

Economic Value

Masada, with its magical landscape, archaeological relics, historical background and religious and national significance, is a lodestone for visitors, many of whom are foreign tourists, and their number increase from year to year. The quantity of visitors and the expected increase in tourism, require that constant improvements be made in the visitor services and enhancing the experience of the visit - on the one hand, and the conservation of the site so that its condition does not deteriorate - on the other.

The movement of tourists and visitors to the site is of economic value: a source of income for the local population and a source of foreign currency for the State of Israel.

Natural Value

Masada is an isolated cliff part of the Judean Fault Cliff that lies between the Dead Sea low area and the Judean Desert edge platform. The area of the national park with its surrounding buffer forms a unique landscape and ecosystem of many different components. The Judean desert is a local desert caused by the Judean mountain ridge that prevents precipitation in the area. On the other side lies the Dead Sea, the lowest point in the world, and the oases that act like refuges for wild animals and plants. The whole area is a meeting point between the extreme desert, the steppe and the Mediterranean biogeographical sources. The result is a unique ecosystem that contains a very special expression of human cultures.

2.b. Comparative Analysis

The attempt to compare Masada to other sites is a difficult task, and it appears unique unto itself. Its uniqueness is expressed in the fact that Masada is a king's fortress in the desert surrounded by a complete Roman siege system, the only one of its kind to survive. Masada, integrating these elements, is a unique phenomenon.

The majority of the construction on Masada was done by King Herod, a little over two thousands years ago. As is known, King Herod was not removed from the cultural milieu of his period - both the Roman Empire which ruled over this part of the world, and the Jewish religious and cultural world. Therefore, by the nature of things Masada represents also elements extant in that period (in addition to its unique kind of integration).

We have already mentioned the unique nature of the Northern Palace, which has no equal, and the sophisticated water system. We are, nevertheless, familiar with water systems from other periods and other places. The architecture and ornamentation discovered at Masada - stucco, frescoe, mosaics, plaster - are well anchored in their period. Fortresses and buildings such as palaces, bath houses, storerooms, walls, ritual baths and the like are very well known.

Elements typical of the Jewish world at the time of the Great Revolt indicate, on the one hand, strict observance of religious commandments, and poverty and privation, on the other. This is known to have existed in other parts of the Land of Israel, as well. However, the story of the heroic end of the Jewish inhabitants of Masada, is truly unique, and the existence of synagogue dating back to the period of the Second Temple, is rarely seen.

The complete Roman siege system has already been mentioned, and we should like to note here, in this context, the rare concurrence at Masada between the archaeological finds connected with the Romans (and the Herodian construction) and the historical source on the subject, the account by Josephus Flavius of the siege and the breach of Masada.

The uniqueness of Masada is in how all the above-mentioned elements fit in with the historical account and the natural context in which the entire system is integrated.

As for the Byzantine period - Masada served as another model of a community of Early Christians who wished to live in isolation with its Creator. Each community and its characteristics, each community and its solutions. Masada - an example of a modest, ascetic community which left behind it a church with local ornamentation, with no analogies. The Byzantine settlement at Masada is the southernmost point of the Early Christians in the Judean Desert - another special feature of it.

2.c. Authenticity / Integrity

Policy of the Development Plan for Masada

A development project for Masada, which began in 1995, is now reaching its conclusion. The following are among the defined aims of this project:

- Conserving and enhancing the material and cultural assets inherent in the Masada site.
- Imparting the story of Masada to the visitors, making it reach experience for them.
- Providing a proper level of services for the visitors to the site.

The need to improve the reception of the public at the site, while maintain its character, gave rise to a number of decisions concerning value and quality, including the following:

- The planning of the project would allow disabled people to reach the mountain top and enjoy the main visiting sites.

- The complex of the new construction would be far away from the siege system, which is an important element, in both the content and visual contexts, of Masada.

- Every possible effort would be made to tone down this construction and to limit its visibility from the mountain top.

- Auxiliary tourists services, operated on commercial bases, are to be built for the exclusive use of the public visiting the Masada site.

- The fee for the entrance to the site and for the use of the cablecar will in future be maintained at a realistic level.

- No tourist hotel services will be built at Masada with the exception of a new youth hostel to replace the existing one.

- The mountain top - The appearance of the site will be maintained in keeping with the layout that has survived from ancient times. Conservation work will be carried in keeping with the composition of the original materials (which have been examined and studied in the laboratory). In the event that reconstruction is carried out, it will be minimal and a black line will mark the separation of the original from the reconstruction. Only the most essential additions will be made for the comfort and safety of the visitors, and will be hidden from view as much as possible.

Background work designed to obtain exact data for the preparation of the various plans, included:

1. A survey of archaeological components and potential.
2. A conservation survey, carried out by the Antiquities Authority, documented the physical condition of the remnants.
3. A forecast of the number of visitors to the site up to the year 2010.
4. A survey and mapping of visitors movement at the site.
5. A quantitative and qualitative survey of the satisfaction and expectations of the visitors to the site.
6. A forecast of the number of users of the cablecar.
7. A forecast and program for the commercial areas.
8. Proposals and ideas for presenting and imparting the Masada story.
9. A survey and mapping of the physical infrastructure.

10. The definition of the infrastructure's needs at the site.

All of the above represent the guidelines in the framework of the development plan for Masada, whose implementation was begun in 1995. However, the history of modern-day work on the site had begun 30 and even more years earlier.

The History of the excavations and Conservation Policy at Masada

The first excavations carried out in Masada (not including those of de Saulcy in 1851) were part of a survey set out in 1955/6 on behalf of the Israel Exploration Society, the Hebrew University and the Department of Antiquities, headed by the Professors N. Avigad, M. Avi Yonah, Dr. Y. Aharoni and Messrs. I. Dunayevski and S. Guttman.

The main excavations were carried out by Prof. Y. Yadin's expedition in the years 1963 to 1965. The digs were carried out on behalf of the Hebrew University with the aid of the Department of Antiquities and the Israel Exploration Society.
These excavations were carried out in conjunction with conservation and reconstruction works - in keeping with the best knowledge available at that time - by the National Parks Authority (NPA), which at the time was called the Department for Landscaping and the Preservation of Historical Sites.
During the excavations, and for a year after their completion (1966), large scale of reconstruction and development work was carried out, mainly raising the height of the walls (in the Western Palace, the synagogue, the storerooms, etc.), as well as the conservation of the frescoes in the Northern Palace.

An additional excavation was made by Prof. E. Netzer, of the Hebrew University in 1989. Prof. Netzer made some other short-time excavations within the the framework of the development project at Masada between the years 1995 to 2000.

Another excavation, headed by Prof. G. Foerster of the Hebrew University, was carried out in 1995, in Camp F and the Roman siege ramp, on the west foot of Masada mountain.

As a part of the development project, a Masada conservation team was set up and underwent a six-month training period by experts of the Antiquities Authority. The team became familiar with modern conservation techniques, and among its tasks was the breaking up of the cement pointed corners

that had been in use in the 1960's and replace them with mortar and plaster of the same composition as had been used in the original construction.

The team works according to a conservation master-plan devised by the NPA conservation planning architect and the planning team of the mountain top.

This plan integrated conservation needs - with priority to the urgent ones - and tourism needs. The project is financed by the Ministry of Tourism, whose order of priorities did not necessarily fit in with that of the conservation.

The team continues working according to the conservation master-plan, which is up-dated from time to time according to progress made, or in keeping with urgent conservation needs which occasionally crop up.
Once the project is completed, part of the team will remain as permanent conservation maintenance team at the site.

In the time between the completion of Yadin's excavations (1965) and the beginning of the development project (1995), routine conservation maintenance carried at Masada when need arose.

Since the establishment of the special conservation team, who specializing in problems unique to Masada, knowledgeable on the ancient constructing traditions at the site, the conservation and reconstruction work has been upgraded, and the site's appearance has improved. The emphasis is put on professional conservation work and the preservation of the site's authenticity.

Policy of Architectural and Landscape Development

In the framework of the project, development work was done and new ones replaced old elements, while care was taken to maintain the principles noted above. Among other things, solid paths to accommodate the disabled people were built of materials similar in appearance and color to the general scene on the mountain top. All the other paths and elements of development (sunshades, for example) are being put on the surface and all of them are reversible and removable.

In addition, signs and other illustrative means have been added as a service to the visitors, and they, too, are reversible.

In view of the increase in the number of visitors, a cablecar was installed in 1972 carrying the visitors to the mountain top. The decision to have a cablecar in the site was based on the consideration of the need and the relief of the visitors (although this idea had a great objection on value and aesthetic background).

In the framework of the development project this cablecar was replaced with a new one, able to transport twice the number of passengers and it is accessible to wheelchairs. The old cablecar was replaced in order to eliminate the long queues waiting to board.

In addition to this, a modern entrance complex was built on the mountain foot adjacent to Masada, in the desert-color of Masada. The complex was built for the convenience of the visitors, and facilitated the removal of the former entry buildings that had been scattered among the Roman camps and impaired their appearance. The removal of the buildings will allow for a view of the site and the Roman camps with no interference from modern construction.

From the upper station of the cablecar, the "cliff bridge" leads the visitors onto the mountain top, through the historical entrance, the Snake Path Gate.

The NPA held a public hearing regarding the form of entrance to the mountain top: by means of a tunnel or a bridge. The public, as well as the professionals, was divided in their opinion. The NPA decided that the entry would be by a means of a bridge, which is removable and allows the visitors to view the landscape and enter the site through the historical gate. For the first time, the bridge allows access to the mountain top to wheelchair-bound people.

It should be noted that the rejection of the tunnel option, although it was less expensive of the two, had its roots in the following:

- The tunnel required digging into the Masada mountain - an irreversible process.
- The tunnel required an exit to the mountain top through a prominent building, that would have changed the existing historical network of the buildings on the mountain top.

In this manner, a situation was created in which the upper station of the cablecar and the cliff bridge have been added and placed on Masada's eastern slope, but are not seen from the site of the antiquities on the

mountain top, and are reversible, i.e., can be removed. Their construction was designed to serve the visitors and make access to the site easier.

The Integrity

While it is possible that the upper station and the bridge do impair the integrity of the site to a certain degree, it must be emphasized that they can be seen from outside the site, on the eastern side only, and cannot be seen from the site itself. Generally speaking, the site and its surroundings have retained their original appearance, as they were seen during the first period of their construction, or as they looked when the archaeological digs had been completed.

The little reconstruction made on the buildings or their finer elements (in ornamentation and architecture) and the additions designed to improve the visitors' experience, that not changed the appearance of the site to any significant degree.

The Visible Periphery

As part of the site's authenticity, the NPA (Nature and Parks Authority) does not permit any construction in the periphery viewed from the site. There have been some attempts to build hotels and roads in this area, but all of them were foiled by the NPA and other Green organizations.

The view of the periphery from Masada reveals the landscape of the Judean Desert and the fault scarp of the Dead Sea and on the other side, there are the hills of Moab in Jordan. The only building seen from part of the mountain top, is the entrance complex, partly hidden behind the adjacent mountain. This eye contact was necessary in stretching the cable of the cablecar.

On the western side, where the differences in height are smaller and the landscape is more moderate, construction is minimal and light. The most prominent sight in this area are the open theatre seats of the sound and light show.

It should be noted that Masada is bounded on the north, south and west by the Judean Desert Nature Reserve, which ensures that there will be no construction in the region, since it is forbidden by State Law.

The areas to the east of Masada and up to the Dead Sea (which are viewed from Masada) are defined as "open areas" and "agricultural areas"

– a status which ensures the preservation of the open rural landscape, in the case of the agricultural land, and the preservation of the open areas in their natural state, by the relevant authorities.

2.d. Criteria under which inscription is proposed

Masada is an archeological site with natural importance and significance. It meets therefore the criteria of both a cultural and a natural heritage site.

As an archeological site it is an outstanding example of architectural and technological ensembles which illustrates significant stages in human history, and is directly associated with events, traditions, ideas and beliefs that are projected and incorporated in art and literature (criteria iii and vi for cultural properties).

As a natural site, it is an outstanding example of major stages in earth's history, contains significant geological processes as well as significant physiographic features. It is also an area of exceptional natural beauty and aesthetic importance (criteria i and iii for natural properties).

The existence of Masada as a cultural heritage site derives directly from its unique natural position. It is an isolated cliff, in the middle of the Judean desert, facing the Dead Sea in one side and the desert platform on the other, and is situated on the edge between them – the fault cliff. The whole scenery is included within the buffers of the site, which are fully protected by law as part of the Judean desert nature reserve.

Regarding the criteria in detail:

CULTURAL CRITERIA

I. Human Creative Genius

Human creative genius is clearly represented in Masada by two prominent feats of construction:
The genius, sophisticated water system which transformed a barren, isolated, natural made fortress -the mountain top, set in an arid, dry climate (less then 50 mm. yearly rainfall and without natural water sources) into a lavish royal retreat with a grand, classic bath house, two large swimming pools and an ample water supply. A system which utilized run-off water from one day of rain to sustain life for up 1,000 people for 2-3 years, including self sustaining agriculture.

The water system so accurately designed and executed to capture run-off rain water, so precious in such a harsh desert climate. On the mountain top gutters and canals diverted water from roofs and unbuilt areas into small pools and grand cisterns. Water from slopes of the mountain were diverted by canals into a series of grand cisterns cut into the side of the mountain. These cisterns also received run off water from flash floods of riverbeds west of Masada. The system was so efficient that the water collected was used not only for survival needs but served the leisure needs of the royal family. Remnants such as the Large Bath House and the large outdoor swimming pools attest to this.

The "hanging" Northern Palace with its three terraces present the ultimate challenge for man as a designer / builder with nature in extreme dynamic conditions during the classic period in the Land of Israel. This is the only remaining monument from the period of King Herod, the great builder, which clearly shows the daring, determination, understanding of natural forces, use of state of the art materials and techniques up to date design and richly decorated classical architecture. The terraces of the palace were carved into the prow-like northern summit with dynamic and threatening geological decay.

The building revetments and extensions to the natural rock-bed to allow the perfect foundation needed for the classical architecture, all surrounded by a 400 meter abyss.

The palace is a masterpiece of classical capabilities in engineering and architecture, miraculously surviving to present and awaiting conservation intervention to ensure its future.

Modern rock engineering and geological surveys have shown that King Herod knew to choose areas with the most stable geological rock as foundation to his palace.

II. Interchange of Human Values

The important interchange of human values over a span of time in developments of architecture and landscape design are clearly visible at Masada by the three Herodian and the later Zealots building phases.

The early Herodian building phase - Incorporated - if there were any - Hasmonean - Hellenistic remains and anchored Masada as the leading stronghold and the last refuge of King Herod. A phase of survival, but also

of adaptation of classical Roman style architecture and lifestyle, to an arid region with many natural limitations, and to a conservative population who opposed the Roman world.

The main Herodian phase - Introduced to Masada the classical architecture and lavishness fit for a king designing into the building plans, full integration with the magnificent landscape. A phase of extravagant living tuned to the desert landscape.

The late Herodian phase - Fortified Masada and made strategically changes showing the attributes of the personality of the king uncertain of his future. A phase of fear and paranoia changing the architecture to withstand all possible assaults.

The later Zealot phase - Introduced Masada to a humble architecture built by refugees driven by a highly religious and anti Hellenistic / Roman way of life. A phase of simple modest life adapted to the elements of the desert and hoping to withstand and survive the impending onslaught.

III. Cultural Tradition and Civilization

The unique testimony of Masada to cultural tradition and civilization which has disappeared is evident in the significance of the synagogue. The fall of Masada in 73 AD symbolized the end of the Second Temple period and a major turning point in the Jewish history. The Synagogue of Masada being one of the earliest examples of a praying religious ceremonial building during the last phase of the Second Temple in Jerusalem and after its destruction. The structure's design and the unique holly scrolls unearthed, narrating the "Dry Bones Vision" of the prophet Ezekiel symbolize a cultural tradition at a critical turning point with echoes to modern Judaism and the State of Israel.

IV. Stages in Human History

The ruins of Masada, comprised of several stages and types of buildings, are reflecting certain stages in human history. Among the buildings and their construction periods are included: classical Roman architecture such as palaces, bath houses, storerooms, ingenious water system and military system. Humble dwellings of the Jewish Zealots which were built in the midst of a revolt against the Roman empire. The Zealots' construction included also a synagogue and ritual baths. A complete monastery laura from early Christianity times. All of the buildings and systems are amazingly

adapted to the arid desert surroundings and to the topographical conditions.

From all the ruins of Masada, there are two, which may illustrate significant stages in human history:

The Roman military siege system surrounding the Masada mountain is the only complete system in the world, almost unexcavated and undisturbed. This system withholds important information about the daily life of the Roman soldier, Roman military logistics and strategy and the last moment of the confrontation. All as vital testimony of a civilization which has disappeared. Siege systems such as surrounded Masada were the backbone building and maintaining the Roman empire and thus illustrate a significant stage in human history.

The Northern Palace bears the witness to the daring and capabilities of man in classical times. The terraces built into the northern slope of Masada, surrounded by a 400 meter abyss, exposed to harsh desert climate, sudden destructive rains, high-speed sand carrying winds, unstable geologically dolomite rock and the Syrian-African rift valley. The daring personality of the great builder, King Herod, together with the use of state of the art technologies and materials and the understanding and the conforming to natural forces and processes put the Northern Palace of Masada in a stage of its own.

Today's efforts to investigate and conserve the remnants of the palace reveal, without a doubt, that the Northern Palace bears witness to a significant stage in human history. It shows that man searched for device and carried out solutions to advance humankind in spite of the traditional "obstacles" and challenges set forth by nature.

VI. Human Values of Important Significance to Mankind

The ruins and legacy (historical accounts) of Masada are directly associated with the utmost human values of important significance to mankind. Issues decided at Masada, such as the few against the many, liberty versus slavery, religious freedom versus oppression, life versus death - are universal moral and academic discussion and will continue being as such long after present time.

The symbolism of the epic of Masada in the formation of the modern State of Israel is best coined in the phrase "Masada shall not fall again". The phrase was coined in the pre-State times, relating to a situation two

thousands years back, as well as to the Zionist Movement's struggle for the Promised Land for the Jews in the 20th century.

NATURAL CRITERIA

i. An outstanding example representing major stages of earth's history

Masada and its area are an outstanding presentation of a geological phenomenon and physiographic features. The shape of Masada, its isolation, the sheerness of its cliffs and the structure of its rocks are the result of the geological factors, which formed the Judean Desert and the Dead Sea Valley. Many of Masada's features as a unique fortress are due to its unusual location in the area.

The fault scarp is the direct result of the gigantic fault, which created the Dead Sea Valley. This is the reason for the high, sheer cliffs. The eastern cliff of Masada is part of this scarp. The transition from the Judean Desert to the Dead Sea is abrupt, by a precipitous slope that is almost vertical in places. The maximum height of this precipice is 600 meters, over a horizontal distance of less than one kilometer.

In some places among the fault line, another unusual phenomenon occurs. There is a second fault line lifting the opposite side, about 2 kilometers to the west of the great scarp, running parallel to it. This caused the area adjoining it in the west to sink even lower than the terrain between the two fault lines. Thus, the tall rock wall along the eastern edge of the Judean Desert - especially in its central portion - is higher than the area which borders it on the west, contrary to the general slope of the Judean Desert. The western slope of Masada - which adds to its isolation and natural defenses - is the result of this secondary fault line.

ii. Significant on-going ecological processes

The Judean Desert occupies the eastern slope of the Judean Hills, tending towards the Dead Sea. Its length, from north to south, is 60 - 80 kilometers, and its width, from east to west is 20 - 25 kilometers. It is this location that makes it a desert, since it lies within the shadow of the cloud-bearing winds that ensure the rainfall of the Judean hills precipitation is low, and decreases very rapidly from west to east. However, the Judean Desert is not entirely arid. A relatively rainy winter is enough to give the region the appearance of green pastureland.

The existence of such a gradient, with a difference of 600 meters, over a horizontal distance of less than one kilometer is an example for the contrasts of the area. The Judean Hills, west of the desert, reach heights of 800 - 1000 meters above sea level; the valley on the shore of the Dead Sea, in the east, falls to almost 400 meters below sea level. This vertical height difference, 1400 meters over a horizontal distance of only 25 kilometers, can give some indication of the character of this area. Such a gradient can serve as a measuring ruler for the influence of climate change on the gradient between the desert and the Mediterranean climates and the related ecosystems.

iii. Exceptional natural beauty

Masada lies on the boundary line between two geographic regions: the Judean Desert and the Dead Sea. It is linked with both of these, yet separated; it overlooks them and is influenced by them. The view from Masada is a spectacular, breath-taking scenery, the same as that affected the people who first built Masada.

West of Masada lies the Judean Desert. It is a landscape of hills that form terraces and are overtopped by two mountains. It is an arid desert land, yet it can take on softness and color during a rainy winter, when plants burst into bloom.

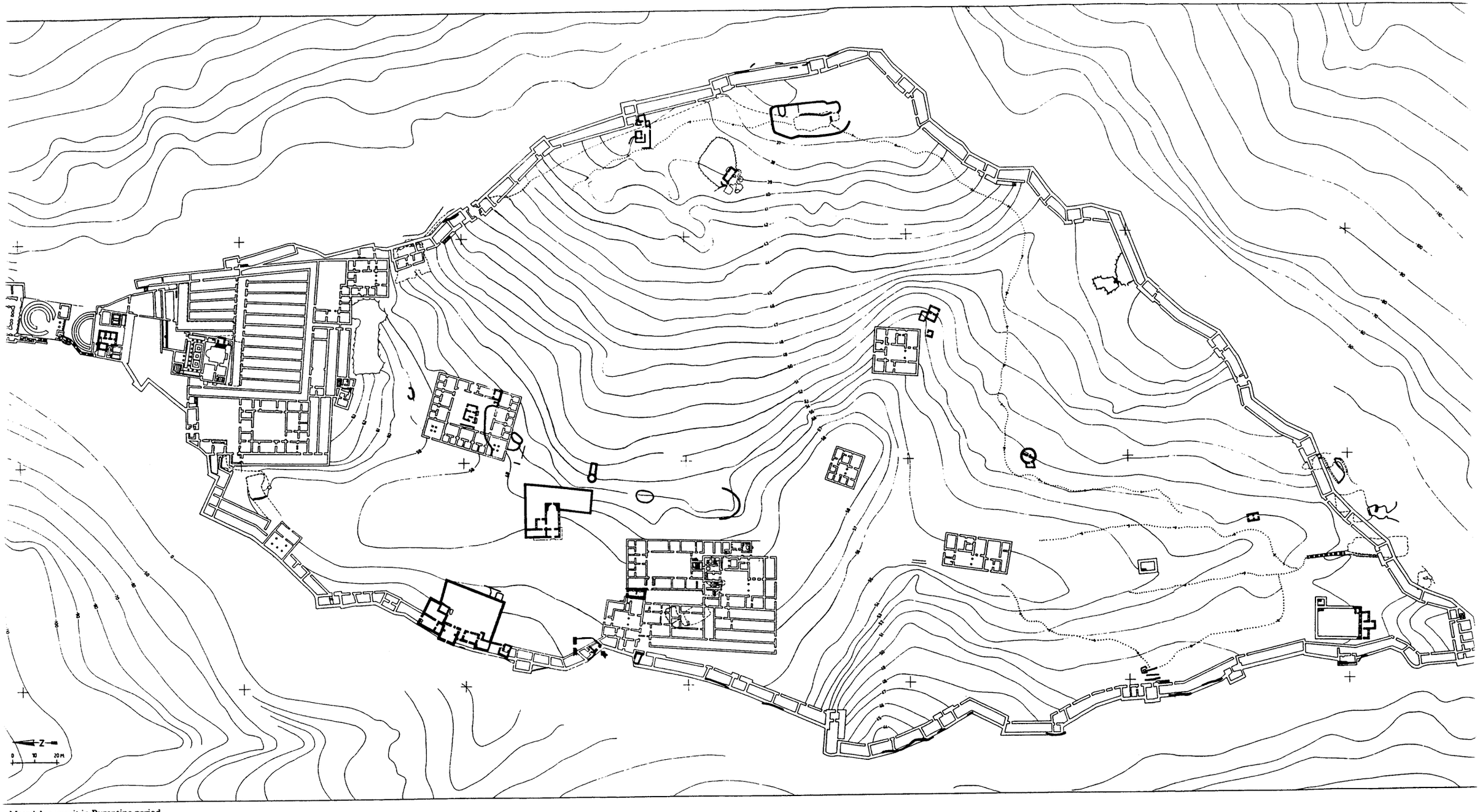
In the east, our gaze drops down to a wildly dissected terrain. It consists mainly of thin black and white layers, and is cut into imaginative shapes in vertical relief. At its eastern edge lies the Dead Sea, which changes color with the passing hours of the day. It is perhaps most beautiful at sunset, when the long shadow of Masada gradually spreads across it. The sea then loses its deep blue afternoon color, and reflects a softened version of the Mountains of Moab above it, colored a strong purple by the setting sun.

This whole scenery is a breathtaking exceptional beauty of high aesthetic importance.

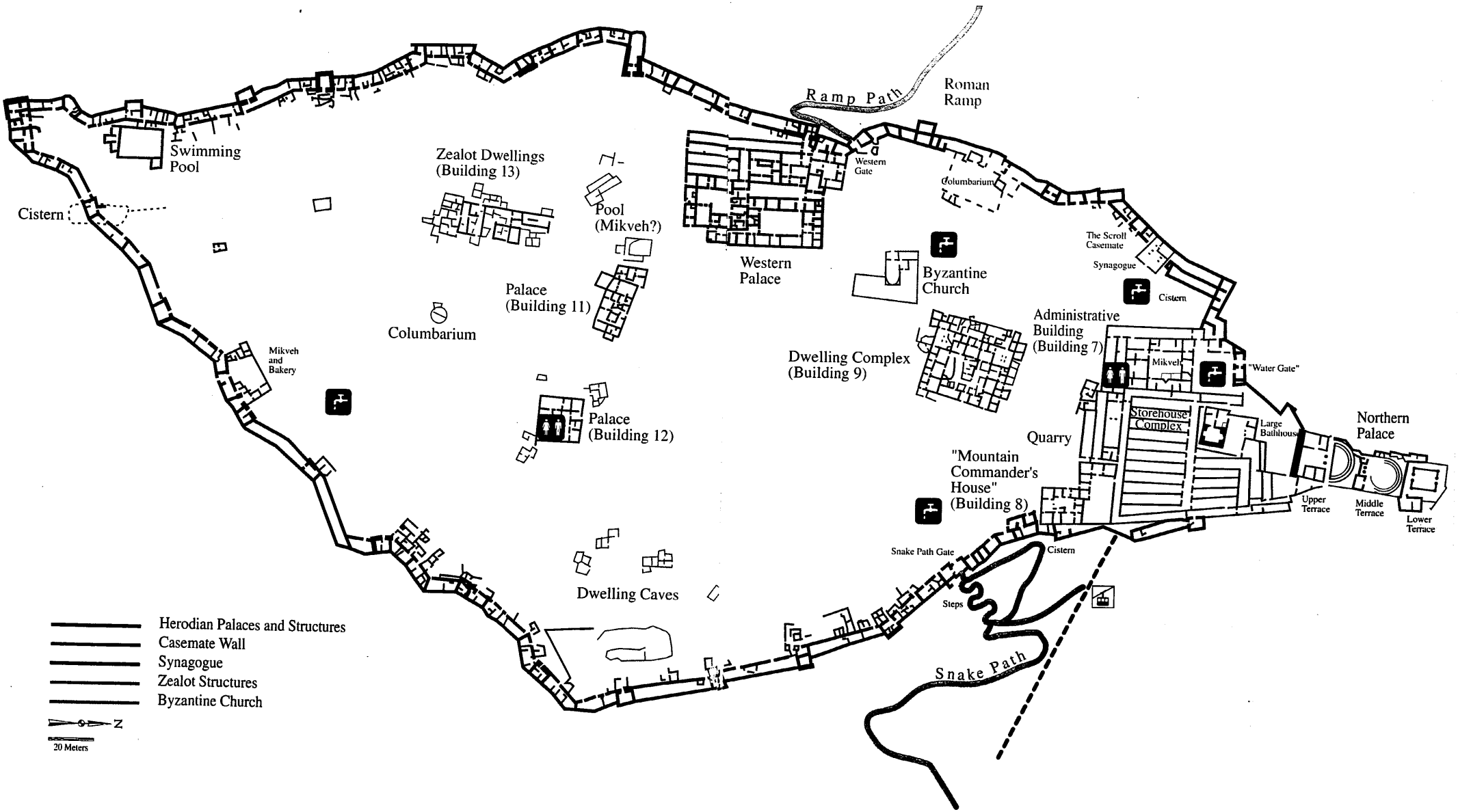
iv. Significant natural habitats

The main importance of the area, including its buffer, is the diverse natural habitats that support the natural biodiversity. The Judean Hills, west of the desert, reach heights of 800 - 1000 meters above sea level; the valley on the shore of the Dead Sea, in the east, falls to almost 400 meters below sea level, the lowest place on earth. The vertical height difference is 1400 meters over a horizontal distance of only 25 kilometers. Precipitation in that area is very scarce and decreases from west to east. Therefore, the amount of vegetation decreases rapidly from west to east. In the east,

around Masada, desert shrubs predominate, many of them from the biogeographical Saharo-Arabian or Irano-Turanian origin. However, the proximity of the Mediterranean zone has made it easy for Mediterranean plants to penetrate many of the desert plant associations. In this harsh environment they occupy valley beds and pockets of soil in rock expanses. East of the fault scarp, in the Dead Sea Valley, the contrast between the various habitats is even more marked: acacia trees and other plants of Sudanese origin grow in the watercourses and on the sides of the valleys. These plants utilize the shallow groundwater. This, together with the warm climate, creates conditions that are almost tropical. Most of the plants here are Saharo-Arabian. The plant cover in the areas between the watercourses is very sparse. On top of the climatic gradient exists a mosaic of microhabitats supporting a variable and unique biodiversity.



Masada's summit in Byzantine period.


Ramp Path
Roman Ramp
Swimming Pool
Zealot Dwellings (Building 13)
Pool (Mikveh?)
Western Gate
Columbarium
Cistern
Western Palace
Byzantine Church
The Scroll Casemate
Synagogue
Cistern
Palace (Building 11)
Columbarium
Administrative Building (Building 7)
Mikveh and Bakery
Dwelling Complex (Building 9)
Mikveh
"Water Gate"
Storehouse Complex
Large Bathhouse
Northern Palace
Quarry
Palace (Building 12)
"Mountain Commander's House" (Building 8)
Upper Terrace
Middle Terrace
Lower Terrace
Snake Path Gate
Cistern
Steps
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Herodian Palaces and Structures
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Synagogue
Zealot Structures
Byzantine Church
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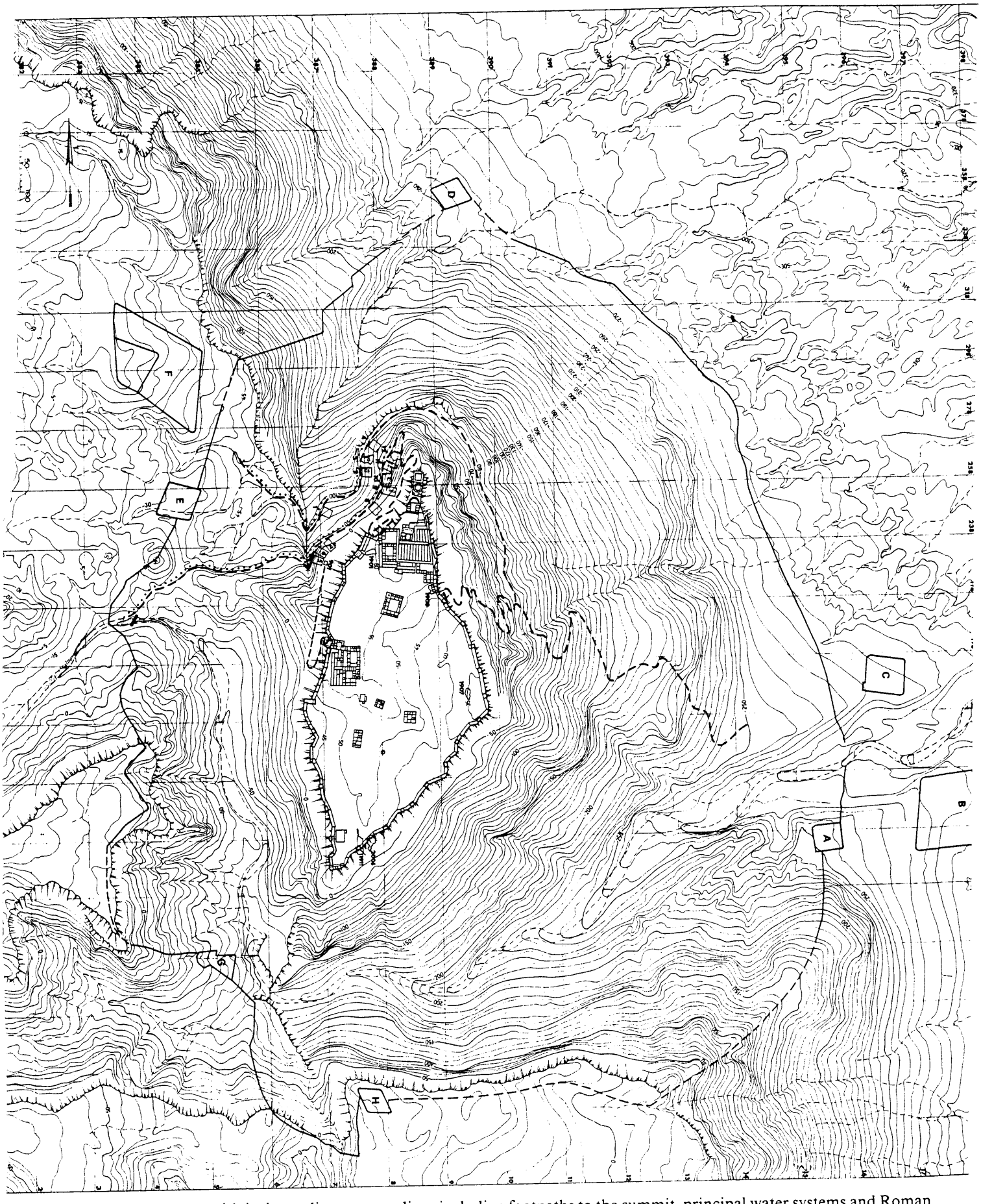


Plan A. Masada with its immediate surroundings including footpaths to the summit, principal water systems and Roman siege ramp and camps.

3. DESCRIPTION

3.a. Description of Property

Masada was chosen as a royal fortress primarily because of its inaccessibility. The combination of steep slopes and towering cliffs forged a formidable defense system.

The Landscape

Masada lies on the boundary line between two geographic regions: the Judean Desert and the Dead Sea. It is linked with both of these, yet separated; it overlooks them and is influenced by them. It is no accident that Masada with its wealth of associations, is located here. It grew out of the landscape, and derived its special character from it. The landscape is an integral part of our understanding of Masada. The same spectacular, breath-taking scenery that we see must have affected the people who first built Masada.

West of Masada lies the Judean Desert. Only the few modern structures at the western foot of the mountain make the present-day view different from that seen by the former inhabitants and builders. It is a landscape of hills that form terraces and are overtopped by Mount Ben Yair and Mount Kana'im (the Hill of the Zealots). It is an arid desert land, yet it can take on softness and color during a rainy winter, when plants burst into bloom.

In the east, our gaze drops down the precipice to a wildly dissected terrain, created by the rock of the Lissan Formation. This geological formation consists mainly of thin black and white layers, and is cut into imaginative shapes in vertical relief. At its eastern edge lies the Dead Sea, which changes color with the passing hours of the day. It is perhaps most beautiful at sunset, when the long shadow of Masada gradually spreads across it. The sea then loses its deep blue afternoon color, and reflects a softened version of the Mountains of Moab above it, colored a strong purple by the setting sun.

The Lissan promontory stretches into the sea on the east side across from Masada. It, too, consists of Lissan Formation rock. The last few years have brought changes in the southern part of the Dead Sea. The Dead Sea Works has turned the shallow southern basin into evaporation pans for the extraction of potash. Cape Costigan is the northern tip of the Lissan, and

Cape Molyneux - the southern tip. The narrow strip of water between Cape Molyneux and the Israeli shore is the Lynch Strait. Christopher Costigan and Thomas Howard Molyneux were British explorers, and William Francis Lynch was an American naval officer. The three were 19th-century pioneers in the study of the Dead Sea, and are honored by these place names.

When visibility is good, green patches are seen at the eastern edge of the Lissan. These are the fertile farmlands of Chor e-Numeireh and Chor al-Mazra'. The mountains of Moab form an impressive frame above the view. At night, the lights of Kerak, capital of Biblical Moab, can be seen on the mountains; during the day, the city is barely visible through binoculars. Further north and below the skyline is another ancient fortress, its name linked with Masada. This is Machaerus, east of the Jordan, the last Jewish stronghold, fell in the Romans' hands in 72 AD, the last one to fall, except of Masada, during the great Jewish revolt against the Romans.

In the south, a great fault scarp stretches away to the horizon. This is the western wall of the Syrian-African Rift Valley, and forms the boundary between the Judean Desert and the Dead Sea region. The eastern cliff of Masada is part of this fault scarp. In The southwest, the broad flat top of Mount Sedom rises above the sea. From Masada, Mt. Sedom appears quite different from its more commonly seen view - vdrtical cliffs – from Sedom, at the foot of the mountain. In clear weather, the green expanses of the Sedom salt marshes, Ne'ot HaKikar and e-Safi the Biblical Zoar - can be seen, south and southeast of the sea. The mountains that continue the tall eastern backdrop, stretching away in the southeast, past the deep canyon of Nahal Zered (Hesy), are named for the Biblical region of Edom.

In the north, the landscapes of the Judean Desert merge into the distance: the canyon of Nahal Ze'elim, the green oasis of En Gedi, the dark cliff of Rosh Zukim (Ras Feshkha) dropping into the sea, and the white line which marks the northern shore of the Dead Sea. The view from Mount Ben Yair or Mount Kana'im, higher up, opens out even farther, all the way north to Jerusalem, or even Mount Ba'al Hazor, in the Samarian hills. The landscapes all around Masada have played a significant role in shaping its unique character and history. The very appearance and structure of the mountain are unique.

Geography

Masada, though separated from its immediate surroundings by deep valleys and gorges, is intimately connected with its setting, by threads

visible and invisible, abstract and tangible, geographical and psychological. The shape of the mount, its isolation, the sheerness of its cliffs and the structure of its rocks are the result of the geological factors, which formed the Judean Desert and the Dead Sea Valley. Many of Masada's features as a unique fortress are due to its unusual location in the area, and its distance from roads suitable for the passage of a large, cumbersome army. The character of the region has played an integral role. The lack of major settlement centers nearby necessitates long supply lines for defenders and attackers alike. The lack of water is a problem that, if solved by the defenders, aggravates the situation of the attackers, and indirectly adds to the strength of the fortress. The dry air enables food and ammunition to be stored for many years. Finally, there is an intangible but very real factor- the atmosphere of the site, which it shares to a great extent with the Judean Desert. This last factor can only be fully appreciated by those who have lived on Masada or in the desert.

The Judean Desert occupies the eastern slope of the Judean Hills, tending towards the Dead Sea. Its length, from north to south, is 60 - 80 kilometers, and its width, from east to west is 20 - 25 kilometers. It is this location that makes it a desert, since it lies within the shadow of the cloud-bearing winds that ensure the rainfall of the Judean hills precipitation is low, and decreases very rapidly from west to east. However, the Judean Desert is not entirely arid. A relatively rainy winter is enough to give the region the appearance of green pastureland.

Flocks find fresh grazing in the Judean Desert for several months a year. The root of the Hebrew word for desert, "midbar", actually signifies the grazing area for flocks. The Judean Hills, west of the desert, reach heights of 800 - 1000 meters above sea level; the valley on the shore of the Dead Sea, in the east, falls to almost 400 meters below sea level. This vertical height difference, 1400 meters over a horizontal distance of only 25 kilometers, can give some indication of the character of this area and its great steepness. A series of wrinkles and faults in the earth's crust, generally extending from north to south (in most cases tilting slightly to the south-southeast) creates a stepped structure in some places. A steeper slope succeeds a moderate slope (along a topographical section from west to east). Thus, the average gradient does not always reflect the situation at any given point.

The transition from the Judean Desert to the Dead Sea is abrupt, by a precipitous slope that is almost vertical in places. The maximum height of this precipice is 600 meters, over a horizontal distance of less than one kilometer. This fault scarp is the direct result of the gigantic fault, which

created the Dead Sea Valley. This is the reason for the high, sheer cliffs. The eastern cliff of Masada is part of this scarp.

In some places among this fault line, an unusual phenomenon occurs. There is a second fault line lifting the opposite side, about 2 kilometers to the west of the great scarp, running parallel to it. This caused the area adjoining it in the west to sink even lower than the terrain between the two fault lines. Thus, the tall rock wall along the eastern edge of the Judean Desert - especially in its central portion, between Nahal Ye'elim and Nahal Tze'elim - is higher than the area which borders it on the west, contrary to the general slope of the Judean Desert. This is most noticeable near Masada. The western slope of Masada - which adds to its isolation and natural defenses - is the result of this secondary fault line.

The valleys of the Judean Desert generally slope downwards from west to east. Their courses are incised by a system of faults and lines of geological weakness. The valley beds are dry for most of the year, and carry water only for a day or two after a particularly strong rainstorm. Since the valley bed cuts through a series of hard and soft rock layers, its character changes accordingly. In soft chalk it creates a network of shallow, wide beds in a hilly landscape; in hard limestone or dolomite, it creates a single gorge, deep and canyon-like, cutting along a weak line in a landscape which is essentially flat. Thus, a system is formed of valleys whose beds are a succession of gorges and shallow areas, down to the mouth of the valley in the east. The gorges of the Judean Desert are hundreds of meters deep, and pose a problem to travelers, by the same token that makes them attractive to hikers. Traditional routes through the Judean Desert have always bypassed the deepest parts of the valleys. Since the rock layers exposed on the surface from north to south are continuous, the shallow parts of adjoining valleys are often in a straight line, facilitating a north-south route in a more or less straight direction cutting through several valleys.

In addition to its greater height, as part of the "eastern wall" of the desert, Masada lies in a zone of harder rock (to some degree, this is due to the actual formation of this wall). Therefore, the valleys alongside are deep, and their sides are steep and gorge like. Masada is bounded in the north and south by canyons which create its northern and southern precipices: Nahal Masada in the south and Nahal Ha-Armon and Nahal ben-Ya'ir in the north. The slopes of Masada are very steep on all sides. These slopes form vertical walls in their middle or upper parts, 30 - 60 meters high in most places; in the south east, the height is 100 meters. The bottom of this cliff usually corresponds with sea level. The rest of the slope is not as

steep. In the east it is 275 meters high, and in the west only 50 meters. The highest point on Masada is at the storerooms complex lookout point, 63 meters above sea level. The length of the mountain top, from the upper terrace of the Northern Palace to the corner of the southern strong-hold, is 645 meters. At its widest point it is 315 meters. The area of the mountain top is estimated at 20 acres.

Rock Structure

Most of Masada's rocks consist of limestone and dolomite. The top is mostly covered with hard dolomite, but softer rock is visible here and there. Dolomite forms the slope, but at its foot, in a layer of water-impervious marl, are the water cisterns of the northwestern slope. Marmoreal dolomite rock is the location of the lower row of water cisterns. Massive dolomite rock cliffs provide Masada with its tallest walls. The lowest portion of the mount consists, alternately, of limestone, chalk and slates.

Wildlife

Hikers are likely to encounter some of the wildlife of the Judean Desert. The most noticeable birds are the crows. Two species of black ravens amuse visitors by their feats of flight. The brown-necked raven has a low-pitched voice, and is slightly larger than the two species of black ravens. Like good circus folk, they give the observer the feeling that they are amusing themselves in the air rather than putting on a show for spectators.

Another noticeable black bird is the Tristram's grackle, a member of the starling family. When its wings are spread, a bright orange spot appears at the center. Its calls are varied, and often resemble street whistles. Tristram's grackle is named for the zoologist Henry Baker Tristram who visited the ruins of Masada in the course of his travels in the Holy Land. Tristram's grackle is considered a rare bird, although it is so common around Masada. Its world distribution area stretches only from the Arabian peninsula and the Aravah Valley, north to the Jordan Valley.

There are several species of poisonous snakes on Masada, a safe rule for non-experts is to keep away from any snake. There are two species of poisonous black snakes; despite common belief not all black snakes are safe.

The golden Cairo spiny mouse is the only rodent you are likely to see on Masada, since it is the only one active during the day in this hot climate. It resembles an orange-red ball, with spines.

The Nubian Ibex lives in this region, and is seen quite frequently by the enthusiastic visitors.

Vegetation

The amount of vegetation in the Judean Desert decreases rapidly from west to east. In its eastern section, around Masada, desert shrubs predominate, many of them originate in the Saharo-Arabian or Irano-Turanian vegetation zones. However, the proximity of the Mediterranean plant zone has made it easy for Mediterranean plants to penetrate many of the desert plant associations. Naturally, in this harsh environment they occupy the best niches, such as valley beds and pockets of soil in rock expanses. East of the fault scarp, in the Dead Sea Valley, the contrast between the various habitats is even more marked: acacia trees and other plants of Sudanese origin grow in the watercourses and on the sides of the valleys. These plants utilize the shallow groundwater. This, together with the warm climate, creates conditions that are almost tropical. Most of the plants here are Saharo-Arabian. The plant cover in the areas between the watercourses is very sparse.

Historical Background

When talking about a historical site, one must first give some of its historical background. Masada is special in that aspect that it is possible to compare the archaeological finds with an historical source. The historian of 1st century CE, Josephus Flavius, is our sole source of knowledge of Masada. A great deal of the information he gave, has been confirmed by the archaeological finds.

According to Flavius, the first to fortify this natural defensive position was "Jonathan the high priest" (Hasmonean). Until now, no finds of the Hasmonean period (2nd - 1st century BCE) have been unearthed.

The most prominent construction work in Masada was done by King Herod the Great (ruled 37 - 4 BCE), who built in this isolated place a king's citadel, as a refuge place for troubled times.

Following Herod's death, Judea - including Masada - passed into the hands of his son, Archelaus, who reigned for ten years. With him ended the Herodian dynasty in the kingdom of Judea and Masada came under the direct rule of the Roman procurators. The Roman garrison did not leave behind any significant remains. However, it seems that the Romans maintained and watched the mountain site faithfully and the many buildings were hardly changed.

At the beginning of the Jewish revolt in 66 CE, a group of Jewish Zealots surprised and captured the Roman garrison and held the place throughout the war. Jewish patriots, from different political wings settled there, especially after the destruction of Jerusalem and the second temple by Titus in 70 CE.

In 72 CE, Flavius Silva, the Roman Governor, decided to crush this outpost of resistance. He marched on Masada with his Tenth Legion, its auxiliary troops and thousands of prisoners of war carrying all the equipment needed. The Jews on top of the mountain, commanded by Elazar Ben Yair, prepared themselves for defense.

Silva's people prepared for a long siege. They built camps at the base of the rock and a circumvallation (siege-wall) around the fortress. On a rocky site near the western approach to Masada they constructed a ramp of crushed earth and large stones. On the ramp they moved a siege tower with a battering ram. They directed it against the fortress wall and succeeded in making a breach in it, and this was the beginning of the end.

There was no hope for relief or escape for the besieged people on the mountain. Only two alternatives were open: surrender or death. Ben Yair resolved "that a death of glory was preferable to a life of infamy..." and persuaded the 960 men, women and children to kill themselves.

When the Romans reached the top of Masada, the next morning, there was silence. And, as Flavius wrote, "And so met (the Romans) with the multitude of the slain, but could take no pleasure in the fact, though it were done to their enemies. Nor could they do other than wonder at the courage of their resolution...". This later became the Masada myth.

After several hundreds years of abandonment, in the 5th and 6th centuries CE, a small settlement of Byzantine monks was located on the site. They built a modest chapel and lived in miserable dwellings and caves.

Description of Property

Hereby, are enclosed the buildings and topography plans of the mountain top of Masada and plans of several of the monuments as well, for the convenience of the reader.

Herodian Masada

The great majority of the buildings preserved and exposed on the mountain top of Masada may be attributed to the substantial construction work carried out by Herod, the builder-king. Though at first sight it would seem that the remnants were built at the same time as one complex, further research clearly indicates that Herod's Masada was built in three phases.

Phase 1

The first building phase can be dated to around 35 BCE, a short time after Herod gained control of Judea. The first building phase comprised of:

- The nucleus of the Western Palace
- Three small palaces, nos. 11, 12 and 13
- An administrative building, no. 7
- A residential house in barracks style, building no. 9
- Three columbaria that also functioned as watch towers
- Water installations, including several large cisterns and a swimming pool (13x18 m.). The only water source in that phase was rainwater.
- The ascent to the fortress during that phase was via two paths, one on the east (the Snake Path) and the other on the west.

The first architects sent to Masada to undertake the building project had, apparently, previously served the Hasmonean royal court. The similarities between the nucleus of the Western Palace and the small palaces and the twin palaces in Jericho are striking. The resemblances lie in the general plan, the open triclinium to the south of the central court, the bathing facilities, structural details such as staircases and the decorative details such as small triangular niches for lamps. The swimming pool, at Masada's southern end, was apparently also constructed along the same lines as the many swimming pools built by the Hasmoneans in Jericho.

All the buildings built in the first phase are scattered over the mountain, apparently without an overall pattern; the general picture does not point to a preconceived layout.

Phase 2

The second building phase, which can be dated to the midtwenties of the first century BCE, was the main phase of Herodian construction at Masada. The second building phase comprised of:

- The Northern Palace

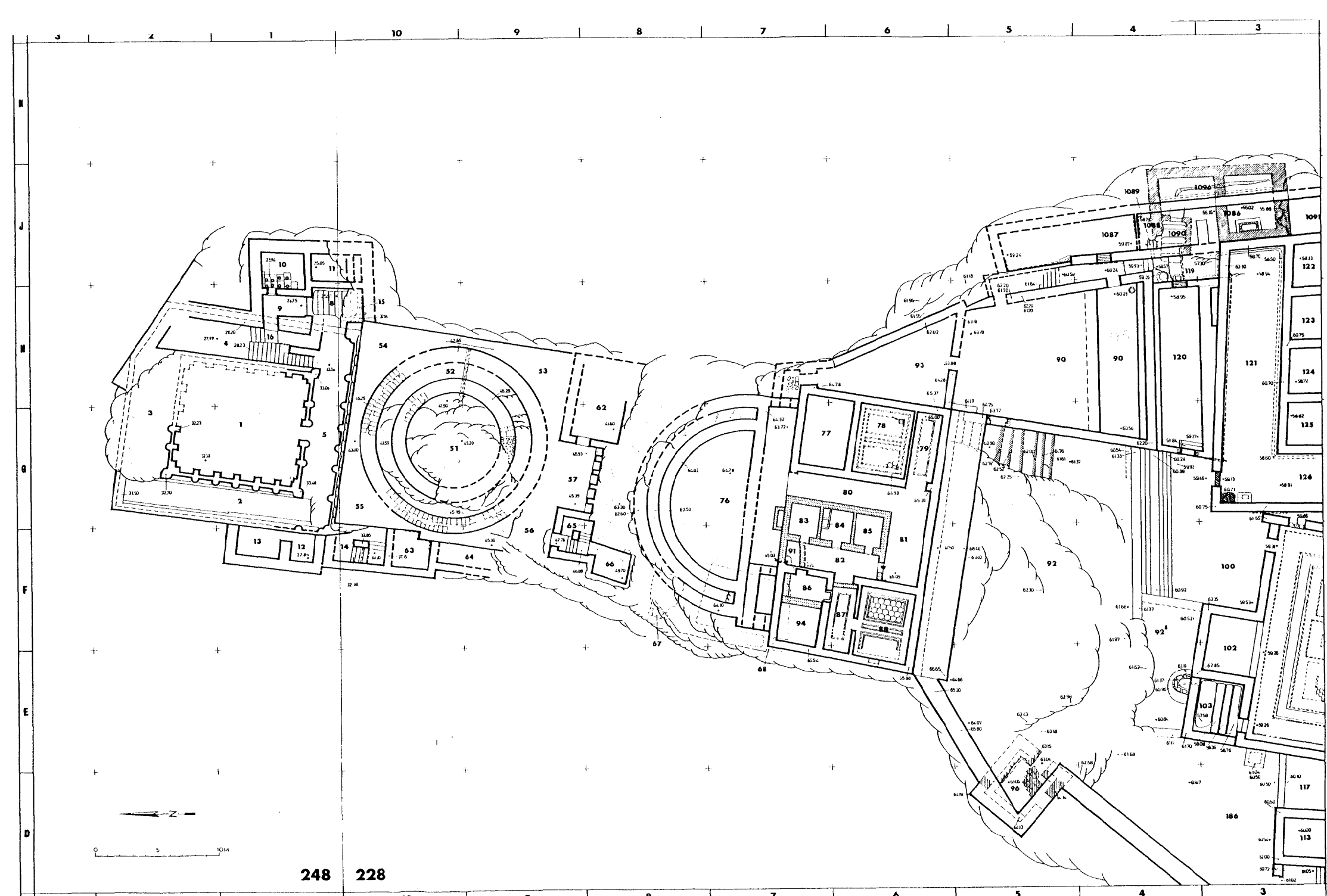
The Northern Palace is the most prominent edifice of the second phase and one of the most outstanding building projects of Herod.
This structure was built on three natural rock terraces that were only slightly modified to form the three levels of the palace. The palace served both as the king's residence when visiting the site and as the entertainment area for the official guests.

The upper level, through which the palace was entered, served mainly as residential quarters. Two wings of bedrooms flanked a hall; all were originally decorated with mosaic floors and frescoes. North of the bedrooms and the hall stretched a semicircular terrace surrounded by a row of columns on each side. In the center of the terrace was an area open to the sky; it may well have been a garden.

The two lower levels (the distance between the uppermost and lowermost levels is approximately 30 m.) served as lavish reception halls, one rounded and one rectangular, both surrounded by colonnades and equipped with bathing facilities. Of the hall on the middle level, only the foundation has survived: two concentric circular walls built directly on the bedrock. This hall was certainly in the form of a tholos surrounded by a portico. South of the hall there is evidence that several rooms existed, built close to the rock and perhaps on two stories. Beside this level, a pool and a water cistern were uncovered.

The lower level is better preserved than the other two levels. Here was a rectangular reception hall, the largest of its kind at Masada. The hall, like the colonnades that surrounded it, was decorated with wall paintings and Corinthian columns. In the basement, on the eastern side of the wall, there are remains of a Roman-style bathhouse.

Entrance to the palace was through a trapezoid plaza. Below the plaza and to its sides, several rooms have survived that were used for storage, and also, apparently, for meal preparation. Two water cisterns were hewn in the rock below these rooms. This service wing was directly connected to the adjacent storerooms.



Plan 3. Northern Palace with its approach area.

- The large bathhouse

Close to the Northern Palace, on a hill to its south, was built a large bathhouse that served not only the king and his family but also guests accommodated in the "old" palaces.
The bathhouse included a large courtyard entrance that was probably used as plaestra. The courtyard was surrounded by colonnades on all three sides. The bathhouse itself contained:

- an entrance and changing room (apodyterium)
- a warm room (tepidarium)
- a cold room (frigidarium) in the form of a stepped pool
- a hot room (caldarium), which was the largest and most magnificent of all, roofed by a barrel vault.

All the rooms and the courtyard, apart from the frigidarium, were originally decorated with mosaics and frescoes. During the reign of Herod, the mosaic floors of the bathhouse were replaced by a floor of colored stone slabs (opus sectile).

Next to the bathhouse, a furnace and various water installations were discovered.

- The storerooms complex

Adjacent to the palace was a large storage complex containing 18 storerooms, adequate for storage of weapons and many years' supply of food. 13 of the storerooms were 26 m. long; the rest were shorter. The storerooms were encircled by a system of long corridors that were probably also used for storage.

The storage complex , together with the administrative building no.7 and the Northern Palace, all located at the highest point of the mountain, formed together a kind of acropolis (the Northern Area). This compound could easily be defended: only two entrances from the rest of the mountain provided access to the whole Northern Area.
A system of two (and maybe a third one) towers also added to security.

- The Western Palace

The Western Palace was significantly enlarged during this building phase. The residential wing (the nucleus) acquired two extensive service wings, whose purpose was probably to supply needs such as storage of furniture,

Plan 5. Large Bathhouse.

domestic utensils and food, and perhaps even the preparation of food, not only for this palace, but also for all the palaces spread over the mount.

- Water Cisterns

To this building phase belongs also the construction of a series of large cisterns in the northwestern slope of Masada. Two rows of cisterns were dug here: a lower row of 4 cisterns (130 m. below the summit), each with capacity of about 4000 cubic meters, and an upper row of 8 cisterns (80 m. below the summit), with average capacity of 3000 cubic meters each.

The water source from which these cisterns were filled was the winter floods in the wadis west of the mountain. Through a network of dams and channels, water was delivered into this system of cisterns, together comprising a huge reservoir containing 40,000 cubic meters of water.

Mules or donkeys were used to carry the water from the cisterns to the summit.

It is reasonable to assume that the first water system on Masada depended on channeling rainfall runoff on the summit into water cisterns.

- Paths

Using two new paths, the water was hauled to the summit by mules or horses. One path followed the upper row of the cisterns and ascended below the Northern Palace to where the gatehouse (the Water Gate) stood, a point southwest of the palace.
The second path followed the lower row of the cisterns, circled the northern edge of the mountain and gradually ascended the eastern slope until it joined the Snake Path.

These two new paths were guarded by a strategically positioned tower at the peak of the western cliff. The tower secured the twelve cisterns and the summit against unauthorized access.

As opposed to the first phase, this main building phase reflects a clear tendency towards careful planning and order. Additional buildings were no longer scattered over the mountain but integrated into two main compounds: the acropolis in the northern part and the enlarged Western Palace. This tendency may reflect Herod's personal viewpoint and approach; the need for more efficient guarding of the mountain, even in times of peace, was apparently the main factor behind this approach. The

building style also changed, and here too, Herod's personal influence is apparent, together with the influence of the new Roman architecture. The construction of the Northern Palace in particular, on three natural terraces, may well have been a personal innovation of the builder-king.

Phase 3

The third and final phase may be dated to around 15 BCE.

- The casemate wall

The only significant changes are the construction of the casemate wall surrounding the entire mountain except for the acropolis area and a few additional structures. The casemate wall, 1290 meters long, contained nearly seventy rooms, many of which were more than thirty meters long, and twenty seven towers. The wall's average width - 6.5 m., with an outer wall 1.4 m. thick and an inner wall about 95 cm. thick.
These casemate rooms were probably planned to serve for storage (their average width is 4 meters, identical to the standard width of Masada's other storerooms) as well as living quarters for soldiers in times of emergency.

- The Gates

Three gates were incorporated in the casemate wall: the Western Gate, the Southern Gate and the Snake Path Gate (the eastern gate).
A fourth gate - the Water Gate, which provided access to the Northern Section, was not integrated into the casemate wall.

- Developments in the Northern Area

During the third phase, the Northern Area was also expanded:

- Three long storerooms were built flanking building no. 7 from its southern and western sides. The entrance was through a guardroom.
- A few more storerooms were added south of the main block of existing storerooms.
- A small bathhouse was built here as well.

Building no. 8 - An additional palace was built, closer to the Snake Path but flanking the acropolis, which most likely served as the residence of the mountain's commander-in-chief. The planning of this building was inspired, with modifications, by the small palaces built during the first phase.

- The Western Palace

During the third building phase, the Western Palace was expanded again; this time a few new wings were added, including 4 long storerooms. This latter addition strengthens the assumption that the Western Palace served as the logistic center for all the mountain's palaces.

The Western Palace, in fact, is the only case in which a fourth building phase, apparently Herodian as well, was noticed. To this fourth phase belong the main palace's entrance guardroom on its northern side and a few changes in the service wings.

The Western Palace was the largest building on Masada (it covered an area of about 4000 square meters). This was the ceremonial palace of king Herod in Masada. This is evident from its size and plan and its ornaments and the luxury of its equipment. Among the ornamentes: beautiful colored mosaic floors and walls with white plaster imitating marble panels.

The third phase continued the order and the centrality that characterized the second phase. Masada now reached the peak of its construction, and the site was thus preserved until the Jewish revolt against the Romans, 70 years after Herod's death.

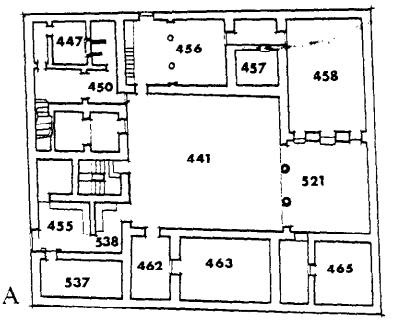
Herodian Building Techniques at Masada

Walls built with undressed or partially dressed dolomite stones

Most of the Herodian walls in Masada were built of the local dolomite stone, basically unworked and cemented with earth mortar. The local dolomite at Masada, quarried on the mount, is hard and its physical properties are such that it does not lend itself to precise dressing.

The stones were laid in courses. The larger ones, which were generally partially dressed, were laid at the base of each course, while medium size and small stones and stone chips, together with earth mortar, were used to fill the gaps between them and to level the top of the course.

The only major effort made in order to carve the stones into block-shape was for the construction of either corners or doorjambs. The relative sizes of stones used in different walls varied from larger (up to 90 cm. in length and sometimes even more) to medium (up to 45 cm. in length) sizes.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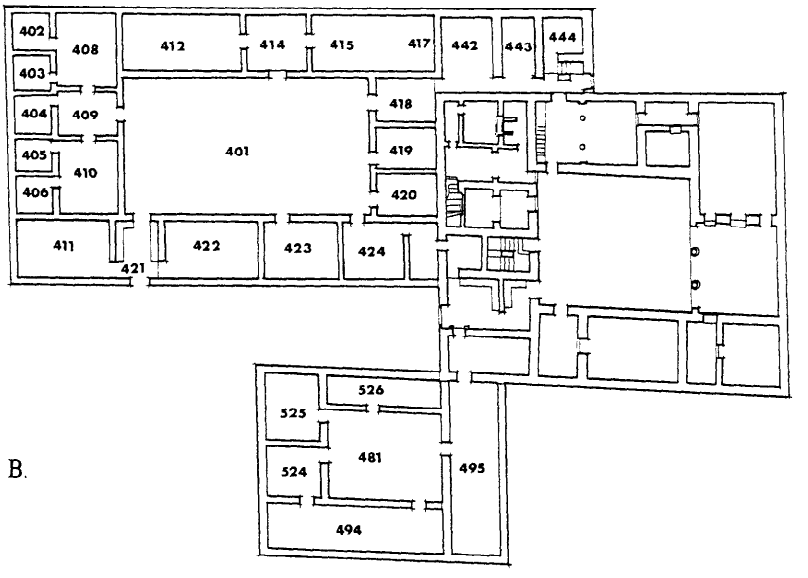
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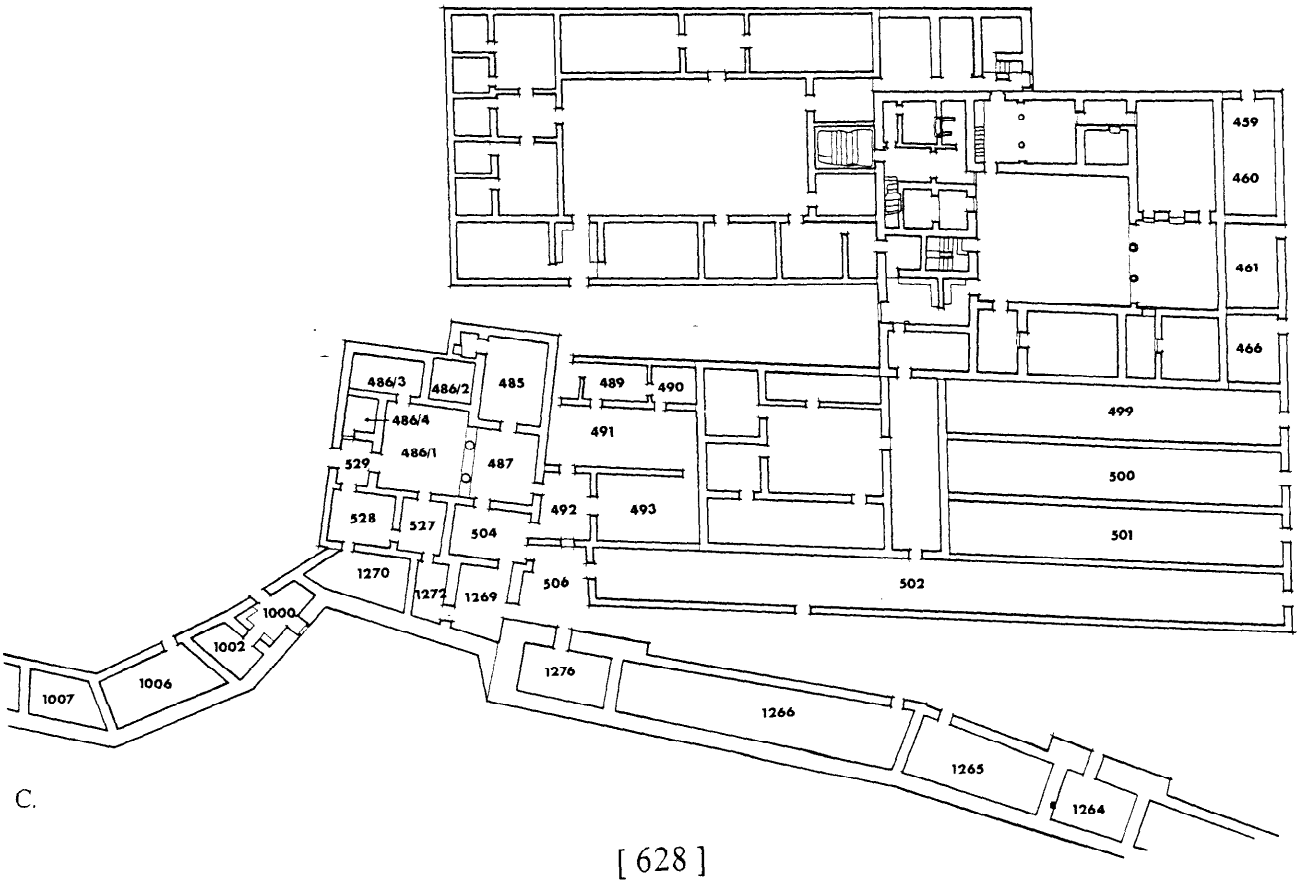
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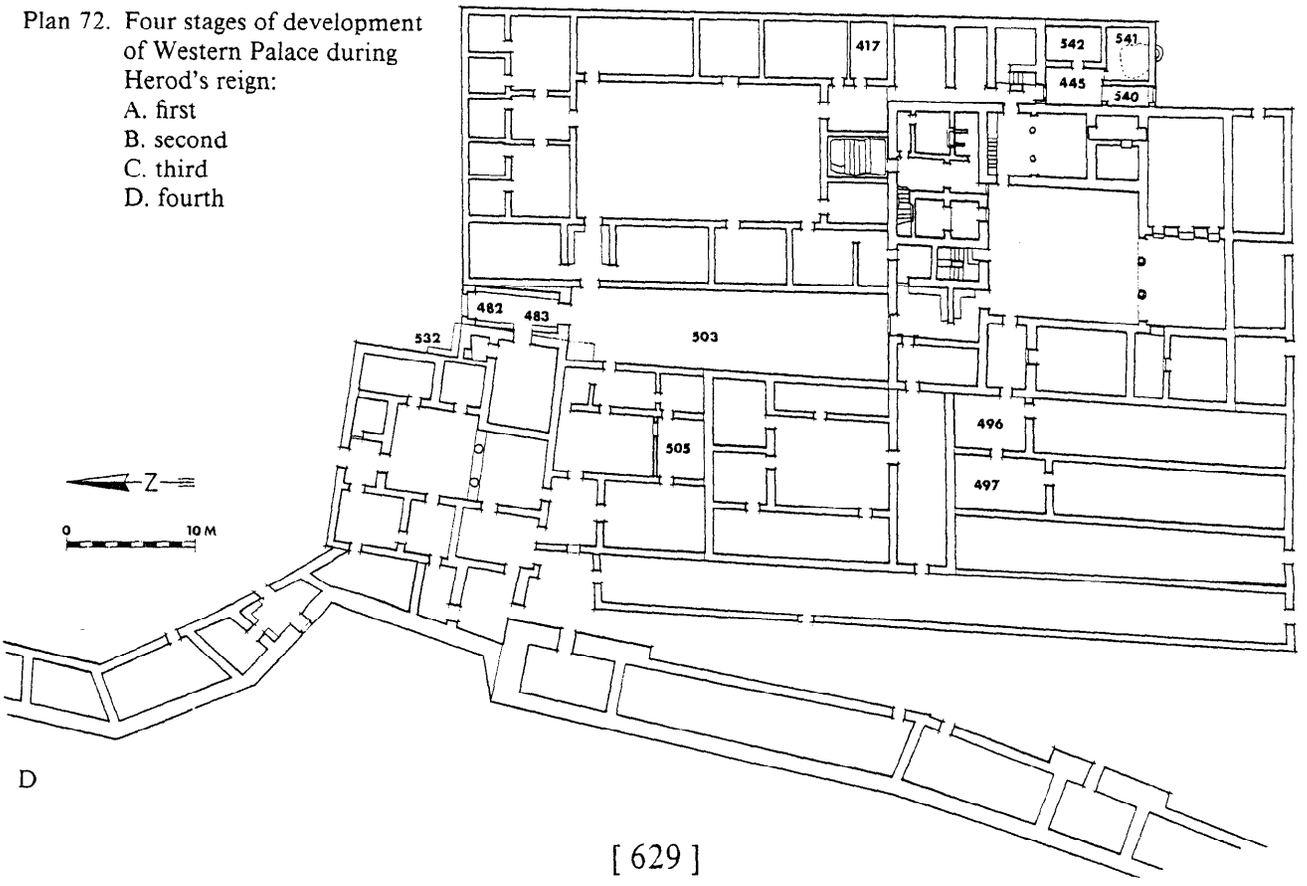
C.

Plan 72. Four stages of development of Western Palace during Herod's reign:
A. first
B. second
C. third
D. fourth



D

The mortar used to consolidate these walls was made of local earth, reinforced with straw. The same composition was often utilized also for plastering. Only in one case - the walls around the Caldarium in the Large Bathhouse - the mortar was based on lime.

The walls were built in an accurate manner - straight lines, uniform width and horizontal courses. Their thickness generally varies from 60 to 95 cm. Only rarely are they thinner. Walls thicker than the average were found mainly in the fortification system and the Large Bathhouse. In any event, the same building technique was employed for the foundations of all the walls which very rarely are they thicker than the walls themselves.

All of these walls were originally plastered. Earth plaster was used in many of the interiors, both for the walls and apparently also for the ceilings. It seems that in many, if not all of these interiors, the earth plaster was a preparation layer ultimately coated with lime, though very little of the latter remained intact.

Lime based plaster (mixed with sand and stone grits) was used for three different purposes:

1. For the plastering of interiors.
2. For partial plastering of the outer walls. Most of the large stones were left exposed, although most of them were later whitewashed.
3. For complete plastering of some of the outer walls, apparently in the more elaborate buildings.

In some cases, where rooms were exposed to constant humidity, a plaster layer, which included ash and lime, was used - either instead of or below the regular lime-based plaster. In any event, ash lime plaster - "hydraulic plaster" - was employed in all of the water installations such as cisterns, water channels, pools and bathtubs.

The quality of the plaster-work in Masada was high. The plaster was generally laid in layers and the outer surface was straight and smooth.

Walls built with dressed stones (ashlars)

This building technique is rather rare at Masada and was virtually restricted to the three terraces of the Northern Palace and the three columbarium towers. The stones used in these structures consisted of two types:

1. **Soft limestone:** some of which includes phosphates and many fossils. This stone has generally gray-green color, sometimes with some pink sections. This stone was the stone commonly used for ashlars.

2. **Sandstone:** This type of stone was used mainly in those cases where precision was required, such as for columns, architraves, or central pillars in staircases.

Both types were brought to the mount, either from nearby quarries (mainly the soft limestone) or from more distant localities, such as the surroundings of Jericho (mainly sandstone). In the latter case boats were apparently used to transport the stones most of the way on the Dead Sea.

In the majority of these walls the ashlars are very roughly hewn. Their edges are not always straight and the joints were filled either with mortar or small stones (in some of these walls, like in the upper terrace of the Northern Palace, the quality of the stonework is much better).

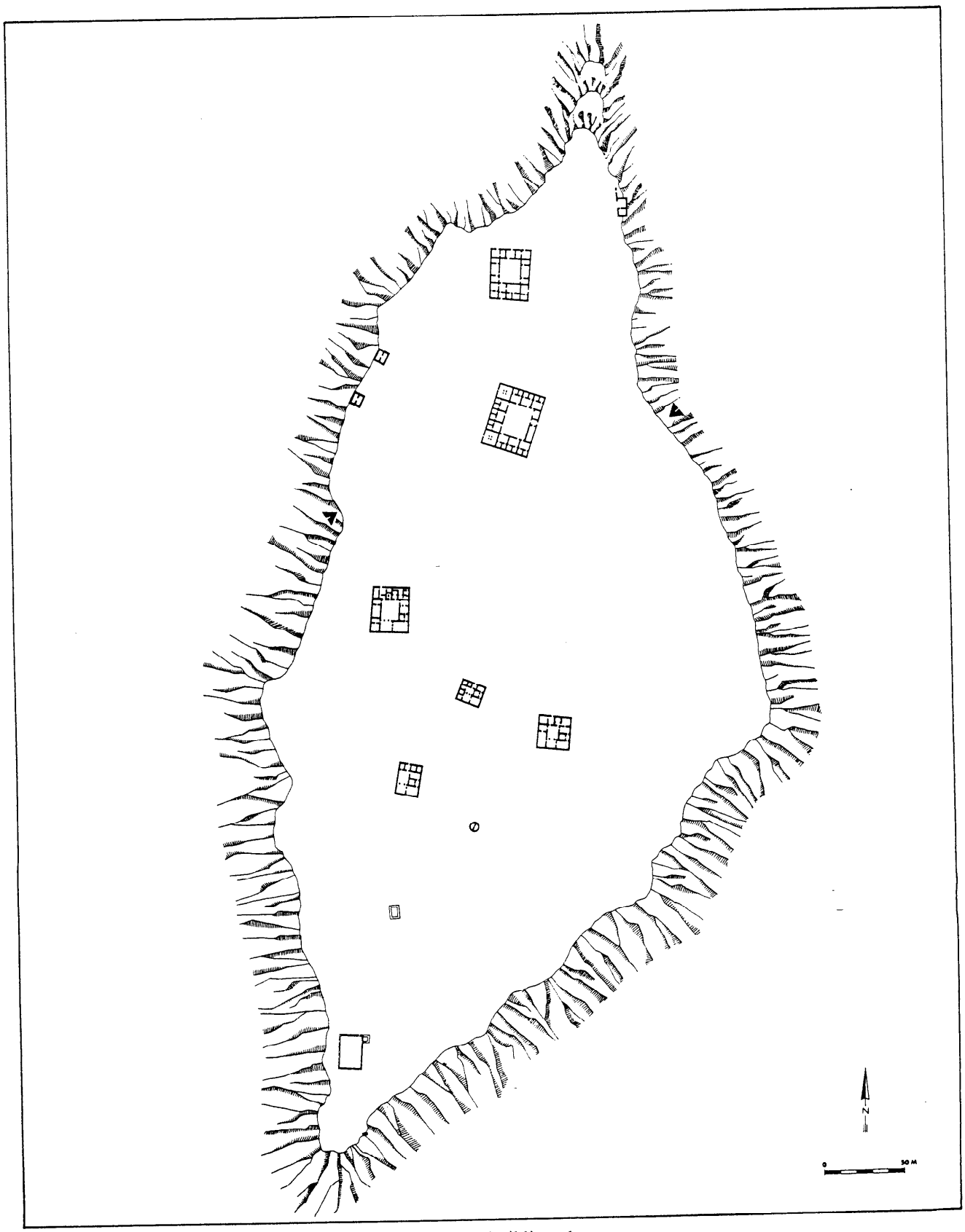
These ashlars mostly lack the margins so common in Herodian masonry.

In contrast to the majority of Masada's walls, the mortar in most of the ashlar walls is lime based. However, it seems that all of these walls were coated from the very outset with lime-based plaster. The employment of ashlars in this case was functional rather than for architectural-aesthetic purposes.

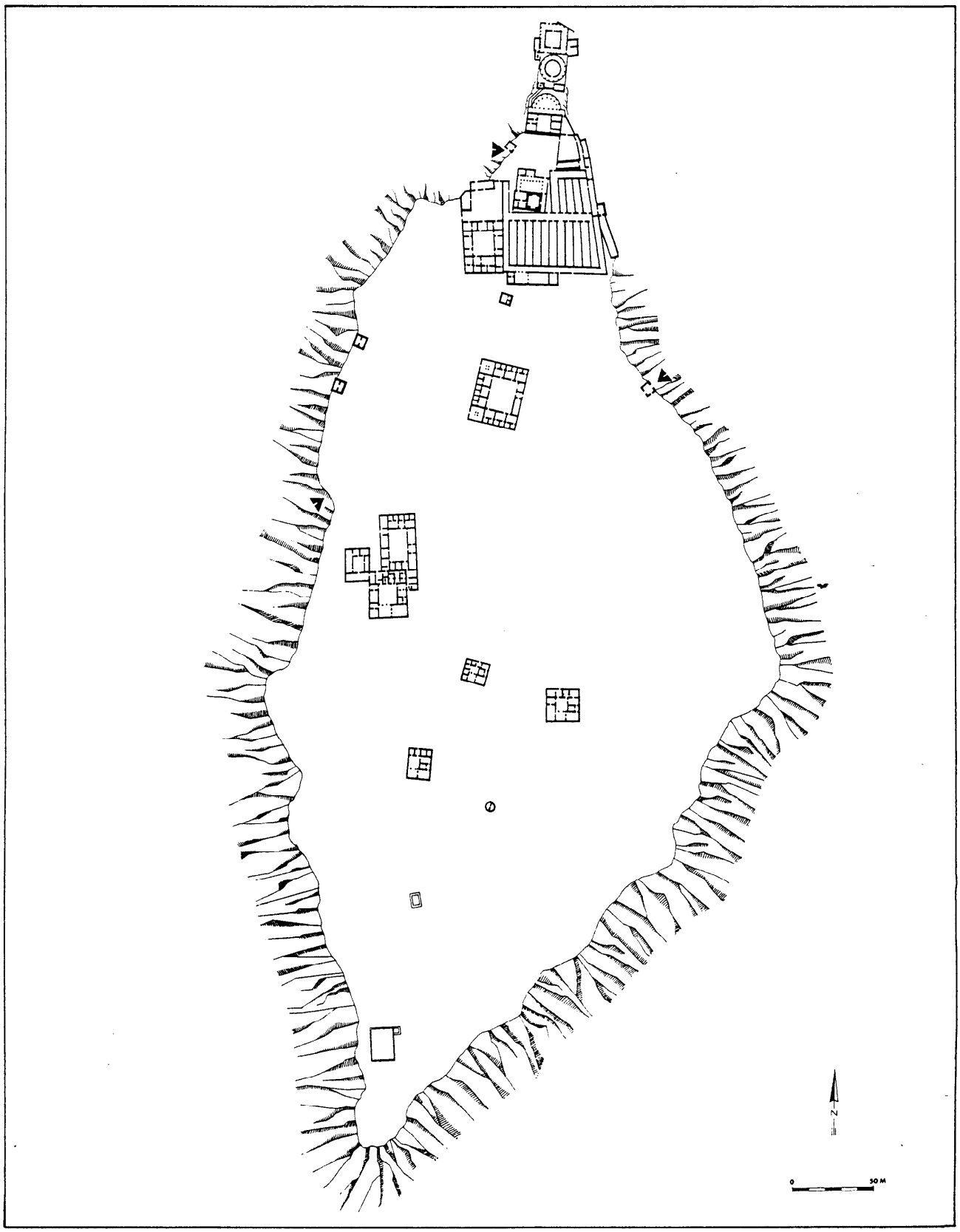
Generally, the ashlar walls are slightly thinner than the above-described walls.

The use of ashlar technique in the three columbarium towers may have been dictated by the need to carve (or build) small pigeonholes into the inner faces of their walls. In these towers the outer face of the walls was built of soft limestone and the inner face of sandstone. In the two square towers the pigeonholes were created by leaving gaps between the stones, whereas in the circular one they were carved into the completed walls.

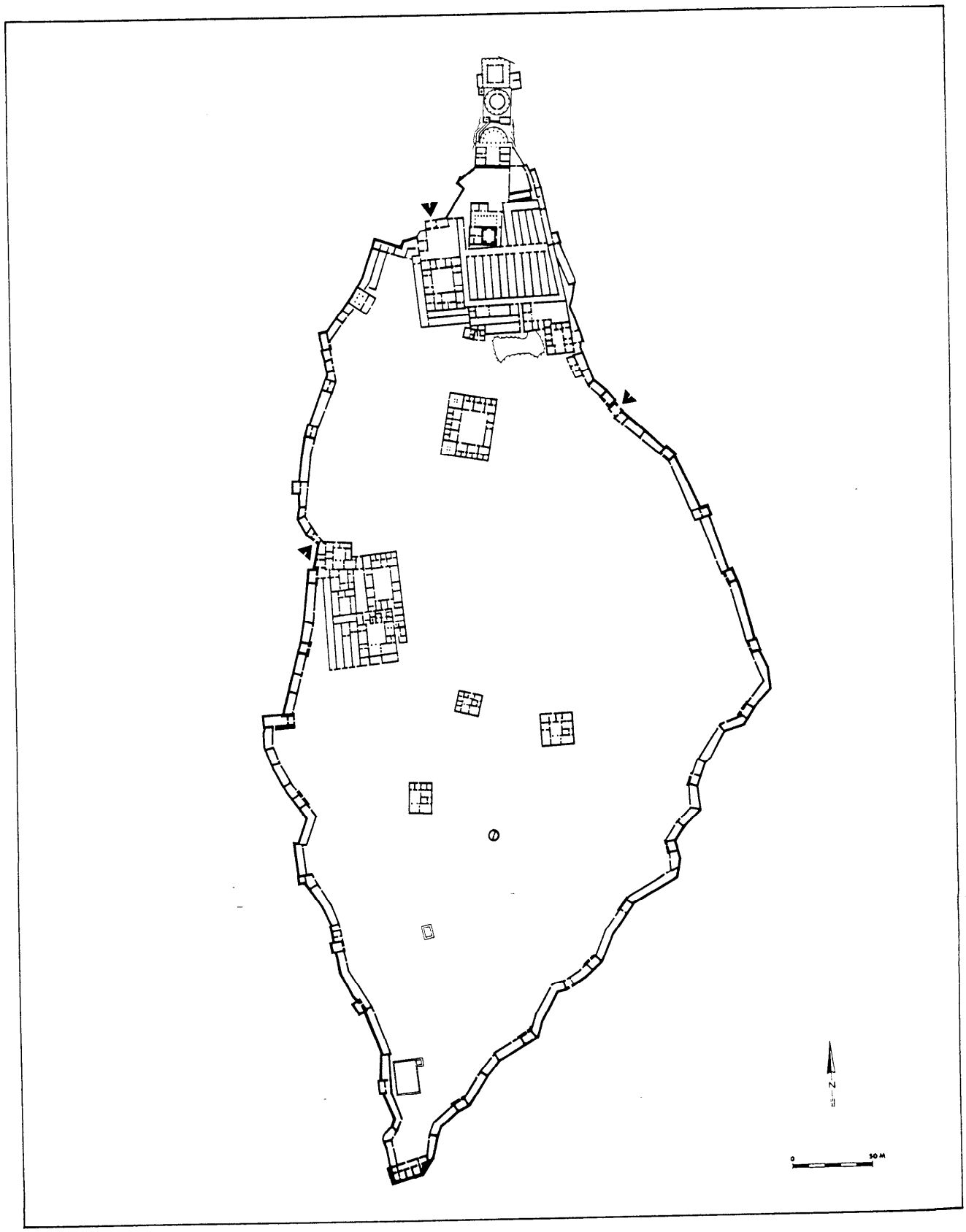
A different technique was employed in the southeastern corner of the Western Palace. Although ashlars were the main component here as well, earth mortar was used to join them. Another difference was the use, in this case, of small fieldstones between the ashlars, in order to level each course.



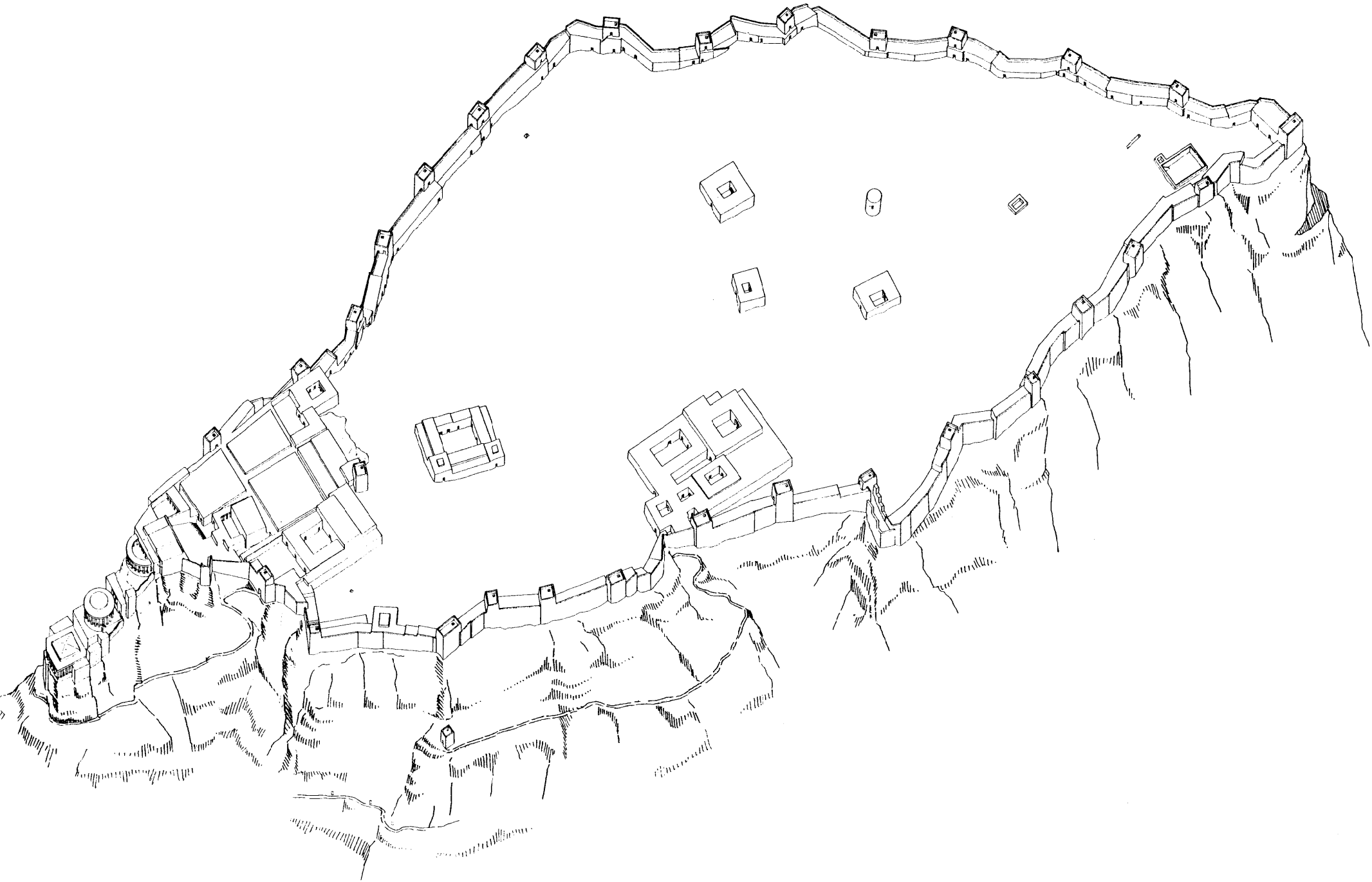
Plan 73. Restored plan of Masada in early Herodian building phase.



Plan 74. Restored plan of Masada in main Herodian building phase.



Plan 75. Restored plan of Masada in late Herodian building phase.



Ill. 945. Isometric view of Masada at end of Herodian period.

Masada of the Zealots

The Zealots who settled on Masada (66 to 73 CE) probably numbered about one thousand; this figure accords with both Josephus's account and an estimate based on the number of dwelling units exposed during the excavations. These people occupied most of the buildings on the mountain, particularly the casemate wall, the three small palaces and building no. 9. These buildings were adapted to the Zealots needs: large rooms were divided into smaller units, entrances were blocked and other opened and temporary constructions were added on to those already existing.

Wide ranges of installations were uncovered in the residential rooms: cooking stoves and baking ovens, small water basins, and storage installations - all indicate a well-ordered and active daily existence.

All of the acropolis, on the other hand, remained in the public domain. The Western Palace was not divided up between the Zealot families but remained very much as it had been before.

- The Synagogue

The most important discovery among the buildings of Masada during the Zealot period is a square structure, originally from the Herodian period, integrated into the wall, that probably originally served as a stable and was later turned into a synagogue. The main hall had now three rows of benches along its walls, typical of early synagogues.

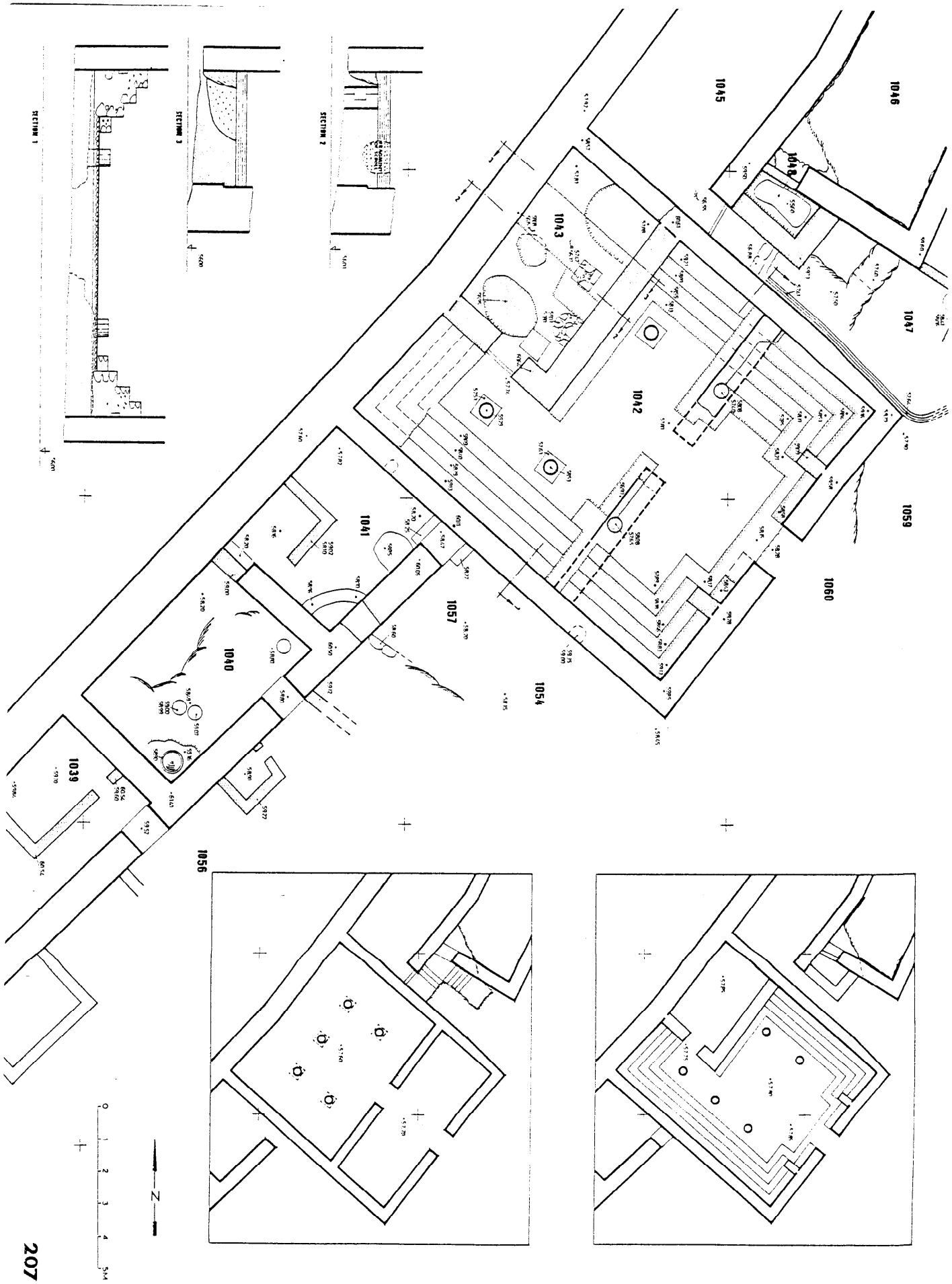
Further proof that the building served as a synagogue was the discovery of the genizah (depository of worn-out books) under the floor of the back room, in which some scroll fragments were found.

- Ritual Baths

Seven or eight ritual baths (Mikveh) were discovered on Masada, including one relatively large, stepped immersion pool. This pool was installed within a special structure south of the Western Palace, intended for different purpose.

- a public hall

An elongated hall (no. 809) was built by the Zealots and attached to the northwestern corner of the small palace, building no. 13, on the north. The structure of the hall seems to attest to some public or semipublic function.



Plan 35. Detailed plan of Synagogue of Masada (1042–1043), including sections and restored plans of two phases.

The surviving benches could seat some 30 to 40 persons, and the hall could accommodate a considerably larger number, seated otherwise. It is difficult to determine whether the place was used for study, prayer or some other purpose. During the excavations the hall was nicknamed the bet midrash (school or study house).

The Zealots had no particular regard for the architectural grandeur of Masada, the product of Herod's initiative and efforts. Columns and capitals were torn down indiscriminately to be used as building material, and formerly magnificent rooms were converted into workrooms and kitchens. Nearly all the constructions added by the Zealots lack planning and style.

Building Techniques in the Zealot Period

Although most of the building activity in the Zealot period was of temporary nature, some of the structures were built more solidly, demonstrating a high standard of workmanship. Examples are the walls added in building 1042 - 1043 (the Synagogue), the construction of the Swimming Pool 625 and the vaulted pool in square 506.

Basically there is no major difference in the building methods employed during Herod's reign and in the Zealot period.

The Roman remains

The Roman military ruins around Masada are considered the finest remains of a Roman siege operation in the world.

- Military Camps and Siege Wall

Under Silva's command, soldiers of the Tenth Legion constructed, under very difficult topographical conditions, a perfect network to lay a siege to the Zealot population. The network included eight fortified camps and a siege wall about four kilometers long encircling the entire mountain.

- The Ramp

After that, the Roman soldiers turned their energies to constructing a substantial siege ramp west to the mountain, the only spot that allowed for such a plan. On top of the ramp was built a large high platform, and on top of that was erected a tower from which the battering ram could be operated against the wall.

When the ramp had nearly reached the summit, the Romans began bombarding the besieged population with catapult stones - part of which can still be seen on the mountain top.

The Zealots, in a last attempt to withstand the assault decided to construct an inner wall to insure against the possibility of a battering ram breaching the stone wall. For their inner wall, the Zealots chose a system of wooden beams - which they dismantled from the roofs of most of the buildings on the mountain and the casemate wall - and earthen fill. This dismantling of the roofs is confirmed by evidence unearthed in the excavations. The Romans finally succeeded in setting this wall on fire, forcing the Zealots to take final stock of their situation and ultimately to decide on mass suicide.
A massive destruction of Masada was the result of an earthquake, apparently in one of the first centuries CE.

Building Techniques

The Roman camps haven't been dug (except of probes). The Roman remains are in fine state of preservation, due partly to the dryness of the desert but also to their remoteness from centers of settlement.

The size and the locations of the Roman camps were fixed in accordance with their tasks. There were 2 large camps and 6 small ones. The large ones are B in the east and F (Silva's headquarters) in the west. Both were outside the siege wall (circumvallation), which lay between them and Masada. Camp B (135x170 m) and camp F (125x150 m) are very similar in size and plan to the classic camp of the Roman legions.

In the northwestern corner of camp F was a smaller camp (F2), strengthened by towers. In the course of its construction, parts of the large camp F were destroyed, which indicates clearly that it was built at a later date. A small dig that was carried out there proved that the smaller camp was used by the Roman garrison which was left there immediately after Masada fell.

The most striking feature in all the camps were the hundreds of "mess-unit" (contubernia), each accommodating 8 - 9 soldiers. They were bases for tents, and what has remained of these "mess-units" and may be seen on the site today are low walls of rubble stone, about 1 - 1.5 m high. These served as an upright foundation over which the tent was spread.

With building the siege-wall, which was erected after the construction of the camps, Silva completed the first stage of his plan.

A ramp was built as an assault embankment on the western slope of Masada. The ramp was built of white soil and timber beams.

Byzantine Masada

During the fifth century, a small group of monks lived on Masada. This religious settlement was part of a process that was occurring all over the Judean Desert and other deserts of the region throughout the Byzantine period. The settlement was probably abandoned with the Persian or Moslem conquest in the seventh century.

Afterwards, Masada remained abandoned and forgotten until its rediscovery in the nineteenth century.

- The Byzantine Church

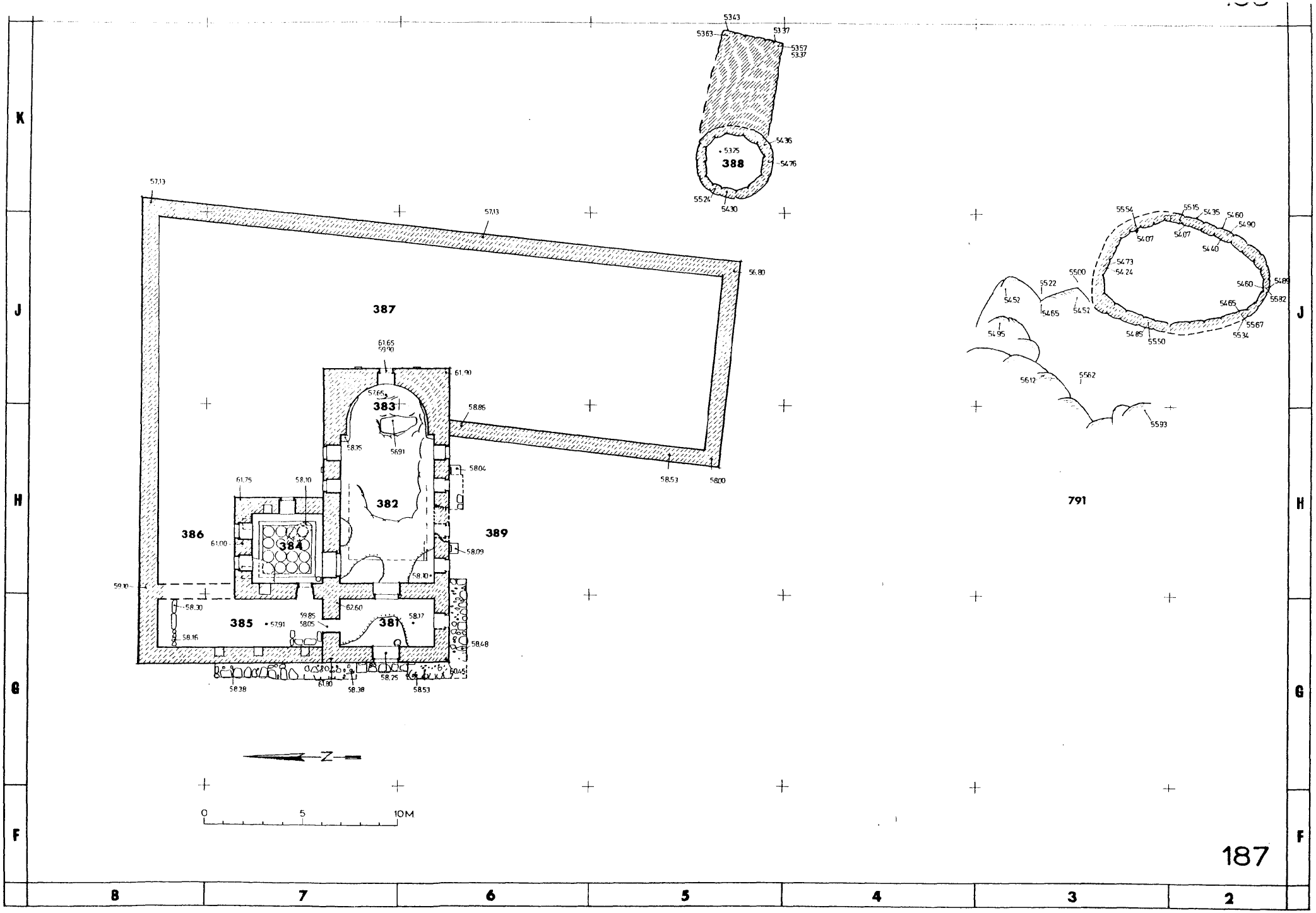
The church stands at the center of the summit. Its walls have survived to relatively great height. Parts of the nave and possibly also of the narthex were excavated in the 19th century by de Saulcy, who carried off parts of the mosaic floor he found here to the Louvre in Paris. The building consists of four rooms, with a courtyard adjoining it on the north and east.

The church was built of dolomite stones, laid in courses, with much use of partly dressed masonry taken from the ruins of the Herodian buildings. The walls, 95 cm thick, were cemented together by lime mortar.

In the narthex is preserved part of white, unpatterned mosaic floor and on the walls survived many patches of the original plaster - white lime with considerable admixture of gravel in which were set sherds and small flat stones, arranged in vertical rows or herringbone pattern.

The nave consists of rectangular hall with semicircular apse at its eastern end. The apse, unlike the other walls of the church was built of ashlars of greenish-color, laid in courses. The original mosaic floor, of which only few fragments had been preserved in situ, had a colored design. The nave was originally illuminated by several windows and its walls were covered with plaster, bearing patterns similar to those of the narthex walls.

Room 384 - The room had a decorated mosaic floor, with a largely preserved central panel. The wall plaster was decorated with potsherds and stones.



Plan 25. Byzantine Church and enclosure northwest of Western Palace.

No definitive data are available concerning the finish of the outer walls of the church. There are several well preserved vertical water drainage, made of lime plaster, obviously intended to direct the rainwater draining from the roof.

- Other Byzantine Remains

The monks on Masada dwelt in small cells and caves scattered over the summit. They built also modest additions to existing buildings and used it for dwelling.

Few installations survived from this period, like a lime kiln or agricultural structure.

A courtyard (square 1014) in front of a group of Byzantine structures that were built and combined with the casemate wall (loci 1031 to 1023) is another evidence to the Byzantine communal life. One of the loci (locus 1023) was almost certainly built as a kitchen according to the three cells that probably served as ovens and a silo.

3.b. History of Development

Masada in Antiquity

The three periods evident in the archaeological remains at Masada, are: Herodian, Zealots, Roman and Byzantine. The three settlement periods are, relatively, short in time and are not subsequent.

The Hasmonean Masada - Flavius mentioned Masada as one of the Hasmoneans' desert fortresses. Hasmonean remains were not yet found in the archaeological excavations at Masada. It may be assumed that if there were any, the later Herodian massive construction works removed the Hasmonean remains. It is thought that the water cisterns on the summit, which are the earlier ones in Masada, are Hasmonean, according the special pool-plaster they have.

The remains evident in Masada, are:

- Herodian - The massive building works in Masada (3 phases) 37 to 4 BCE.

- Jewish Rebbels - Mainly poor additions to the Herodian buildings, generally without caring about the fancy Herodian remains underneath 66 to 73 CE.
- Roman military remains - camps, siege wall and a ramp - about 72 CE.
- Byzantine community - Using existing buildings, few modest additions, the most outstanding - the church - 5th - 6th centuries CE.

Major changes, demolitions or rebuildings in Masada, except of the poor additions to the Herodian buildings made by the Zealots and the Byzantine monks, are:

The sequence of events at the end of the Roman siege was as follows:

- Destruction, by the Zealots, of most of the ceilings in order to build a wood and earth wall (after the Romans succeeded to make a breach in the original wall).
- Burning of household items (by the Zealots) during the last night.
- A deliberate fire, set during the last night by the Zealots.

The rest of destruction was caused by:

- Treasure-hunting by the Romans.
- The great earthquake which destroyed most the walls of Masada sometime during the second to fourth century AD.
- The activity of the small Byzantine community.

Masada in the Modern Era

The Research of Masada

Today Masada is excavated and is widely known. But, it has taken more than 160 years to reveal Masada's secrets, beginning with two travelers, who while looking from distance at the rock, first identified it, in 1838, as the historical Masada. The two were Edward Robinson, an American scholar, and his companion E. Smith.

Other explorers visited Masada during the second half of the 19th century and the 20th century, each of them contributed some more information to the research of Masada. Among the first explorations of Masada, it deserve to mention:

A turning point in Masada's research came with the "Survey of Western Palestine" carried out on behalf of the Palestine Exploration Fund and headed by Kitchener, Warren and Conder. Warren was the one to discover the Snake Path and the first to climb Masada - in 1867 - from the east.

On the mapping of Masada, the turning point was brought about by Conder on behalf of the Survey in 1875. Conder admired the accuracy of Flavius's descriptions.

The study of the Roman camps advanced greatly after Christopher Hawkes of the British Museum published (in Antiquity, 1929) a thorough study based on air photographs taken by the RAF in 1924 and 1928.

A detailed list of these pioneers, as the late Prof. Yadin named them, is available in Yadin's book "Masada - Herod's fortress and the Zealots' last stand", in chapter 19 "The Pioneers".

Masada in the Zionist Ethos

The story of Masada - the suicide of the Jewish Zealots who preferred to die as free people and not live as slaves in Rome - which is called the myth of Masada - affected the Jewish pioneers in the years before the founding of the state of Israel, in 1948.

The call of the Jewish refugee in the poem written by Lamdan in the early 1920s "Open your gates, Masada, and I, the refugee will enter", became the cry of the Jewish pioneers for freedom. For them, only the land of Israel is the real refuge, which was forged out of agony. Lamdan coined the famous phrase "Masada won't fall again".

The most significant example expressing the identification with the myth of Masada was during World War 2, when Romell's troops threatened from Egypt in the south and the pro Nazi Vichy regime threatened from Lebanon in the north. The Jews in Israel felt sieged like the Zealots in Masada: struggling for liberation and ready to sacrifice their lives for it.

Masada - 1965 - 1995

In the first years after the establishment of the state of Israel, Masada was still like a lodestone for Israelis, who continued the tradition of climbing up to Masada, bearing in mind the symbolism of the site. It was only natural to

excavate the site. The extensive excavations at Masada were conducted by the late Prof. Yigael Yadin in the years 1963 - 65.

It was preceded by a limited archaeological survey carried out between 1955 and 1956 and was sponsored by the Israel Exploration Society, the Hebrew University and the Department of Antiquities.

Prof. Yadin's excavation was the largest and most challenging archaeological project ever carried out in Israel; It became possible due to the special personality of Yadin, who made an old dream he had, come true. It was a complicated campaign from all aspects in the conditions of those days. The Israeli army helped a lot. Yadin inspired thousands of volunteers from many countries, who dug in difficult conditions with a lot of enthusiasm. Yadin's expedition revealed spectacular remains and most interesting finds.

As a matter of fact, the first management decisions regarding Masada took place following the ending of the archaeological excavations carried out by the late Prof. Yadin expedition. (We leave apart the decisions regarding the excavations).

Towards ending the excavation, it was decided by the "Department for Landscaping and the Preservation of Historical Sites", which belonged to the Prime Minister's Office, to open the site to the public as a national park.

Consequently, immediately after ending the excavations, works of conservation and reconstruction started.

First conservation and reconstruction works

Shortly after completing the excavations, in 1965, the site underwent conservation, reconstruction and development works. The works were done according to a plan made by a special committee of experts in related fields.

As late Prof. Yadin wrote in his book ("Masada - Herod's fortress and the Zealots' last stand") - "The tremendous work of restoration and presentation was done by the Department for Landscaping and the Preservation of Historical Sites and the National Parks Authority.... The reconstruction as a whole was executed in accordance with the recommendations of a special committee whose members were archaeologists, architects / surveyors or autodidacts focusing on the research of Masada.

Some technical details: The conservation and reconstruction works were made according to the best knowledge existed in those days (1966). It is important to note that the first stage of these works started even during the excavations and were combined with it, as in cases of anastilosys or places where it was obvious how the building or the wall looked like originally. Another consideration was to avoid of throwing away the fallen stones and later on collect it again for the reconstruction, but to use the stones in the spot, immediately. This, in order not to do double work in the difficult conditions of Masada.

First aid was given to delicate elements as frescoes, stucco and mosaics.

The use of Portland cement for mortar was prevailing, as an implementation of the most advanced knowledge then. Professional conservators from abroad were employed, side by side with local skillful people.

A young architect, the surveyor of the excavations, was in charge of the reconstruction works. There was a lot of good will then and dull knowledge in comparison to today.

The decision of marking the reconstruction by a black line, separating between the original wall and the reconstructed one, was adopted in those days.

Masada is declared as national park

In the early 1960's the planning process of preparing Masada as a national park began. The park area included 2300 dunams, within its boundaries were: the mountain, the Roman siege system and the close vicinity.
The first to deal with it was the P.M. office by the "Department of Landscaping and the Preservation of Historical Sites" and later on the site was "deposited" to the care of the National Parks Authority (NPA), that was founded by low in 1963.

In 1966 Masada was declared, by the Minister of Interior Affairs as a national park. In that year the Masada national park was opened to the public. The big extent of the archaeological excavations, the big quantity of the finds and the publicity given to the site's finds by the media, attracted many visitors to Masada, especially walkers who climbed up through the Snake Path.

In 1967 the park's area enlarged to 3400 dunams and it included a part of the Arad - Masada road, in the west part of the park.

Since 1967 there was an increase in tourism to Israel. The Jerusalem - Dead Sea road that was built in those days, made the accessibility to the site shorter and easier. The Hollywood production of the movie "Masada" that was screened in those days contributed worldwide publicity to the site. People from all over the world wanted to see the scene of the original events.

Masada became an important tourism site and the number of visitors increased gradually.

The cablecar

It was clear that something must be done in order to make it easier for visitors to get up to the mountain top. Some NPA officials thought that a cablecar is the preferred means to get up.

This idea had a great objection. The objection was expressed on the value background: the wish to leave the site of Masada as is - an isolated cliff - mountain in its natural wild desert landscape.

People of the National Parks Authority (NPA), which were in charge of the site, were arguing about this issue among themselves. Finally, when the decision to install a cablecar on the mountain slope was accepted in the NPA, a new "frontier" was opened - with the Nature Reserves Authority and other "Green" supporters and the public. There were people who said that they will not let the construction works be implemented and they will block it by their bodies.

In a conference to present Masada project to the public (April 1995), Israel Gil'ad, then director general of NPA, related to the cablecar issue as follows:

It's true that the development of Masada site derives partly from the myth and the movie, but a great deal of it must be attributed to a practical decision, a decision of policy. This decision - of building a cablecar in Masada - is a common decision to practical people - Mr. Yannai and the directors' board of NPA and a scholar, Prof. Yadin. It was not a scientific decision and it had nothing to do with the myth; It was a pure practical decision, which was preceded by many debates and discussions.

The cablecar began operating in 1972, and since then was recorded a much bigger increase of visits to the site.

During the years, the staff of the site kept on maintaining the site according to the current needs.

1995 - 2000 - The Masada project

Background

A major management decision was taken, in the first 1980's, to upgrade the site's facilities in order to adapt it to the needs of the increasing numbers of visitors and to improve the visit's experience towards the 21st century.

Masada National Park was developed in the 1960s according to criteria and tourism movement increase forecasts of those days. The increase in the numbers of visitors to Masada has exceeded all expectations. According to estimates of tourism economists' 1.25 million visitors are expected to visit the site in the year 2010, compared to 700,000 currently.

In the course of the years, the different infrastructures of the site were worn out and it couldn't function effectively anymore as a major tourist site adapted to modern tourism needs. The most crucial problem was the waiting lines to the cablecar, which in the peak hours people were waiting up to two hours in the unbearable heat.

The NPA got to the conclusion that the waiting lines must be canceled and that the site must be developed and be adapted to accommodate the influx of visitors and the needs of modern tourism.

The NPA, together with the Israeli government through the Ministry of Tourism, reached a decision for the need of development of Masada and the outcome is the Masada Project. The project is financed mainly by the government, with the hope of help from private funding too. Most of the funding was allocated for the modern construction. Yet, assistance and support are still required for carrying out the physical planning of the mountain top.

Before describing the project, it must be mentioned that two other plans were prepared in order to improve the visitors' circulation in the site. Architect Eldar Sharon prepared one plan. The other plan was prepared by

an American company (ITEC). Both plans were not meeting all the needs of the site.

Masada project

Overall planning of the project is based on a survey carried out among visitors to Masada, as well as specific research on general trends and characteristics of foreign tourism to Israel. The combined data pointed to the need for improvement both in the site's general tourist services and facilities and of its presentation to the public.

Several objectives have been defined for the development project:

- To foster and emphasize the values associated with the site as well as its historical and cultural significance. Much of it is done by conservation and restoration works.

- To enhance and enrich the visitors' experience through the emphasis on cultural and historical values of the site.

- To cope with the site's capability to handle so many visitors - 1.25 million visitors expected in the year 2010. The admittance capacity of the site is a problem common to the mountain foot as well as to the top with its "bottle necks".

- To improve the visitors services and facilities and especially create fluent flow of the visitors.

Value decisions were defined along with the project objectives, with the approach of leaving the appearance of the ancient remains as is.
Among those decisions:

- Not to locate modern construction on the top or within the Roman siege boundaries, and to hide, as possible, the new construction of being seen from the mountain. (It doesn't include, unfortunately, elements regarded essential, like the cablecar station, the cliff bridge or light pergolas).

- Not to let any commercial activity on the top.

A master plan made for the development program included a few planning components, among them: the eastern entrance complex, new cablecar,

landscape rehabilitation, archaeological excavations, and conservation and development of the mountain top.

For the long range there are long term programs related to the development of the western entrance complex, development of tracks on the mountain's slopes and night activity in Masada.

The first development program is a six year program (1995 - 2000), its cost is over 40 million dollars, and it includes:

1. A new cable car in order to cancel the waiting lines - the new cable car, which began operating since May 1999, has double capacity compared to the former one (80 people in a car).

From the upper station people are walking through the "cliff bridge" to the Snake Path Gate, the historical gate to Masada. The bridge enabled, for the first time, disabled people, including people in wheelchairs, to get to the mountain top.

The NPA held a public hearing in order to ask the public and Professionals what they think is the best way to enter the mountain top from the cablecar's upper station: by a bridge or by tunnel. The public, similarly to the planners, divided to two, more or less, even camps. The NPA took, finally, a decision of building a bridge, because it is reversible and it enables the walkers to see the landscape and enter Masada through its historical gate, the Snake Path Gate.

2. Modern entrance complex in the east side (Dead Sea side) with all the services needed for visitors, and it includes also concept design elements, as: a model of Masada and its environment, authentic finds display, photographs of Yadin's excavation expedition and a pre - show, telling the story of Masada.his complex is expected to be completed in September 2000.

3. Mountain top development - The mountain top is the location of the ancient remains, the scene of the historical events and the primary reason for visiting the place. The leading principle in the treatment of the mountain top is not to change the original array of the place and leave it as it was first found. This means: not to add buildings and not to allow any commercial activity there. The necessary additions are installed in a way that they are hidden within the antiquities.

The mountain top is the core of the visit to Masada, with its architectural and archaeological remains (together with the Roman siege system at its foot). Its development is adapted to groups who come with a guide (about 80% of the visitors) and to individuals.

In the first years of the project the efforts were focused in conservation and a bit of reconstruction. This was "pure" conservation and it enabled to gain time for the planning of the presentation. Simultaneously, a concept designs team worked on the way of presenting and interpreting the story of Masada to the public. It yielded the concept of an "open air museum" where the ancient monuments are "talking for themselves".

To materialize this concept - a visitors' track was planned, going among the conserved buildings, mostly in the northern part of the top. The buildings tell the historical story and emphasize the strong contrast between Herod's luxurious palaces and the Zealots miserable dwellings. Along the track there are explanation signs, models and theme centers to explain the site.

Needless to say that in addition to the thematic explanation works, development works are performed for the convenience of the public; among them - paths, handrails, drinking water and shade facilities, restrooms - all adapted for disabled people too. The different elements are built with a lot of care to the general look of the site and all are reversible (all the elements are being put on the surface).

The approved planning decisions are implemented partly by the site development and conservation team and partly by external contractors. The Masada conservation team, was trained especially according to the project administration decision before the beginning of the works by the Israel Antiquities Authority. These people became real experts of the conservation problems typical to Masada and enjoy the appreciation of all professionals in this field.
Yet another decision was to make a conservation survey in the beginning of the project in order to identify the critical needs. The conservators worked according to a master plan that combined the critical conservation needs with the main tourist plan aims.

The implementation of the mountain top plans is expected to end during the year 2001. A five-year continuance programme for the mountain top is prepared in these days according to the approved master-plan.

3.c. Form and Date of Most Recent Records of Site

The most recent records of Masada are consisting of several subjects, as follows:

Archaeology:

- Final reports of the excavations in Masada, carried out in 1963 - 1965. Until now six volumes have been published.
- Reports of the excavations in Masada, carried out in 1989 and 1995.

Conservation:

- Conservation carried out by the Israel Antiquities Authority, 1995.
- Conservation master-plan, prepared by NPA staff, 1995 - 1996.
- Conservation detailed documentation, plans and manuals, prepared by the Masada development and conservation team (on going plans - regarding different techniques, buildings and complexes).
- Building no. IX - survey and research - architect Tal Huberman, NPA, 1997
- Western Palace - Conservation of mosaic floors, finall report of intervention - 1994, Roberto Nardi, CCA, Roma.
- Conservation of the Bath-House, final report, 1996, Roberto Nardi, CCA, Roma.
- Restoration of mural paintings detached from Lishcat Hamefaked, Technical Report, 1999, Roberto Nardi, CCA, Roma.
- A conservation plan for the Northern Palace, Prof. John Ashurst, Resurgam Conservation Consultancy, 1997 + Part 2 and summary of pilot work, 1998.
- Proposals for emergency stabilisation works, the Northern Palace, Prof. John Ashurst, Resurgam, 1998.
- Proposals for the presentation and conservation of the Northern Palace, Prof. John Ashurst, Resurgam, 1999.

Others:

- Masada development project - master-plan book, Tik Projects, 1996.
- Mountain top concept design master plan book, Masada project team, 1996.
- Various development (architectural) elements performing plans, Masada landscape architect, ongoing, since 1995.
- Many popular (tourist) books.

3.d. Present state of conservation

Today there is a lot of awareness and concern of the state of conservation in Masada - the ancient remains, as well as, the rock of the mountain of Masada.

As mentioned already, in the 1960's, along with ending the archaeological excavations, and immediately after completing them, conservation and reconstruction works were carried out in order to preserve the remains just unearthed and as a part of preparation works of opening the site to the public.
Since then and until the beginning of Masada project, in 1995, conserving maintenance kept going on.

Within the framework of Masada project the conservation has been specially emphasized:

A site-conservation team established and was trained by the experts of the Israel Antiquities Authority. The team is operated by conservation-planning architects and is carrying out conservation in all levels and reconstruction works.

The conservation and reconstruction are an integral, considerably big, part of the master-plan and of the detailed working plans of the mountain top project.
Critical conservation problems are immediately being taken care of.

Conservation experts from all over the world are asked to treat the delicate or problematic issues in Masada. They worked in the Large Bath-house, the Northern Palace, the mosaics of the Western Palace and Lishcat Hamefaked. A bid for proposals of conserving the Villa 8 (the Commander's Residence) was published in last August and sent to experts outside Israel, to be carry out soon.

The stability of the rock of Masada was checked by geologists and rock engineers and was strengthened in few places (especially in the vicinity of the cablecar upper station and the cliff bridge).

After falling of part the rock under the foundations of the synagogue (which is combined in the casemate wall in its westnorthern part), due to the sewage liquids flowed there, the sewage system was replaced to a new one. The new system drains the liquids by a pipe to a purifying sewage

installation at the western foot of the mountain. The damaged rock was, of course, repaired.

A survey of the stability of the upper terrace rock in the Northern Palace is currently being prepared, with the request for implementing recommendations.

In the course of the last five years of Masada project, most of the buildings in the Northern Area have been treated. Among them, are:

The Snake Path Gate, Villa 8, Lishcat Hamefeked, Storerooms complex, the Large Bath-house, the Monumental Steps, the Synagogue, the Byzantine Church, parts of the lower and upper terraces of the Northern Palace, the Water Gate, parts of the casemate wall, the drainage system and delicate elements, especially plaster, mosaic floors and frescoes all over the top. There is still a lot to do.

The next in priority to be treated, are:

The lower and middle terraces of the Northern Palace, the Western Palace, the breaching point (and other parts of the casemate wall), delicate elements, all the buildings in the Southern Area, the Roman camps and the siege-wall, the cisterns and paths in the slopes of the mountain, the area between the Water Gate to room 1049 (the northwestern corner of the casemate wall), rehabilitation of the area in several places, including near the Roman camps in the east, after removing the structures of the old entrance complex to the site.

3.e. Policies and programmes related to presentation and promotion of the property

Presentation

In Masada, there are two main complexes of presentation:

a. Eastern entrance complex (a kind of visitors' center).

b. The mountain of Masada.

The different presentations are implemented within the framework of the development project done in Masada national park (1995 - 2000) by the Nature and Parks Authority with governmental financing.

Eastern entrance complex

The entrance complex includes the services needed for visitors as well as presentation elements. The presentation elements, are: a model of Masada and its environment, authentic finds display, photographs of Yadin's excavation expedition and a pre-show movie, telling the story of Masada.
This complex is expected to be completed in September 2000.
In a later phase, a museum - to exhibit the archaeological finds of Masada - will be added (the space for it is already existing).

The way up to the mountain

A new cablecar, built in order to cancel the waiting lines in the unbearable heat of Masada began operating since May 1999.
During the three minutes of traveling (each direction) the marvelous landscape and part of the Roman camps are easily being seen from the cablecar.

From the upper station the visitors are walking through the "cliff bridge" to the Snake Path Gate, the historical gate to enter Masada. The bridge enabled, for the first time, disabled people, including people in wheelchairs, to get to the mountain top.

The bridge was built with a "transparent" handrail in order to enable the visitors, including people sitting in wheelchairs, to see the exciting landscape of the Judean Desert and Dead Sea.

The mountain of Masada

The mountain top is the location of the ancient remains, the scene of the historical events and the primary reason for visiting the place. It is the core of the visit to Masada, with its architectural and archaeological remains together with the water cisterns and paths on its slopes and the Roman siege system at its foot, easily watched from the top.

A concept design team worked - in the framework of the developing project - on the way of presenting and interpreting the story of Masada to the public. It yielded the concept of an "open air museum", where the ancient monuments are "talking for themselves".

To materialize this concept - a visitors' track was planned, going among the conserved buildings, mostly in the northern part of the top. The buildings

tell the historical story and emphasize the strong contrast between Herod's luxurious palaces and the Zealots miserable dwellings.

Along the track there are explanation signs and models (and in planning - theme centers) to explain the site. The new presentation means are made of high quality materials, as an open air museum deserves.

The visit in the mountain top is followed by a brochure, free of charge, with the relevant explanations. A new brochure, which will include the new concept of presenting the story of Masada, is under work right now.

Audio system (Easy Guide) with explanations of the monuments on the mountain top is available at the mountain top for a low charge. Needless to say that in addition to the thematic explanation works, development elements, like paths, handrails, drinking water and shade facilities and restrooms, were added for the convenience to the public - all adapted for disabled people too.

The different elements are built with a lot of care to the general look of the site and all are reversible. The leading principle is not to change the original array of the place.

Masada sound and light show

The show is performed at the foot of Masada mountain in its west side, and can be reached via Arad - Masada road. The show depicts the history of Masada during the 1st century AD, from the construction of Herod's palace to the prolonged siege and the Roman conquest.

The spectators sit in an open-air theater, facing the Roman ramp. The show is presented in Hebrew, and headphones for simultaneous translation are available in English, German, French, Russian and Spanish.

For the long run there are long term programs related to the development of the western entrance complex (which is planned to serve as a didactic educational center) and the development of tracks in the mountain's slopes.

Promotion

Among the means to promote the site, are:

- Periodical advertising in the Israeli and foreign media regarding various activities done in Masada.

- Permanent advertising to tourist / travel agencies - in Israel and abroad.

- Selling printed material regarding Masada in the Israeli national parks and in shops and information centers. (In addition to the brochures given without charge).

- Holding conferences / public hearings from time to time.

MANAGEMENT:

4.a. Ownership

The lands of the proposed site and buffers are owned by the State of Israel.

4.b. Legal status

The proposed site is a national park (Masada National Park) according to the "National Parks, Nature Reserves, Memorial Sites and National Sites Law, 1998". And is also protected under the "Antiquities Law, 1978".

4.c. Protective measures and means for implementing them

The site operates as a national park and as an antiquity site according to the laws. In that respect, no change or development that can change the purpose of the site are aloud. The proposed site is surrounded by a large buffer area, the Judean Desert Nature Reserve, that is protected by the same law of 1998, and an open area belt between the site and the Dead Sea, protected as an open and agriculture land in a local masterplan approved under the Planning and Building Law of 1965. Therefore, full protection is granted to the site and its surroundings.

The headquarters of the Authority (NPA) holds planning committees which ratify and supervises the implementation of the development plans. Independent experts are invited to these committees. The Authority holds public hearings to issues of outstanding national and international interest. The Antiquities Authority holds an independent, academic, conservation committee who checks and discusses conservation and reconstruction plans proposed by the site or project members.

4.d. Agency with management authority

Under the National Parks Law, the Nature and Parks Protection Authority is the legal corporation that is responsible for the management of national parks and nature reserves, as well as for declaration and law enforcement.

The proposed site is therefore fully managed by the Authority according to the law, and so most of the buffer. The belt of agriculture and open land in the buffer is under the responsibility of the regional council.

4.e. Level at which management is exercised

Management is exercised from the lowest level possible. The staff running the national park is part of the authority and under its management. The name of the Director of Masada National Park is Mr. Albert Tubul, telephone number: 972 - 7- 6584117 or 972 – 7 - 6584374, fax no.:972 - 7-6584464.

The nature reserves and buffers surrounding the historical site of Masada are patrolled regularly by regional nature reserves and open areas rangers. The eastern belt surrounding Masada is patrolled from En Gedi oasis, 20 kilometers to the north.

The western belt surrounding Masada is patrolled from the town of Arad, 25 kilometers to the west. The site and the surrounding reserves are under supervision of the south district of the Authority.

All development plans and programs, as well as policy issues, are discussed and approved by the Authority headquarters in Jerusalem.

4.f. Agreed plans related to property (e.g., regional, local plan, conservation plan, tourism development plan)

There are a number of specific plans and declarations that pertain specifically to the site and surrounding reserves:

The declaration of Masada National Park:
Number: D/483
Date: 10 February 1966

The approval of the Judean Desert Nature Reserve:
Number: 100/02/10
Date: 21 July 1983

Regional Master plan according to the Building and Planning law of 1965:
Number: TMM 4-14
Date: 30 March 1999

4.g. Sources and levels of finance

Financing for the major part is allocated by the Nature and Park Authority in order to cover the general and routine maintenance and continued operation costs. Over the last five years the Ministry of Tourism has

contributed considerably to enhancing the visitor facilities, infrastructure and partial restoration and preservation of selected monuments on the mountain. However, this fund has been exhausted and an attempt to locate alternative financing is underway in order to continue the conservation and preservation of existing archaeological remains.

4.h. Sources of experties and training in conservation and Management techniques

Training of Masada National Park Staff

Managers of the Site:

- Site manager course: Encompasses all as parts of site management including archaeology, history, geology and nature, Beit Berl institute, 700 hours during 3 year period.
- Advertisement and Marketing course by the Ministries of Tourism and Labour – 1 day a week – 1-year period.

Staff of the Site:

- Training sessions by outside experts and institutes to all staff according to their roles: general maintenance, cable-car operation and maintenance, visitors service control and behavior, marketing and tourism support, sound and light show operation and maintenance.
- A year-round – 1-3 days symposium on varying subjects: tourism, archaeology, history, nature and geology, work and public safety.

Conservators staff of the Site:

- 1995 – Full conservation course during 6 months by Ministry of Labour and Antiquities Authority.
- A year-round training in specific conservation skills by local and foreign experts.

4.i. Visitor facilities and statistics

The Visitor facilities available in Masada national park, are:

- A cable car enabling the visitors to reach the mountain top, including the necessary arrangements to facilitate disabled people.

- A visitors center, is near its completion, on the eastern entrance complex with parking places, resteooms, food and beverage services, information etc. for a yearly visitation of 650,000 people from the eastern side. At the place are presentation means, like a model of Masada and its surroundings, finds display and a pre-show movie.

- Parking facilities: underground parking for 140 vehicles under 2.40 meter height. Aboveground parking for 80 tour buses and a over flow of private vehicles.

- A sound and light show, on the western side, is given at night. This has been proved as a very capable educational tool for school children and has been operated on a permanent basis for 12 years. Yearly visitation of 60,000 people. Simultaneous translation with earphones is available in the seven languages for the sound and light show.

- A youth hostel is located on the eastern side with accommodations for 110 people.

- A camp site is available on the western side, able to accommodate 250-300 campers.

- An audio guide system is available for individuals not accompanied by a professional guide.

- A brochure free of charge is available in seven languages.

4.j. Site management plan and statement of objectives

Since the unification of the Nature Reserves Authority with the National Parks Authority in 1998, an outline of a management plan for heritage sites, which are surrounded by nature reserves, was formulated with the aid of the Getty Conservation Institute. As a result of the 1998 unification and with the near completion of the large-scale development project at Masada National Park, an updated management plan is being written. The guidelines of the new management plan for Masada are, as follows:

Unified Management Plan for Masada National Park - 2000.

1. Background information of Masada:

1.1 Geographical location and size of site: coordinates, type of terrain, legal area of site.
1.2 History of Masada
- History of living layers, re-use, destruction, abandonment.
- Function type of site.
- Change of function during settlemet periods.
- History of present state of excavations.

1.3 Topography, climate, geology, biology.
- Surrounding geology.
- Location of site and surrounding topography.
- General climate of the area.
- Rainfall, water-flow, water table.

1.4 General building construction of antiquities on-site.
- Materials, type, origin and quality.
- Techniques of building.
- Architectural details: structures, styles, ornamentation.
- Quality of materials: stockpiles for re-use.

1.5 Details of building construction antiquities.
- Composition of materials.
- Type of surfaces and finishes.
- Laboratory analysis.

2. Assessments significance condition management.
2.1 Significant assessment.
2.2 Heritage and natural values of Masada.
- Site in regard to historical periods and records.
- Site and surrounding vegetation, wildlife and landscape.

3. Condition assessment of Masada:
3.1 Present state of Masada.
3.2 State of conservation:
- State of materials
- Types of decay (superficial, in depth, constructive).
- Causes of decay.
- Missing parts.
- Previous interventions.
- Risks: should interventions not occur.

4. Management assessment of Masada:
4.1 Statutory status of Masada.
- Date and stages of declaration.
- Present and projected status.
- Relevant detail.

4.2 Surrounding buffer zones.
- Type, date and state of decleration.
- Present and projected status.
- Legal protection.
- Relevant details.

4.3 Projected general state of Masada.

4.4 Ecosystem between heritage, nature and landscape - research of experts.

4.5 Influence of development and visitors on ecosystem of site.

4.6 Possible interaction and functions of regional inhabitants.
- Roads and paths.
- Grazing, agriculture, forest, water sources.
- Quarry, military, scientific survey and research.

4.7 Connections to surrounding region.
- Nearby towns and villages.
- Other archaeological parks and nature reserves.
- Tourist facilities and attractions.

4.8 Economic and social potential.
- Regional development plans.
- Tourist and vacation uses.
- Education uses.
- Statutory up-dates.

5. Conservation and management policy of Masada:

5.1 Projection of structure and function of the site in accord with development plans and national policies.

6. Strategies for conservation and management at Masada.

6.1 Need of conservation.
- Emergency actions.
- Documentation (present state, past photos, records, maps).
- biological control.
- Consolidation, surface treatments, protection cleaning.
- Addition of missing parts.
- Covering of elements.
- Dismantling and rebuilding.
- Justification of needed intervention.
- Initial maintenance plan.
- General recommendations.

6.2 Projected architectural states.
- Search for old photos and written accounts.
- Water management.
- Archaeological excavations.

- Conservation works and maintenance.
- Public movement on site.
- Need for reconstruction for illustration.

6.3 Projected development of the site.

- Fences and entry points.
- Approaching paths, paths and tracks in park.
- Change of parks borders.
- Signs and information maps.
- Self guided visiting tours.
- Visitors center. Information stops.
- Various facilities and installations.
- Parking facilities.
- Observation points.
- Garbage containers and management.
- Research, conservation, documentation and archive facilities.
- Manpower: maintenance and visitor control.

7. Function of the management plan:

7.1 Inclusive program for Masada.

- Funding sources.
- Stages and timetables.
- Potentials regarding goals.
- Evaluation of advantages and disadvantages of programs.
- Justification for selected plan and management.
- Relevant surveys and researches.
- Timetable for updating and re-evaluating all stages of inclusive program.

8. Appendix

- Statutory maps, surveys, old photos and documents, current maps.

4.k. Staffing levels (professional, technical, maintenance)

The site operates with the following personnel: director, deputy director, sound and light manager, maintenance manager, preservation and conservation manager.

A detailed list of the site' s staff – tasks and numbers is, as follows:

Accounting – 2
Cablecar operation – 5
Cashiers – 4
Maintenance – 5

Sound and light – 3
Sanitation – 5
Security – 5
Preservation conservation – 15
Supervision – 3
First aid – 2
Secretary – 1

Statement of objectives for site management:

- To manage, report and document all aspects of Masada national park and its heritage.
- To preserve and protect all archaeological remains for present and future generations.
- To maintain a safe and friendly atmosphere.
- To promote environmental awareness.
- To enhance guest experience and advanced educational opportunities.

5. FACTORS AFFECTING THE SITE

5.a+b. Development and environmental pressures:

Masada National Park is fairly isolated on the edge of the Judean Desert. It is surrounded on the north, west and south sides by Nature Reserves which serve to protect Masada against any industrial or commercial initiative. On the eastern section of the buffer exists a stretch of coast that is controlled by the Dead Sea Works.
This area of coast consists of a pumping station that transfers water from the northern portion of the sea to the evaporation pools in the south. The water channel is about 12 kms long. The pumping station is 4.5 kms from the mountain and poses a relativly minor impact on the landscape.

A plan to construct a hotel and recreation area 11 kms. north on the coast has been shelved due to environmentalists pressures. Much pressure has been made to commercialize Masada in past years. The authority did not give-in and made a strong policy against commercializing efforts. On the mountain top there are no stores, food kiosks or picnic facilities. Visitors are not allowed to stay over-night on the mountain top.

The new development project on the east side of Masada, soon to be completed, encompasses all the souvenirs and foodstores, visitors' center, museum, parking and other facilities in one building which leads the visitor via a pre-show to the cable-car station. The majority of the building is not visible from the mountain-top.

The existing youth hostel will be removed close to a new place, close to the main building. The buses stay in a distant parking lot and are summoned by radio.

All of the existing buildings and facilities, including the old cabelcar station will be dismantled and the land will be rehabilitated to its original, natural state.
On the west side, the cargo cable-car which operated for more than 20 years over the Roman-siege-ramp and the breaching point, is being removed further south. By this, an important part of the visible history of Masada will soon be conserved and will be much clearer to understand by the visitors.

5.c. Natural disasters and preparedness:

Masada is located on the western ledge of the Syrian-African Rift Valley, an area prone to earthquakes. Growing concern lead to geological surveys ordered by the Nature and Park Authority.These surveys showed clearly that during earthquakes areas around the perimeter of the site and especially the northern palace could be severely damaged.

The Nature and Park Authority initiated a project of rock anchoring on the north eastern cliff and continued monitoring. The project has shown excellent results in stabilizing this portion of the cliff.

The Authority intends to continue this procedure on the northern palace as soon as financing will become available.

5.d. Visitor/Tourism pressures:

The human carrying capacity at Masada has been researched and studied as part of the pre-planning of the new development project. The results have been implemented during the past 5 years. This was the first study of its kind in Israel.
The carrying capacity at Masada can be measured by two criteria:

The physical capacity: the decay of the site.

- The amount of "fragile" antiquities on-site which are prone to damage by visitors.
- The rate of deterioration of the delicate elements (decay index and required maintenance).
- The number of visitors (maximum) which will create enough pressure to disturb the delicate equilibrium – decay vs. maintenance.

The human capacity: the quality of the visit.

- Amount of visitors, today and future projection, which the site can bear at one time.
- For example, if 2000 visitors still enjoy their visit to Masada, will the visitor 2001 damage the quality of the visit by over-crowding, too much noise, too-long waiting-lines.

The research includes:

- Detailed mapping of visitors movement and behavior on the mountain-top.

- Number of visitors in each complex, rooms of interest and bottle-neck zones all in relation to general number of visitor to Masada.
- Interviewing of the visitors on peak visiting days as to crowding on the mountain-top.
- Interviewing and questioning of tour guides on several of these aspects.
- Attempt to understand the visitors' expectation from Masada as clients of the site and not a disturbance.

As mentioned, the results of this research led to many, important, operational solutions, some cardinal and some minimal, some evident and some hidden. The implementation of these solutions, brought upon more thorough, legible, enjoyable, efficient, and safer visit.

The nature reserves surrounding the mountain's vicinity are largely unvisited. They are comprised of desert landscape without oases and picnic facilities and nature highlights. Thus there is almost no damage done to the desert scenery seen in a panoramic view from the mountain top.

5.e. Number of inhabitants within the site:

The nearest inhabitants to Masada Natural Park reside in En Gedi 18 kms. to north, on the coast of the Dead Sea.

The town of Arad is located 22 kms. to west of Masada. Arad has a population of 25,000 people.

A hotel complex is located in the En Bokek area, a distance of about 12 kms. to south, on the coast .of the Dead Sea.

On and around the site there are no permanent residents with the exception of the manger of the youth hostel and his family.

6. MONITORING:

6.a. The Key indicators for Measuring the State of Conservation at Masada National Park:

Number of people engaged in conservation works and site maintenance:
15 trained conservators aided by 20 unskilled workers are carrying out conservation, reconstruction and development works according to approved plans as part of the major conservation program on the mountain top of Masada.

Number of days in a year for each subject of conservation and maintenance:

- The project is nearing the completion of its fifth and final year. When the end of the project will be declared, only 5-7 conservators will remain on regular basis on Masada. Work is conducted year- round.
- The work ratio for the past 5 years has been: 4,200-4,300 days per year for conservation reconstruction and development. 200-300 days per year for regular maintenance of delicate architectural remains.

The projected work ratio after the major project:

- 700-800 days per year – conservation of walls, plasters, floors, general.
- 700-800 days per year – maintenance conservation.

Yearly budget invested in conservation at Masada:

- In the past 5 years:
  500,000 $US per year for salaries, materials + tools, planners and experts.
- In the year 2001:
  200,000 $US for 5-7 person crew for on going conservation and maintenance program.
  100,000 $US for finishing large-scale conservation projects started in 5 year program.
- After the year 2001:
  200,000 $US per year for 5-7 persons to carry-on conservation and maintenance program.

Efforts to raise additional private and public funds to continue and initiate conservation works on the palaces, surrounding casemate wall and other parts to be treated within the ancient remains.

Number of inspections of each complex by professional conservator per year:

- In the past 5 years a professional conservator is heading the conservation project. 170-200 days per year.
- In the future – 50-75 days per year for inspecting conservation state and directing delicate works.
-

Nature reseves surrounding Masada:

- Weekly patrols by the regional nature and open areas ranger. An average of 50-60 patrols of the reserves per year.

6.b. Administrative Arrangements for Monitoring:

All conservation works carried out at Masada since 1995 are directly supervised by a senior conservator on-site and strictly comply with all international standards and charters for conservation of sites.

Monitoring of all ruins on site is done on a regular basis by the conservation team (inspection and cleaning) as detailed by an enclosed table. All finds are recorded. Emergency situations are thus greatly reduced and if appear, receive the highest priority of correct interventions.

All plans of interventions and final reports are coordinated with the Antiquities Authority and copies of reports are stored in archives on and off site.

6.c. Results of Previous Reporting Exercises.

From 1963-65 excavations until 1995:

There are the following reports:
Final report (6 volumes till now) of the excavations (Masada III by Prop. Ehud Nezer – The buildings, stratigraphy and architecture – is in constant use).
The questioning of all of the chief of development and conservation works in the 60's, 70's and 80's, including written reports of foreign experts and the photograph archive of Masada at the Hebrew University in Jerusalem.
These sources revealed valuable information on the nature, location, extent, technology and materials of all intervention made on the maintenance during the years when conservation as a profession was practiced only by foreign experts.

Since 1995, preventive measures and direct conservation were documented and reported. This brought forth the recognition of the Authority's headquarters in the need of on-going maintenance. Previous reports from before and after 1995 helped to form conservation maintenance charts for each complex thus allowing a visual and numeric follow-up to the conservation works. The use of maintenance charts due to previous and on-going monitoring and reporting have formed a budgeted maintenance program and not just a single, technical operation. Thus conservation maintenance at Masada is part of the history of the site offering another informational tool for the study, understanding and training of and at Masada in present and future times.

AN EXAMPLE OF MAINTENANCE PLAN AND ACTUAL MONITORING FOR A COMPLEX:

Structure	*Operations*	*Suggested Schedule:*	*Actual schedule*	*Suggested Time (in hours)*	*Actual Time (in hours)*	*Data*	*Notes*
Roof	- dry cleaning - control of the state of the mortar of the setting bed of the stones - control of presence of cracks - cleaning of the water dreinage exits - eventual replacement of mortar	every 2 weeks every 3 month every 3 month every 3 month every 6 month		4 hours 1 hour 1/2 hour 1 hour 8 hours			
Walls	- dry cleaning - control of the mortars - control of presence of cracks - eventual replacement of mortar	every 3 month every 3 month every 3 month every 6 month		12 hours 4 hours 2 hours 8 hours			Only were necessary (guano, dust, vandalism)
Mosaic	- dry cleaning - humid cleaning with sponges (semi-dry) - cleaning of the water dreinage channel - control of the state of the mortar of the setting bed of the tesserae - control of presence of cristallized salts, plants and micro-organisms, - eventual replacement of mortar	every 2 weeks every 2 month every 2 month every 3 month every 3 month every 6 month		2 hours 4 hour 1/2 hour 1 hour 2 hours 8 hours			
Courtyard	- dry cleaning - control of the state of the mortar of the setting bed of the stones - eventual replacement of mortar	every weeks every month every 6 month		4 hours 1 hour 8 hours			

Structure	*Operations*	*Suggested Schedule:*	*Actual schedule*	*Suggested Time (in hours)*	*Actual Time (in hours)*	*Data*	*Notes*
Pools	- dry cleaning	every 2 weeks		8 hours			
	- control of the state of the mortar	every 3 month		2 hours			
	- humid cleaning with sponges (semi-dry)	after rain		4 hours			
	- control of presence of cracks, salt efflorescences, plants, micro-organisms	every 3 month		1 hour			
	- eventual replacement of mortar	every year		8 hours			
Wall paintings in situ	- dry cleaning	every month		2 hours			
	- control of presence of cracks, salt efflorescences, plants, micro-organisms	every 3 month		1 hour			
	- control of the painted layer (flakings)	every 3 month		1 hour			
Wall paintings on panels	- dry cleaning	every month		4 hours			
	- control of the painted layer (flakings)	every 3 month		2 hour			
	- control of the edges in mortar	every 3 month		1 hour			
Plasters	- dry cleaning	every 2 month		8 hours			
	- control of the state of the mortar	every 3 month		2 hours			
	- control of presence of cracks, salt efflorescences, plants, micro-organisms	every 3 month		4 hours			
	- eventual replacement of mortar	every year		8 hours			

7. DOCUMENTATION

7.a. Photographs, slides, film/video

Part of the above-mentioned materials is enclosed hereby.

7.b. Copies of property management plans and extracts of other plans relevant to the property

The site's management office has operation manual in accordance with the standards of the Nature and Parks Authority for the site's management (in Hebrew).

Other different operation manuals are available for the various subjects being taken care by the site's management (like: the cablecar, the sewage system, the sound and light show etc.) – most of which are in Hebrew.

The mountain top crew has manuals for the current maintenance of the place, including conservation.

7.c. Bibliography

Hereby, enclosed a bibliography list regarding Masada.

7.d. Addresses where inventory records and archives are held

- Material with regard to the archeological excavations – The Hebrew University of Jerusalem, Institute of Archeology, Prof. Ehud Netzer.

- Development masterplans and plans for implementation – The Nature and Parks Authority.

- Conservation programme and conserving plans – The development and conservation team of the mountain top, Masada.

8. SIGNATURE ON BEHALF OF THE STATE PARTY

Deputy Legal Adviser,
Ministry of Foreign Affairs
Jerusalem, 26.10.2000

Nomination of Masada, Israel, as a mixed heritage and nature site

A report presented to the
Israel Committee for UNESCO and the World Heritage Committee

Masada: geology and interrelated heritage

* * *

Emanuel Mazor
Department of Environmental Sciences and Energy Research
and the
Sussman Family Center for the study of Environmental Sciences
Weizmann Institute of Science

January 2001

Geology of Masada: a perfect horst on the rim of a moving tectonic plate

The site of Masada meets the following criteria for inclusion in the World Heritage list as an asset of Nature:

Criterion I - Outstanding examples representing major stages of earth's history, including on-going processes in the development of land forms or significant geomorphic or physiographic features

Touching the edge of a moving tectonic plate. Plate tectonics is a cardinal topic of geology, and seismic monitoring and submarine mapping have revealed that the plates move. Can we have a look at the margin of a moving plate of earth's crust? Rarely. Plate tectonics phenomena encompass large parts of the globe, but the evidence is often concealed by soil and vegetation, overcomplicated by folding and faulting, or altogether covered by the oceans (Fig. 1). Mount Masada is a rare exception - it is a prominent example of a steep fault escarpment facing an outstanding example of a rift valley (graben). Geologically it is neat - no complicating secondary folds or tiding, it is a young feature and, hence, little eroded, and it is located within a colorful rocky desert environment.

The Dead Sea Rift Valley. The Dead Sea Rift Valley is a narrow strip of earth, between two plates that move along a strike slip, subsiding faster than it is filled by erosion products, thus forming an elongated valley (Fig. 2).

Faulted margins of the Sinai-Israel plate. The margins of crustal plates are often distinguished by sets of parallel faults, and these are exceptionally well exposed at Masada (Fig. 3).

A three dimensional model of Nature. An aerial view of Mt. Masada (Fig. 4) is self explanatory - a horst, that was sliced by canyons, that are constantly deepened as a result of the rapid subsidence of the Dead Sea Rift Valley (Figs. 5, 6).

A geological enigma. A local geological anecdote are rounded structures, a few tens-of-meters in diameter, and 1-3 meters deep, found only at the top of the Turonian plateaus around Masada (Fig. 7). Their mode of formation has not been solved, and in the meantime they are nicknamed "the geological dishes". Remains of a Roman army observation post, south of Mt. Masada, is within such a dish, applying it as a protecting rampart.

Fig. 1:
Ocean floors and continental plates. The rift stretches beneath the sea from the Mid Atlantic Ridge to the Indian Ocean, the Red Sea and the Gulf of Eilat, and is exposed on the land as the Dead Sea Rift Valley. The horst of Masada is an outstanding expression of this global structural element.

Fig. 2 The Dead Sea Rift Valley seen on a relief map (from J. K. Hall).

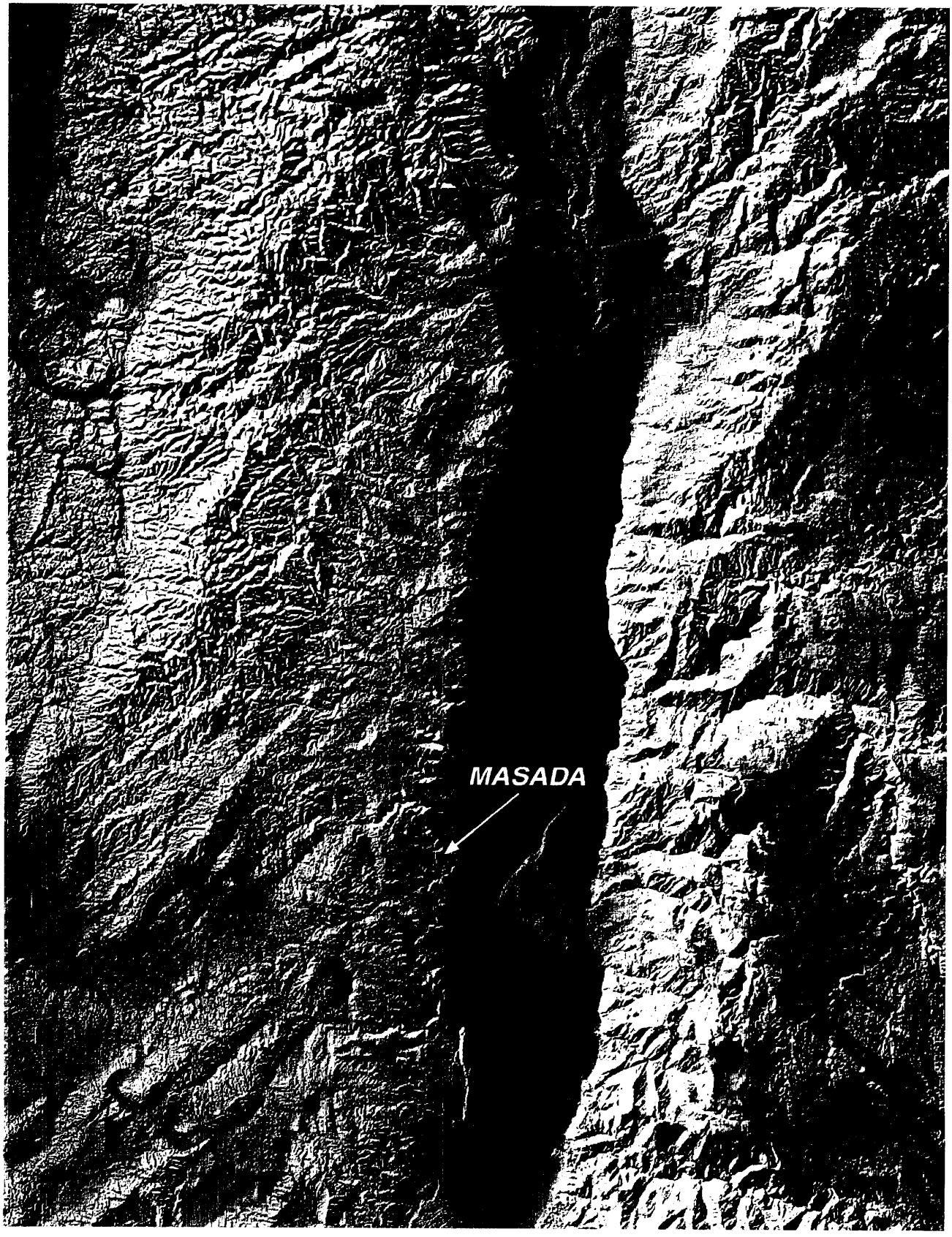


Fig. 3a:

Geology of Masada (from the Geological Map of Israel 1:200.000; sheet 3. Geological Survey of Israel, 1998).

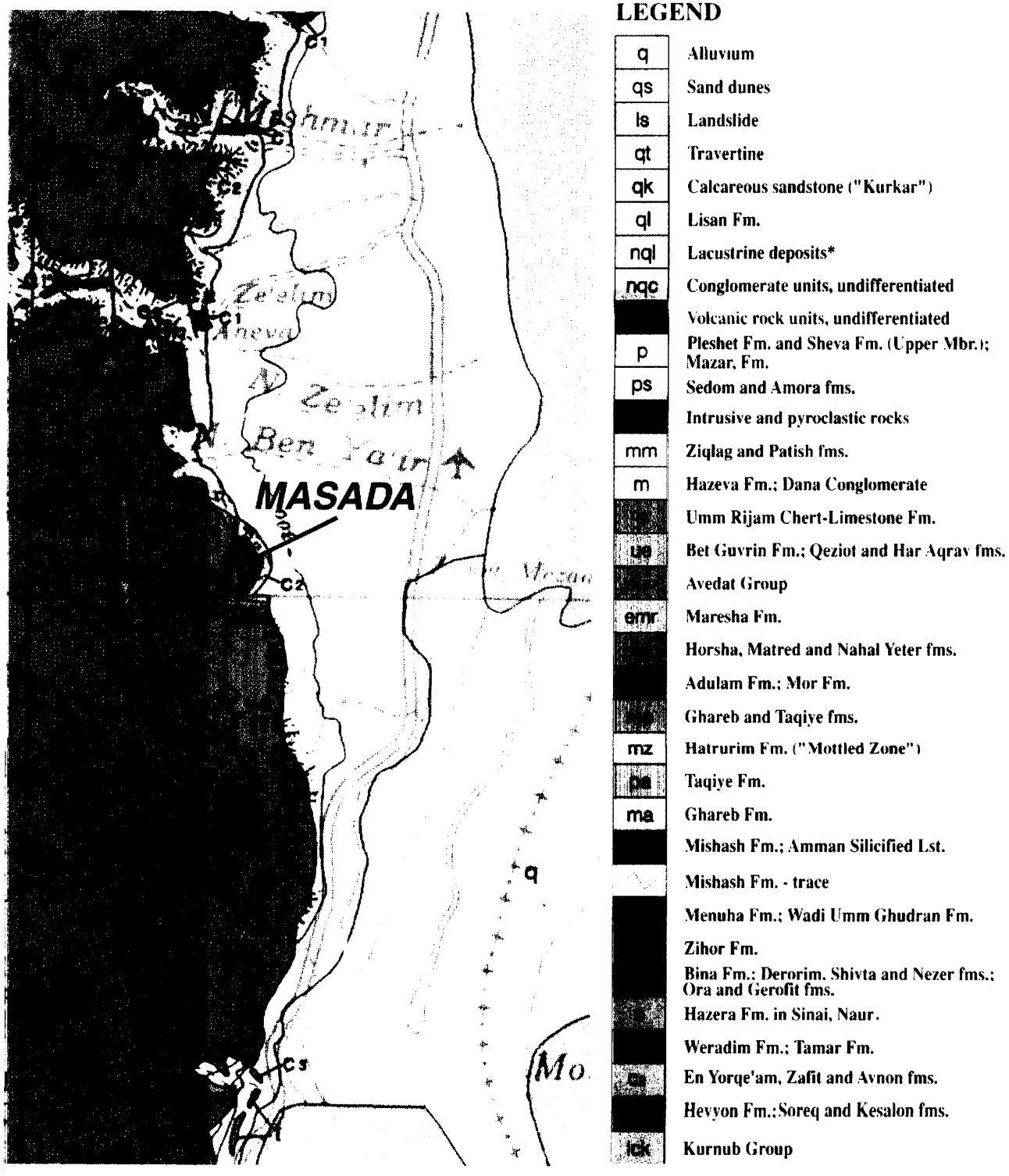


Fig. 3b:
The lithological legend

LEGEND

Alluvium (Gravel, sand, silt, loess) - *Quaternary*

Sand dunes - *Quaternary*

Landslide - *Quaternary*

Travertine - *Quaternary*

Calcareous sandstone ("Kurkar") - *Quaternary*

Lisan Fm. (Aragonite varves, sandstone, gravel, conglomerate, mudstone, gypsum; 45 m) - *Quaternary*

Lacustrine deposits* (Marl, sandstone, gravel) - *Pliocene-Quaternary*

Conglomerate units, undifferentiated - *Neogene-Quaternary*

Volcanic rock units, undifferentiated - *Neogene-Quaternary*

Pleshet Fm. and Sheva Fm. (Upper Mbr.); Mazar, Fm. (Conglomerate, sandstone, marl; 25 m) - *Pliocene*

Sedom and Amora fms. (Salt, anhydrite, gypsum, dolostone, marl, sandstone, mudstone, conglomerate; +2300 m) - *Pliocene*

Intrusive and pyroclastic rocks (Basalt) - *Miocene*

Ziqlag and Patish fms. (Limestone; 42 m) - *Miocene*

Hazeva Fm.; Dana Conglomerate* (Sandstone, mudstone, conglomerate, limestone, marl; +2000 m) - *Miocene*

Umm Rijam Chert-Limestone Fm.* - *Eocene*

Bet Guvrin Fm.; Qeziot and Har Aqrav fms. (Chalk, marl, limestone; 200 m) - *Upper Eocene*

Avedat Group (Chalk, limestone, marl; 314 m) - *Lower-Middle Eocene*

Maresha Fm. (Chalk; 100 m) - *Middle Eocene*

Nizzana, Horsha, Matred and Nahal Yeter fms. (Limestone, chalk, chert; 215 m) - *Lower-Middle Eocene*

Adulam Fm.; Mor Fm. (Chalk, chert; 150 m) - *Lower-Middle Eocene*

Ghareb and Taqiye fms.; Muwaqqar Chalk-Marl Fm.* (Chalk, marl, clay) - *Maastrichtian-Paleocene*

Hatrurim Fm. ("Mottled Zone") - Metamorphosed *Maastrichtian to Miocene* rocks

Taqiye Fm. (Marl, clay, chalk; 63 m) - *Paleocene*

Ghareb Fm. (Chalk; 80 m) - *Maastrichtian*

Mishash Fm.; Amman Silicified Lst. and Al Hisa Phosphorite fms.* (Chert, chalk, phosphorite, porcelanite, marl, limestone, dolostone, conglomerate; 126 m) - *Campanian*

Mishash Fm. - trace (Chert) - *Campanian*

Menuha Fm.; Wadi Umm Ghudran Fm.* (Chalk, marl, chert, sandstone; 82 m) - *Coniacian-Campanian*

Zihor Fm. (Limestone, dolostone, marl; 52) - *Coniacian*

Bina Fm.; Derorim, Shivta and Nezer fms.; Ora and Gerofit fms.; Shu'ayb and Wadi as Sir fms.* (Limestone, dolostone, marl, conglomerate, sandstone; 172 m) - *Turonian*

Hazera Fm. in Sinai, Naur, Fuheis and Hummar fms.* (Limestone, dolostone, chalk, marl) - *Albian-Cenomanian*

Weradim Fm.; Tamar Fm. (Dolostone, limestone; 58 m) - *Cenomanian*

En Yorqe'am, Zafit and Avnon fms.; Bet Meir, Moza, Amminadav and Kefar Shaul fms. (Limestone, dolostone, marl, chalk, chert; 210 m) - *Cenomanian*

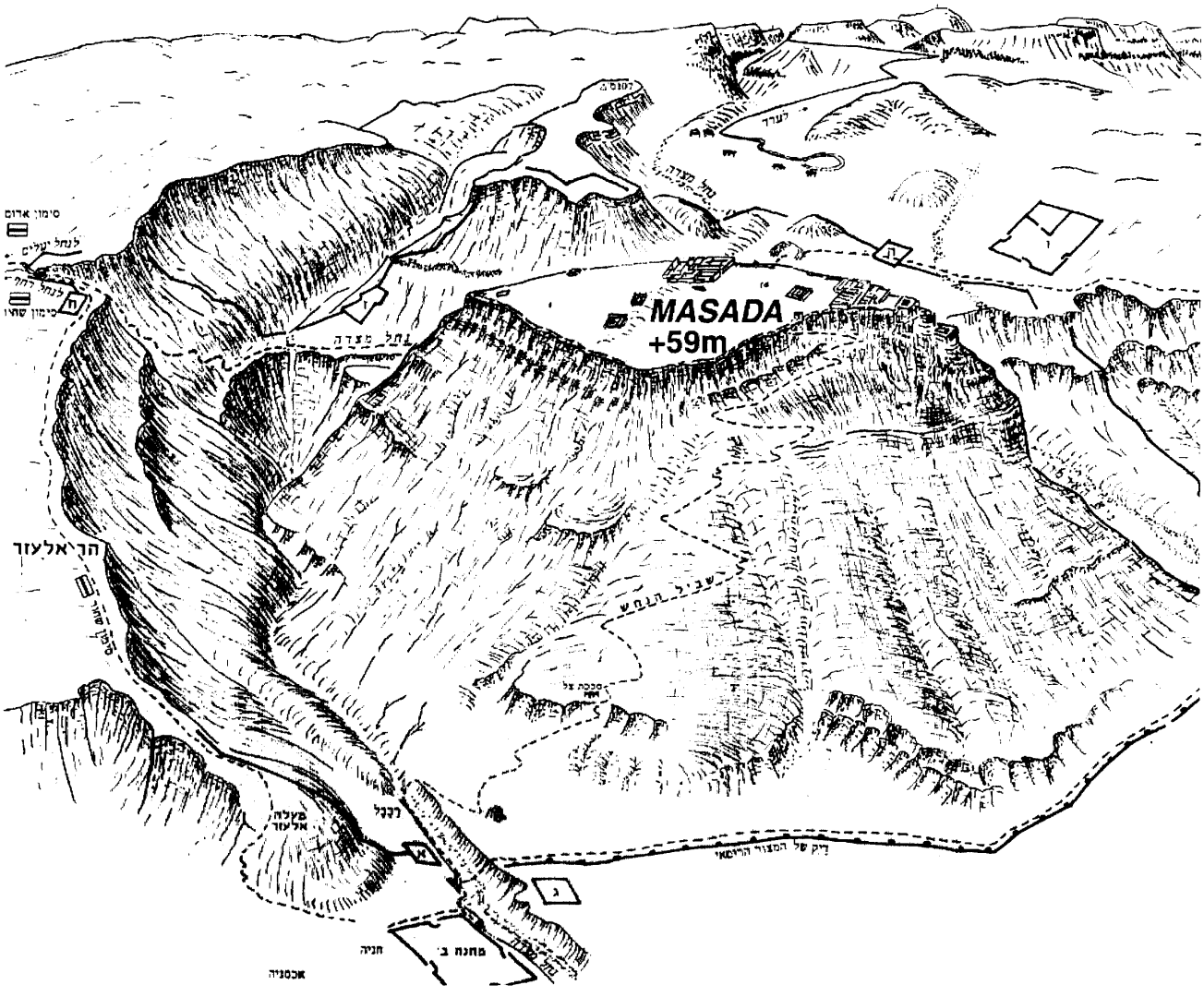
Hevyon Fm.; Giv'at Ye'arim, Soreq and Kesalon fms. (Limestone, dolostone, marl, chalk, chert; 160 m) - *Albian-Cenomanian*

Kurnub Group (Sandstone, pebbly sandstone, marl, mudstone, clay, limestone, dolostone, conglomerate; 408 m) - *Lower Cretaceous*

Fig. 4:
Oblique air photo of the Masada horst, looking southward (Airophan, Jerusalem). Mt. Masada is bound on the east by a N-S fault escarpment, that forms the margin the Dead Sea Valley, which is in turn, a segment of the long Rift Valley. To the west is Mt. Masada bound by another N-S fault; on the south and north it is demarcated by steep dry falls and canyons of river beds plunging from the Judea Desert plateau into the deep Rift Valley. Thus, structural geology and active geomorpholoy processes shaped this outstandingly isolated and lofty mount. This was a superb site to built a stronghold, and it is a superb illustration of the geological phenomenon of a horst, at the boundary of a moving plate of the crust.

Fig. 5:

The block of Masada viewed from the east (following an isometric drawing by Sofer). The isolated block offered shelter to generations of rulers and, finally, freedom fighters that escaped from the army of the mighty Roman Empire. The Judea Desert, seen at the background, was a safe buffer zone from the west.



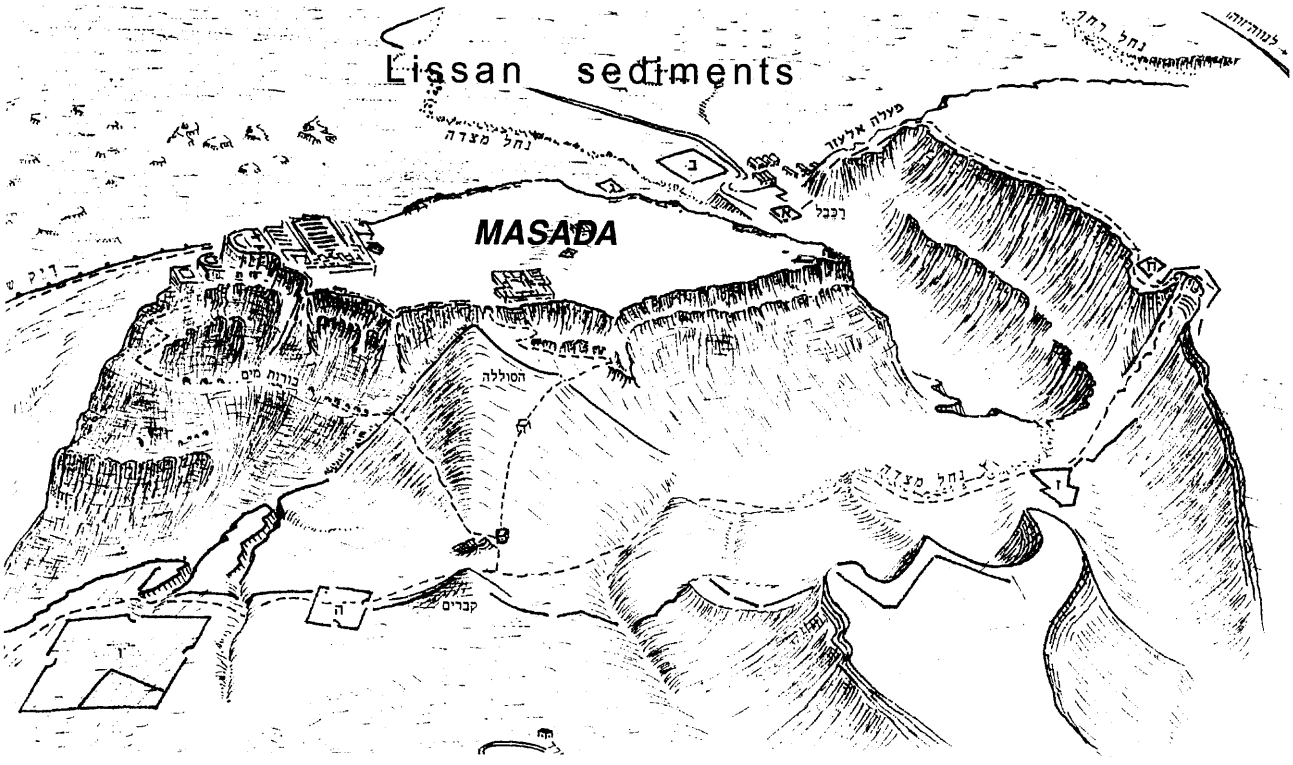


Fig. 6:
Mount Masada viewed from the west (following an isometric drawing by Sofer). The desolate bedlands of the white Lake Lissan sediments and the Dead Sea isolated the fortress from the east.

Fig. 7:
The enigmatic geological dishes at the top of the Turonian plateau overlooking the canyon of Nahal Ze'elim (Airophan, Jerusalem).

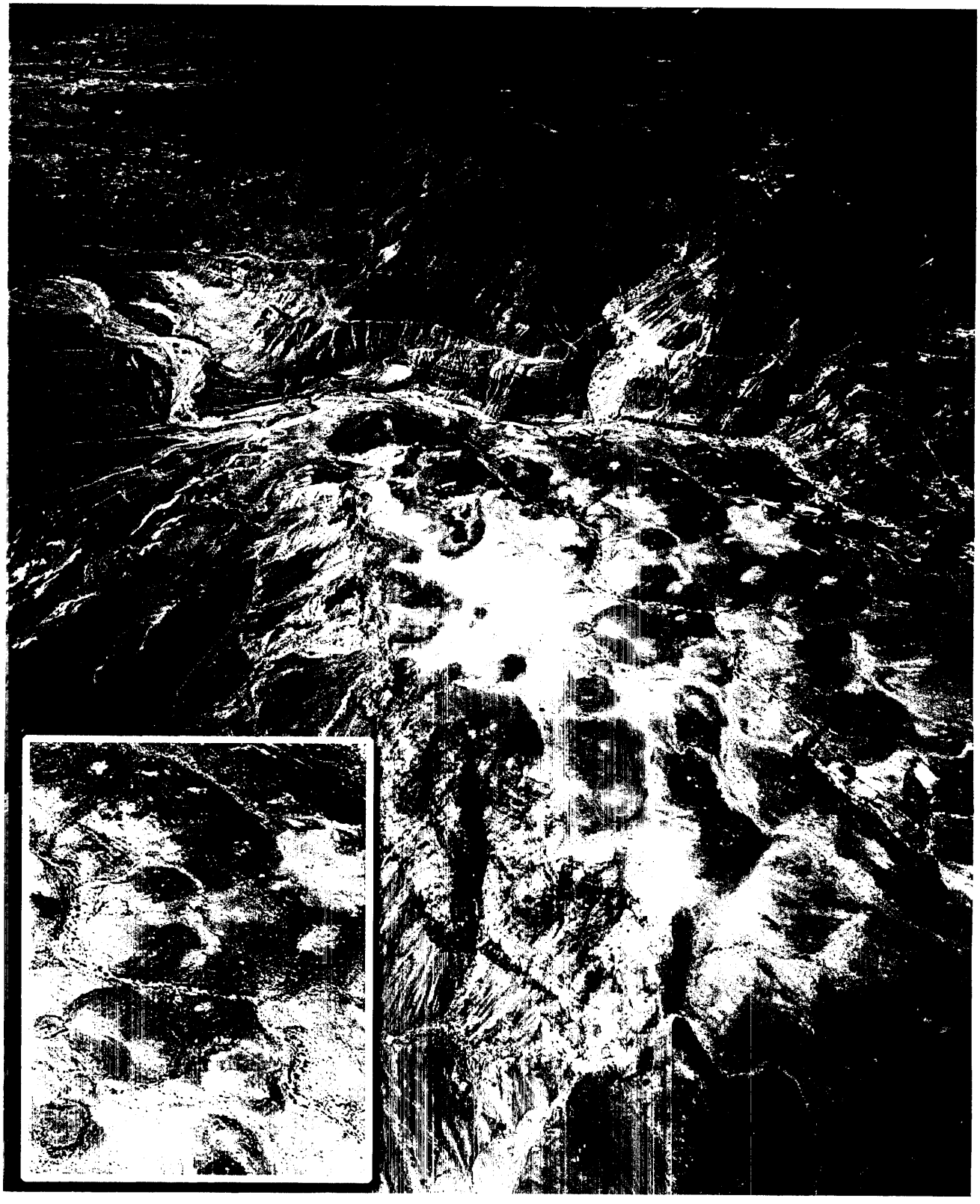
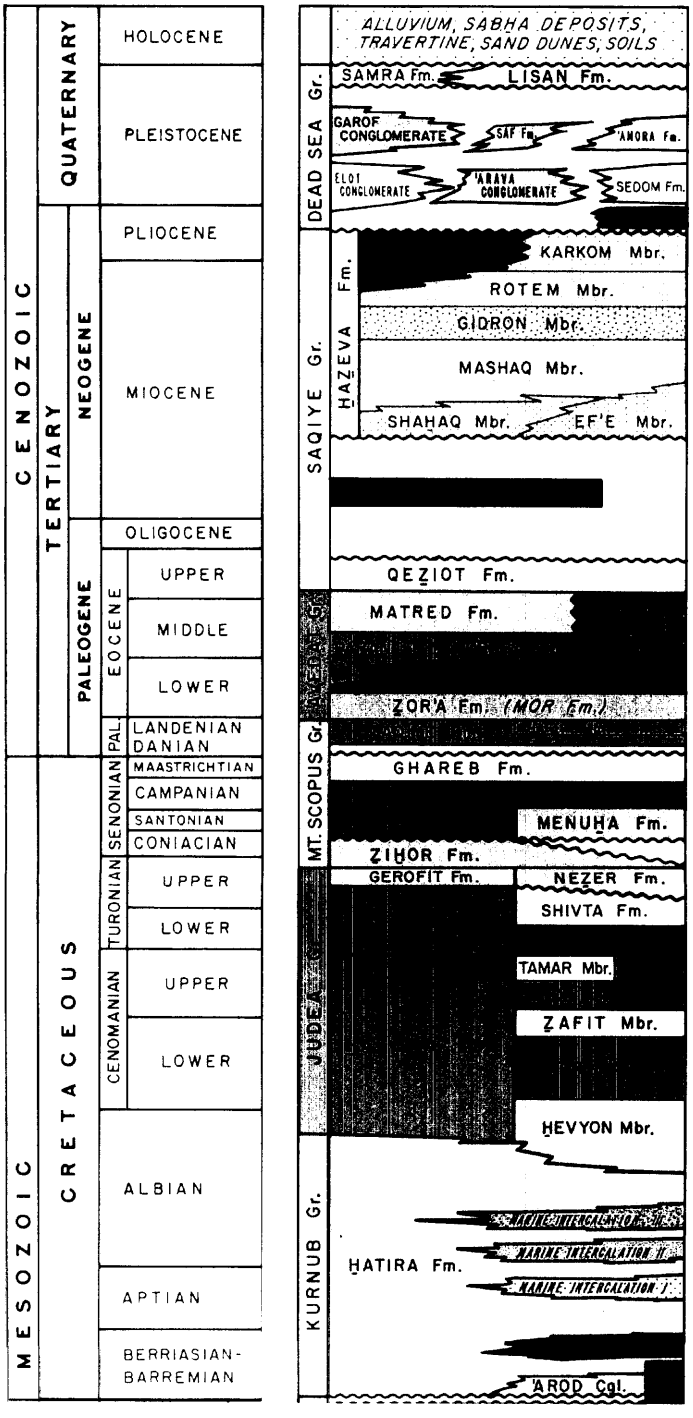


Fig. 8:
The generalized regional stratigraphy (from Regional Stratigraphy of Israel, 1981).



Stratigraphy of the 300 meters high escarpment of the Masada horst. The horst is built of marine limestone and dolomite of Cenomanian and Turonian age (Figs. 3 and 8).

Stratigraphy of the adjacent graben. The western fault brought down a narrow strip of Senonian chalk covered by flint, also of marine origin (Figs. 3 and 8).

Maximum age of the faulting. Thus, the faulting was post-Senonian, as the visitors can easily conclude.

Widespread sediments of the ancient Lake Lissan. At the foot of Mt. Masada, on its eastern side, prevails a whitish, heavily bisected terrain, built of sediments of the Lissan Formation (Figs. 3 and 4). These sediments, made of lacustrine aragonite varves, gravel, sandstone and conglomerates, are exposed in the Rift Valley from Lake Tiberias in the north to Hazeva in the south, a stretch of some 250 km. Thus, a former lake, Lake Lissan, filled the Rift Valley. These sediments have been dated by U-series and T. L. to be from around 80.000 to 18.000 years old. Thus, Lake Lissan filled the Rift Valley during this age interval. It is plausible that the large Lake Lissan was connected to the Mediterranean Sea, possibly via the Esderlon Valley. That connection was blocked when the adjacent Mt. Carmel was uplifted.

The young age of the Dead Sea. The present Dead Sea is, thus, rather young - it was formed after the local segment of the Rift Valley subsided more intensively, as a tectonic rhomb-shaped graben, and the Lake Lissan dried up, probably as a result of a dry climatic phase. It is, therefore, less than 18.000 years old.

Canyons demarcating the Masada horst. The block of Masada has been sliced out of the elongated horst by rivers that come down from the Judea Desert plateau, and reaching the steep fault escarpment they excavate deep canyons. The steep slope of these river beds indicates equilibrium has not been reached, and the Rift Valley continuous to subside. Masada is part of the impressive Canyon Land. In it erosive morphology is seen in action - in the race to adjust to the rapidly descending base of drainage.

Paleo-karst caves. The warriors of Masada were not alone - in the steep walls of the canyons north and south, hidden caves disclosed documents of the rebel and skeletons, as well as Roman siege camps. These caves are natural - evidence of an intensive stage of karst formation - an indication of a wetter climate phase.

The Dead Sea possibly inherited its salts from the shrinked Lake Lissan. The high salinity of the Dead Sea may in part stem from residual evaporation brines of the Lake Lissan, that receded into the newly formed Dead Sea trough.

Fluctuations of the Dead Sea level. At the time of the heroic battle at Masada, two millennia ago, the Dead Sea was rather low, as it was possible to cross it by foot, at its southern

edge, from Masada to a sister stronghold east of the lake. Documented observations, available for the last centuries, disclose the Dead Sea was rather high, but during the last decades it is seen to recede, about a meter per year. Thus, one can follow a cycle in the life of this exotic lake.

The rivers chase the receding Dead Sea. The ongoing lowering of the Dead Sea water level feeds the inflowing rivers with new energy and they dig deeper, a process that is endangering two of the Roman siege camps, built almost 2000 years ago. Thus, dynamics of Nature is visible.

Criterion III - Superlative natural phenomena or natural beauty and esthetic importance

The aerial view of Mt. Masada (Fig. 4) speaks for it self. The top-of-the-world view from Masada is magnificent: one gazes hundreds of meters down to the white Lake Lissan sediments that stretch till the blue to grey Dead Sea, and beyond, at the far east, are the high mountains of Mo'ab. To the west is seen the highland of the Judean Desert, and north and south stretches the Rift Valley (Fig. 2).

Margins of crustal plates are often distinguished by sets of parallel faults, and these are exceptionally well exposed at Mt. Masada - a horst, that was sliced by canyons, that are constantly deepened as a result of the rapid subsidence of the Dead Sea Rift Valley (Figs. 5, 6).

Walking in the valley, along the Roman Siege wall from one watch tower to the other, the steep flanks of the mighty horst provide an endless combination of cliff sculptures, rock strata, steep dry falls, and sky-high canyon walls.

The geological background of the heritage of the Masada region

Masada is a master example of a mixed history- nature site to be included in the world heritage list. The stronghold of Masada has been built on top of a horst - a geologically uplifted block bounded by faults, that is a part of the Dead Sea Rift Valley system. The brave revolt and the long siege of Masada are identified with the solitary and rocky desert landscape of the Judean Desert - Dead Sea region.

Standing on the top of Mount Masada the warriors could see to the west the brownish plateau of the rocky Judean Desert, and marvel at the river beds descending to the Dead Sea shore in steep canyons, two of which border Masada from south and north. King Herod gazed from his lofty palace into the whitish bedlands formed in the sediments left behind by Lake

Lissan, the forerunner of the present Dead Sea. This bisected landscape stretches out till the blue-grey water of the Sea of Asphalt, or as we call it today - the Dead Sea. The inhabitants of Masada looked eastward with some hope as on the other side of the Dead Sea was a sister stronghold - Mikhvar. The Romans surrounded Masada with a siege-wall, taking advantage of the fault escarpments, and a number of impressive military camps, built in the classical stile. On the high cliff south of Mount Masada the Romans installed an observation post, and the remains of one of its positions is within an elegant round rampart. Would a geologist be in the Roman engineering corpus he would tell them that this is a natural feature - one of many hundreds of round rock structures, with a diameter of 10 to 30 meters, best seen in air photos on the ridges from Masada northward. Geologists wonder how these circular structures were formed, and in the mean time they are nicknamed "the enigmatic geological dishes".

The water supply system of Masada is an example of an industrious engineering project with great results. Many hundreds of people were enclosed at Mount Masada for nearly three years, and in spite of a severe drought that was harsh even in desert terms, they had more than enough water - how come? The builders of the Masada fortification system dammed two dry river beds and diverted the rarely occurring floods to a series of huge underground collection ponds, protectable by warriors standing on the top of the mountain. Every drop of rain water falling on the top of the mountain was collected and diverted to another large pond and with an overflow system to additional water storage sites. The water collecting array is still intact, except for the diverting system that has been blocked by the impressive Roman attack rampart. The hydrological know-how manifested at Masada bears a lesson to be learned today - man can manage in the desert.

A thematic park and World Heritage Site: Masada and the wilderness of the Rift Valley and the Dead Sea

In parallel with the drama at Masada there were additional heroic instances: 18 km northward, in the steep wall of the canyon of Nahal Hever, the hidden Cave of the Letters has been recently excavated (Fig. 9). Archives of documents of the commander of the rebel, and personal documents from that remote period, were found together with skeletons. The fate of the latter can be guessed from the remains of a Roman siege camp above the cave's entrance. This is a paleo-karstic cave, and recent investigation revealed in it lacustrine sediments disclosing that the cave was filled with the water of a lake that preceded the ancient Lake Lissan, at a time that the Rift Valley was in its childhood. Additional caves of documents and skeletons, and in addition, Chalcolithic pottery and cooper vessels, are observable allover south and north of Masada, blended in the rocky desert landscape.

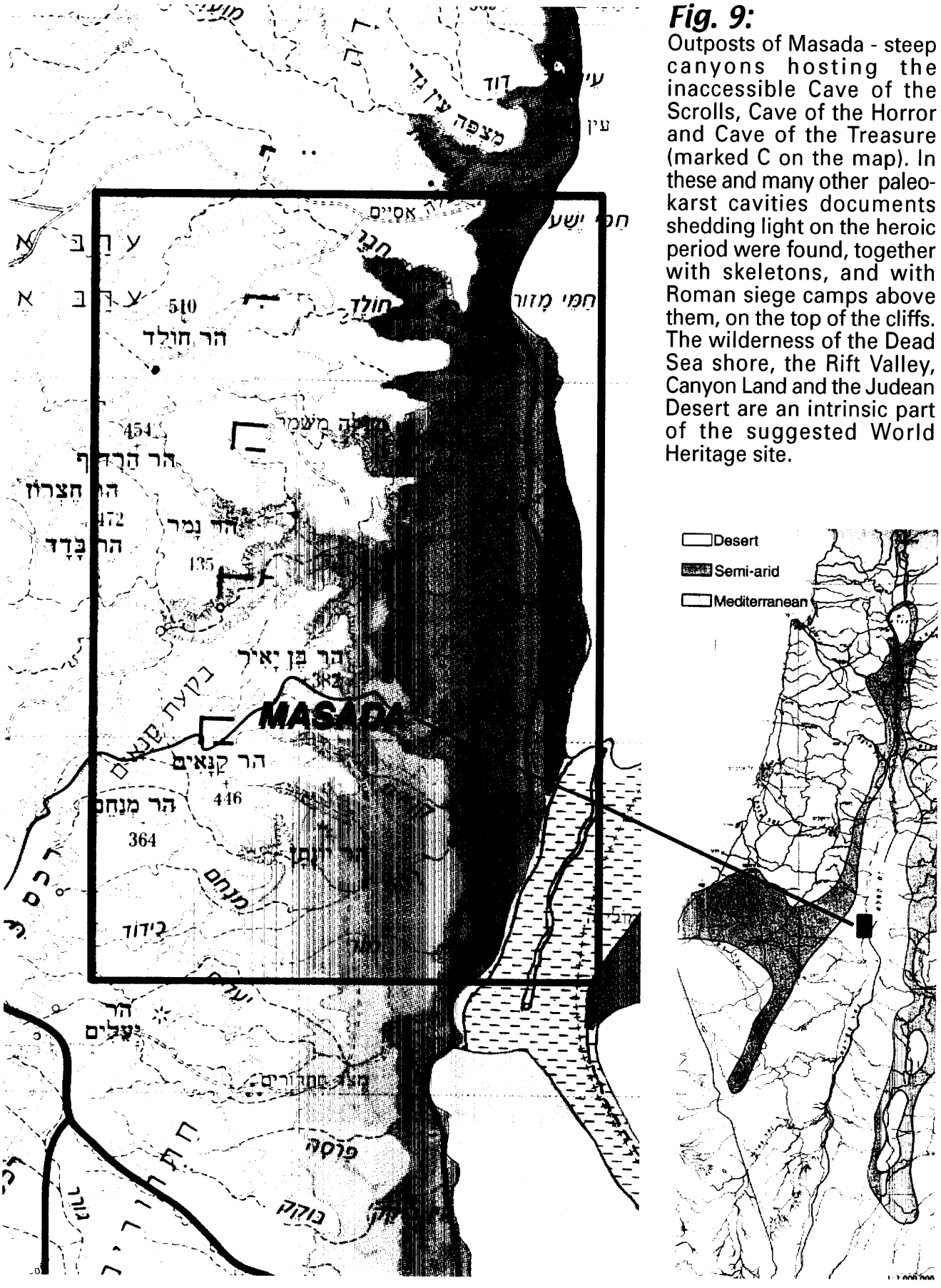


Fig. 9:
Outposts of Masada - steep canyons hosting the inaccessible Cave of the Scrolls, Cave of the Horror and Cave of the Treasure (marked C on the map). In these and many other paleo-karst cavities documents shedding light on the heroic period were found, together with skeletons, and with Roman siege camps above them, on the top of the cliffs. The wilderness of the Dead Sea shore, the Rift Valley, Canyon Land and the Judean Desert are an intrinsic part of the suggested World Heritage site.

The history documented by the archeological remains on Mount Masada and around it is intimately coupled with the pristine Judean Desert - Dead Sea landscape. The fortification of Masada was skilfully interwoven with the faulting system of the Rift Valley. This wonderful blend of historical, archeological and geological heritage has to be preserved. Standing on Mount Masada, we and the following generations should be able to appreciate the solitude and wilderness of the Judean Desert on the west, the surrounding Lake Lissan sediments, and the Rift Valley and the Dead Sea seen at the east.

Thus, the region portrayed in Fig. 9 seems to be the natural area of a Thematic Park and a World Heritage Site:

"Masada and the wilderness of the Rift Valley and the Dead Sea"

The suggested boundaries are Nahal Mor at the south, the edge of the Judea Desert in the west, Nahal Chever at the north and the Dead Sea at the east.

* * *

Bibliography

THE NEW ENCYCLOPEDIA OF ARCHAEOLOGICAL EXCAVATIONS IN THE HOLY LAND

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Israel Exploration Society

Volume 3

1993

THE ISRAEL EXPLORATION SOCIETY
CARTA, JERUSALEM

and by placing a staff in the hand of the male figure and a torch (the symbol of Persephone) in the hand of the female. In the inscription, most of which is indistinct, the word πλούτων, the name of the god of the underworld, can still be read. This led the excavator to assume that the figures were meant to represent a deceased couple in the form of Pluto and Persephone who, as indicated in the inscription, dwelt in Hades. It is not clear to what school the drawings are to be ascribed, but a Greek influence is obvious. The excavator was of the opinion that this school was peculiar to Transjordan and that the tomb was to be assigned to the end of the second or to the third century CE.

C. C. McCown, *QDAP* 9 (1939), 1–30.

SHIMON APPLEBAUM

MASADA

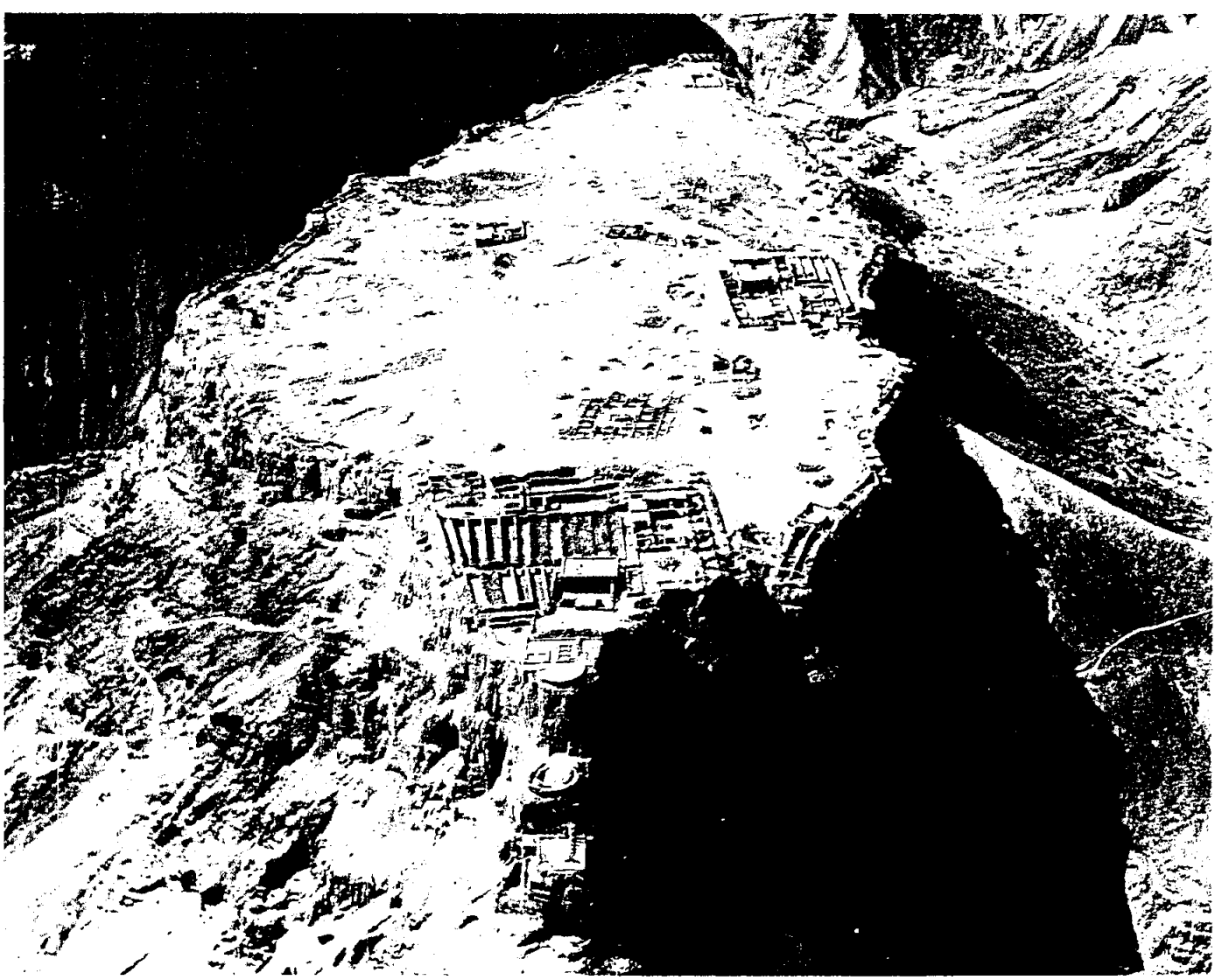
IDENTIFICATION

Masada is situated on the top of an isolated rock cliff, on the border between the Judean Desert and the Dead Sea Valley, about 25 km (15.5 mi.) south of En-Gedi. On the east, the rock falls in a sheer drop of about 400 m to the Dead Sea. Its western side is about 100 m above the surroundings. The cliff top is a rhomboid, measuring about 600 m north to south and 300 m east to west in the center. Its highest parts are in the north and west. Masada's natural approaches are difficult: the White Rock on the west (the Leuke of Josephus, *War* VII, 305), the cliff's southern and northern sides, and the winding, so-called Snake Path on the east (Josephus, *War* VII, 282). The name Masada appears only in Greek (Μασσάδα) or Latin transcriptions. It may be an Aramaic form of *hameṣad*, "the fortress."

HISTORY

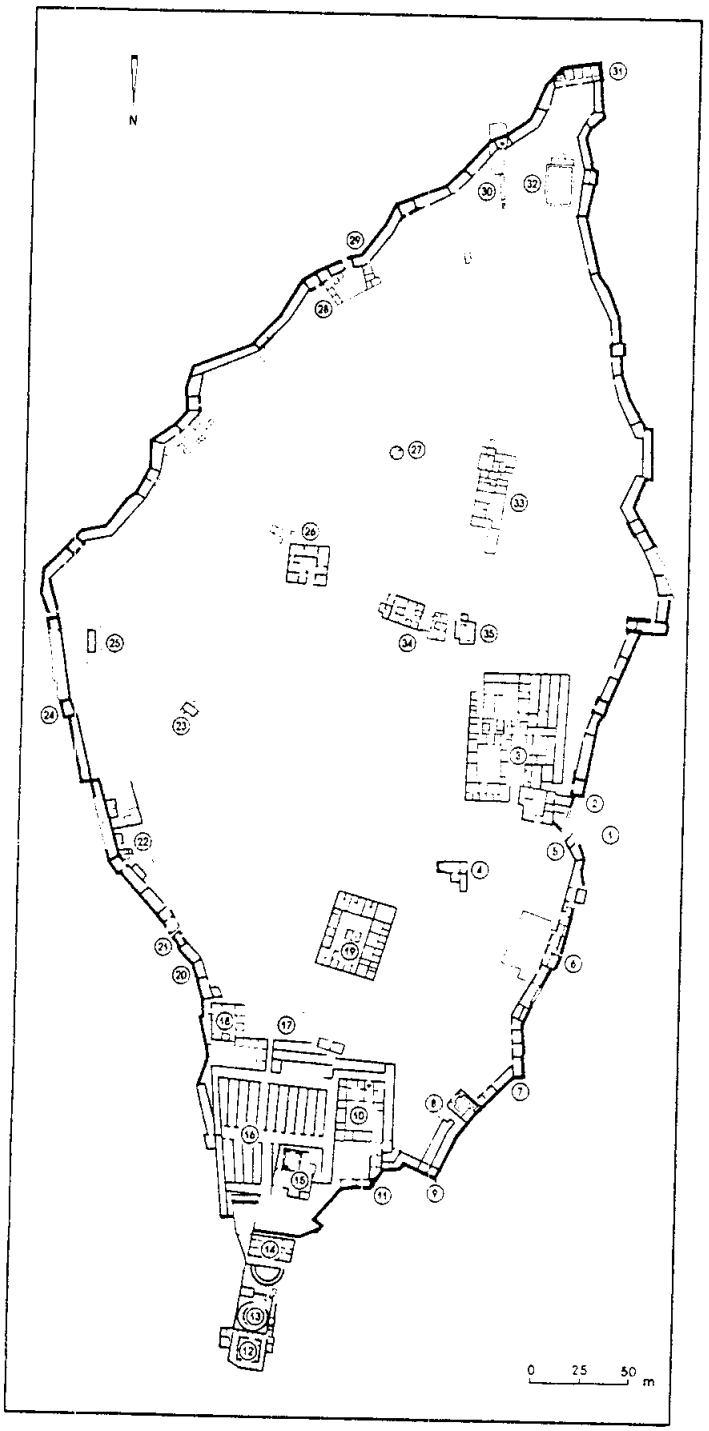
The only sources that describe Masada in detail are the writings of Josephus Flavius. According to *War* (VII, 285), the high priest Jonathan built the first fortress (φρούριον) at the site and called it Masada. Some scholars consider this Jonathan to have been Alexander Jannaeus, but in another passage (*War* IV, 399), the foundation of Masada is attributed to "ancient kings," referring to the Hasmoneans. This would point to Jonathan Maccabaeus, who became high priest in 153 or 152 BCE (1 Macc. 10:15–21; Josephus, *Antiq.* XIII, 43–46).

In 40 BCE, Herod, in flight from the pretender Antigonus and the Parthian army, led his family to the fortress of Masada, the defense of which he committed to his brother Joseph, with a following of eight hundred men (*Antiq.* XIV, 361–362; *War* I, 264, 266). During the siege by Antigonus, they escaped dying of thirst when a sudden rainfall filled the cisterns on the summit. Herod, on his return from Rome in 39 BCE, succeeded in rescuing them (*Antiq.* XIV, 390–391; 396, 400; *War* I, 286–287, 292–294). According to *War* VII, 300, "Herod furnished this fortress as a refuge for himself, suspecting a twofold danger: peril on the one hand from the Jewish people, lest they should depose him and restore their former dynasty to power; the greater and more serious from Cleopatra, queen of Egypt." Thus, he probably began building his fortress between 37 and 31 BCE. Although there is no information about Masada immediately after Herod's death, it seems probable that a Roman garrison was stationed here. In any event, such was the case



Masada: aerial view of the cliff looking south.

Plan of the site and principal remains.



1. Top of ramp
2. Tower 1276
3. Western Palace
4. Byzantine church
5. Western gate
6. Tower 1028
7. Casemate 1039
8. Synagogue
9. Tower 1049
10. Building VII
11. Water gate
12. Northern Palace, lower terrace
13. Northern Palace, middle terrace
14. Northern Palace, upper terrace
15. Large bathhouse
16. Storerooms
17. Quarry
18. Building VIII
19. Building IX
20. Casemate 1102
21. Snake path gate
22. Zealots' living quarters
23. Byzantine cave dwelling
24. Tower 1133
25. Open cistern
26. Building XII
27. Columbarium
28. Mikveh
29. Southern gate
30. Cistern
31. Southern bastion
32. Large pool
33. Building XIII
34. Building XI
35. Mikveh

in 66 CE, when the site was captured "by stratagem" by Zealots and its armor plundered by one of their leaders, Menahem, the son of Judah the Galilean (*War* II, 408, 433). After Menahem was murdered in Jerusalem, his nephew Eleazar son of Jair, son of Judah, fled to Masada and was its "tyrant" until it fall in 74 CE (*War* II, 447; VII 252–253). During this time, Masada served as a refuge for the persecuted. Simon the son of Giora, another rebel leader, also stayed here for a time (*War* II, 653). In 73 CE the Roman governor Flavius Silva marched against Masada with the Tenth Legion, its auxiliary troops and thousands of Jewish prisoners of war. After Masada's conquest in spring 74, Silva left a garrison at the site (*War* VII, 252, 275–279, 304–407). Masada is also briefly mentioned by Pliny in *Natural History* (V, 73).

HISTORY OF EXPLORATION

Masada was correctly identified for the first time with the rock es-Sebba in May 1838 by the Americans E. Robinson and E. Smith. They did not visit Masada but viewed its northern cliff through a telescope from En-Gedi. Smith suggested identifying the site with Masada. Robinson believed that the building visible on the northern cliff was Herod's palace. In 1842, the American missionary S. W. Wolcott and the English painter Tipping visited Masada and left amazingly accurate descriptions and drawings. In April 1848, an expedition sent by the American naval officer J. W. Lynch visited the site, anchoring off the Dead Sea coast. They were the first to identify the "holes" in the northwestern cliff as water reservoirs and noted the "square structure" (that is, the lower terrace of the Northern Palace). The French antiquarian F. de Saulcy visited Masada in January 1851. He dug in the Byzantine chapel, finding remains of its mosaic floor. He also drew the first plan of Masada and the Roman camps. The Frenchman, E. G. Rey, visited Masada in January 1858, and correctly attributed the mosaic remains from the upper terrace to Herod's palace.

A turning point in the exploration of Masada came with the British Survey of Western Palestine. In 1867, C. Warren climbed Masada from the east, tracing the Snake Path for the first time. After surveying the site in March 1875, C. R. Conder published more accurate plans of the buildings and the Roman camps. It was Conder who first suggested identifying (erroneously) the western building with Herod's palace.

The first detailed study of the Roman camps was carried out by the German scholar A. V. Domaszewski. In 1909, he and R. E. Brünnow published their studies in *Die Provincia Arabia*. Domaszewski mainly studied camps B and C (see below). Another German, G. D. Sandel, visited Masada in 1905. He noted the water reservoirs in the northern cliff and observed that they were fed by canals that collected rainwater from the wadis. In 1929, the Englishman C. Hawkes advanced the study of the Roman camps, which he examined with the aid of aerial photographs.

However, the principal turning point in the investigation of the site was made by the German A. Schulten, who spent a whole month at Masada in 1932. His plans of the building and of the Roman camps laid the foundation for all later studies. Schulten, however, made some fundamental mistakes in his conclusions. He attempted, for example, to locate the Snake Path in the north, concluding that the buildings on the three terraces in the north were fortifications connected with it. He also agreed with Conder's mistaken proposal that Herod's palace, described by Josephus, should be identified with the western building.

Later studies of Masada, which culminated in the excavation of the site, were carried out by enthusiastic Israeli scholars and amateurs, foremost among them S. Gutman. He traced the exact line of the Snake Path and, together with A. Alon, examined Herod's water system (1953). Gutman also discovered and restored the gate of the Snake Path and partly excavated and reconstructed the Roman camps (A and C). A. M. Livneh and Z. Meshel, in 1953, published the first nearly accurate plans of the buildings on the northern terraces, correctly identifying them with Herod's palace. As a result of these discoveries, survey expeditions were organized on behalf of the Israel Exploration Society, the Hebrew University of Jerusalem, and the Israel Department of Antiquities and Museums. One expedition, directed by M. Avi-Yonah, N. Avigad, J. Aviram, Y. Aharoni, S. Gutman, and I. Dunayevsky, surveyed the site for ten days in March 1956. These investigations confirmed the identification of the structures on the northern cliff with Herod's palace and added to the information on the storehouses and "the western building." A new detailed map of Masada was also prepared.

EXCAVATIONS

Excavations were conducted at Masada under the direction of Y. Yadin from October 1963 to April 1964 and again from December 1964 to March 1965. The permanent staff members included D. Bahat, M. Batyevsky, A. Ben-Tor, I. Dunayevsky, G. Foerster, S. Gutman, E. Menczel (Netzer), and D. Ussishkin. In these excavations almost all of the built-up area of Masada was uncovered, and a trial sounding was made in camp F. The following account is based on the results of those excavations.

HERODIAN PERIOD

THE WATER SYSTEM. Because Masada lacked any permanent water source, one of Herod's first tasks was undoubtedly the construction of a system to ensure its supply. This system, also mentioned by Josephus (*War* VII, 291), had three components: a drainage system to carry the rainwater from the wadis (valleys) in the west; a group of cisterns in the lower part of the northwestern slope; and another group of cisterns on the summit of the rock.

The Drainage System. The drainage system carried rainwater from the Masada Valley in the south and the Ben-Jair Valley in the north. Dams were constructed in both valleys, and the water flowed through open channels, built on a moderate slope, into the cisterns. The aqueduct in the Masada Valley is very wide (1.4 m) and supplied water to the upper row of pools. This well-plastered aqueduct is almost completely buried beneath the Roman camp, but sections of it are still visible near the Masada Valley. A vault, which carried the aqueduct above the ravine, was also preserved near the rock face. The second aqueduct conveyed the waters of the Ben-Jair Valley into the lower row of cisterns.

The Cisterns. The cisterns were cut into the slope of the rock in two parallel rows, with eight in the upper row and four in the lower. They were mostly square in shape. Each cistern had two openings: a lower one, at the level of the aqueduct, for the inflow of water and a slightly higher opening connected with steps for drawing water. Each cistern could hold about 4,000 cu m, and their total capacity was about 40,000 cu m.

A winding path led from the upper row of cisterns to the Water Gate near the Northern Palace (see below). A number of large reservoirs was also cut into the summit of Masada, on the north, south, and east sides. Water was brought to them along the winding path and the Snake Path by men or beasts of burden. In order to shorten the way, channels were constructed from the Water Gate and from the Snake Path to the main reservoirs of the summit. Water from the lower pools was poured into these channels, and it flowed into the reservoirs by force of gravity. In addition to these reservoirs, smaller cisterns were found in the various buildings (especially in the palaces), which supplied water independently of the reservoirs.

THE WALL AND GATES. Masada is enclosed on all sides by a casemate wall—except at its northern tip (see below, The Palaces)—whose circumference measures 1,400 m, or 1,300 m in a straight line, which corresponds exactly with the 7 stadia of Josephus' description. The wall is built of dolomite stones quarried from the cliff itself and only slightly dressed. The stones were laid in two faces and the spaces between them filled with smaller stones. Both sides of the wall were covered with white plaster. The outer wall is 1.4 m thick, and the inner wall one meter thick. The width of the casemates is about 4 m (8 cubits in Josephus). The average width of the casemate rooms varies according to the terrain, the turns in the wall, and other factors. The longest casemates are, on the average, 35 m long; the medium-sized ones are 15 m; and the shortest ones are about 6 m. Altogether, there are seventy rooms, thirty towers, and four gates. The rock on which the wall was constructed was not leveled in most places, and the floors of the rooms were consequently uneven and full of pits and steps, some quite high. Because all the roofs were horizontal and 4 to 5 m high, and the rock surface sloped in different directions, the top of the wall was not even, but stepped.

The Towers. The towers were built at irregular intervals, according to the terrain and for tactical reasons. The shortest distance between them is 35 m and the longest 90 m. The towers are, in fact, small casemates, about 6 m wide. Their inner walls were widened on the side facing the fortress, to form a kind of platform by which the tower could be ascended. Some of the towers also had stairs leading to the top. Each tower had at least one entrance, usually near the northern partition wall.

The Gates. The four gates from the time of Herod were all built on the same general plan: a square room with two entrances, one in the outer wall and one in the inner wall, and benches along the walls.

THE SNAKE PATH GATE. The Snake Path Gate is situated in the northeastern sector. Its walls are coated on the inside with plaster and decorated with a panel design. The floor is paved with square, dressed-stone slabs. A small casemate opening into the gate on the south side was probably a guardroom.

THE WESTERN GATE. The Western Gate, remains of which were found in the middle of the western wall, had benches along the walls. A path led to the gate from the west; remains also were found of the ramp on which the path was built.

THE CISTERN GATE (SOUTHERN GATE). The Cistern Gate was situated in the southeastern section of the wall, 150 m northeast of the southern edge of the cliff. It led to a group of cisterns in the southeastern cliff and was a kind of inner gate and consequently not built with the same extravagance as the other gates, nor was it provided with benches.

THE WATER GATE (NORTHERN GATE). The Water Gate was uncovered in the northwest corner of the wall. It was similar in plan to the Snake Path Gate. Its location near the large reservoirs north of the large bathhouse indicates that it was used mainly for bringing water from the upper row of cisterns along a special path, whose remains are still visible (see above). This gate was apparently also the gate for the northern part of Masada. It was constructed in the second phase of Herodian building—after an earlier gate built north of it went out of use—inside a casemate north of the large square in front of the administrative building (building VII).

THE CANCELLED GATE. The remains of a paved gate were found north of the Water Gate near the western corner of the wall of the Northern Palace. This gate went out of use when a wall was built joining the casemate wall and the palace wall in the second phase of building (see below). It was the original entrance gate to Masada, and water was brought up through it. Its entrance was north of building VII, and it served as the gate between the northern complex and the rest of Masada. In the later building phase, it was replaced by a gate constructed to its south.

INNER GATES. Three inner gates were found near building VII and the Water Gate. They belonged to the internal organization of Masada, which centered on the large square north of building VII. The gate east of the Water Gate was intended to block the entrance to the Northern Palace, the large bathhouse, and the storehouses. The gate adjoining the northwest corner of building VII served in the Herodian period as the entrance to the special storerooms attached to building VII. The third gate, situated west of the early gate, was the main passage between the northern complex and the rest of Masada. The three inner gates belong to the second phase of Herodian building.

STOREHOUSES. The storehouses for food and weapons are of two types: public storehouses and storehouses attached to special buildings (palaces and administrative buildings).

Public Storehouses. A complex of public storehouses stands in the northern complex, south of the Northern Palace (buildings V and VI). It is subdivided into two blocks: the northern block (V), consisting of long storerooms (20 by 3.8 m), and a right-angled corridor that is a kind of double storeroom. Each

Storeroom (L. 139), after reconstruction.

room has a single entrance in the south, except for the eastern storeroom, which also has an opening on the east that leads to a casemate storeroom. The floors and ceiling of the storerooms are plastered with clay. This block of storehouses was erected after the building of the large bathhouse had started, and its western wall almost touched the wall of the bathhouse (see below). The southern block (VI) is larger and consists of eleven elongated storerooms (27 by 4 m) with entrances at the northern end.

Oil, wine, and flour, among other foodstuffs, were each stored in a separate room in special jars. The fifth storeroom from the west was completely waterproofed with plaster. Three plastered pits were set at equal distances in its floor, apparently to facilitate the pouring of liquids from one jar to another. At the northern end of the second storeroom from the west were two rows of small depressions, apparently to set the jars in. The two blocks of storehouses were separated by a corridor running east–west. It formed the northern branch of the corridor surrounding the main block of storehouses on the west, south, and east.

Storehouses Attached to Buildings. Three storehouses were constructed west and south of building VII (see below): a long storeroom on the west side of the building and two small storerooms south of it. Special commodities were apparently stored here because the rooms were entered through a separate gate—the above-mentioned inner gate adjoining the northwestern corner of building VII. Two more storehouses running east–west were situated south of the southern block of storehouses. These groups of storehouses were apparently constructed in the second phase of building, to increase the capacity of the existing storehouses, and especially to house costly articles or objects of special importance (weapons?).

THE PALACES. There were four groups of palaces: (1) the palace-villa (Northern Palace); (2) the ceremonial and administrative palace (Western Palace); (3) three small palaces near the Western Palace, which probably housed the royal family; and (4) elaborate buildings resembling the small palaces, adjoining the Western Palace and the blocks of storehouses, that may have been residences for high officials and administrative centers.

The Northern Palace-Villa. The Northern Palace-villa was built in three tiers on the northern edge of the cliff. This is the palace Josephus describes in detail. The upper tier contained only living quarters; the other two tiers were taken up by luxurious structures intended for entertainment and relaxation.

THE UPPER TERRACE. The upper terrace consists of two main parts: a semicircular balcony bounded by two concentric walls, on which two rows of columns probably stood; and living quarters south of the balcony, consisting of two rooms on the east and west sides of an open court. Their walls were decorated with paintings in geometric and floral designs and the floor was paved with a black-and-white mosaic with hexagons, overlapping circles, and rectangles.

The inner sides of the court were covered by a roof supported by columns parallel to the walls. The columns on the upper terrace were Ionic, and many were discovered nearby. The entrance to this terrace—the main entrance to the palace—is situated on the east side. Entry was through an open square in front of the terrace's southern wall, up an impressive staircase leading east–west to an open area at the east end of the square. This open area was built above two storerooms roofed by a barrel-shaped vault. From here passage was through a doorway (with a bench next to it) into a narrow, trapezoidal entrance hall, bounded by the east wall of the living quarters and the casemate wall. Another doorway opened onto a small square entrance and led west to a corridor separating the balcony from the living quarters. Two stages of building were distinguished in the entrance complex. In the first stage, the entrance was approached by a rock-cut staircase. In the second stage, a sloping wall replaced the staircases and the entrance was as described above. In this stage, the small bathhouse on the eastern cliff of the upper terrace went out of use. Both stages belong to the Herodian period.

THE MIDDLE TERRACE. The middle terrace, approximately 20 m beneath the upper one, contains a circular building and a complex of buildings south of it.

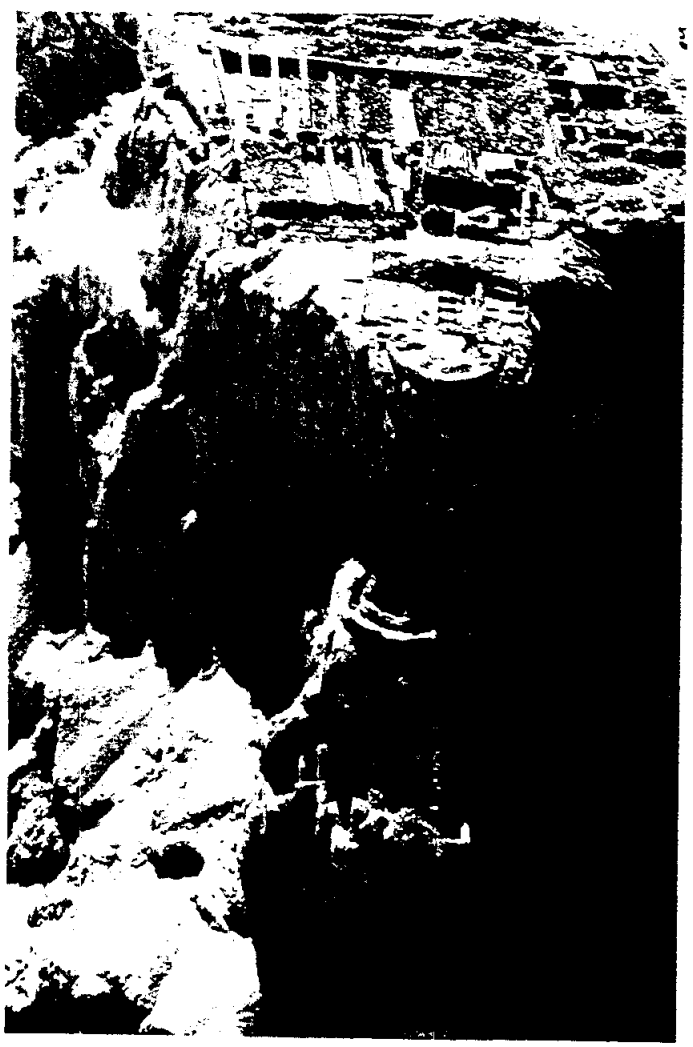
The foundations of two concentric circular walls from the circular building have survived. The outer wall has a diameter of 15.3 m and the inner wall, 10 m. The top of these walls is covered with rectangular sandstone slabs. Nothing is preserved of the building that once stood on these foundations. The space between the two walls was full of its collapsed stones, including carved stones, such as capitals and column drums. The circular structure had been a kind of tholos, with two rows of columns supporting the roof. The foundations of the walls were based on the uneven surface of the bedrock, and the rock descended toward the north. The walls are consequently higher in the northern part of the terrace. The once-empty space between the concentric walls was intended to decrease the pressure on the outer wall, built at the edge of the cliff.

The southern complex to the south of the circular building consists of three parts: a staircase in the west, a large hall in the east, and a roofed space in the center. The staircase, whose lower part was made of stone around a built pillar, had an upper part made of wood. The staircase connected the middle and upper terraces and was hidden from view from the outside. The eastern hall was decorated with wall paintings imitating marble paneling. The middle space between the staircase and the eastern hall was open on the north side. Its roof was supported by several square pilasters built against the southern rock and the walls of two other rooms. This complex was used for entertainment and relaxation. Its ornamental style is characteristic of Late Hellenistic buildings.

THE LOWER TERRACE. The lower terrace is about 15 m beneath the middle terrace and 35 m below the upper one. Its buildings were erected on a raised square area (17.6 by 17.6 m), constructed at the edge of the cliff by means of supporting walls. At its center a square area was surrounded by porticoes. The inner wall consists of columns, with windows cut between them. These columns are in fact two half columns; the inner ones stand on high pedestals and the outer ones on the floor. The outer sides of the porticoes were also colonnaded, apart from the southern wall, formed by the rock face, which was plastered and half columns were attached to it. All the columns are made of sandstone, are plastered, and have fluted drums. The capitals were Corinthian in style and coated with gold paint. The lower parts of the porticoes were decorated with wall paintings in panels and rhombuses. An empty space was left between the foundations of the western portico, to lessen the pressure on the outer wall. The floor of the portico was of wood. The walls of the central area were also decorated with frescoes on their lower part. It can be assumed that at least the sides were roofed, to protect the wall paintings, but it is doubtful whether the whole central area was roofed over. The entrance to the central area was through the southern portico.

A small bathhouse situated east of the square structure was reached by descending a built staircase. The bathhouse contained a cold room (frigidarium) whose steps were waterproofed with plaster, a corridorlike warm room (tepidarium), and a hot room (caldarium) built above the heating chamber (hypocaust). The floor of the caldarium rested on small round columns made of mud brick. The floor of the bathhouse was partly paved with white mosaic.

A staircase at the western edge of the cliff led down from the middle tier to the lower one. Like the middle terrace, the buildings of this level were used for pleasure.



The Northern Palace, built on three terraces on the northern cliff; above it, the large bathhouse and storerooms.

The Western Palace (IX–X). The Western Palace is the largest residential building on Masada. Its total area is almost 4,000 sq m. The building is situated near the casemate wall, in the middle of its western side, slightly south of the Western Gate. The excavations showed that this was the main administrative and ceremonial palace. It consists of four blocks of buildings: the royal apartments (in the southeast); the service wing and workshops (in the northeast); the storerooms (in the southwest); and the administrative wing and residence of the palace officials (in the northwest). The main entrance to the palace was in the north. The gate in the middle of the north side led to a long, wide corridor that in turn gave access, through additional gates similar in plan to the other gates at Masada, to the service and administrative wings and the royal apartments.

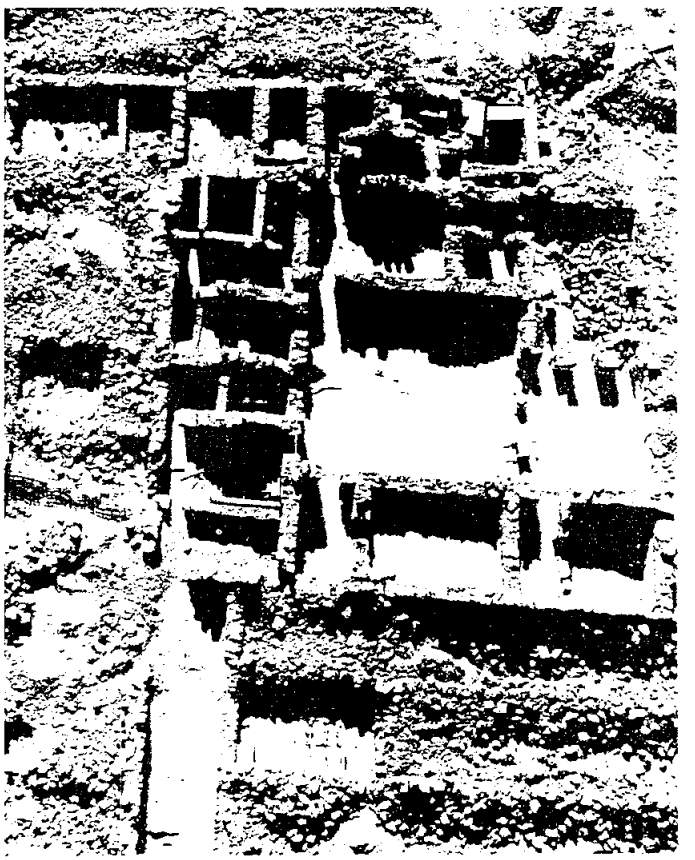
THE ROYAL APARTMENTS. The royal apartments were in a wing built around a large central court. In the middle of the southern part of the court was a roofed hall, open to the court. There were two Ionic columns on the hall's north side. The walls of the hall were decorated with panels of white plaster. Three entrances in the hall led into the throne room in the southeast corner of the wing. Four depressions in the plastered floor in the room's southeast corner probably held the legs of a throne or a canopy. The bedrooms and dining rooms were on the west side of the court. Another hall, which also led to the throne room, occupied almost the entire length of the eastern side of the block. This hall also had a rear entrance on the east. Two columns stood on its north side, which was the south end of a small court. On the floor of the hall was a magnificent, richly colored mosaic with intersecting circles in a central medallion and a border of geometric and plant designs (grape and fig leaves and pomegranates). A corridor and official rooms separated the hall and the throne room. The service rooms of the palace were situated north of the court. In the northeast corner of the wing was the bathhouse of the residency. It consisted of a caldarium with bathtubs (heated through a rear room), an immersion pool that would have held cold water, and other installations. All the floors of the bathhouse were paved with mosaics, and even the corridor contained a multicolored geometric mosaic. Parts of this wing had several stories (particularly the service wing) that were reached via three staircases: one near the eastern entrance, another inside the mosaic hall, and a third in a separate room north of the large courtyard.

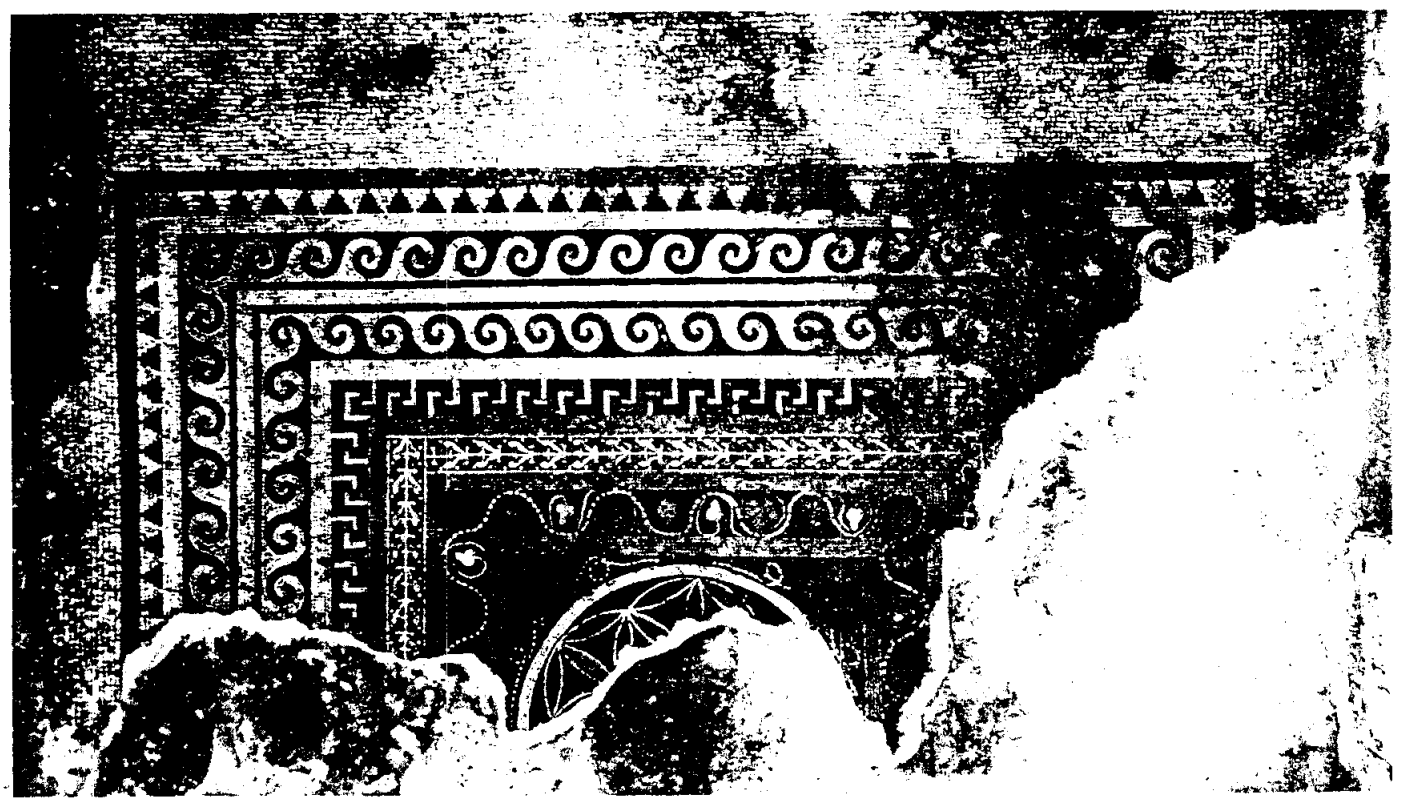
THE SERVICE WING AND WORKSHOPS. The service wing and workshops were also built around a large court. On its north side were several dwelling units composed of an open court and two rooms, similar to building IX (see below). The other sides of the wing were occupied by workshops and other service rooms.

THE STOREROOM WING. The storeroom wing consists of one very long room (c. 70 m long) on the extreme west and three smaller storerooms between it and the palace proper. Special doorways in the palace led into the storerooms, but there were also outer entrances (mainly on the south), through which the storerooms were stocked. Another row of storerooms abutted the southern wall of the royal apartments. All these storerooms, as well as a few units near the eastern entrance and the administrative wing in the northwest, belong to the second building stage of the palace (see below).

THE ADMINISTRATIVE WING AND THE RESIDENCE OF THE PALACE OFFICIALS. The administrative wing and the residence of the palace officials were situated in the northwestern corner of the Western Palace, in three blocks of buildings.

Western Palace.





Mosaic pavement in the Western Palace.

The northernmost building was particularly elaborate, resembling the small palaces (see below) and the building on the southeast side of the public storehouses.

The Small Palaces. Three small palaces (buildings XI–XIII) stood in close proximity, southeast of the Western Palace. They were built on the plan of the royal apartments in the Western Palace (especially buildings XI and XII), with a central court and a hall with two columns in its southern part. The hall leads to a large room in the southeast corner. This room could also be reached from the east, through a corridor and a special waiting room. The three small palaces (and another building near the public storehouses and two buildings northwest of the Western Palace) were constructed on a roughly similar plan. They were probably used by palace officials.

BUILDING VII. Building VII is situated west of the southern block of public storehouses. It consists of a central court surrounded on all sides by a row of rooms, with an additional row on the south side. The main entrance was from the north, from the square south of the Water Gate. Storerooms were attached to the building on the east and south. These probably held special goods (weapons and choice wine, for example), as is indicated by the fact that they were reached by a separate entrance.

BUILDING IX. Building IX, situated south of building VII on a small hill, differs in plan from the other buildings at Masada. It consists of a row of dwelling units around a central court. Each unit contains an open court and two small rooms. In all, there were nine dwelling units, three on each side of the building, with the exception of the eastern side, which contained the main entrance and two large halls. Square halls with their roofs supported at their center by four columns were found in the southwest and northwest corners. This building probably served as the barrack for officers of the guard.

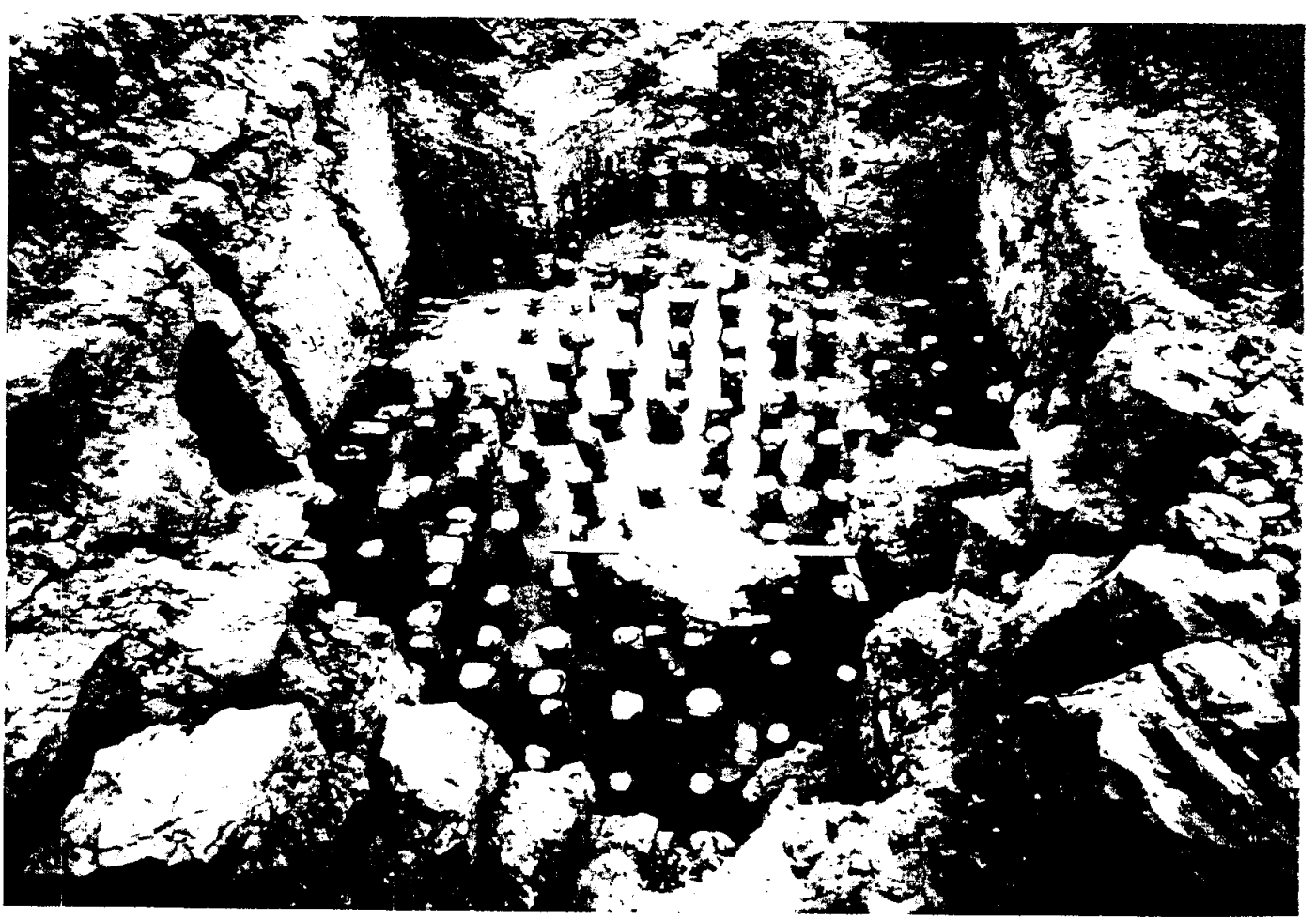
THE BATHHOUSE. In addition to the bathhouses in the palaces, Herod built a large and magnificent bathhouse in Masada's northern complex, south of the upper terrace of the Northern Palace and west of the northern storehouses. The bathhouse consists of four rooms and a large open court entered from the northeast corner of the building. The court had a kind of square exedra on the north and a small pool with plastered steps beside it. The open court had roofed porticoes on the west, north, and east. Their capitals were Nabatean in style. The entire floor of the court was paved with mosaics similar to those on the upper terrace of the Northern Palace. The mosaics in the three porticoes are surrounded by a black rectangular border. In the center of the court, the mosaic is laid in three nearly square carpets. The middle carpet was decorated with black and white triangles and the flanking carpets with beehive-shaped hexagons. All the designs are in black tesserae. Displayed in the center of each of the carpets was a square medallion with a richly colored design that is not preserved. The lower part of the walls of the porticoes was decorated with painted panels and rhombuses.

The Entrance Room (Apodyterium). The entrance room is situated in the northwest side of the bathhouse. Its walls were decorated with paintings of panels and its ceiling with geometric and plant designs, as is evidenced by the plaster fragments found on the floor. The floor was originally paved with a black-and-white mosaic replaced in its second phase by a pavement with alternating black-and-white triangular tiles.

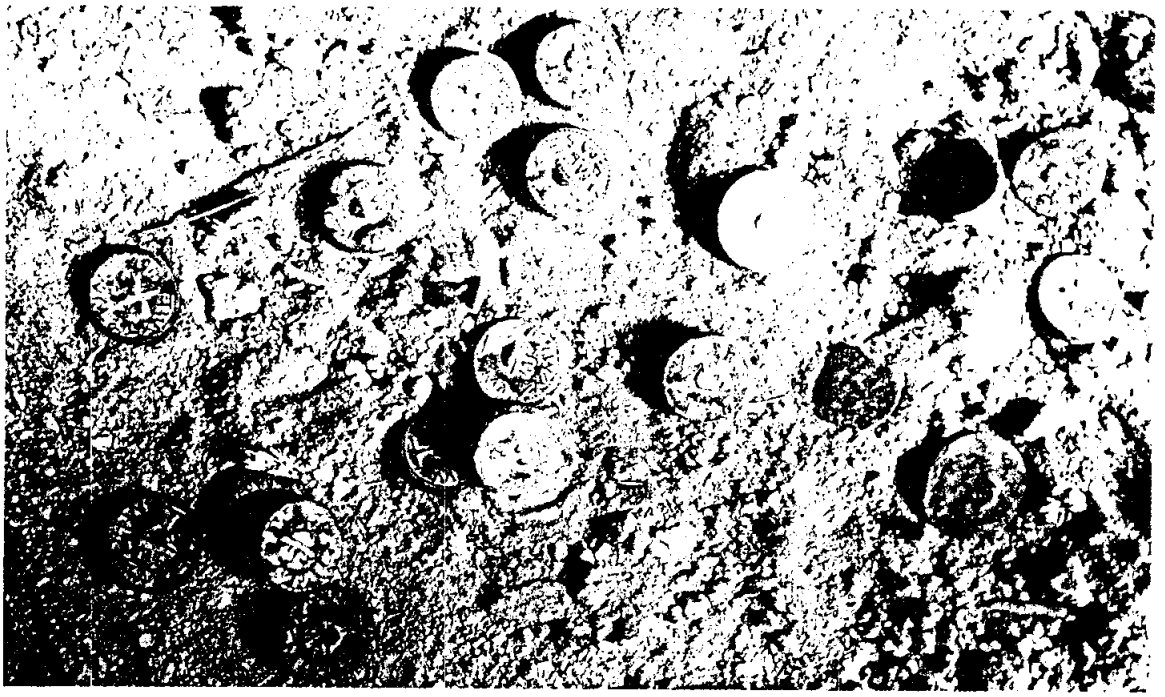
The Warm Room (Tepidarium). The warm room was entered through a doorway in the south wall of the apodyterium. Its walls, too, were decorated with painted panels; its floor was originally paved with mosaics and in the second phase with black-and-white square and triangular tiles. The black triangles were laid with their bases tangent to the white squares, and the white triangles were laid against the black squares.

The Cold Room (Frigidarium). The cold room occupied the northwest corner of the bathhouse and was entered through the warm room. It is in fact a stepped pool paved with waterproof plaster. In the early phase, the pool could be filled through two small openings.

The Hot Room (Caldarium), Heating Chamber (Hypocaust), and Furnace (*Praefurnium*). The caldarium was the largest room in the bathhouse, extending over nearly half its east side. The walls of the caldarium are especially thick and contain two recesses: an apse in the north wall and a rectangular niche in the south wall. The apse had originally contained a round, flat basin (*labrum*), made of quartz, fragments of which were found. The water for this basin came through a lead pipe from outside the building. In the opposite rectangular niche, there was a bathtub (*balneum*). The floor of the caldarium was laid on the small columns of the hypocaust (the heating chamber). Some two hundred columns about 65 cm high were found, most made of round clay bricks and some of stone. All the walls of the hypocaust and caldarium were faced with vertical rows of rectangular clay pipes made in segments. These segments were perforated on their narrow sides so that the hot air also flowed sideways. As in the other rooms, the floor of the caldarium was also originally paved with mosaics; at a later stage it was laid with black-and-white slabs



The large bathhouse in the northern complex: view of the hypocaust and caldarium; (left) entrance to the tepidarium.



Shekel coins, in situ.

arranged in a pattern resembling that in the warm room, but with larger slabs (30 by 30 cm). To the east of this room was the furnace (*praefurnium*).

THE SWIMMING POOL. The swimming pool, which was cut out of rock, was found southeast of the Western Palace, near small palace XI. It has wide plastered steps and was entered from the east through a long, wide corridor. In the wall of the corridor and in the south and west walls of the upper part of the pool were niches where clothes could be left.

THE COLUMBARIUM. In the southern part of the summit was a circular building (diameter, 7.5 m) that had no doorways and was divided into two parts by a wall with an opening. The building was in the Herodian style, and its outer face was well plastered. Small niches (c. 16 cm wide, high, and deep) are set in horizontal rows in the inner face and on both faces of the dividing wall. Each row had about eighty niches, six rows out of a possible ten being preserved. In the excavator's opinion, this building received the urns containing the ashes of cremations of the gentile garrison force.

POTTERY AND OTHER FINDS. The numerous sherds found in the fill of the Herodian floors and their comparison with vessels from the buildings themselves made it possible to identify the Herodian pottery, including terra sigillata ware, Augustan lamps, elongated and pointed amphorae, and others. Many amphorae for storing wine were dated to the year of the consul C. Sentius Saturninus—that is, 19 BCE—and were inscribed in Latin with their destination: "to Herod, king of Judea."

SUMMARY OF THE HERODIAN PERIOD. The results of the excavations have established that the original buildings on Masada were erected by Herod. No structure from an earlier period has yet been definitely identified. Herod's buildings were found to have been constructed over a long period of time, and this is attested by the change in plans, mainly in two stages—during the construction itself and later.

During the first building stage, the upper and lower water systems were cut in the rock and the original Water Gate was constructed. The main palaces, the large bathhouse, and many of the storehouses also belong to this stage. In the second stage of construction, most of the casemate wall was erected, the main block of storehouses and the storerooms near the palaces were enlarged, and the other public buildings were constructed. After the wall was completed, several changes were introduced in the layout of the gates, especially in the northern complex, which was completely isolated to keep it out of bounds to those entering Masada through the new Water Gate or the Western and Eastern gates.

BETWEEN HEROD AND THE REVOLT

A Roman garrison was stationed at Masada between the period of Herod and the First Jewish Revolt. The clearest evidence from this period are the numerous coins of the Herodian dynasty and the procurators, and several pottery vessels with Latin inscriptions. It seems likely that some of the changes and additions made in the public buildings were carried out during this period.

THE PERIOD OF THE REVOLT (66–73 CE)

A great number of finds from the period of the revolt were uncovered in the excavations. They will be described here in context with the Herodian buildings used during the revolt and the dwellings built by the Zealots, the public buildings erected by the Zealots, and the evidence for the fall of Masada in 73 CE.

THE HERODIAN BUILDINGS DURING THE REVOLT. The Herodian buildings—the many sumptuous palaces and the small number of living quarters—were not very suitable dwellings for the Zealots and their families. Most of the buildings (except for the storehouses) were adapted as dwellings and command posts. Their ornamental architectural parts, such as capitals and column drums, were used in the Zealots' dwellings as building material, fill, and also as benches, tables, and other furniture. The Zealots were especially in need of the planks and other wood that had been used to build or adorn the Herodian structures. Many of the floors were dismantled for use as building material in the Zealots' quarters.

The Northern Palace. Because of its location and layout, the Northern Palace could not be adapted for use either as normal living quarters or as a public building. Its importance during the revolt was in its strategic defensive position and in controlling the sources of water. Capitals and drums from the three tiers of the palace were found reused in various parts of the Zealots' quarters. Many of its architectural parts, including wooden floors and ceilings, were removed. The Zealots used only the living quarters of the upper terrace of the palace, probably as an administrative center for the northern complex. A large heap of burned arrowheads uncovered in the middle terrace may indicate that it was a defense post. Many finds from the last stage of the revolt were discovered on the lower terrace. It was covered by a thick burned layer containing several coins of the revolt, as well as a large quantity of olive and date pits and other food remains. Beneath the collapsed debris covering the small bathhouse on the east the remains of three skeletons were found: a man, a woman, and a child. Near them lay an ostracon inscribed in Aramaic, fragments of a tallith (prayer shawl), hundreds of silvered scales of copper armor, and scores of arrows. The woman's scalp was complete with braids, and sandals lay beside her. These appear to be the remains of one of the commanders of the revolt and his family.

The Western Palace. The absence in the Western Palace of cooking ovens, wall partitions, and other domestic installations indicates that the building was not used for dwellings. It seems to have been general administrative offices. In the large mosaic hall, hundreds of burned arrows and scores of coins dating to the revolt were found. There were also a few ostraca, some apparently inscribed with the names of priests. A thick conflagration layer covered most of the palace, especially the throne room.

The Small Palaces. The small palaces (buildings VIII and XI–XIII) were adapted as dwellings for a large number of families. Remains of ovens were found in most of the rooms, their soot covering part of the wall paintings. Partition walls were constructed by the Zealots to divide large rooms or courts into several smaller living units. Many rooms showed signs of fire and in the layer of ash household goods were found together with shekels and other coins dating to the revolt. Signs of burning were usually found in one of the main rooms, where furniture and family property were apparently gathered and deliberately set on fire.

Building IX. Building IX was suitable for dwelling even during the revolt. Families inhabited all the living units, as well as the large central court. Several wealthy families were among them, as indicated by the remains of luxury vessels (of alabaster and gold) found in the rooms. Two hoards of shekel and half-shekel coins were discovered in rooms in the northwest. One hoard, hidden beneath the floor in a cloth bag, included nine shekels (of the years 1, 2, and 3 of the revolt) and twenty-eight half shekels (of the years 1, 2, and 3). The second hoard, discovered nearby in an unusual bronze jug (a sort of chest), contained six shekels and six half shekels (of the years 1, 2, and 3). Several special washing installations, which were connected with the large swimming pool, were added to the building.

Building VII. Building VII was also inhabited by a large number of families. Several rooms showed traces of fire, in whose remains fragments of glass vessels, food (large piles of dates), and weapons were found. Many changes were made in the building during this stage, mainly to provide ritual baths and other bathing pools.

The Storehouses. The storehouses continued in their original use. A few rooms, completely destroyed by fire, contained hundreds of smashed food-storage jars. It is possible that each type of jar was stored in a separate room. Several other rooms, on the other hand, were totally empty and showed no signs of fire. It can thus be assumed that most of the storerooms containing food were burned. The few left undamaged may have been to prove that the defeat, as related by Josephus, had not been caused through lack of food.

Many of the vessels in the storehouses belonged to the Herodian period, as is revealed by the context of the Latin and Greek inscriptions on them. The new owners, however, wrote in Hebrew and Aramaic (mostly names) on the jars in ink and charcoal. Scores of bronze coins from the revolt were found scattered in a layer of ash on the floor of one of the storerooms. A group of special jars for wine and oil bore the Hebrew letter *n*, perhaps indicating that they were intended for priestly dues and tithes. Hundreds of ostraca found near the storehouses and inscribed with single letters (see below) were most likely used for some system of food rationing. In the large storehouses in the Western Palace (especially in the long one), a thick layer of ash contained hundreds of smashed storage jars. Special goods, such as fig cakes, were kept in these storerooms, as is attested by the Hebrew inscriptions on the vessels: "pressed figs," "crushed pressed figs," and "dried figs."

The Bathhouses. All the bathhouses and bathing pools continued to be used during the revolt, but alterations were made in some of the buildings, especially in the large bathhouse. Immersion and bathing pools were added as well as mikvehs (see below). Small bathhouses, in the form of stepped bathing pools, were installed in some of the buildings.

The Wall. All the rooms in the casemate wall and the towers were used as living quarters by the Zealots and their families. While the small rooms were inhabited by a single family, the large rooms were partitioned to form several living units. In many cases, rooms or courts were added to the casemates. Many of the Zealots' domestic utensils were found in the rooms in the wall—clothes, leather articles, baskets, and glass, stone, and bronze vessels, for example. In contrast to the public buildings, most of which had been razed by fire, few of the dwellings in the wall and its surroundings were burned. Their contents were found strewn on the floor, on ovens and on other cooking installations, and in niches used as cupboards in the walls. Piles of charcoal with the remains of various articles were found in the corners of some of the unburned rooms, indicating that the families had collected their personal belongings and set fire to them. Hundreds of coins of the revolt were discovered in the rooms in the wall—and among them a hoard of seventeen silver shekels found in locus 1039 (three of them shekels of Year 5) and a number of fragments of biblical and sectarian scrolls (see below). The towers served mainly as public rooms or workshops, such as tanneries and bakeries. In one of the towers, some 350 bronze coins of the revolt lay scattered next to a cooking stove.

THE TRANSIT CAMP. In order to solve the problem of housing, the Zealots also built several groups of huts. These were wretched dwellings of mud and small stones. They were mainly concentrated around the Herodian structures (buildings XI–XIII and IX), adjacent to the wall, and in open areas in the southern part of the summit. Some of these huts (called transit camps by the excavators) were probably built during the last stages of the revolt, when there was an influx of fugitive families. Most of the coins from Year 4 of the revolt came from these huts.

RELIGIOUS BUILDINGS. Apart from the transit camps, the only other structures built by the Zealots were for religious purposes: mikvehs, a *beit midrash*? (study hall), and a synagogue.

The Mikvehs (Ritual Baths). Two mikvehs were found, one at each end of the

Mikveh in the southern casemate wall.

summit, built according to halakhic law: namely, part of their water was supplied by rainwater flowing directly into them and not by pumped water. The southern mikveh was built inside and adjoining a casemate (room 1197, near tower 1196). It consists of three pools coated with gray waterproof plaster. The larger pool has three steps. It stored the rainwater collected from the roof and surroundings through a conduit. Between the conduit and the pool was a sump, in which the sediment settled. The second pool, for immersion, is smaller and has two steps. The two pools are connected by a hole, two fingers wide. A third, smaller pool served for the actual washing before immersion. Outside the casemate were several other rooms connected with the mikveh, such as dressing rooms. One room contained rows of small niches in the walls, where the bathers left their clothes. An entrance hall with benches was in front of the mikveh. Its roof was supported by columns made from drums and capitals taken from Herodian structures.

The northern mikveh was built in the eastern side of the central court of building VII. Three pools with a drainage system were situated in the northeast corner. The dressing room in the southeast corner was almost completely destroyed.

The *Beth Midrash*? (Study Hall). Palace XIII housed a large number of families during the revolt. Many huts were built onto it, to form a kind of self-contained block. In the northern part of this block was an elongated hall with a bench extending around three of its walls. A bench or narrow table stood lengthwise in the center of the room. This hall (built in a north–south direction) was clearly public in character and may very likely have been a *beth midrash*.

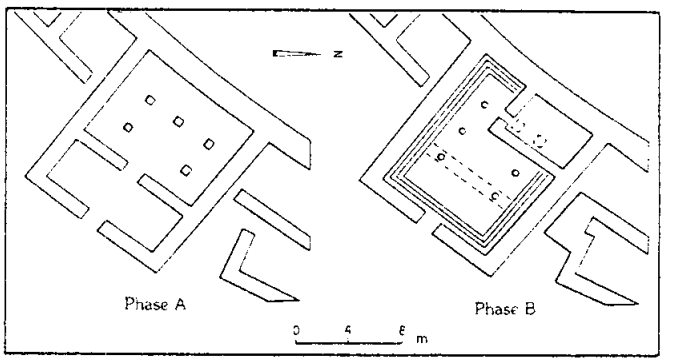
The Synagogue. The synagogue is situated in the northwest section of the casemate wall, west of building VII. During the revolt, its plan was rectangular (internal measurements 12.5 by 10.5 m) and it faced northwest—that is, toward Jerusalem. The entrance was in the middle of the southeast side. A room (3.6 by 5.5 m) in the northwest corner was covered with a thick layer of ash that contained fragments of glass and bronze vessels. Four tiers of mud-plastered benches extended along all the walls of the building, except for the wall of the room in the northwest corner, which had only one bench. The benches were made out of building remains, including broken capitals taken from the lower terrace of the Northern Palace. The building has two rows of columns, with three columns in the south row and two in the north row. Scores of lamps of the Herodian type were uncovered in one corner of the building. An ostracon inscribed *ma'aser kohen* (priest's tithe) was found in another. Fragments of two scrolls were discovered beneath the floor in another corner. They had been hidden in pits dug into the floor (see below), which were then refilled with dirt and pebbles. The scroll in the northern pit contained parts of Deuteronomy and the scroll in the southern pit contained parts of Ezekiel. The building in this form was constructed in the period of the revolt, and it can be stated with certainty that it was a synagogue. The bench facing Jerusalem was probably reserved for the elders, who sat with their faces toward the congregation.

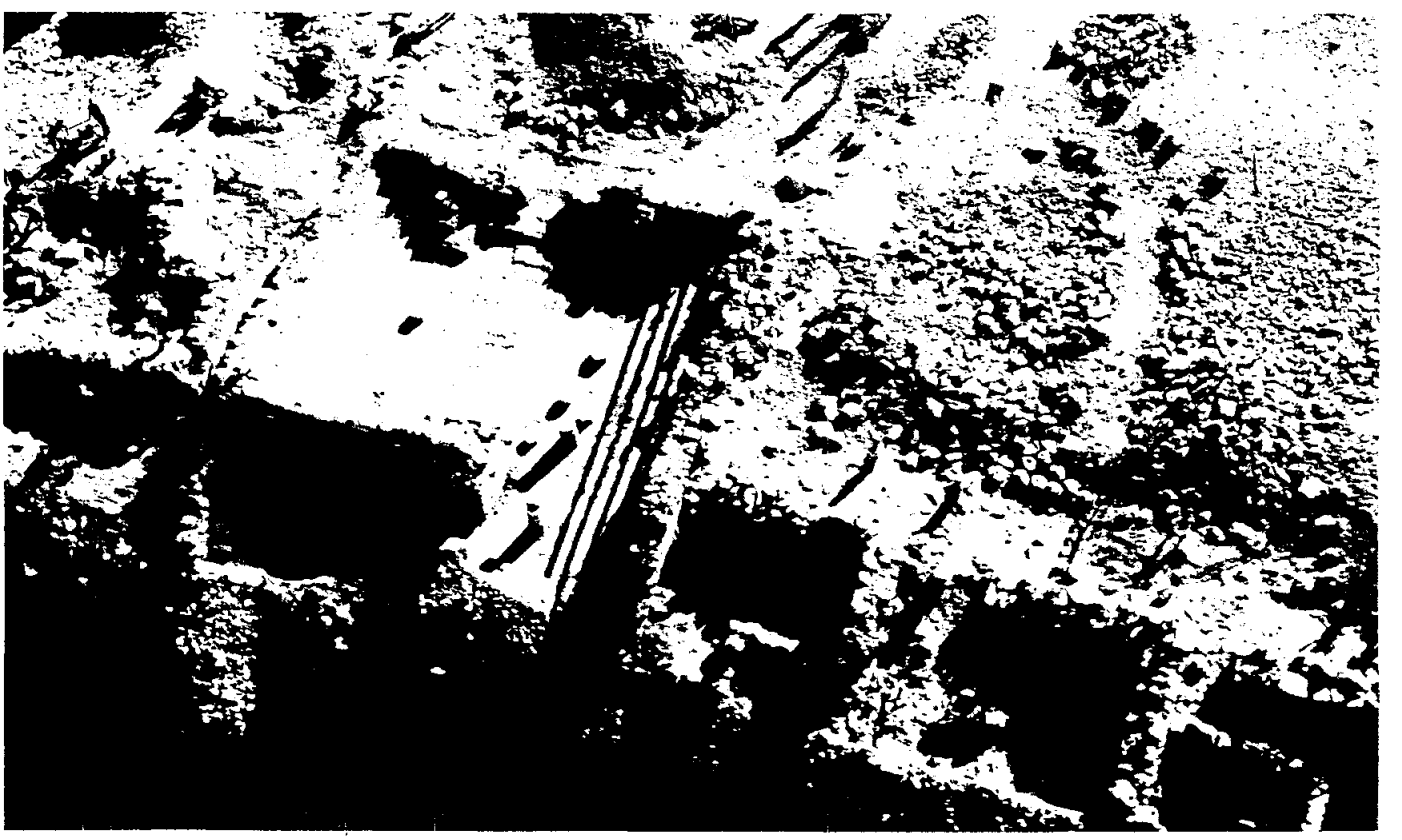
Test pits and cross sections made beneath the floor of the synagogue revealed an earlier stage of construction (from the time of Herod). It was built on a different plan. There was no corner room, and an entrance room extended along the facade on the eastern side. Columns ran along the west, north, and south walls—five in all. It is possible that this early building also served as a synagogue, for not only is it oriented toward Jerusalem, but the arrangement of the columns has a certain resemblance to that in early synagogues in the Galilee. The Zealots enlarged the building and built benches along the walls in the northwest room, in which the Scriptures were kept. To carry out these alterations in the building, they removed the wall between the entrance room and the hall, as well as the two columns in the northwest corner. These were placed on the foundations of the old dividing wall between the hall and the entrance room. This is one of the earliest known synagogues and one of the few uncovered from the Second Temple period.

North of the synagogue was a plastered pool built during the revolt, perhaps for use by the worshipers. Two casemates north of the synagogue were covered with thick conflagration layers that contained the remains of wooden furniture, shekels, and scroll fragments. Scrolls were also found in another casemate (locus 1039) situated several meters from the synagogue.

ZEALOT REMAINS. In addition to the three skeletons found in the lower terrace of the Northern Palace, a large heap of skeletons was found in a small

Plan of the synagogue in its two phases.





Aerial view of the synagogue and the adjoining casemate wall, looking southwest.

cave a few meters below the wall in the southern cliff. It contained twenty-five skeletons: fourteen men, six women, four children, and one embryo. Remains of clothing were found among the skeletons. Although it is difficult to establish whether these skeletons were defenders of Masada during the revolt, it seems a reasonable assumption. Most of the skulls are of the type found in the Nahal Ḥever caves, in the Judean Desert and so are assumed to be Jewish, as well.

THE FINDS. Coins. Many bronze coins of the revolt were found on the floors of the dwellings and the public buildings—some in large hoards (of 350, 200, and 100 coins), either scattered in a very small area or thrown in a heap. The most common coins are the usual bronze *prutoth*. However, several scores of rare coins dating to Year 4 of the revolt were also found. These coins were found mainly in dwelling huts and in the southern part of the summit. It can be assumed that they were brought to Masada the year before the fall of Jerusalem or soon after. The coin finds include thirty-seven shekels and thirty-five half shekels in the three large hoards; others were in groups of two or three, or single coins. The following chart shows the distribution of the coins of the revolt, according to the year of their minting:
Among the coins of the revolt were a few dozen coins from the period of the procurators.

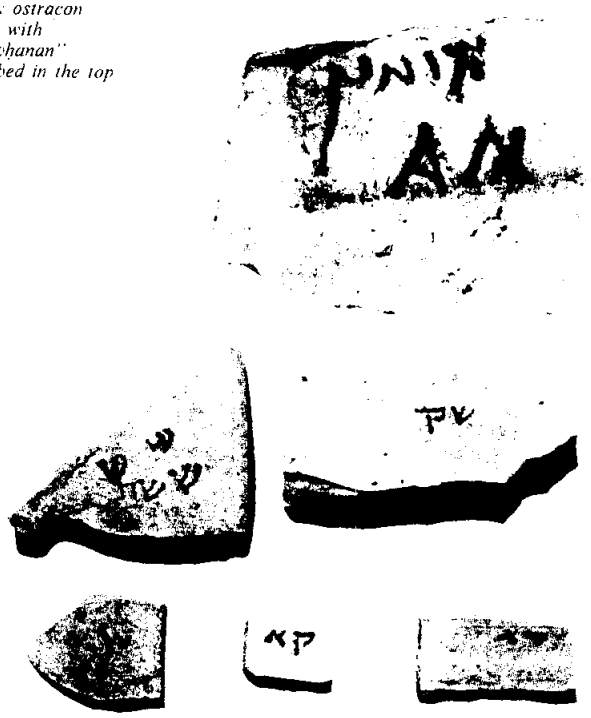
Total	*Year*						
		1	2	3	4	5	Unidentified
Shekels	37	3	20	3	2	3	6
Half shekels	35	7	15	11			2

The Ostraca. More than seven hundred ostraca of various kinds were discovered (including inscriptions on jars). Most of the inscriptions are written in Hebrew or in Aramaic, with some in Greek or Latin. The Hebrew and Aramaic inscriptions are important for paleographic research because their date is set exactly between 66 and 73 CE. The ostraca also add to our knowledge of the social organization of Masada and the national and religious character of its defenders.

TAGS WITH LETTERS. About half of the ostraca found are a kind of inscribed tag with a single letter or a combination of several letters. Most of them were discovered near the storehouses, and they seem to have been connected with the Zealots' food-rationing system during the siege.

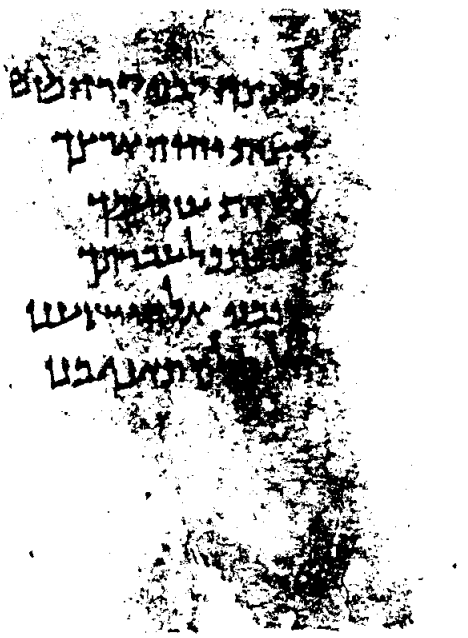
TAGS WITH NAME FORMULAS. A few dozen tags were inscribed with one of the following three inscriptions: Yehoḥanan, a Greek *alpha*, and a *yod* in Paleo-Hebrew script; Yehudah, a Greek *beta* written right to left, and the letter *samekh* in Paleo-Hebrew script; and Simeon with a *gimel* in regular script and a *daleth* in Paleo-Hebrew script. Most of these were found near the storehouses, either scattered or in groups of the same type. Twelve tags with the Simeon formula, for example, were found in a group near the southern storeroom of building VII. Perhaps these were special vouchers bearing the names of units, commanders, or those in charge of the priests' dues and tithes.

Right: ostracon "tag" with "Yehoḥanan" inscribed in the top row.



Selection of ostracon "tags."

Fragment of the Psalms Scroll (verses 85:1 ff.), from casemate 1039 south of the synagogue.



TAGS WITH SINGLE NAMES. Usually alone, some tags were inscribed with only one name, of a man or a woman: "daughter of Domli," "daughter of Katra," "son of Karzela," "wife of Jacob." A special group discovered in one of the rooms of the Western Palace may be inscribed with the names of priests: Yo'ezer, Yosha'ayah, Ḥezekiah, Dostos. These tags may have designated ownership by priests or Levites of objects or food, or they may have served as lots (see below).

LISTS OF NAMES. Four large ostraca were found in various places on the surface of Masada inscribed, from top to bottom, with names and a number beside each name: "son of Yeshua 21." These seem to have been administrative or military lists.

"LOTS." In locus 113, beside the inner gates commanding the entrance to the storehouses and to the Water Gate, a strange group of eleven small ostraca (and a twelfth ostracon sherd) was discovered. The ostraca were all written in the same handwriting, and each was inscribed with a single name. The names appear to be nicknames: Benhanahtom (the son of the baker), Ha'imqy (the one of the valley), Benputy, Ẓaiyada (the hunter), Milta (the word or the thing), Gerida, Joab. The sherd inscribed Ben-Jair is of special interest, because it may refer to Eleazar Ben-Jair, the commander at Masada. These ostraca may be the "lots" mentioned by Josephus: "they made the same rule for casting lots for themselves, that he whose lot it was to first kill the other nine, and after all, should kill himself" (*War* VII, 396). It appears, therefore, that Masada's last defenders were Ben-Jair's commanders, left to the last, who then cast lots among themselves.

INSCRIPTIONS DESIGNATING PRIESTLY TITHES. The ostracon inscribed *ma'aser kohen* (priest's tithe), which apparently means the "tithe of the tithe," belongs to a group that includes jars inscribed in ink or charcoal with a large ת. Also included in this group are the ostraca inscribed: *leqodsha* לקודשא and לטהרת כשרי[ן] הקדש.

NAMES OF OWNERS. Inscribed on many storage jars were the names of owners, among them *khn' rb' 'qby'*, "the high priest, Aqavia"; "Simeon son of Yehosef"; "Yehosef son of Eleazar"; "Jacob son of Ezra"; and "Naḥum son of Eleazar."

THE CONTENTS. A special group of storage jars, most of them from the storehouse in the Western Palace, bore such inscriptions as "crushed pressed figs," "dried figs," and "pressed figs."

A LETTER. An ostracon discovered on the lower terrace of the Northern Palace, alongside the three skeletons, is a letter written to "(. . .)m son of M'uzy." The subject of the letter is the payment of the sum of 500 denarii.

The Scrolls. The remains of a total of fourteen apocryphal, biblical, and sectarian scrolls were found. All were torn and in poor condition, and were either found on the floor or hidden beneath it. These were the first scrolls discovered outside caves in a dated archaeological stratum.

Biblical Scrolls. PSALMS. Fragments of psalms were discovered in casemate 1039, south of the synagogue. The psalms are written in two columns. The scroll contained parts of chapters 81 to 85. The division of the psalms and the text are identical with the Masoretic text, except for one variant.

Heap of skeletons, as found in the cave in the southern cliff.

A small fragment of a scroll was discovered in casemate 1103, north of the Snake Path Gate. It contains nearly all of Psalm 150 and is also identical with the Masoretic text. The blank space to the left of the text shows that it was the last psalm on the parchment, corresponding to the order of the psalms in the Masoretic text and unlike the order in the Septuagint and in the Psalms Scroll from Qumran.

GENESIS. A small fragment from locus 1039 contains several sections of Genesis 46:7–11, with several slight textual variations. It can be dated by the script to the first century BCE.

LEVITICUS. A small fragment found in casemate 1039 contains half of eight lines of Leviticus 4:3–9. The text corresponds throughout to the Masoretic text.

Large fragments from Leviticus were found torn and crumpled in a corner of the square between the Northern Palace and the large bathhouse. They contain a large part of chapters 8 to 12 and are identical to the Masoretic text, with spaces between the chapters.

DEUTERONOMY. A fragment of a Deuteronomy scroll was found hidden beneath the floor of the synagogue. The top of the last parchment, with several verses from chapter 33, is preserved. To the left of the text, a rolled, blank sheet of parchment was sewn to the scroll to facilitate unrolling it.

EZEKIEL. Fragments of the Book of Ezekiel were hidden beneath the floor of the synagogue. Large portions of chapters 35 to 38 are preserved, including chapter 37 (the vision of the dry bones). It is identical with the Masoretic text, apart from a few insignificant variants.

Apocryphal and Sectarian Scrolls. BEN-SIRA. Substantial fragments of chapters 39 to 44 of the lost Hebrew original of the *Wisdom of Ben-Sira* were discovered in casemate 1109, south of the Snake Path Gate. The text is written in two columns (like the above-mentioned psalms), in a minute script that belongs to the first century CE. The text is, for the most part, identical with the medieval Ben-Sira manuscript found in the Cairo Geniza.

BOOK OF JUBILEES. A tiny fragment from the Book of Jubilees was found in a garbage heap in a tannery tower, beside the Western Palace, where it had been thrown by the Roman garrison stationed at the site after Masada's fall. It contains several lines in Hebrew of the ancient text.

SONGS OF THE SABBATH SERVICE. A fragment of a Hebrew scroll discovered in casemate 1039 deals with the songs of the sabbath service—each sabbath and its particular song. The fragment found here contains parts of the songs for the fifth and sixth sabbaths. The sixth sabbath fell on the ninth day of the second month. This scroll is identical to the scroll discovered in cave 4 at Qumran. Its contents, style, and the calendar mentioned in it are all characteristic of the writings of the Dead Sea sect. The discovery of this scroll at Masada is of great importance, for it provides evidence for dating the Dead Sea Scrolls and also indicates that members of this sect (seemingly Essenes) participated in the Jewish Revolt against Rome.

MISCELLANEOUS. Other fragments of apocryphal and sectarian scrolls were discovered, mainly in casemate 1039. They have not yet been deciphered.

THE ROMAN SIEGE AND GARRISON

The extensive preparations made by Flavius Silva to conquer Masada are still visible in the fortress's surroundings: the siege wall (circumvallation), camps, and assault ramp. S. Gutman excavated part of camp A, and trial soundings were made by Yadin's expedition in camp F, the large camp northwest of the

Cosmetic utensils found in th Zealots' dwellings: kohl spoons, lid of a mirror, comb and perfume bottles.

rock and Silva's command headquarters. The main aim of the expedition was to determine the date of the smaller camp, situated in the southwest corner of camp F. It was established that this small camp was built by the garrison left at the site after the conquest of Masada. All the finds from the second (upper) of its two floors are attributed to the end of the first and beginning of the second centuries. The latest coin found here is from 105 CE.

Part of the garrison was also stationed on the summit of Masada. Stratigraphic evidence of the fall of Masada was provided by occupation levels above the conflagration layers, found mainly in buildings IX and VII, in the large bathhouse, and in some of the casemates, particularly on the northwest side.

In other places, signs of the destruction apparently carried out by the Roman garrison were noted. A group of silver coins from those levels was discovered on the north side of building VII. The latest coin in this group dates to 111 CE, attesting to the length of the Roman occupation. In various places on the summit some Nabatean bowls were found that are to be attributed either to the period of the revolt or to the Roman garrison. Large quantities of this type of pottery were also discovered in all the Roman camps. It seems likely that the garrison and siege troops included Nabatean soldiers, and that this pottery was used at least until 73 CE.

THE BYZANTINE PERIOD

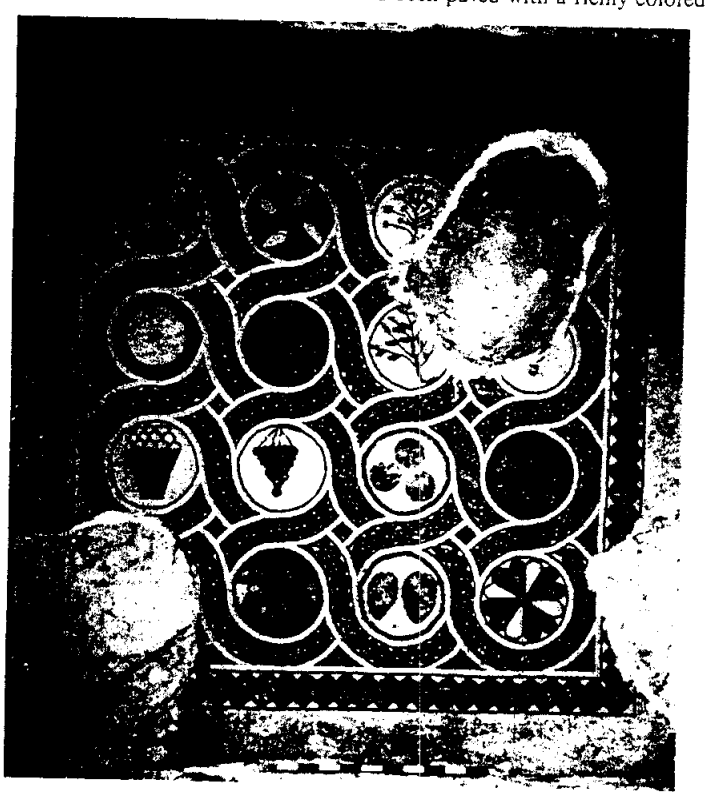
Masada was occupied by monks during the fifth and sixth centuries CE.

THE CHURCH. The church is situated northeast of the Western Palace. It consists of a long hall with an internal apse on its east side. The narthex was on the west side; on the northwest side of the hall was the diaconicon and an elongated hall. The floor of the hall had been paved with a richly colored mosaic in a guilloche pattern, most of which had been destroyed in antiquity. Only some sections in the southeast and northwest corners survived. The narthex was paved with a white mosaic. The tesserae had been manufactured at Masada; remains of this industry were found in a workshop near building XII. The diaconicon was paved with a colorful mosaic in red, black, yellow, and white that is almost completely preserved. It consists of sixteen circular medallions in a guilloche border. In the medallions are rosettes, pomegranates, figs, citrus, grapes, a basket of eggs with a cross, flowers, plants, and geometric patterns. Judging from the style of the mosaic, the construction of the church can be dated to the fifth century.

SERVICE WING (KITCHEN?). A service wing, perhaps including a kitchen, was found to the west of the church, inside and adjoining the casemate wall.

LIVING QUARTERS. Small cells built of stone were found scattered in various locations. They were used by the monks as living quarters and retreats. The foundations of these cells usually lay on the stones that had fallen from the Herodian and Zealot structures.

CAVES. Signs of habitation by monks were also found in the caves in the southern cliff and in the center of Masada. The monks built rooms and cells beside the caves on the summit.



Mosaic pavement in the Byzantine church.

EARLIER SETTLEMENTS

THE CHALCOLITHIC PERIOD. The earliest signs of occupation discovered in the excavations date to the Chalcolithic period. These remains were uncovered in a cave in the lower part of the southern cliff. Cupmarks were found in the floor, with the remains of plants, mats, cloth, and a few Chalcolithic sherds.

THE IRON AGE. A few scattered sherds from the Iron Age II were found in several locations, including the middle terrace of the Northern Palace. No buildings from that period were found, however; it is thus assumed that the sherds were left by individuals who, for some reason, lived at Masada from time to time.

THE PRE-HERODIAN PERIOD. Some of the upper cisterns belong to the pre-Herodian period. A large number of coins dating to Alexander Jannaeus' reign was also found. This may lend some weight to the theory mentioned above that "Jonathan the priest"—the founder of the fortress, according to Josephus—should be identified with Alexander Jannaeus and not Jonathan the Hasmonean. In this connection a burial near camp F should be mentioned: it contained a Roman silver coin from the second half of the second century BCE. Such coins continued in use until the time of Alexander Jannaeus, and the burial may date to this period.

CHRONOLOGY AND ARCHAEOLOGICAL SUMMARY

Period	*Date*	*Finds*
Chalcolithic	4th millennium BCE	Cave: pottery, cloth, and mats
Iron	10–7th cent. BCE	Scattered sherds
Hasmonean	First half of 1st cent. BCE	Coins of Alexander Jannaeus
Herod	40–4 BCE	Fortress, palaces, storehouses, bathhouses, water system, pottery, and coins
Herodian dynasty	4 BCE–66 CE	Additions and alterations to Herodian buildings, hundreds of coins of Archelaus, Agrippa, and the procurators
Jewish Revolt	66–73 CE	Dwellings, synagogue, *beth midrash*(?), ritual baths, scrolls, ostraca, coins, articles of daily life, and destruction by burning
Roman garrison	73–111 CE (at least)	Additional dwellings, alterations to earlier buildings, destruction of mosaics and paved floors, coins, and everyday utensils
Byzantine	5th–6th cent. CE	Church, service buildings, monks' cells, caves, pottery, and articles of daily use

YIGAEL YADIN

LATER RESEARCH ON MASADA

By the time the final report on the Masada excavations was published, in 1991, a clearer and somewhat different picture had emerged of the stratigraphy and development of its buildings. It was concluded that the history of construction on Masada under Herod could be divided into three phases. This conclusion was corroborated both by a few additional soundings conducted here by Netzer in 1989 and by work at other sites (mainly at the winter palaces from the Second Temple period in the western Jericho Valley).

THE HASMONEAN PERIOD. The question about the nature of Masada in the Hasmonean period remains open. Y. Porath, who analyzed the plaster of the many cisterns on the summit, confidently dated some of them to that period; as for the rest of the mountain, it is not clear whether there were any permanent buildings here at the time, or only a temporary camp. It was originally believed that the three columbarium towers and the small (abandoned) bathhouse on the eastern cliff (adjoining the Northern Palace) were built in the Hasmonean period. Moreover, prompted by discoveries at Jericho, Netzer was first inclined to date the core of the Western Palace, the three small palaces (XI, XII, and XIII) nearby, and perhaps some other buildings (VII and IX, for example) to the Hasmonean period. However, the 1989 soundings revealed no artifacts to support such a date.

THE HERODIAN PERIOD. Herodian Masada can be divided into three main building phases.

Early Phase (c. 35 BCE). The structures built in the early phase were the core of the Western Palace, the three small palaces (XI, XII, and XIII), building VII, and probably building IX (the "barrack"). Also attributable to this phase are the three columbarium towers and the small (abandoned) bathhouse, as well as the large swimming pool at the southern edge of the cliff. The columbarium towers were probably used as columbaria proper, for breeding doves, on the ground floor, and as watchtowers, on the upper floor. Two of these square towers at the western edge of the cliff were later built into the casemate wall. Also belonging to this early phase are a few of the large cisterns on Masada, including the two defined as Hasmonean by Porath (the cistern in the eastern part of the mountain, now open because of the collapse of its ceiling; and the cistern in the south, whose opening was outside the casemate wall). At this stage two paths led up to the summit—the Snake Path on the east and a western path, now partly buried under the Roman siege ramp.

The buildings erected in the early phase were scattered about the summit, with no clear signs of an overall plan. Architecturally, some of the buildings bear a striking resemblance to the "twin palaces" at Jericho, suggesting that, even if they were not built in the Hasmonean period, they were designed by architects who had previously worked under the Hasmoneans.

Main Phase (c. 25 BCE). In the second, main phase, the Northern Palace, the large bathhouse, and the central storehouse complex (blocks V and VI) were built, creating with building VII a kind of acropolis at the northern edge of Masada—the "northern part." This part of the mountain was well guarded, with only two entrances, one in the southeast and the other in the northwest, north of building VII, that led to a courtyard surrounded by rooms. This courtyard was added during the main building phase (the Water Gate was transferred to this area in the third phase). A rectangular tower, to the south of building VII, was also built in this phase, enhancing the security of the northern part. The latest studies have revealed that each of the three terraces of the Northern Palace had halls. On the upper terrace, surrounded by living quarters, was a central hall, open to the north through a distyle in antis. On the middle terrace was a tholoslike circular hall, supported by two circular structures. The largest and most magnificent hall (c. 9 by 10 m), surrounded by porticoes, stood in the center of the lower terrace.

The Western Palace was substantially enlarged during the main phase. Two wings were added: the service wing in the northeast and an administrative and service wing in the northwest. These wings were probably meant to serve not only the Western Palace but the entire network of palaces that now stood on the summit. Nevertheless, the Northern Palace was now the largest and most imposing of the palaces; the latest analysis of the remains indicates that it was, from the start, the official, ceremonial palace of Masada. It almost completely lacks service rooms or kitchens, except for a small wing in the southeast part of the upper terrace (including the two vaulted storehouses beneath the entrance square of the palace); to compensate for this lack, wings were added to the Western Palace.

Also attributable to the second phase are the twelve huge cisterns on the northwestern slope of the mountain. When these cisterns were built, the entire network of footpaths that led up to Masada was changed. It is quite probable that the western path was cancelled and replaced by paths that ran via the cisterns. One path ran past the upper cisterns to the Water Gate, while another passed by the lower cisterns and skirted the mountain on the north, reaching the Snake Path and the Snake Path Gate. At this stage the Water Gate—later abandoned—was built, as was an independent gate at the end of the Snake Path. (The floors of these gates were paved with stone to prevent damage by the hooves of the pack animals that brought the water up in skins.) In addition, the lower part of the western path may have been abandoned and the upper part used (through the Western Gate) only to permit access to the tower now built on the western cliff, as an outpost defending the two paths just described (this tower is explicitly mentioned by Josephus).

In the main phase, unlike the first, the architects made obvious efforts to follow a centrally organized plan, and the buildings were evidently concentrated in a few groups. This may be evidence of Herod's personal inclinations.

Late Phase (c. 15 BCE). The main construction project of the third, late phase was the construction of the casemate wall around most of the mountain, except for the northern part (which had been built from the start as a closed, protected unit). At the same time the northern part itself was enlarged, both by the addition of several storerooms (near and east of building VII), and by the erection of building VIII, similar in plan to the small palaces, on the southeast, near the Snake Path Gate. This building, near which a guardroom and a new entrance to the acropolis were built, probably accommodated Masada's governor. A second entrance to the northern part was now made northwest of building VII, near the northern end of the casemate wall. The quarry found to the south of the extended storeroom complex should also be attributed to the late phase; its location was presumably motivated by the desire to ensure better isolation of the northern part. The structure later converted by the Zealots for use as a synagogue was also an integral part of the casemate wall, built at this stage. There are various indications that the original structure was probably used as a stable.

Another building that was substantially enlarged during the late phase was the Western Palace. The additions comprised a group of storerooms (also intended for use by all the palaces) and a small palacelike building northwest of the palace, perhaps used by the official responsible for the palace(s), or the commander of the guard (as indicated by the direct communication between the building and the casemate wall).

Other rooms were later added to the Western Palace in what might be termed a fourth building phase. The main additions were the guardroom and main entrance in the north and a few buildings near the side entrance in the southeast; in addition, a few minor modifications were introduced here and there. The trend toward a more centralized plan of construction was no less prominent during this latest phase; a good example of this was the almost rectangular design of the Western Palace as a whole, including all additions.

THE ZEALOT PERIOD. The swimming pool south of the Western Palace, west of building XI, should probably be attributed not to Herod but to the Zealots. It was used by the Zealot community for their ablutions, perhaps also for ritual immersion. An important point in this context is that the Western Palace, unlike most buildings on Masada, underwent almost no changes at this time. It has accordingly been suggested that the large building was inhabited by a group of persons who lived as a commune—perhaps Essenes.

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(No. 27)

ANTIQUITIES LAW, 5738 — 1978 *

Chapter One: Interpretation

Definitions.

1. In this Law —

"antiquity" means —
(1) any object, whether detached or fixed, which was made by man before the year 1700 of the general era, and includes anything subsequently added thereto which forms an integral part thereof;
(2) any object referred to in paragraph (1) which was made by man in or after the year 1700 of the general era, which is of historical value, and which the Minister has declared to be an antiquity;
(3) zoological or botanical remains from before the year 1300 of the general era;

"antiquity site" means an area which contains antiquities and in respect of which the Director has made a declaration under section 28 (a);

"land" includes any part of any sea, lake, river or other water and the bottom thereof;

"excavation" or "digging" includes a search for antiquities and a trial digging;

"collection" means an assemblage of antiquities, other than antiquities in the possession of a dealer in antiquities as trading stock;

"collector" means a person who collects antiquities otherwise than for the purpose of trading therein;

* **Passed by the Knesset on the 23rd Shevat, 5738 (31st January, 1978) and published in *Sefer Ha-Chukkim* No. 885 of the 3rd Adar Alef, 5738 (10th February, 1978), p. 76; the Bill and an Explanatory Note were published in *Hatza'ot Chok* No. 1250 of 5736, p. 314.**

"museum" means any permanent exhibition of antiquities open to the public and any institution keeping a collection and exhibiting it for purposes of research, education or entertainment;

"the Department" means the Department of Antiquities and Museums of the Ministry of Education and Culture;

"the Council" means the Archaeological Council;

"the Director" means the Director of the Department;

"the Minister" means the Minister of Education and Culture.

Chapter Two: State Ownership of Antiquities

State ownership of antiquities.

2. (a) Where an antiquity is discovered or found in Israel after the coming into force of this Law, it and the area in which it is discovered or found and which is required for its preservation, shall within boundaries fixed by the Director become the property of the State.

(b) A person who alleges that any antiquity was discovered or found before the coming into force of this Law shall bear the onus of proof.

Notification of discovery of antiquity.

3. A person who discovers or finds an antiquity otherwise than in an excavation under a licence pursuant to this Law shall notify the Director within fifteen days of the discovery or find.

Request for delivery.

4. The Director may in writing request a person in possession of an antiquity referred to in section 2(a) to deliver it up to him, and he may reward the deliverer if he considers that the circumstances justify his doing so.

Request for loan of antiquity.

5. The Director may in writing request any person in possession of an antiquity to give it to him for the purpose of inspection or any other purpose for a period not exceeding ninety days.

Discontinuance of work after discovery of antiquity.

6. (a) Where a person carrying out any works on land, whether his own land or the land of another, discovers an antiquity thereon, he shall notify the Director as provided in section 3 and shall discontinue the works until the expiration of fifteen days from

the date of delivery of the notification unless during that period he receives permission from the Director to continue the work.

(b) Within fifteen days from the date of delivery of notification as aforesaid, the Director may notify the owner and the occupier of the land, in writing, of the conditions for continuation of the work or may direct its permanent discontinuance.

Compensation.

7. (a) A person affected by a notification of the Director under section 6 (b) shall be entitled to compensation for the damage caused to him.

(b) A demand for compensation shall be submitted to the Director in the manner and at the time prescribed by regulations.

(c) Where the demand of the person affected is not accepted, wholly or in part, the Court shall decide.

Waiver of rights of State.

8. The Director may waive State ownership of an antiquity in writing, and upon his doing so the antiquity shall cease to be the property of the State.

Chapter Three : Excavations

Excavation licence.

9. (a) No person shall dig on any land, or otherwise search, for antiquities, including the use of a metal detector, or gather antiquities, unless he has obtained a licence to do so from the Director (hereinafter referred to as an "excavation licence") and in accordance with the conditions of the licence.

(b) When deciding upon an application for an excavation licence, the Director shall consult with the Council and shall make the scientific and financial ability of the applicant his prime consideration.

(c) An excavation licence shall define the area in which digging is permitted.

(d) The issue of an excavation licence shall not by itself confer on its holder the right of entry to land in another's domain.

Right of entry.

10. (a) No person shall enter any land for which an excavation licence has been issued unless he is the occupier thereof or has been authorised on behalf of the occupier and subject to the consent of the holder of the licence.

(d) During the excavation, no person, other than the Director or a person empowered by him, shall photograph, paint, draw or

otherwise depict the excavation or the antiquities discovered in it, save with the permission of the holder of the licence.

Safety measures.

11. (a) The holder of an excavation licence shall, both during the excavation and thereafter, until the expiration of the period stipulated in the licence, take all measures required —

(1) to ensure the well-being of workers and visitors at the place of the excavation and the fencing off of such place;

(2) to protect, and ensure the preservation of, the place of the excavation and the antiquities discovered thereat;

(3) to prevent all damage or nuisance to neighbouring property.

(b) Where the holder of a licence does not comply with the provisions of subsection (a), the Director may, without prejudice to the provisions of section 13, after warning the holder of the licence in writing, take the required measures in his stead and collect from him the expenses involved.

Particulars and publications relating to excavation.

12. (a) At the dates prescribed by the Director, but not less than once a year from the date of commencement of the excavation, the holder of an excavation licence shall deliver to the Director in writing —

(1) a report as detailed as possible of the excavation, including sketches, plans and photographs of the work carried out;

(2) particulars of the antiquities discovered in the excavation, including photographs and other pictures.

(b) The holder of a licence shall have an exclusive right of publication in respect of the excavation for ten years from the termination thereof. Publication in contravention of this subsection shall be a civil wrong under the Civil Wrongs Ordinance (New Version) [1]).

(c) Within five years from the date of termination of the excavation, the holder of the licence shall bring out an appropriate scientific publication concerning the findings and results of the excavation and shall deliver two copies of the same to the Director; he shall also deliver to the Director two copies of every other publication brought out by him concerning the findings and results of the excavation.

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[1]) *Dinei Medinat Yisrael* (*Nusach Chadash*) No. 10, p. 268; *NV* vol. II, p. 5.

13. Where the holder of an excavation licence infringes any of the provisions of this Law or the regulations made thereunder or any of the conditions of the licence, the Director may revoke or suspend the licence or attach further conditions thereto; and where he infringes the provision of section 12 (c), the Director may refrain from granting him another excavation licence until he complies with the said provision. Revocation and withholding of excavation licence.

14. The Director may, after consultation with the Council, enter into an agreement with the holder of an excavation licence concerning a waiver of the rights of the State in antiquities discovered in the excavation and concerning the apportionment of such antiquities between the State and the holder of the licence. Waiver by agreement.

Chapter Four: Dealing in and Export of Antiquities

15. A person may only deal in antiquities if he is in possession of a licence therefor from the Director and in accordance with the conditions of the licence, which shall be prescribed by regulations. Licence.

16. (a) A licence to deal in antiquities shall indicate the place of business. It shall only be valid for that place and shall be displayed there in a conspicuous position. Place of business of dealer.

(b) A person shall not exhibit a licence which has expired.

17. A dealer in antiquities shall keep an inventory in the manner prescribed by regulations. Duty to keep inventory.

18. (a) The Director may revoke a licence to deal in antiquities permanently or suspend it for a period prescribed by him if the holder is convicted of an offence under this Law or the regulations made thereunder. Revocation of licence.

(b) A dealer whose licence has been revoked or suspended shall be treated as a collector.

19. (a) The Director may in writing notify the owner or possessor of an antiquity that the antiquity is of national value. Antiquity of national value.

(b) Within three months of notification under subsection (a), the Director may request that the antiquity be sold to the State.

(c) (1) Where a person wishes to sell or otherwise transfer an antiquity of national value, he shall give advance notice to the Director.

(2) Within three months of receipt of notice under paragraph (1), the Director may request that the antiquity be sold to the State. If the Director does not so request, the owner of the antiquity may sell or otherwise transfer it after he or the possessor thereof has, in writing, communicated to the Director the name and addreess of the purchaser or transferee.

(d) Where the antiquity is an integral part of a group of antiquities, the Director may only request as provided in subsection (b) or (c) in respect of the group as a whole.

(e) Where the Director and the owner or possessor of the antiquity do not reach agreement as to the consideration, the court shall decide the matter.

Presumption of knowledge.

20. Where a dealer in antiquities offers any article for sale as an antiquity, his plea that he did not know that the article was not an antiquity shall not be heard.

Restriction as to replica or composite.

21. (a) A person shall not sell or display for sale a replica or imitation of an antiquity without indicating thereon, in the manner prescribed by regulations, that it is not a genuine antiquity.

(b) A person shall not sell an antiquity consisting of parts of different antiquities — whether with or without supplements or additions — without indicating the composite character in the manner prescribed by regulations.

Restrictions on export of antiquities.

22. (a) A person shall not take out of Israel an antiquity of national value save with the written approval of the Minister.

(b) A person shall not take out of Israel any other antiquity save with the written approval of the Director.

Chapter Five: Collectors of Antiquities

Notice to Director.

23. A collector shall communicate to the Director, at his request, particulars prescribed by regulations in consultation with the Committee on Education and Culture of the Knesset concerning antiquities in his posseession and shall permit the Director or a person empowered by him in writing to make a photograph or sketch or a cast, print or other reproduction thereof.

Antiquity of particular scientific importance.

24. (a) The Director or a person empowered by him may notify a collector that an antiquity in his possession is of particular scientific importance (any such antiquity hereinafter referred to as a "special antiquity").

(b) The Director or a person empowered by him shall keep a record of special antiquities and of the particulars, photographs and sketches obtained or made under section 23 which shall be open to inspection by the public as he shall prescribe.

Transfer of special antiquity.

25. (a) Where a collector wishes to sell or otherwise transfer a special antiquity, he shall give advance notice to the Director.

(b) Within twenty-one days of receiving the notice, the Director may request that the antiquity be sold to the State. Where the antiquity is an integral part of a group of antiquities, the Director may only request as aforesaid in respect of the group as a whole.

(c) Where the Director and the collector do not reach agreement as to the consideration, the court shall decide the matter.

Chapter Six : Museums

Removal of antiquity from control of museum.

26. (a) Where the owner or director of a museum wishes to sell or otherwise transfer an antiquity which is in the museum or in the museum's collections or to dispose of one of the museum's collections, he shall give advance notice to the Director.

(b) Within twenty-one days of receiving the notice, the Director may request that the antiquity or collection be sold or transferred to the State, as the case may be.

(c) Where the Director and the owner or director of the museum do not reach agreement as to the consideration to be paid for the antiquity or collection, the court shall decide the matter.

Notice to director.

27. The provision of section 23 shall apply to the owner or director of a museum in respect of the antiquities in the museum and in its collection.

Chapter Seven : Antiquity Sites

Antiquity site.

28. (a) The Director may declare a particular place to be an antiquity site. The declaration shall be published in *Reshumot*.

(b) Where the Director declares as aforesaid, a note to such effect shall be entered in the Land Register and notice shall be given to the owner and the occupier of the place, if their identity

or addresses are known, and to the District Planning and Building Commission.

Prohibition of operations on antiquity site.

29. (a) A person shall not carry out, or allow to be carried out, any of the following on an antiquity site, save with the written approval of the Director and in accordance with the conditions thereof:

(1) building, paving, the erection of installations, quarrying, mining, drilling, flooding, the clearing away of stones, ploughing, planting, or interment;

(2) the dumping of earth, manure, waste or refuse, including the dumping thereof on adjoining property;

(3) any alteration, repair or addition to an antiquity located on the site;

(4) the dismantling of an antiquity, the removal of part thereof or the shifting thereof;

(5) writing, carving or painting;

(6) the erection of buildings or walls on adjoining property;

(7) any other operation designated by the Director in respect of a particular site.

(b) Notice of the designation of an operation under paragraph (7) of subsection (a) shall be published in *Reshumot*.

(c) Where an antiquity site is used for religious requirements or devoted to a religious purpose, the Director shall not approve digging or any of the operations enumerated in subsection (a) save with the approval of a Committee of Ministers consisting of the Minister as chairman, the Minister of Religious Affairs and the Minister of Justice.

Saving of Law.

30. The provisions of this Law shall not derogate from the requirement of a permit under the Planning and Building Law, 5725 — 1965 [1]).

Restoration to previous condition.

31. A person who has carried out one of the operations specified in section 29 without approval or in contravention of the conditions of the approval, shall take action, in accordance with the directions of the Director, to restore the antiquity site or the antiquities situated thereon to its or their former condition; but the Director may, after giving the person written notice, himself take all the steps required for that purpose and recover from him the expenses incurred.

[1]) *Sefer Ha-Chukkim* of 5725, p. 307; *LSI* vol. XIX, p. 330.

Chapter Eight : Expropriation

Power to expropriate.

32 (a) The Minister may expropriate —

(1) an antiquity site the expropriation of which is, in his opinion, required for purposes of conservation and research ;

(2) any land the expropriation of which is, in his opinion, required in order to enable digging thereon.

(b) Subsection (a) shall not apply to an antiquity site used for religious requirements or devoted to a religious purpose and owned by a religious institution :

Provided that a Committee of Ministers consisting of the Minister, the Minister of Religious Affairs, the Minister of Justice and the Minister of Foreign Affairs may, with the approval of the Committee on Education and Culture of the Knesset, make it applicable thereto with or without restrictions.

Mode of expropriation.

33. Expropriation shall be in accordance with the Land (Acquisition for Public Purposes) Ordinance, 1943 [1]), and for this purpose the Minister shall, *mutatis mutandis*, have all the powers and functions of the Government under that Ordinance.

Chapter Nine : Archaeological Council and Objection Committee

Archaeological Council.

34. (a) The Minister shall appoint an Archaeological Council and shall by regulations prescribe its composition and period of tenure and procedure for its deliberations and work.

(b) The Council shall advise the Minister and the Director on matters of archaeology and antiquities they may bring before it and shall carry out the functions assigned to it by this Law.

(c) The Council may delegate powers to committees from among its members.

Objection Committee.

35. There shall be established by the side of the Council an Objection Committee of three members, two of them appointed by the Council otherwise than from among its members and one a Judge, or person qualified to be a Judge, appointed by the Minister of Justice to be chairman of the Committee.

[1]) *P.G.* of 1943, Suppl. I, p. 44 (English Edition).

Powers of Objection Committee.

36. (a) A person who considers himself aggrieved by any of the following decisions of the Director may object thereto before the Objection Committee, but without the filing of objection voiding the decision:

(1) the fixing of the boundaries of an area referred to in section 2 (a);

(2) a second or subsequent request for delivery of an antiquity under section 5;

(3) a refusal to grant, the revocation or suspension of, or the attachment of conditions to, an excavation licence.

(4) a refusal to grant, or the revocation or suspension of, a licence to deal in antiquities;

(5) a refusal to grant a permit under section 22 (b);

(5) notification that a particular antiquity is of national value;

(7) notification to a collector that an antiquity in his possession is a special antiquity;

(8) notification that a particular antiquity is or is not an integral part of a group of antiquities;

(9) refusal to grant approval under section 29.

(b) In an objection proceeding, the Objection Committee may give any decision the Director is competent to give under this Law.

(c) An Objection Committee shall have all the powers vested in a committee of inquiry within the meaning of the Commissions of Inquiry Law, 5729 — 1968 [1]).

Chapter Ten: Offences and Penalties

Offences and penalties.

37. (a) A person who wilfully injures or, in any manner, wilfully defaces any antiquity or antiquity site or contravenes any of the provisions of section 9 (a) is liable to imprisonment for a term of three years or a fine of 150,000 pounds.

(b) A person who contravenes any of the provisions of section 6 is liable to imprisonment for a term of two years or a fine of 150,000 pounds.

(c) A person who contravenes any of the provisions of sections 3, 15, 19 (b), 21 or 29 is liable to imprisonment for a term of two years or a fine of 100,000 pounds.

1) *Sefer Ha-Chukkim* of 5729, p. 28; *LSI* vol. XXIII, p. 32.

(d) A person who contravenes any of the provisions of section 11(a) is liable to imprisonment for a term of one year or a fine of 30,000 pounds.

(e) A person who contravenes any other provision of this Law or the regulations thereunder is liable to imprisonment for a term of six months or a fine of 30,000 pounds.

Presumption.

38. If a person is found on an antiquity site with digging implements in his possession or nearby with which it must be supposed digging has recently been done on that site or is found with a metal detector in his possession or nearby, he shall, unless he proves otherwise, be presumed to have intended to discover antiquities.

Chapter Eleven : Miscellaneous

Certificate by Director to be *prima facie* evidence.

39. A certificate by the Director that some particular land contains antiquities or that some object is an antiquity shall be *prima facie* evidence thereof.

Powers of entry and examination.

40. The Director or a person empowered by him in that behalf in writing may at any reasonable time enter upon any land to examine whether the provisions of this Law or the regulations made or conditions of any certificate issued thereunder have been complied with thereon or to examine any antiquity discovered or found thereon and to make a sketch or photograph or a cast, print or other reproduction thereof.

Delegation of powers.

41. Subject to any regulation, the Director may, by notice in *Reshumot*, delegate any of his powers under this Law, other than his powers under sections 8, 13 and 14.

Controlled places.

42. (a) In this section, "controlled place" means —

(1) land in the possession of the Department;

(2) an antiquity site.

(b) A police officer or a person authorised in that behalf by the Director in writing may remove from a controlled place any person who contravenes therein any of the provisions of this Law or the regulations thereunder.

(c) The Minister may by regulations enact provisions as to visits to controlled places and the behaviour of visitors therein, fees for admission thereto, the protection thereof and the protection of the antiquities, accessories and furniture situated therein.

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Application of Law in military area.

43. (a) The following provisions shall apply in a military area:

(1) no person shall enter it for purposes of this Law save with the prior approval of a person empowered in that behalf by the Minister of Defence;

(2) no act shall be done therein on behalf of the Director save with the consent of the Minister of Defence;

(3) no antiquity shall be dealt with therein on behalf of a military body save with the approval of the Director.

(b) For the purposes of this section, "military area" means any land occupied by the Defence Army of Israel or any other branch of the Defence Establishment approved by the Minister of Defence, and includes an area used for military exercises.

Inapplicability.

44. The Minister may, in consultation with the Council and with the approval of the Committee on Education and Culture of the Knesset, prescribe, by order, that any of the provisions of this Law or the regulations thereunder shall not apply to antiquities, museums, excavations and antiquity sites defined in the order.

Saving of validity.

45. This Law shall add to, and not derogate from, any obligation imposed or power conferred by another enactment

Implementation and regulations.

46. (a) The Minister is charged with the implementation of this Law and may make regulations as to any matter relating to its implementation, including the collection of fees for licences issued under it.

(b) The Minister of Justice may make rules of procedure for proceedings under this Law by the Objection Committee established under section 35.

Applicability to State.

47. (a) For the purposes of this Law, the State shall be treated like any person.

(b) The provision of subsection (a) shall not derogate from the provision of section 8 of the Civil Wrongs (Liability of the State) Law, 5712 — 1952 [1]).

Repeal.

48. There are hereby repealed —

(1) the Antiquities Ordinance [2]);

(2) the Antiquities (Enclosures) Ordinance, 1935 [3]).

[1]) *Sefer Ha-Chukkim* of 5712, p. 339; *LSI* vol. VI, p. 147.
[2]) *Laws of Palestine* vol. I, p. 28 (English Edition).
[3]) *P.G.* of 1935, Suppl. I, p. 147 (English Edition).

49. (a) A licence issued under the Antiquities Ordinance which was in force immediately before the coming into force of this Law shall be deemed to have been issued under this Law. Transitional provisions.

(b) The schedules of historical monuments and sites published under the Antiquities Ordinance which were in force immediately before the coming into force of this Law shall be deemed to have been published under section 28 of this Law.

50. This Law shall be published in *Reshumot* within fifteen days of the date of its adoption by the Knesset. Publication.

MENAHEM BEGIN
Prime Minister

ZEVULUN HAMMER
Minister of Education and Culture

EFRAYIM KATZIR
President of the State

Un-official Translation

ANTIQUITIES (Authority) LAW, 5749-1989*

Chapter One: Interpretation

Definitions and Interpretations

1. (a) In this Law -

"Antiquities Law" refers to the Antiquities Law, 5738-1978[1];

"site" refers to an antiquities site as it is defined in the Antiquities Law;

"the Council" refers to the Council appointed in accordance with paragraph 6;

"the Director" refers to the Director of the Council;

"the Law" refers to the Law resulting from this legislation;

"the Minister" refers to the Minister of Education and Culture.

(b) All other terminology will have the connotation that they have in accordance with the Antiquities Law, unless they have been accorded a different meaning in this Law.

Chapter Two: The Law and Its Foundations

Paragraph One: Establishment of the Authority and Its Functions

Establishment of the Authority

2. The Antiquities Authority is established as a result of this Law.

The Authority - Corporation

3. The Authority is a corporation.

The Authority - a State-controlled Body

4. The Authority is a State-controlled body as defined in paragraph 9(2) of the State Comptroller Law, 5718-1958 [consolidated version][2].

Functions of the Authority

5. (a) The [primary] function of the Authority is to attend to all antiquities affairs in Israel, including underwater antiquities.

(b) The Authority may, with respect to the antiquities and sites, undertake any activity to discharge its functions, including -

(1) the uncovering and excavation of sites;

(2) the preservation, restoration and development of sites;

(3) the administration, maintenance and operation of sites and their supervision;

(4) the preservation and restoration of antiquities;

(5) establishing supervision over archaeological excavations;

(6) the administration of the State's treasures of antiquities, their supervision and control;

(7) setting in motion supervision with respect to offences under the Antiquities Law;

(8) preparing archaeological investigations and their advancement;

(9) the administration and maintenance of a scientific library of the archaeological history of Israel and her neighbours;

(10) the centralization, documentation and cataloguing of archaeological data;

(11) the establishment and advancement of educational activities and explanation in the field of archaeology;

(12) the establishment of international, scientific contacts in the field of archaeology.

(c) The administration, maintenance and operation of a site located within the boundaries of a supervised national park or national reserves shall, notwithstanding that which is stated in subsection (b)(3), form part of the National Parks Authority or the Natural Reserves Authority, this in cooperation with the Authority, unless otherwise mutually agreed to. For these purposes, "national park", "natural reserves", "National Parks Authority" and "Natural Reserves Authority" are to understood in their context under the National Parks, Natural Reserves and National Sites Act, 5723-1963[3].

Paragraph Two: The Authority Council

The Composition of the Council

6. (a) The Authority shall have a Council comprised of sixteen members as follows:

(1) government representatives who are employees of the State -

(a) the Director General of the Ministry of Education and Culture;

(b) the Head of Cultural Administration in the Ministry of Education and Culture;

(c) the Director of Economic and Budgetary Administration in the Ministry of Education and Culture;

(d) the officer-in-charge of budgets in the Ministry of Finance;

(e) the Accountant General;

(f) the Director of Planning in the Ministry of the Interior;

(g) the Director of the Planning and Economics branch in the Ministry of Tourism;

(h) the representative of the Minister of Agriculture to be appointed by the Minister of Agriculture.

(2) two representatives with archaeological background from two of the institutions of higher learning detailed below, each from a different institution, to be appointed after having had consultations with the Minister:

(a) the Hebrew University in Jerusalem;

(b) Tel-Aviv University;
(c) Haifa University;
(d) Bar-Ilan University;

(e) the Ben Gurion University of the Negev.

(3) one member from among the members of the Israeli National Academy of Sciences, to be appointed by the Minister after consultations with the Academy, who will serve as the Council Chairman;

(4) the heads of two local municipalities to be appointed by the Minister after consultations with the chairman of the local central government, as well as the head of the regional council, to be appointed by the Minister;

(5) the director of the museum that will display the antiquities to be appointed by the Minister after consultations with the Chairman of the Museums Council, in accordance with the Museums Act, 5743-1983[4];

(6) representatives from the Ministry of Religious Affairs to be appointed by the Minister of Religious Affairs.

(b) The government representative, mentioned in subsection (a)(1) (a) to (g), may appoint an alternate who, like himself, is employed by the State to participate in Council meetings.

(c) Any Council member who is not an employee of the State may appoint a permanent alternate in the same manner as a Council member is appointed.

(d) The Minister may appoint one of the Council members to deputize as the Council Chairman.

Term of Office

7. (a) The term of office of a Council member who is not a government representative shall be for a period of four years; however, he may be reappointed for additional terms of office.

(b) A Council member whose term of office has ended shall continue his appointment until he is either re-elected or until the appointment of another member in his stead.

Guidelines for the Appointment of a Council Member

8. The following shall not be appointed as a Council member:

(1) anyone charged with a shameful offence or who has been incarcerated prior to the passing of the period of limitation according to its meaning in the Criminal Registration Act and the measure for the benefit of repentant offenders, 5741-1981[5];

(2) anyone who has a conflict of interest with respect to his business affairs and his membership in the Council; however, there will not be a conflict of interest where the actual appointment of an individual to the Council comes as a result of his responsibility.

Reimbursement of Expenses

9. The Council Chairman, his deputy and any Council member shall not accept any remuneration from the Authority for services rendered as part of their duties in the Council; however, they may claim coverage for reasonable expenses incurred as part of their duties in the Council, in an amount established by the Authority.

Expiration of a Term of Office

10. (a) A Council member who is not a government representative shall terminate his term of office to the appointed time if:

(1) a letter of resignation is tendered to the Council Chairman;

(2) any of the conditions cited in paragraph 8 are breached;

(3) he is unable, on a consistent basis, to discharge his duty and the Minister, after consultation with the Council Chairman, will remove him from his position through written notification;

(4) he retires from the position for which he was appointed.

(b) The Council Chairman shall provide to the Minister the letter of resignation, as mentioned in subsection (a)(1), within 96 hours of receiving [said letter]. The force of resignation ceases 48 hours after handing over the letter of resignation to the Minister, except where the Council member retracts his resignation in writing to the Minister.

(c) A Council member who is not a government representative, or a representative who is an employee of the State who was appointed to participate permanently in the sittings of the Council as mentioned in subsection 6(b), and who is absent for an unjustifiable reason from four consecutive Council meetings, may be removed from his position in the Council by the Minister after consultation with the Council Chairman, or his appointment may be nullified, according to the circumstance, through written notification.

The Duty Rosters of the Council

11. (a) The Council shall establish for itself its own work routines and the administration of its deliberations inasmuch as these have not been established by this Law or pursuant to it.

(b) The legal quorum for Council meetings is at least seven members. If there was no legal quorum at the commencement of the meeting, the Council Chairman may postpone the meeting by thirty minutes. After this time has passed, the meeting shall be considered to be in session if there are at least five participating members, the Council Chairman or his deputy being counted among them.

(c) Once the meeting has duly commenced in accordance with subsection (a), the meeting shall duly continue with as many members as there are present.

(d) The Director, or whomever has been deputized in his place, may be present at Council meetings.

Deliberation on a Given Subject

12. If the Minister or five Council members wish to table a certain topic, the topic should be made part of the order paper for the next Council meeting.

Appointing a Subcommittee

13. The Council may appoint members to form a subcommittee, to establish a Chairman as part of its authority, to lessen the authority to establish general Council policy and the authority to approve its budget.

Authority

14. A decision of the Council or one of its subcommittees shall not be disqualified except where the seat of the Council member or the subcommittee member was vacant, for whatever reason, at the time that the decision was made.

Council Duties and Authorities

15. The Council, without detracting from its other duties, shall -

(1) establish the general [operating] policies of the Authority in the area of duties;

(2) approve the budget of the Authority;

(3) follow up on the continuity of policy implementation, the programs and budgets of the Authority;

(4) deliberate over the financial reports provided to it by the Director.

General Council Rules

16. The Council, with the approval of the Minister, shall establish general rules for the operation of the sites, their administration and supervision.

Report

17. The Council shall provide to the Minister, at least once a year, a report on the activities of the Authority, and shall likewise provide to him, at his request, any knowledge of its activities.

Chapter Three: The Director of the Authority and Its Employees

The Director of the Authority

18. (a) The Council shall appoint, based on the advice of the Minister and with the approval of the government, a Director of the Authority. The Council may, based on the advice of the Minister, appoint a deputy Director.

(b) The elections subcommittee, as stated in subsection (a), shall be published in Reshumot.

The Authority of the Director

19. (a) The Director is responsible for the uninterrupted administration of the Authority's dealings in accordance with the decisions of the Council.

(b) Subject to the directives [outlined] in this Law, as well as the decisions of the Council, the Director shall have all of the authority necessary for the administration of the Authority, including the authority to represent the Authority in any of its duties, to sign agreements or other documents in the name of the Authority.

(c) The directives in this Law do not detract from the authority and duties granted to the Director by the Antiquities Law or any other enactment.

(d) The Director may, according to this Law, delegate some of his authority to an employee of the Authority and to authorize this employee to sign any document in the name of the Authority.

Appointing the Director

20. (a) The Director shall be appointed for a period of five years (hereafter: term of office). The Council, with the approval of the Minister and the government, may re-elect the Director for an additional term of office at the conclusion of the current term.

(b) The term of the Director shall terminate with one of the following:

(1) the Director resigns through a letter that he presents to the Minister through the agency of the Council;

(2) the Minister, after consultation with the Council and with the approval of the government, establishes that the Director cannot, in a permanent manner, discharge his duties;

(3) the Minister, after consultation with the Council and with the approval of the government, decides to remove him from his position for reasons that shall be detailed.

The Employment of Workers

21. (a) the Authority may engage workers to implement its duties;

(b) the conditions of employment of Authority workers, remuneration, service lists and methods of selection for work shall be the same as those of government employees, with those changes that have been set by the Authority with the approval of the Minister and the Minister of Finance.

Terms of the Director's Employment

22. The remuneration for the Director and the terms of his employment shall be set by the Minister with the approval of the Minister of Finance.

Chapter Three: Budget and Finance

Budget

23. (a) The Director shall prepare, at an interval set by the Council, a budgetary proposal for the activities of the authority and shall present it for approval to the Council.

(b) The budget for the Authority shall be presented to the Minister and requires the approval of both the Minister and the government.

(c) The Minister of Finance may direct the Authority with any matter that relates to the preparation of the Authority's budget.

Financing and Capital

24. (a) The budget of the Authority shall be financed from the treasury of the State, as well as from revenue from fees and other payments to be paid to the Authority in accordance with the Antiquities Law.

(b) So that the Authority can discharge its duties, the Authority may accept donations and may likewise establish research funds.

Chapter Four: Supervision Authority

The Appointment of Inspectors

25. (a) The Council shall appoint inspectors from among Authority employees, from among those who have been legally appointed as inspector or an individual who has been appointed as an inspector through the force of an enactment for the purpose of supervising the implementation of the Antiquities Law. The appointment shall be in writing.

(b) It is understood that the inspector shall have the authority to conduct investigations concerning offences against the Antiquities Law. It is understood that in using this authority -

(1) the inspector shall have the authority of a police officer in accordance with paragraph 2 of the Criminal Code (Arrest and Search) [New Version], 5729-1969[6].

(2) the inspector may utilize all of the authority allocated to a police officer at the rank of inspector in accordance with paragraph 2 of the Order of Criminal Procedures (Testimony)[7], and paragraph 3 of the aforementioned Order shall be effective [ ] registered as a result of this authority.

The Authority of the Inspector

26. (a) Should the inspector have a probable basis upon which to assume that the matter requires him to operate under the authority assigned to him, he has the authority to -

(1) stop any vehicle and conduct a search;

(2) enter any place and conduct a search; however, he may not enter a place that serves as a place in which people live provided there is a search warrant from an authorized court, and paragraphs 24 and 26-29 of the Order of the Criminal Code (Arrest and Search) [New Version], 5729-1969, will be in effect, with the necessary changes, with respect to a search conducted according to this clause;

(3) seize any object if the inspector has a probable basis to assume that an offence that violates the Antiquities Law was committed with it, and he may seize packing material or documents which, in his judgement, may be entered as evidence in a trial for an offence noted above.

(b) Insofar as this chapter is concerned, "object" includes any vehicle of conveyance.

Chapter Five: Transferring Employees, Assets, Privileges and Obligations

Transferring Employees

27. (a) Employees of the State who are employed on the eve of the commencement of this Law in the Antiquities and Museums Department in the Ministry of Education and Culture (hereafter: the Department) shall be transferred to serve as employees of the Authority under terms of service that are not worse than those in effect prior to the Law being in force.

(b) The benefits of Authority employees that have been transferred and those that stem from their work as employees of the State, as mentioned in subsection (a), shall be considered as benefits that stem from work in the service of the Authority.

(c) Settlements regarding the entitlement of the Authority to disbursement amounts that shall be transferred to its service shall be allowed and will be set within one year of the commencement of this Law in an agreement between the Authority and the government.

Transferring of Assets

28. Assets of the State that were, prior to the commencement of this Law, maintained by the Department, shall be transferred to the Authority. In this paragraph, "assets of the State" refer to real estate, moveables, entitlements and vested interests of every manner, with the exception of antiquities and sites. Conditions of transfer shall be set in an agreement between the Authority and the government.

Chapter Six: Various Directives

Taxes

29. The law of the Authority has the same force as the law of the State with respect to the remittance of taxes, the stamp tax, fees [for government or other public services], property taxes, levies and other mandatory payments.

Damage Liability

30. The law of the Authority has the same force as the law of the State with respect to the Law of Civil Damages (Liabilities of the State), 5712-1952[8].

Rules Governing Council Members and Employees of the Authority

31. (a) The law for employees of the Authority has the same force as the law for employees of the State with respect to the following enactments:

(1) Knesset Elections Act [New Version], 5729-1969[9];

(2) State Service Act (Classification of Party Activities and Fundraising), 5719-1959[10];

(3) Public Service Act (Gratuities), 5740-1979[11];

(4) Public Service Act (Restrictions at Retirement), 5729-1969[12];

(5) Penalties Act, 5737-1977[13] - directives pertaining to public employees;

(6) Testimonies Order [New Version], 5731-1971[14];

(7) Damages Order [New Version][15];

(b) The State Service Act (Discipline), 5723-1963[16], shall apply to employees of the Authority as though they were employees of the State. In this regard, the Minister of Education and Culture is synonymous with the Minister wherever Minister is mentioned in this Law, and the Director is synonymous with the Director General wherever Director is mentioned in this Law.

Implementation and Regulations

32. The Minister is appointed to implement this Law and he may, after consultation with the Director and the Council, enact regulations with respect to implementation.

Amendments to the Antiquities Law

33. In the Antiquities Law -

(1) In paragraph 1 -

(a) after the definition of "sites of antiquities" should come:

""The Authority" - the Antiquities Authority as understood in the Antiquities Authority Law, 5749-1989";

(b) in the definition of "collector" read "who has a collection" instead of "who collects";

(c) strike the definition of "the Department";

(d) in place of the definition of "the Director" read ""the Director" - Director of the Authority";

(2) in paragraph 8, after "the Director" read "with the approval of the Minister";

(3) in paragraph 14, instead of "after consultation" read "with the approval of the Minister and after consultation";

(4) in paragraph 15, instead of "the Director" read "the Minister" and at the conclusion read: "The Minister may authorize the Director or any other employee of the Authority regarding the issue raised in this paragraph";

(5) in paragraph 18(a), in place of "the Director" read "the Minister or an individual who has been authorized in accordance with paragraph 15";

(6) in paragraph 34(b), after "to the Minister" comes "to the Director and to the Council of the Authority";

(7) in paragraph 36 -

(a) in subsection (a), in place of "from the decisions of the Director" read "from the Director";

(b) in place of subsection (b) read: "(b) the appeal board may decide to accept an appeal, defer it or decide with respect to any other decisions";

(8) in paragraph 42, in subsection (a)(1) in place of "the Department" read "the Authority" and in subsection (c) after "the Minister", read "according to the suggestion of the Authority";

(9) in paragraph 44, in place of "in the Council" read "with the Director, with the Council of the Authority and with the Council";

(10) in paragraph 46(a), after "may" read "after consultation with the Director and the Council of the Authority" and after "licences" read "approvals, permits or services";

(11) after paragraph 46 read:

"**Revenues Accruing to the Authority**

46a. Fees and other revenues, with the exception of fines, collected as a result of this Law, shall be paid to the treasury of the Authority".

Amendment to the [ ] Order

34. In the [ ] Order[17] -

(1) in paragraph 2, in place of the definition for "an historical site" read:

""an historical site" - a site of antiquities as it is understood in the Antiquities Law, 5738-1978";

(2) in paragraph 8(1)(a)(2), in place of "the Director of the Antiquities Department" read "the Director as understood in the Antiquities Authority Law, 5749-1989".

Observance of the Law

35. Subject to paragraph 5(c), the directives in this Law cannot detract from the directives in the National Parks, National Reserves and National Sites Act, 5723-1963.

Transition Directives

36. (a) Anyone appointed as Director of the Department prior to the commencement of this Act shall be considered as if he were appointed as Director according to the Act for a term of office as at the day that the Act came into force.

(b) The government shall pass to the Authority all of the amounts budgeted for in the Budget Act for the current fiscal year for those activities of the Department whose implementation was passed to the Authority and for which there has not been an expenditure until this Act came into force. Until the end of the current fiscal year, the budget of the activities of the Authority will be in accordance with the budget passed to the Authority, as previously stated, with changes stemming from the establishment of the Authority. In this case, "the current fiscal year" refers to the fiscal year in which this Act comes into force.

Publication

37. This Act will be published in Reshumot within 30 days of its acceptance.

Chaim Herzog	Yitzhak Shamir	Yitzhak Navon
President of the State	Prime Minister	Minister of Education and Culture

Footnotes

* passed by the Knesset on the 21st day of Tammuz (July 24, 1989); the Bill and an Explanatory Note were published in Hatza'ot Chok 1926 of 7 Nisan 5749 (April 12, 1989), p. 67.

1. Sefer Ha-Chukkim 5738, p. 76.
2. Sefer Ha-Chukkim 5718, p. 92.
3. Sefer Ha-Chukkim 5723, p. 149; 5742, p. 34.
4. Sefer Ha-Chukkim 5743, p. 113.
5. Sefer Ha-Chukkim 5741, p. 322.
6. Laws of the State of Israel, New Version 12, p. 284.
7. [ ], Vol. I, p. 439.
8. Sefer Ha-Chukkim 5712, p. 339.
9. Sefer Ha-Chukkim 5729, p. 103.
10. Sefer Ha-Chukkim 5719, p. 190.
11. Sefer Ha-Chukkim 5740, p. 2.
12. Sefer Ha-Chukkim 5729, p. 114.
13. Sefer Ha-Chukkim 5737, p. 226.
14. Laws of the State of Israel, New Version 10, p. 421.
15. Laws of the State of Israel, New Version 5, p. 266.
16. Sefer Ha-Chukkim 5723, p. 50.
17. [ ], Vol. II, p. 910.

AUTHORIZATION

1. I, Michael Turner
the undersigned, hereby grant free of charge to Unesco the non-exclusive right for the legal term of copyright to reproduce and use in accordance with the terms of paragraph 2 of the present authorization throughout the world the photograph(s) and/or slide(s) described in paragraph 4.

2. I understand that the photograph(s) and/or slide(s) described in paragraph 4 of the present authorization will be used by Unesco to disseminate information on the sites protected under the World Heritage Convention in the following ways:

   a) Unesco publications;
   b) co-editions with private publishing houses for World Heritage publications: a percentage of the profits will be given to the World Heritage Fund;
   c) postcards - to be sold at the sites protected under the World Heritage Convention through national parks services or antiquities (profits, if any, will be divided between the services in question and the World Heritage Fund);
   d) slide series - to be sold to schools, libraries, other institutions and eventually at the sites (profits, if any, will go to the World Heritage Fund);
   e) exhibitions, etc.

3. I also understand that I shall be free to grant the same rights to any other eventual user but without any prejudice to the rights granted to Unesco.

4. The list of photograph(s) and/or slide(s) for which the authorization is given is attached.
(Please describe in the attachment the photographs and give for each a complete caption and the year of production or, if published, of first publication.)

5. All photographs and/or slides will be duly credited. The photographer's moral rights will be respected. Please indicate the exact wording to be used for the photographic credit.

6. I hereby declare and certify that I am duly authorized to grant the rights mentioned in paragraph 1 of the present authorization.

7. I hereby undertake to indemnify Unesco, and to hold it harmless of any responsibility, for any damages resulting from any violation of the certification mentioned under paragraph 6 of the present authorization.

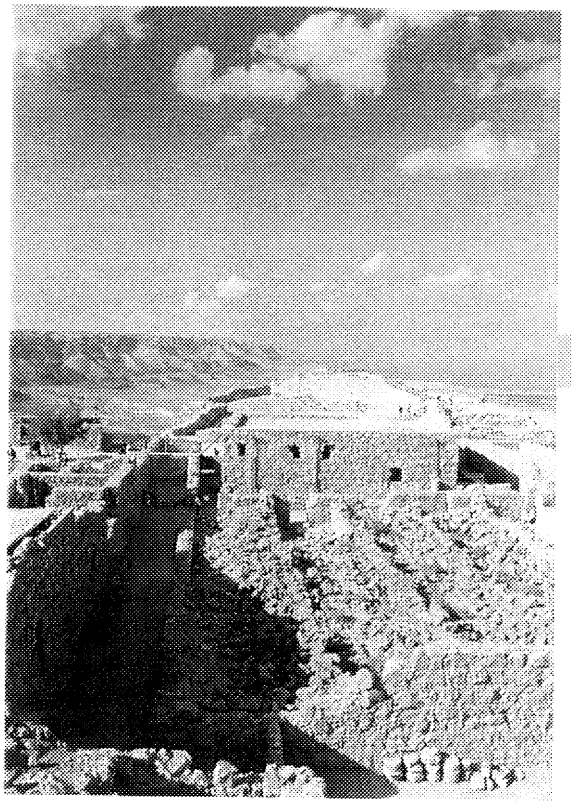
8. Any differences or disputes which may arise from the exercise of the rights granted to Unesco will be settled in a friendly way. Reference to courts or arbitration is excluded.

Jerusalem	15.10.00	
Place	date	Signature, title or function of the person duly authorized chair Israel world heritage committee

Mosaic floor in the Western Palace

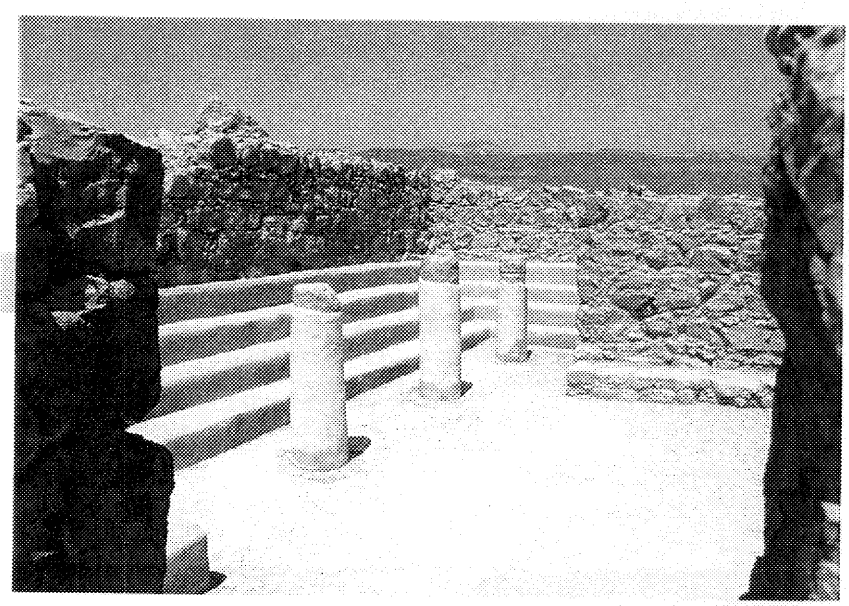
Decorated wall of the
Byzantine Church

Frescoe in the Large
Bath-house

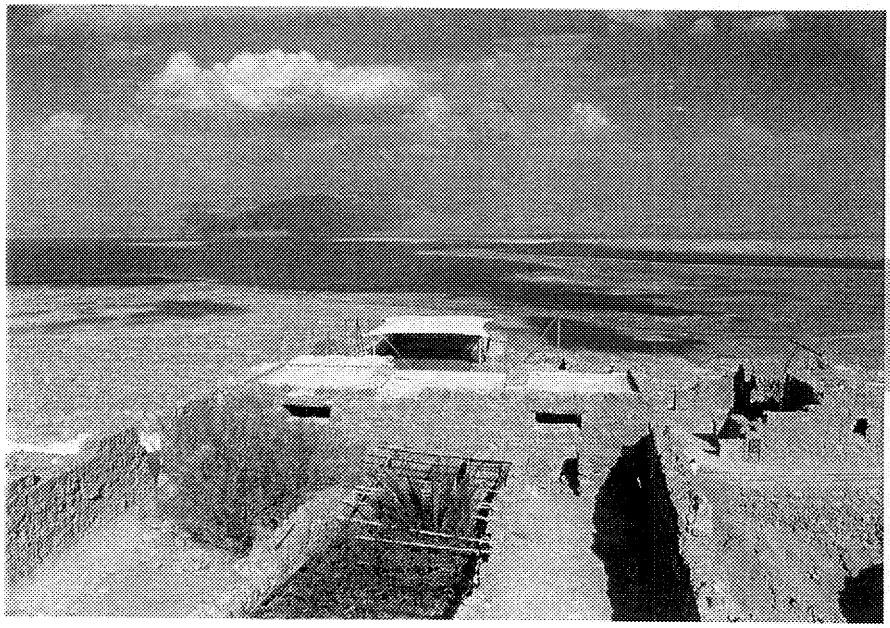


Unexcavated Storerooms

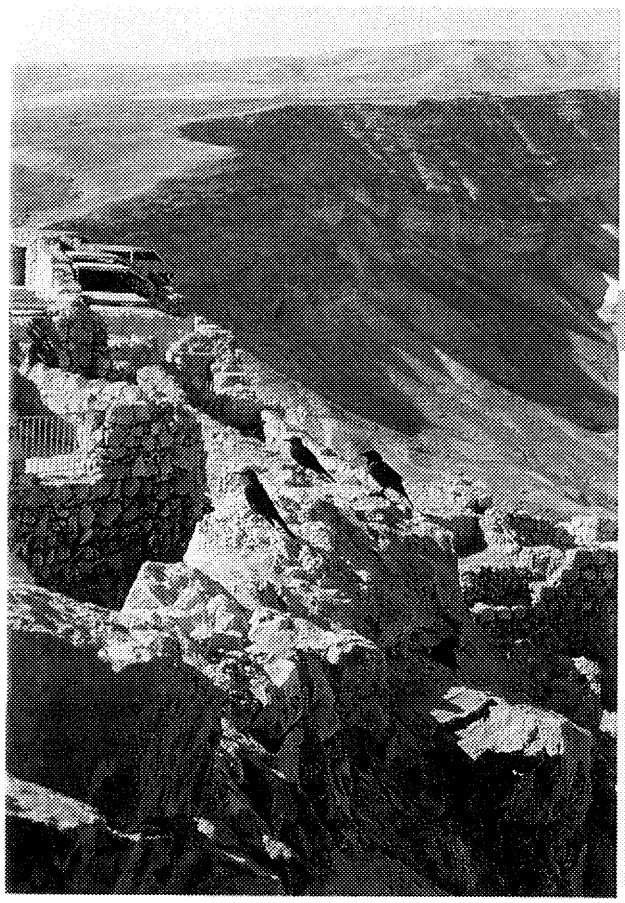
The synagogue



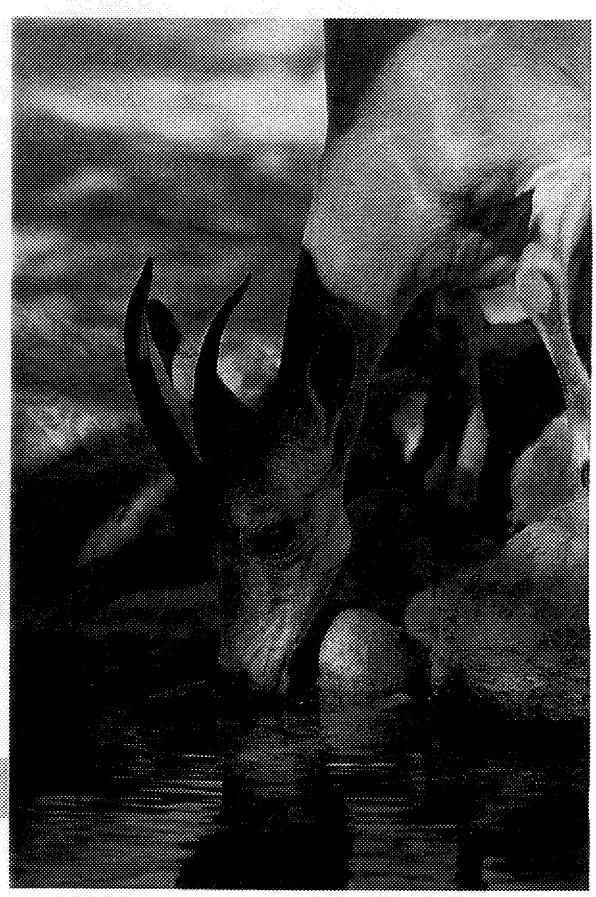
A conserved storeroom (for liquids)



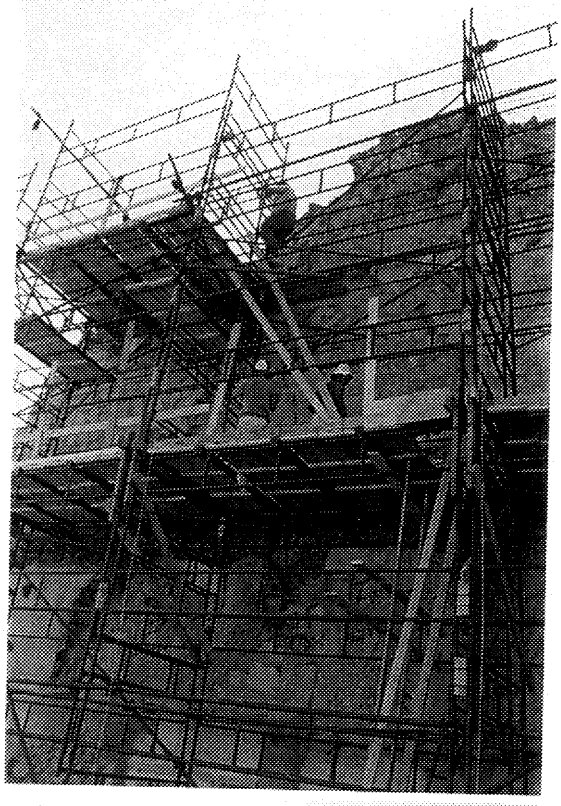
View to the east-Dead Sea and Moab Mountains in Jordan



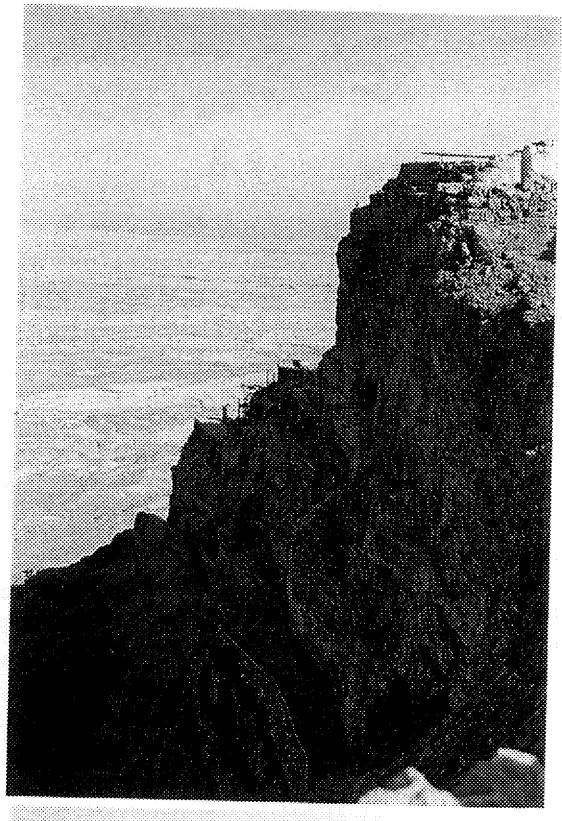
Tristram's grackle



Nubian ibex

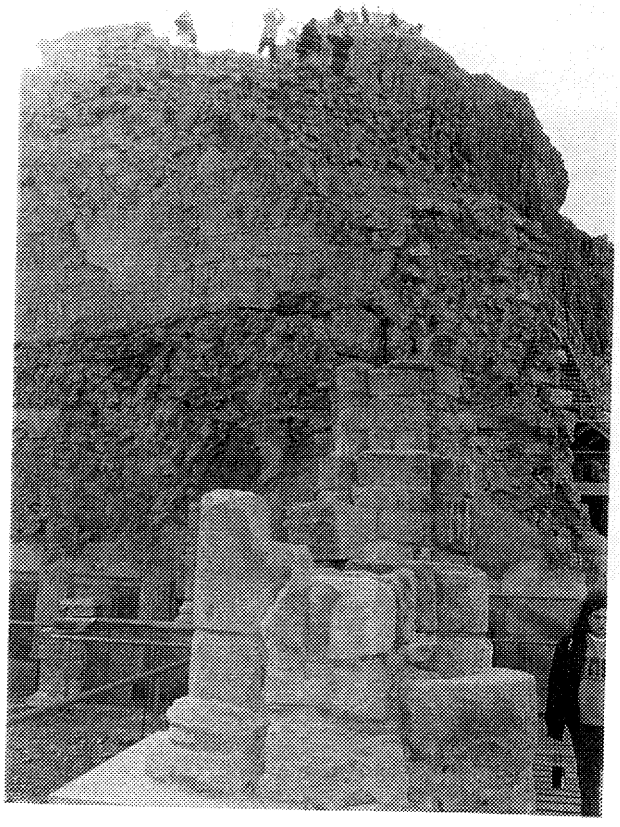


Scaffolds in the Northern Palace Lower Terrace to enable conservation works

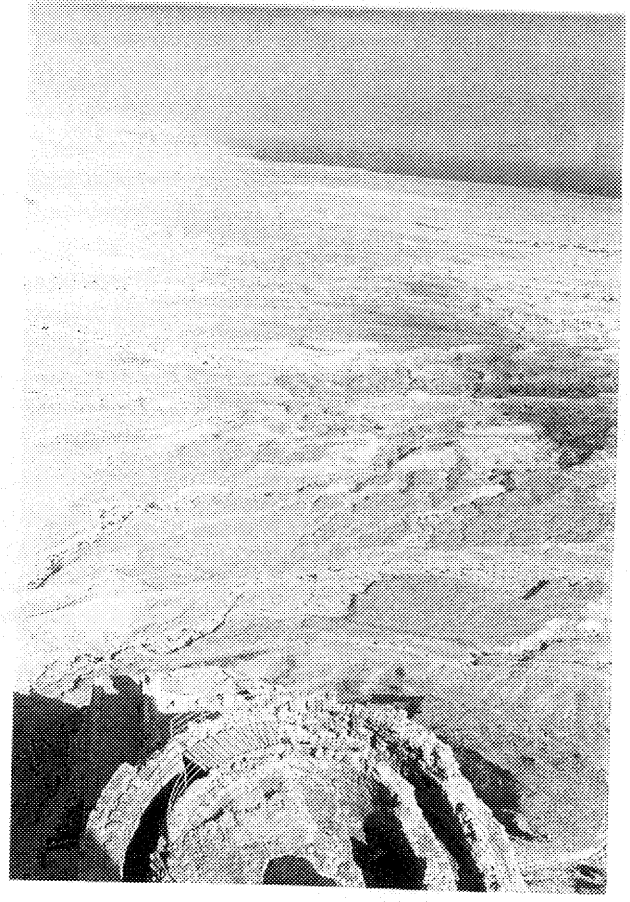


The Northern Palace

The Northern Palace Lower Terrace



View from the Middle Terrace Northern Palace

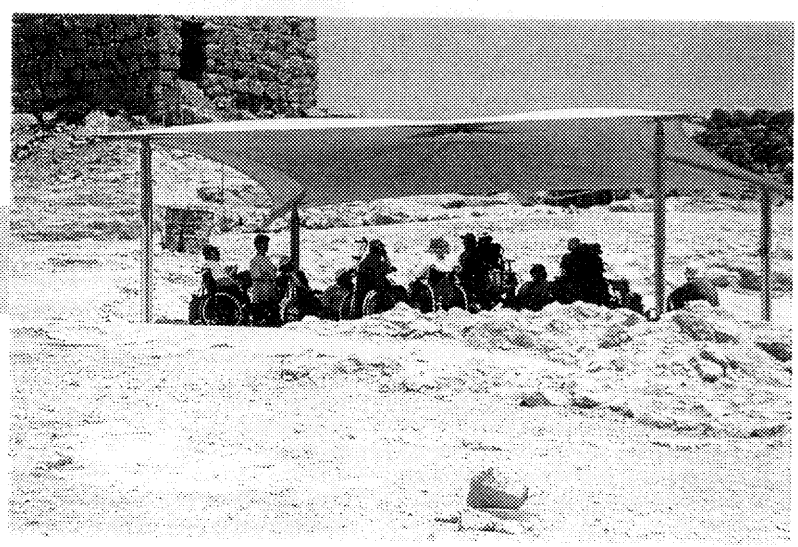


Erosed soft lime stone

Erosed lime stone after treatment

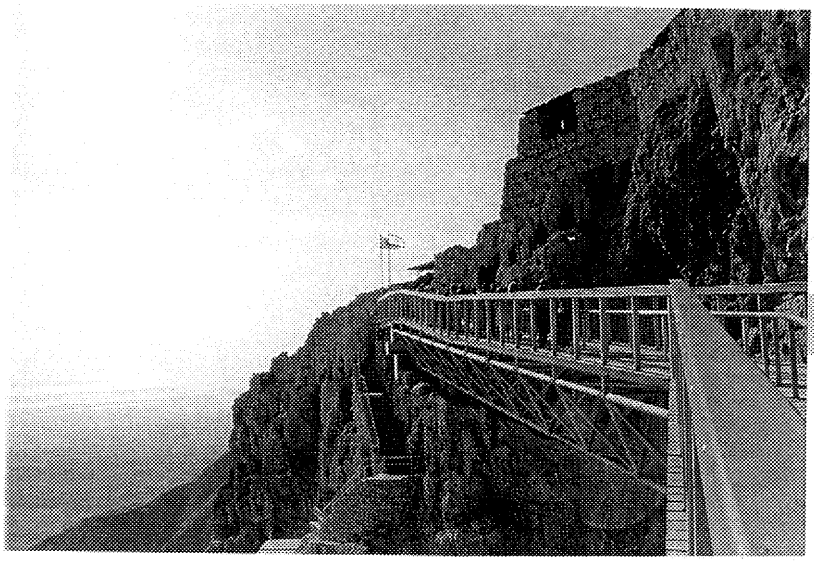
Reconstruction Black Line

Disabled people on the paved path of the Masada Mountain Top

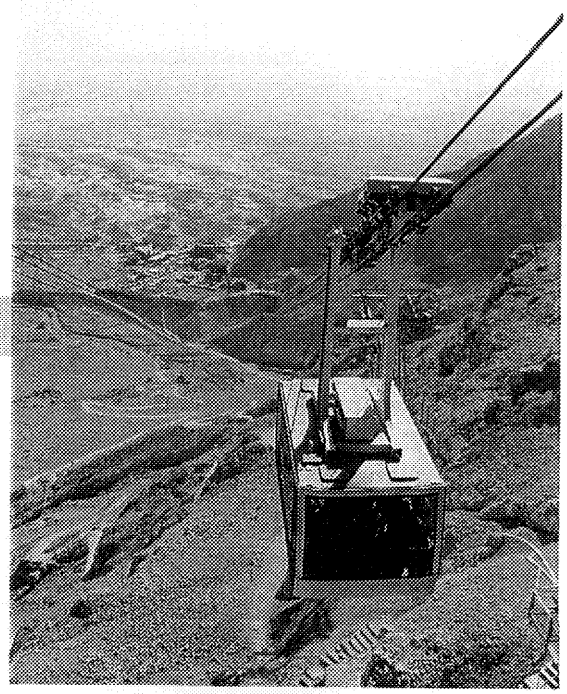


Disabled people on Masada Mountain Top enjoying the shade of new sun shade

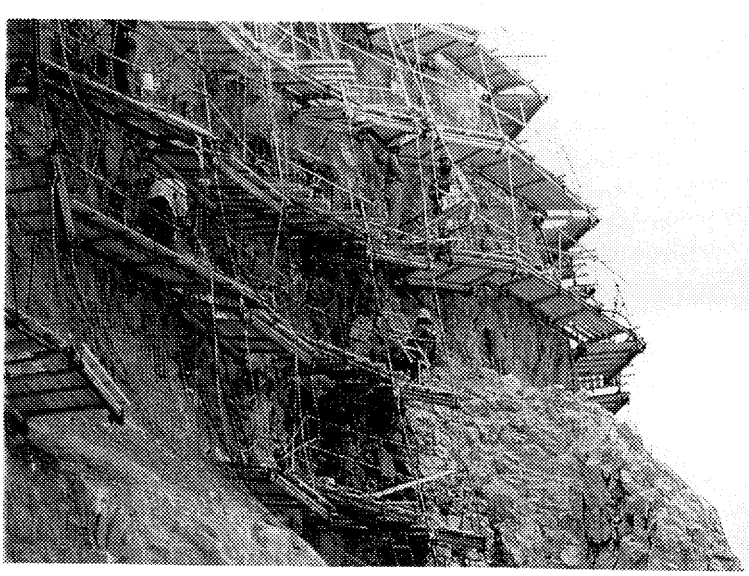
New explanation signs



The cliff bridge



The new cablecar



"Hanging" scaffolds for constructing the cablecar's upper station

DÉLÉGATION PERMANENTE
D'ISRAËL
AUPRÈS DE L'U.N.E.S.C.O.

L'AMBASSADEUR

30/6/00.

Paris, June 28, 2000

Dear Sir,

Refereeing to the Convention concerning the Protection of the World Cultural and Natural Heritage, signed in Paris on November 16, 1972 and to article 11 of the Convention concerning the inclusion of property in the World Heritage List, I have the honour to submit hereby, on behalf of the Government of the State of Israel, its list of nominations to be considered by the World heritage Committee during its session in December 2001.

1) Jerusalem – Historic city. Extension of the inscribed site of Jerusalem – the Old City and Ramparts to include Mount Zion and determine a buffer zone as accord with Operational Guidelines for the implementation of the World Heritage Convention.
2) Massada – Archeological Site – Natural Site – Cultural Landscape. The Herodian town and palace complex together with the Roman fortification and siege activities.
3) Acre – Historic City. Primarily a Crusader City and ramparts with trade quarters of the Italian city states.
4) Makhteshim Country – Natural Site – A serie of natural geological crater formations in the Negev.

.../...

Mr Mounir BOUCHENAKI
Director of the World Heritage Centre
UNESCO
7 place Fontenoy
75352 PARIS 07 SP

3, RUE RABELAIS - 75008 PARIS - TÉL. : 40 76 55 63 - FAX : 40 76 55 55

DÉLÉGATION PERMANENTE
D'ISRAËL
AUPRÈS DE L'U.N.E.S.C.O.

The Permanent Delegation of the State of Israel to UNESCO presents its compliments to the Secretariat of the World Heritage Centre of UNESCO and has the honour to refer to the Convention concerning the Protection of the World Cultural and Natural Heritage, signed in Paris on November 16, 1972 and to article 11 of the Convention concerning the inclusion of property in the World Heritage List.

The Permanent Delegation of the State of Israel has the honour to submit hereby, on behalf of the Government of the State of Israel, its list of nominations to be considered by the World heritage Committee during its session in December 2001.

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3) Acre – Historic City. Primarily a Crusader City and ramparts with trade quarters of the Italian city-states.
4) Makhteshim Country – Natural Site – A serie of natural geological crater formations in the Negev.

Attached herewith is the information and documentation of each of the four sites listed above, as requested by Operational Guidelines.

The Government of the State of Israel reserves its right to submit, in due time, a request for the deletion of the inscribed site of Jerusalem in the List of World Heritage in Danger.

The Permanent Delegation of the State of Israel avails itself of the opportunity to renew to the Secretariat of the World Heritage Centre of UNESCO the assurances of its highest consideration.

Paris, June 28, 2000

UNESCO World Heritage Centre
PARIS

3, RUE RABELAIS - 75008 PARIS - TÉL. : 40 76 55 63 - FAX : 40 76 55 55

Attached herewith is the information and documentation of each of the four sites listed above, as requested by Operational Guidelines.

The Government of the State of Israel reserves its right to submit, in due time, a request for the deletion of the inscribed site of Jerusalem in the List of World Heritage in Danger.

Please accept, Dear Sir, the assurances of my highest consideration.

Arye GABAY

Fer FR
ASW
P113

הוועד הישראלי לאונסקו
Israel National Commission for

Mr Francesco Bandarin, Architect
Director
World Heritage Centre
UNESCO

WHC received
Date 2.1.X.2000
Nº ....

23 October 2000

Dear Francisco Bandarin,

Nomination C/N 1040- Masada

Attached are the completions prepared as per your letter of 29 September 2000 including those aspects that complete the information on cultural and natural criteria.

According to paragraph 44 (a) (i)(iii) we have included Natural Criteria in our nomination thus confirming that this will be a Mixed Site.

Yours sincerely,

Daniel BarElli,
Secretary General

Copy: Michael Turner, Architect, Chairman, Israel World Heritage Committee
Dr Mounir Bouchenaki, Director of Cultural Heritage
H.E. Arie Gabay, Israel Ambassador to UNESCO,

israel world heritage committee - הועדה הישראלית למורשת עולמית
רחוב כספי 25 ירושלים 93554 טל: 972-2-6716493 פקס: 972-2-6732801
25 caspi street, jerusalem 93554 israel; tel 972-2-6716493 fax 972-2-6732801

Masada (Israel)

No 1040

Identification

Nomination Masada National Park

Location Tamar Region

State Party Israel

Date 30 June 2000

Justification by State Party

Masada is a cultural and natural heritage site with universal importance. It is an isolated rock in a remote corner of the Judaean Desert, facing the Dead Sea and expressing the special geology and nature of that area. Its archaeological remains relate to three periods of human settlement on the site which are chronologically separated and different in character. Each reflects on one hand certain uniqueness and on the other a fabric of intertwined human cultural contexts of its period.

The sophisticated water system at Masada transformed a barren, isolated hilltop with an arid climate into a lavish royal retreat. This system used run-off water from a single day of rain to sustain life for a thousand people for two to three years.

The "hanging" Northern Palace with its three terraces presents the ultimate challenge in designing and building in extreme conditions. It is a masterpiece of the engineering and architecture of antiquity. **Criterion i**

The developments in architecture and landscape design illustrated by the three Herodian and later Zealot building phases at Masada illustrate an important interchange of human values over time. The early Herodian phase was one of survival, but one in which Roman architecture and the Roman way of life were introduced into a harsh natural environment. With the main Herodian phase a lavish architectural style was adopted and fully integrated into the desert landscape. The fear and paranoia of the king resulted in the site being heavily fortified in the late Herodian period. Finally, a humbler form of architecture was introduced during the Zealot phase, suitable for a simpler way of life adapted to the harsh living conditions. **Criterion ii**

The fall of Masada in 73 CE symbolized the end of the Second Temple Period, which was a major turning point in Jewish history. The Masada synagogue is one of the earliest examples of a ceremonial prayer building during the last phase of the Second Temple Period and after the destruction of the Temple in Jerusalem. **Criterion iii**

The ruins of Masada reflect several stages in human history. These include classical Roman architecture (palace, bath-houses, store-rooms, water system, military installations), humble Jewish domestic architecture (with a synagogue and ritual baths), and early Christian monasticism. The most outstanding elements of these are the Roman siege works around the mountain, the most complete in the world and almost completely unexcavated, and the Northern Palace. **Criterion iv**

The ruins and historical accounts of Masada are directly associated with the most fundamental human values. Issues decided at Masada – the few against the many, liberty versus slavery, religious freedom versus oppression, life versus death – are subjects of universal moral and academic discussion and will long continue to be so. **Criterion vi**

Note This property is nominated as a mixed site.

Category of property

In terms of the categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a *site*.

History and Description

History

The history of Masada is known principally from the work of Flavius Josephus, the Jewish historian of the 1st century CE, and from the excavations of 1963–65.

According to Josephus, the site was first fortified by the High Priest Jonathan. There were two High Priests of this name in the 2nd century BCE and it is not certain to which he was referring. The only material from the Hasmonaean period (103–40 BCE) so far discovered in excavations at Masada is a number of coins of Alexander Jannaeus, from the early part of the period. There is evidence in the form of archaeological finds in a cave that there was human settlement there in the Chalcolithic period (4th millennium BCE) and then in the Early Iron Age (10th–7th century BCE).

Herod the Great (ruled 37–4 BCE) selected the virtually impregnable site of Masada to build a refuge for himself and his family at a period when he felt himself threatened both internally by the Jews of his kingdom and externally by Cleopatra, who wanted to add Judaea to her Egyptian kingdom. At first the buildings were relatively modest, though conforming with classical Roman architectural forms. They were progressively enlarged and lavishly decorated, to become a luxurious royal palace. Towards the end of his reign Herod felt himself threatened once again and so the fortifications were rebuilt and reinforced.

To the *early phase* (*c* 35 BCE) belong the nucleus of the Western Palace, three small palaces, an administrative building, a barracks, three *columbaria* (also used as watch-towers), several large cisterns, and a swimming pool. These buildings are scattered all over the hilltop, without any apparent overall plan. The architects had previously served the Hasmonaean court, and the early buildings are strikingly similar to those at Jericho.

The *main phase* is dated to the mid 20s of the 1st century BCE. The most important new construction was the large

Northern Palace; close by was the large bath-house, for the use of the king and his family and guests. Also close to the palace was a large storage complex composed of eighteen long store-rooms. This group, together with an administrative building, are located at the highest point of the hilltop and constitute a defensible acropolis or citadel.

The Western Palace was considerably enlarged at this time. A series of very large cisterns was dug and new access paths were laid out. By contrast with the early period, the new works carried out in this period appear to have been carried out in accordance with a plan. They are integrated into two complexes, one around the Northern Palace and the other around the Western Palace. The architecture is also different in that it is in the full Roman style and tradition.

In the *final phase*, dated to around 15 BCE, the most important new construction was the casemate wall, 1290m long, which surrounds the entire summit. In addition, some small modifications and additions were made to the northern complex.

With the end of the Herodian dynasty in 6 BCE Judaea came under direct Roman rule, and a small garrison was installed at Masada. At the beginning of the Jewish Revolt in 66 a group of Zealots led by Menahem, one of the Jewish leaders, surprised and slaughtered the garrison. The Zealots held Masada throughout the revolt, and many Jews settled there, particularly after the fall of Jerusalem and the destruction of the Temple by Titus in 70. They occupied some of the Herodian palace buildings, and added more modest structures of their own, such as a synagogue, a ritual bath, and small houses.

Two years later Flavius Silva, the Roman Governor, decided to eliminate this last remaining centre of Jewish resistance. He sent the X Legion and a number of auxiliary units there, with many prisoners of war for manual duties. The Jews, led by Eleazar Ben Yair, prepared for a long siege as the Romans and their prisoners built camps and a long siege wall (circumvallation) at the base of the hill. On a rocky site near the western approach to Masada they constructed a massive ramp of stones and rammed earth. A giant siege tower with a battering ram was constructed and moved laboriously up the completed ramp. It succeeded in breaching the wall of the fortress in 73, allowing the Roman soldiers to enter.

The Zealots defended stoutly, but there was no hope of resisting the Roman attack for long. Josephus reports that Ben Yair talked to the 960 men, women, and children who survived, telling them that "a glorious death is preferable to a life of infamy." All but two took their own lives on 2 May 73.

A Roman garrison was once again installed at Masada and stayed there for some forty years. It occupied both the hilltop and the fortress constructed by Flavius Silva for the besiegers. After the withdrawal of the Roman garrison, the site was abandoned until the 5th century. Following a powerful earthquake, which caused most of the surviving Herodian buildings to collapse, a small community of Christian monks established themselves on the hilltop. They built a modest chapel and lived in primitive cells constructed from the ruins and in caves. After some decades this community was disbanded and Masada was deserted until excavations began in the 1960s.

Description

The towering hill of Masada, with its precipitous flanks, overlooks a natural landscape of savage beauty. To the west lies the Judaean Desert, with its hills and terraces: it is arid, yet can burst into bloom during a rainy winter. To the east is a wildly broken terrain, running down to the brilliant colours of the Dead Sea. A giant scarp stretches to the south away to the horizon – the western wall of the Syrian-African rift valley – and Masada forms part of this scarp. The top of the hill is roughly trapezoidal, measuring *c* 600m x 300m.

- The northern area (Herodian period)

The main structure here is the *Northern Palace*, which in its present form is from the main phase (late 1st century BCE). It was built on three slightly modified natural rock terraces. The upper level, through which access was gained to the Palace, was mainly used for residential purposes, with two wings of bedrooms flanking a hall; all were originally decorated with mosaic floors and wall paintings. To the north of the bedrooms there is a semi-circular colonnaded terrace surrounding what was probably a garden.

On the two lower levels are to be found imposing colonnaded reception halls, one rounded and the other rectangular; both had bathing facilities. The lower reception level is the best preserved of the three. Access was through a trapezoid courtyard, with store-rooms, meal preparation facilities, and a small bathhouse below and around it. There are two rock-hewn cisterns underneath.

On a small hill just to the south of the Northern Palace is the *large bath-house*. The large courtyard entrance was probably used as a *palaestra* (exercise area). The bathing facilities consisted of a changing room (*apodyterium*), a cold room (*tepidarium*) in the form of a stepped pool, and a large hot room (*caldarium*) with a barrel-vaulted roof. The entire complex was originally decorated with mosaic floors and wall paintings, but the floor mosaics were later replaced by coloured stone slabs (*opus sectile*). In addition, here are the remains of the heating furnaces and water installations.

The *store-rooms complex* originally contained eighteen rooms, thirteen of which were 26m long. They are surrounded by a system of long corridors, also probably used for storage. It was easily defensible, with only two entrances. In addition, there were two (perhaps three) guard towers. A number of long storerooms were added to this complex at the end of the final phase, together with another small bath-house.

- The western area (Herodian period)

Work on the *Western Palace* began in the early phase, but it was substantially enlarged and rebuilt in the main phase. To the nucleus, which consisted of a courtyard (with in all probability a garden) surrounded by bedrooms and reception rooms, were added two extensive service wings. Their functions would have been varied: storage of furniture, domestic utensils, and food, and food preparation for all the palaces on the summit.

The Palace was expanded once more in the final phase, with the addition of new wings, including four long storerooms. It became the largest building on the hilltop. Its size and layout, together with the opulence of its decoration (mosaic floors and walls of white plaster painted to imitate marble panels). This confirms the hypothesis that this was the ceremonial

palace, the Northern Palace being the private palace for the king and his family.

There is a number of smaller palaces, residential blocks, and administrative buildings to the east of the Western palace and between it and the Northern Palace.

- The defences (Herodian period)

The *casemate wall* was built in the final phase. This massive defensive wall, 1290m in length, contains nearly 70 rooms on its inner side, some more than 30m long, and has 27 towers. Three gates pierce the wall: the Western Gate, the Southern Gate, and the Snake Path Gate (the eastern gate). The existing Water Gate, which gave access to the Northern Palace, was not incorporated into the casemate wall.

- Water management

A number of deep cisterns were dug into the rock of Masada in all three phases. The small ones dug during the first phase were filled by run-off from the hill-top itself during the winter. During the main phase two rows of cisterns were dug beneath the hill-top. The row of four 130m below the summit each had a capacity of 4000m^3. The second row was 50m higher: the eight cisterns were each capable of receiving 3000m^3. Water was delivered through a network of dams and channels into this system during the winter floods in the wadis to the west of Masada.

- Structures from the Zealot period

Most of the buildings on the hilltop were occupied by the around one thousand people who lived there at that time, and more particularly the casemates and the smaller palaces (the Western Palace appears to have been used for communal and administrative purposes). Large rooms were partitioned into smaller units, existing entrances were blocked and new ones opened, and temporary constructions added. Facilities for baking and cooking, water, and storage were also inserted.

The most important new feature from this time was the *synagogue*, a square building from the Herodian period that was probably used as a stable. Three rows of benches, characteristic of early synagogues, were built round the walls, and the *genizah* (depository for superseded scrolls) under the floor of the back room.

Seven or eight ritual baths (*mikveh*) were identified, including one large stepped immersion pool to the south of the Western Palace. A public hall was also constructed at this time attached to one of the smaller palaces.

- Roman military remains

There is a network of eight Roman *military camps* around Masada, none of which has been excavated. Two are large, two smaller. One of the large camps lies to the east and the other to the west of Masada. Evidence from aerial survey and probing show them to be standard Roman legionary fortresses of quadrilateral plan. In that lying to the west (which is believed to have been the headquarters of Flavius Silva) a smaller sector had been fortified later, to form the headquarters of the later garrison. Both lie outside the circumvallation, whereas the smaller ones are more closely associated with that long earthwork. A striking feature of all the Roman camps are the hundreds of *contubernia* (messing units), consisting of walls of stones 1–1.5m high on which the soldiers erected their leather tents.

The great ramp used for the final assault was built of soil and stones braced by an armature of timber beams.

- The Byzantine church

The church is located virtually in the centre of the summit, and its walls still stand to a considerable height. It was built of coursed dolomite, most of it robbed from the ruins of the Herodian buildings. The walls were bonded with lime mortar. The floor was originally covered with a mosaic, but much of this was removed to the Louvre in Paris after a 19th century excavation. The walls were plastered, and surviving fragments show that it was decorated with designs made of coloured stones and potsherds. The plan is the characteristic rectangular hall with an apse at the east end and a narthex at the west end.

- Building materials and techniques

Most of the Herodian walls and their foundations were built of undressed blocks of the local dolomite, bonded with mortar made of local earth mixed with straw. The blocks were laid in courses, with larger blocks (*c* 90cm long) in the lower courses. The only worked stones were those used for constructing corners and doorjambs. Walls varied in thickness between 60cm and 95cm. The defensive walls are different both in dimensions and construction. They average 6.5m in thickness and consist of an outer wall 1.4m thick and an inner one 0.95m thick filled with rubble.

The use of ashlar (dressed stone) is very rare at Masada: it is restricted to the three terraces of the Northern Palace and the three *columbaria.* Here the stone used was not the hard local dolomite but a soft grey-green limestone. Sandstone was used where precision was needed: columns, architraves, central pillars in staircases, etc. These materials were either extracted from nearby quarries or from quarries near Jericho, the latter being brought to Masada by boat. A lime-based mortar was used in such cases

With the exception of the casemate walls, all the walls (and many of the ceilings) were plastered. In many interiors a plaster of earth and straw was used, identical with the mortar used for wall building. This was probably coated with a lime wash, though little of this has survived.

Lime-based plaster was also used in some cases, both internally and externally. Where plaster was used on external surfaces, it extended either over the lower section only or over the entire surface. A special plaster containing ash as well as lime (hydraulic plaster) was used in rooms exposed to high humidity, notably the bath-houses, cisterns, and water channels.

These techniques are to be found, to a high level of craftsmanship, on the more substantial buildings from the Zealot period.

Management and Protection

Legal status

The entire site is a National Park, established under the provisions of the National Parks, Nature Reserves, Memorial Sites and National Sites Law (1998), and the archaeological sites are covered by the Antiquities Law (1978). The National Park is further protected by being entirely surrounded by the Judaean Desert Nature Reserve, also established under the 1998 Act. There is also a belt of open

land between the site and the Dead Sea which is protected as open agricultural land under the provisions of a local master plan under the Planning and Building Law 1965. There are very severe penalties for any unauthorized actions that in any way affect the qualities of the National Park and the archaeological monuments.

Management

The entire nominated area and the buffer zone are owned by the State of Israel.

Management of the Masada National Park and of the Judaean Desert Nature Reserve is the legal responsibility of the Nature and Parks Protection Authority, whilst responsibility for the archaeological sites is vested in the Israel Antiquities Authority. The belt of agricultural land comes under the control of the Regional Council.

Direct management of the Park is in the hands of the Park Director. The nature reserves around the archaeological site is regularly patrolled by rangers, operating from En Gedi oasis and Arad, 20km north and 25km west of Masada respectively.

The headquarters of the Nature and Parks Protection Authority has planning committees which are responsibility for approving and implementing development plans. Independent experts attend the meetings of these committees and public hearings are held to consider issues of outstanding national and international interest. The Israel Antiquities Authority has an independent conservation committee which considers conservation and reconstruction proposals and projects.

Following the merger of the Nature Reserves Authority with the National Parks Authority in 1998 an outline management plan for heritage sites in nature reserves was prepared with the assistance of the Getty Conservation Institute. An updated version is nearing completion: the coverage is comprehensive and fully in conformity with the requirements of the *Operational Guidelines for the Implementation of the World Heritage Convention* so far as the cultural heritage element is concerned.

One of the most serious problems is that of visitor numbers: currently the number of visitors is around 650,000, and it is forecast that this figure will rise to 900,000 by 2001 and 1.25 million by 2010 (it should be noted, however, that the current disturbed internal political situation has resulted in a drastic reduction in visitor numbers). There have also been determined efforts in recent years to commercialize the archaeological site. These points were given special consideration in the development programme

A project for the construction of an hotel and recreation area 11km to the north has been shelved. A policy of prohibiting commercial activities of any kind or picnic facilities on the summit has been rigorously maintained. There is now a visitors' trail on the summit with interpretation along its length.

A new entrance project on the eastern side, almost entirely invisible from the summit, is nearing completion and all facilities are being moved there. This will house interpretive material, conservation facilities, management offices, restaurants, etc. The building is well designed so as not to conflict with its historic and natural environment and sited so as to have a minimal visual impact when viewed from the summit. There are underground parking facilities for cars and small buses and an open park for coaches.

A number of commercial enterprises are to be relocated in a new facility that will not be visible from the summit. The youth hostel is also to be located here.

A new cable car, which began operating in May 1999, has halved the waiting time for visitors; this starts from the new entrance. The site of its upper terminal was carefully selected: it is located below the ancient entrance gate and access to the site proper is via a bridge. All the facilities that are being replaced are being demolished and the land restored to its earlier appearance.

Of particular importance is the project to dismantle and relocate the service cable lift, which dates from the excavations in the 1960s. At present this passes directly above the Roman ramp and enters the enceinte through the breach made by the besiegers, which is one of the key historical locations on the site.

There is a *son-et-lumière* installation below the western side of the hill, used principally for educational purposes.

Conservation and Authenticity

Conservation history

The site was first identified as that of Masada by two travellers in 1863. Other visits followed in the second half of the 19th century and the 20th century, in particular the scholars responsible for the Palestine Exploration Fund's Survey of Western Palestine in 1867 and 1875.

A limited archaeological survey was carried out in 1955–56, sponsored by the Israel Exploration Society, the Hebrew University, and the Department of Antiquities. In 1963–65 Professor Yigael Yadin carried out his celebrated excavation. The decision was taken before the excavations ended to open the site to the public as a national park, and conservation work began immediately the excavators moved out.

The work was based on a plan set up by a committee of specialists, according to the prevailing standards of the period (which involved the use of Portland cement, now almost entirely replaced). Conservators from Israel and abroad have worked on the site continuously since that time, continually updating their techniques and expertise. In the course of the past five years, since the Masada development project began, most of the buildings in the northern area have been worked on. Work has been carried out to evaluate and improve the stability of the rock. A major stabilization and conservation project is in progress on the Western Palace by a team headed by Professor John Ashurst (University of Oxford, UK).

As part of the development project there is a five-year conservation programme, due to end during 2001, which has involved fifteen trained conservators and twenty unskilled workers. From 2002 onwards there will be a planned maintenance programme operated by a team of between five and seven trained workers. This will coincide with the introduction of a systematic monitoring process. A detailed manual has been prepared, covering different aspects of conservation, maintenance, and management, and is systematically updated.

An important part of the management plan is the decision to carry out no further research excavation on the main site "in the present generation." Limited excavation will be permitted when necessitated by conservation or restoration projects.

Authenticity and integrity

This is a site that remained untouched for more than thirteen centuries. The buildings and other evidence of human settlement gradually collapsed and were covered over until they were revealed in the 1960s. There have been no additions or reconstruction (beyond an acceptable level of anastylosis), and inappropriate materials used in early conservation projects are being replaced. Certain significant archaeological elements, such as the Roman camps and siegeworks, remain virtually untouched. The authenticity is therefore of a very high level.

There is a case for examining the integrity of Masada, like most archaeological sites. As mentioned above, nothing has been added and nothing taken away from the remains. Of equal importance is the fact that the setting of Masada, the magnificent wild scenery of this region, has not changed over many millennia. The only intrusions are the visitor facilities, which in their new form have been designed and sited sympathetically, and the cable car. The latter has been, and still is, controversial. However, access to the summit is extremely arduous: if some assistance were not provided, many of the Jewish people for whom this site has immense symbolic value, would be unable to visit it. The new facilities at each end have been designed and, in the case of the upper terminal, located with care, so as to minimize their visual impact.

Evaluation

Action by ICOMOS

A joint ICOMOS-IUCN expert mission visited Masada in March 2001.

Qualities

Masada is a dramatically located site of great natural beauty on which the Judaean king Herod the Great constructed a sumptuous palace complex in classical Roman style. After Judaea became a province of the Roman Empire, it was the refuge of the last survivors of the Jewish revolt, who chose death rather than slavery when the Roman besiegers broke through their defences. As such it has an emblematic value for the Jewish people.

It is also an archaeological site of great significance. The remains of Herod's palaces are outstanding and very intact examples of this type of architecture, whilst the untouched siegeworks are the finest and most complete anywhere in the Roman world.

Comparative analysis

There are several imperial Roman villas from the 1st centuries BCE and CE of which substantial remains survive. The closest to Herod the Great's villa at Masada is probably the slightly later *Villa Jovis* built by Tiberius on a similar prominent site on the island of Capri. However, it differs in a number of respects, notably the fact that it lacks the associated administrative structures of Masada and its massive defences.

For the Roman military camps, circumvallation, and ramp there is no site that can compare with Masada in terms of visibility and completeness.

ICOMOS recommendations for future action

Careful consideration needs to be given to the siting of the coach park at the entrance facility. The present site interrupts the line of the Roman siege wall between two forts. The black tarmac surface is intrusive when seen from above.

Whilst good relations clearly exist between the groups responsible for the management of the "cultural" and "natural" elements, it would be desirable for there to be careful scrutiny of their respective objectives and programmes in order to ensure homogeneity and avoid potential conflicts.

Brief description

Masada, the site of the self-immolation of nearly a thousand Jewish patriots in the face of a large Roman army, was built as a palace complex and place of refuge by Herod the Great, King of Judaea. Its extensive remains survive on the summit of this seemingly impregnable fortress, set in a rugged natural landscape of great beauty. Below are the unexcavated sites and siegeworks of a large Roman army

Statement of Significance

The palace complex built by Herod the Great, King of Judaea, on the summit of the dramatic mountain site of Masada in the 1st century BCE consists of an exceptional group of classical Roman Imperial buildings. When this natural defensive site, further strengthened by massive walls, was occupied by survivors of the Jewish Revolt against Roman rule, it was successfully besieged by a massive Roman army. The group of military camps and siegeworks at Masada are the most complete anywhere in the Roman world. Masada is a poignant symbol of the continuing human struggle between oppression and liberty.

ICOMOS Recommendation

That this property be inscribed on the World Heritage List on the basis of ***cultural criteria iii, iv, and vi*:**

> ***Criterion iii*** Masada is a symbol of the ancient Jewish kingdom of Israel, of its violent destruction in the later 1st century CE, and of the subsequent Diaspora.
>
> ***Criterion iv*** The palace of Herod the Great at Masada is an outstanding example of a luxurious villa of the Early Roman Empire, whilst the camps and other fortifications that encircle the monument constitute the finest and most complete Roman siege works to have survived to the present day.
>
> ***Criterion vi*** The tragic events during the last days of the Jewish refugees who occupied the fortress and palace of Masada make it a symbol both of Jewish cultural identity and, more universally, of the continuing human struggle between oppression and liberty.

Bureau Recommendation

That this property be inscribed on the World Heritage List on the basis of *criteria iii, iv, and vi*.

ICOMOS, September 2001

Massada (Israël)

No 1040

Identification

Bien proposé Parc national de Massada

Lieu Région de Tamar

État partie Israël

Date 30 juin 2000

Justification émanant de l'État partie

Massada est un site d'importance universelle, appartenant au patrimoine culturel et naturel. Cet éperon rocheux perdu dans le désert de Judée, face à la mer Morte, exprime la géologie et la nature particulières de cette région. Ces vestiges archéologiques datent de trois périodes de peuplement humain du site, chronologiquement distinctes et de caractères différents. Chacune, unique, reflète par ailleurs les motifs complexes de l'entrelacs de contextes culturels humains de l'époque.

Le système d'irrigation sophistiqué de Massada a transformé un rocher stérile et isolé, au climat aride, en une somptueuse retraite royale. Il utilisait le trop plein d'eau tombé pendant un seul jour de pluie pour faire vivre un millier de personnes pendant deux ou trois ans.

Le palais du Nord, construit sur trois niveaux, représente l'aboutissement ultime de la conception et de la construction dans des conditions extrêmes. C'est un chef d'œuvre de l'ingénierie et de l'architecture de l'Antiquité.

Critère i

Les développements de l'architecture et du paysagisme qu'illustrent les trois phases de constructions hérodiennes puis, plus tard, la phase zélote, sont le reflet d'importants échanges de valeurs humaines au fil du temps. La première phase hérodienne est une phase de survie, témoin toutefois de l'introduction de l'architecture romaine et du mode de vie romain dans un environnement naturel difficile. Quant à la phase hérodienne principale, elle voit l'adoption d'un style architectural luxueux, parfaitement intégré au paysage désertique. Par la suite, la peur et la paranoïa du roi entraînent la lourde fortification du site au cours de la dernière période hérodienne. Enfin, une forme d'architecture plus humble voit le jour pendant la phase zélote, calquée sur un mode de vie plus simple, adapté aux rudes conditions environnantes.

Critère ii

La chute de Massada en 73 après J.-C. marque la fin de la seconde période du Temple, une étape majeure dans l'histoire juive. La synagogue de Massada est l'un des tout premiers exemples d'édifice de prières construit durant la dernière phase de la deuxième période du Temple, après la destruction du Temple de Jérusalem.

Critère iii

Les ruines de Massada reflètent plusieurs étapes de l'histoire de l'humanité : l'architecture romaine classique (palais, thermes, greniers, travaux hydrauliques, installations militaires), l'humble architecture domestique (avec une synagogue et des bains rituels), et le début du monachisme chrétien. Les éléments les plus remarquables de ce site sont les fortifications romaines autour du piton rocheux, les mieux préservées au monde et presque entièrement non fouillées, et le palais du Nord.

Critère iv

Les vestiges et l'histoire de Massada sont directement liés à quelques-unes des valeurs les plus fondamentales de l'humanité. Les luttes qui se sont jouées à Massada - la minorité contre le plus grand nombre, la liberté contre l'esclavage, la liberté religieuse contre l'oppression, la vie contre la mort – sont les thèmes de discussions morales et académiques universelles, et le resteront encore longtemps.

Critère vi

Note Ce bien est proposé pour inscription en tant que site mixte. Le Bureau, au cours de sa 25ème session, n'a pas recommandé son inscription sur la base des critères naturels.

Catégorie de bien

En termes de catégories de biens culturels, telles qu'elles sont définies à l'article premier de la Convention du Patrimoine mondial de 1972, il s'agit d'un *site*.

Histoire et description

Histoire

On connaît l'histoire de Massada essentiellement grâce à l'œuvre de Flavius Josèphe, historien juif du Ier siècle après J.-C, et aux fouilles de 1963-1965.

Selon Flavius Josèphe, le site a d'abord été fortifié par le grand prêtre Jonathan. Mais deux grands prêtres de ce nom ont existé au IIe siècle avant notre ère, et l'on ne sait pas avec exactitude auquel il fait référence. Les seuls vestiges de la période asmonéenne (103-40 avant notre ère) mis à jour par les fouilles à Massada sont quelques pièces datant d'Alexandre Jannée, du début de la période. Par ailleurs, des découvertes archéologiques dans une grotte prouvent que le site accueillait un peuplement humain dès le Chalcolithique (IVe millénaire avant notre ère), puis au début de l'âge du fer (Xe-VIIe siècle avant notre ère).

Hérode le Grand (règne 37-4 avant notre ère) choisit le site quasiment imprenable de Massada pour construire un refuge pour sa famille et lui-même, à une époque où il se sent menacé tant de l'intérieur, par les Juifs de son royaume, que de l'extérieur, par Cléopâtre, désireuse d'ajouter la Judée au royaume d'Égypte. Les édifices sont d'abord relativement

modestes, quoique conformes aux formes architecturales classiques de Rome. Ils sont progressivement agrandis et somptueusement décorés, devenant peu à peu un palais royal luxueux. Vers la fin de son règne, Hérode se sent à nouveau en danger, et fait donc reconstruire et renforcer les fortifications.

Le cœur du palais de l'Ouest, trois petits palais, un bâtiment administratif, un camp militaire, trois *columbaria* (faisant également office de tours de guet), plusieurs grandes citernes et une piscine appartiennent à la première phase (aux environs de 35 avant notre ère). Ces édifices sont disséminés sur l'ensemble de l'éperon rocheux, sans plan global apparent. Les architectes avaient précédemment servi la cour asmonéenne, et les premiers édifices présentent une ressemblance frappante avec ceux de Jéricho.

La phase principale se situe dans les années 20 du Ier siècle avant notre ère. Le palais du Nord est la construction majeure de cette période ; à proximité se trouvent de vastes thermes, à l'usage du souverain, de sa famille et des invités. Près du palais se trouve également un grand complexe d'entreposage, composé de dix-huit greniers bâtis en longueur. Ce groupe, avec un bâtiment administratif, se dresse au point culminant de l'éperon rocheux, et constitue ainsi une citadelle défendable.

À cette même époque, le palais de l'Ouest est considérablement agrandi. Plusieurs très grandes citernes sont creusées, et de nouvelles voies d'accès conçues. Contrairement à ceux de la première période, les nouveaux travaux semblent avoir suivi un plan. Ils se rassemblent en effet en deux complexes, l'un autour du palais du Nord et l'autre autour du palais de l'Ouest. L'architecture en est également différente, en ce qu'elle est à présent dans le plus pur style romain.

En ce qui concerne la *dernière période*, aux alentours de 15 avant notre ère, la plus importante nouvelle construction est le mur à casemates, de 1290 m de long, qui encercle tout le sommet. En outre, des modifications et ajouts mineurs sont apportés au complexe du nord.

Avec la fin de la dynastie hérodienne, en 6 avant notre ère, la Judée passe sous la férule de Rome, et une petite garnison romaine est installée à Massada. Au début de la révolte juive, en 66, des Zélotes, avec à leur tête Menahem, l'un des meneurs juifs, prennent la garnison par surprise et la massacrent. Les Zélotes conservent Massada pendant toute la révolte, et beaucoup de Juifs s'y installent, notamment après la chute de Jérusalem et la destruction du Temple par Titus en 70. Ils occupent une partie des édifices palatiaux hérodiens, et ajoutent des structures plus modestes de leur cru, synagogue, bains rituels et petites habitations.

Deux ans après, Flavius Silva, gouverneur romain, décide d'éliminer ce dernier bastion de la résistance juive. Il y envoie la Xe Légion, accompagnée de plusieurs détachements auxiliaires et de nombreux prisonniers de guerre, assignés aux travaux manuels. Les Juifs, menés par Éléazar Ben Yaïr, se préparent à un long siège, alors que les Romains et leurs prisonniers construisent des camps au pied de la colline et un long rempart de siège (mur de circonvallation). Sur un site rocheux proche de l'accès occidental à Massada, ils construisent une énorme rampe d'accès, faite de pierres et de pisé de terre. Une gigantesque tour, dotée d'un bélier, est construite et laborieusement installée au sommet de la rampe d'accès achevée. En 73, les soldats romains parviennent grâce à elle à ouvrir une brèche dans la forteresse et à y pénétrer.

Les Zélotes ont beau se défendre vaillamment, il n'y a aucun espoir de résister longtemps aux Romains. Josèphe rapporte que Ben Yaïr convainc les 960 hommes, femmes et enfants survivants de se suicider, leur disant qu'une « mort glorieuse est préférable à une vie d'infamie ». Le 2 mai 73, à l'exception de 2 personnes, tous suivent la voie qu'il leur a montrée.

Massada voit à nouveau s'établir une garnison romaine, qui y restera pendant une quarantaine d'années, occupant à la fois le sommet du rocher et la forteresse construite par Flavius Silva pour les assiégeants. Après le départ de la garnison romaine, le site est abandonné jusqu'au Ve siècle. À la suite d'un fort tremblement de terre, qui provoque l'effondrement de la majeure partie des édifices hérodiens subsistants, une petite communauté de moines chrétiens s'établit sur le site. Ils y érigent une modeste chapelle, et vivent dans des cellules frustes construites à partir des ruines et dans des grottes. Après quelques décennies, la communauté se disperse, et Massada est à nouveau désertée, jusqu'à ce que des fouilles y commencent, dans les années 1960.

Description

L'éperon rocheux de Massada, aux flancs abrupts, surplombe un paysage naturel d'une sauvage beauté. À l'ouest s'étend le désert de Judée, avec ses collines et ses terrasses : aride, il n'en est pas moins capable de floraison lors des hivers pluvieux. À l'est, un terrain escarpé descend jusqu'aux couleurs chatoyantes de la mer Morte. Enfin, un gigantesque escarpement s'étend vers le sud jusqu'à l'horizon – la paroi occidentale du rift entre la Syrie et l'Afrique – et Massada en fait partie. Le sommet de la montagne, de forme vaguement trapézoïdale, mesure environ 600 x 300 m.

- La zone du nord (époque hérodienne)

La principale structure en est le palais du Nord, lequel, sous sa forme actuelle, remonte à la période principale (fin du Ier siècle avant notre ère). Il fut construit sur trois terrasses rocheuses naturelles légèrement modifiées. Le niveau supérieur, par lequel on accédait au palais, était principalement utilisé à des fins résidentielles, avec deux ailes de chambres flanquant un vestibule ; toutes étaient à l'origine décorées de pavements de mosaïques et de peintures murales. Au nord des chambres, une terrasse semi-circulaire à colonnades entoure ce qui était probablement un jardin.

Les deux niveaux inférieurs abritent d'imposantes salles de réception à colonnades, l'une de forme arrondie et l'autre rectangulaire ; toutes deux possédaient des thermes. Le niveau de réception inférieur est le mieux préservé des trois. On y accédait via une cour trapézoïdale, avec des entrepôts, des cuisines, et de petits thermes en contrebas et autour. Deux citernes taillées dans la roche se trouvent elles aussi en contrebas.

Sur une petite colline au sud du palais du Nord se trouvent les grands thermes. La grande cour d'accès servait probablement de *palaestra* (zone d'exercice). Les installations des thermes comprenaient un vestiaire (*apodyterium*), une salle à température modérée (*tepidarium*) sous la forme d'une piscine en gradins, et une grande étuve (*caldarium*) dotée d'une voûte en berceau. Initialement, le complexe tout entier était décoré de pavements en mosaïque et de peintures murales, mais les mosaïques de pavement cédèrent ensuite la place à des dalles de pierre colorées (*opus sectile*). C'est là aussi qu'on retrouve les vestiges des chaudières et des installations d'eau.

Le complexe de greniers comptait à l'origine 18 salles, dont 13 de 26 m de long, entourées d'un système de longs couloirs, qui servaient probablement eux aussi d'entrepôts. Ne comptant que deux entrées, il était facile à défendre. Il y avait aussi deux (peut-être trois) tours de guet. Plusieurs magasins bâtis en longueur ont été ajoutés à ce complexe à la fin de la dernière phase, ainsi que d'autres petits thermes.

- La zone occidentale (époque hérodienne)

Si les travaux du palais de l'Ouest commencèrent à la première phase, il fut substantiellement agrandi et reconstruit pendant la période principale. Au noyau, composé d'une cour (avec, selon toutes probabilités, un jardin) entourée de chambres et de salles de réception, furent ajoutées deux grandes ailes de service. Leurs fonctions étaient probablement diverses : rangement des meubles, des ustensiles domestiques et de la nourriture, cuisine pour tous les palais du promontoire.

Le palais fut une nouvelle fois agrandi à la dernière période, avec l'ajout de nouvelles ailes, comptant entre autres quatre longs magasins. Il devint ainsi le plus grand édifice du site. Sa taille et sa disposition, ainsi que l'opulence de sa décoration (pavements en mosaïque et murs en enduit blanc peints de façon à imiter des panneaux de marbre), confirment l'hypothèse qu'il s'agissait du palais destiné aux cérémonies et aux réceptions, celui du Nord étant le palais d'habitation où résidaient le roi et sa famille.

On trouve également plusieurs palais plus petits, des complexes résidentiels et des bâtiments administratifs à l'est du palais de l'Ouest, de même qu'entre ce dernier et le palais du Nord.

- Les fortifications (période hérodienne)

Le mur à casemates fut érigé pendant la dernière phase. Ces remparts massifs, de 1290 m de longueur, abritent environ 70 casemates du côté intérieur, certaines de plus de 30 m, et comptent 27 tours. Trois portes s'y ouvrent : la porte de l'Ouest, la porte du Sud, et la porte du Sentier du Serpent (à l'est). La porte de l'Eau, qui permettait d'accéder au palais du Nord, ne faisait pas partie du mur à casemates.

- Gestion de l'eau

Au cours des trois périodes, plusieurs citernes profondes ont été creusées à même le roc de Massada. Les plus petites, creusées à la première période, étaient remplies en hiver par les eaux d'écoulement se déversant depuis le sommet de la colline. À la deuxième période, deux rangées de citernes furent construites en contrebas. La première rangée comptait quatre citernes, à 130 m en-dessous du sommet, d'une capacité de 4000 m^3 chacune. La deuxième se trouvait 50 m au-dessus : chacune des huit citernes qui la constituaient pouvait recevoir 3000 m^3. L'eau s'y déversait au moyen d'un réseau de digues et de canaux, pendant les inondations hivernales dans les oueds de l'ouest de Massada.

- Structures de la période zélote

La plupart des édifices se dressant en haut du promontoire étaient occupés par le millier de personnes qui y vivaient à l'époque, notamment dans les casemates et les petits palais (le palais de l'Ouest semble alors avoir été utilisé à des fins communales et administratives). Les plus grandes salles furent divisées en unités plus petites, les entrées existantes furent bloquées et de nouvelles ouvertes, tandis que de nouvelles constructions étaient ajoutées. Des aménagements furent également construits pour faire le pain et la cuisine, pour l'eau et pour l'entreposage.

Le nouveau trait le plus marquant de cette période est la synagogue, un édifice carré de la période hérodienne qui servait probablement d'écurie à l'époque. Trois rangées de bancs, caractéristiques des premières synagogues, s'étendaient le long des murs, le *genizah* (réceptacle des anciens manuscrits) se trouvant sous le sol de l'arrière-salle.

Sept ou huit bains rituels (*mikveh*) ont été identifiés, dont un grand bassin d'immersion en gradins au sud du palais de l'Ouest. Un hall public, adjacent à l'un des petits palais, fut également construit à cette époque.

- Les vestiges militaires romains

On observe un réseau de huit camps militaires romains autour de Massada, dont aucun n'a fait l'objet de fouilles. Deux sont grands, deux autres plus petits. Le premier des grands camps se dresse à l'est, et l'autre à l'ouest de Massada. Des relevés aériens et des sondages montrent qu'il s'agit de forteresses légionnaires romaines typiques, de plan quadrilatéral. Dans le camp occidental (que l'on croit être le quartier général de Flavius Silva), un petit secteur a plus tard été fortifié, pour devenir le quartier général de la garnison suivante. Tous deux sont en dehors du mur de circonvallation, alors que les plus petits sont plus étroitement associés à ce long remblai. Trait frappant de tous ces camps romains, les centaines de *contubernia* (unités de mess), des murets de pierre de 1 à 1,5 m de haut sur lesquels les soldats dressaient leurs tentes de cuir.

La grande rampe utilisée pour l'assaut final, en terre et en pierre, était consolidée par une armature de poutres de bois.

- L'église byzantine

L'église s'élève quasiment en plein centre du site, et ses murs demeurent aujourd'hui encore d'une hauteur considérable. Elle est faite de dolomite taillée, volée, dans sa grande majorité, sur les ruines des édifices hérodiens, le liant utilisé étant un mortier de chaux. À l'origine, le sol était recouvert d'un pavement en mosaïque, mais ce dernier a en grande partie été emmené au Louvre après des fouilles, au XIXe siècle. Des fragments subsistant des murs enduits montrent que ceux-ci étaient décorés de motifs faits de pierres colorées et de tessons de poterie. Le plan,

caractéristique, est celui d'un hall rectangulaire, doté d'une abside à l'extrémité orientale et d'un narthex à l'ouest.

- Matériaux et techniques de construction

La plupart des murailles hérodiennes et leurs fondations étaient faites de blocs non taillés de dolomite, liés à l'aide d'un mortier fait d'un mélange de terre et de paille. Les blocs étaient posés sur plusieurs assises, les plus importants (environ 90 cm de long) sur les assises inférieures. Seuls les angles et les montants de porte étaient en pierre taillée. L'épaisseur des murs allait de 60 à 95 cm. Les remparts, pour leur part, différaient tant par leurs dimensions que par leur construction. Ils faisaient en moyenne 6,5 m d'épaisseur, et se composaient d'un mur extérieur de 1,4 m d'épaisseur, et d'un intérieur de 0,95 m, comblé par des gravats.

L'utilisation de la pierre de taille est très rare à Massada, puisqu'elle se limite aux trois terrasses du palais du Nord et aux trois *columbaria*. Là, la pierre utilisée n'est pas la dolomite locale, mais une roche calcaire tendre, couleur gris-vert. Le grès a été privilégié pour les travaux exigeant de la précision : piliers, architraves, colonnes centrales des escaliers, etc. Ces matériaux étaient extraits de carrières proches, ou d'autres à proximité de Jericho ; dans ce dernier cas, ils étaient amenés à Massada par bateau. Ces travaux étaient réalisés à l'aide d'un mortier à base de chaux.

À l'exception des murs de casemate, tous les murs (et beaucoup des plafonds) étaient enduits. La plupart des intérieurs sont faits d'un enduit mélangeant terre et paille, identique au mortier utilisé pour la construction des remparts. Il était probablement revêtu d'un lait de chaux, quoiqu'il n'en reste que peu de vestiges.

Un enduit à base de chaux a aussi été utilisé dans certains cas, à la fois à l'intérieur et à l'extérieur. Sur des surfaces externes, il s'étendait soit sur la section inférieure uniquement, soit sur la surface toute entière. Un enduit spécial, contenant des cendres aussi bien que de la chaux (« chaux hydraulique ») a été utilisé dans les pièces exposées à une forte humidité, notamment les thermes, les citernes et les canaux.

Ces techniques, poussées à leur apogée, se retrouvent dans les plus importants bâtiments de la période zélote.

Gestion et protection

Statut juridique

Le site tout entier est un parc national, établi par les dispositions de la loi sur les parcs nationaux, les réserves naturelles, les sites mémoriaux et les sites nationaux (1998), tandis que les sites archéologiques sont couverts par la loi sur les antiquités (1978). Le parc national est encore mieux protégé, de par le fait qu'il s'inscrit entièrement dans la réserve naturelle du désert de Judée, elle aussi établie en vertu de la loi de 1998. En outre, une bande de terre en friche s'étend entre le site et la mer Morte ; en tant que friche agricole, elle est protégée par les dispositions d'un plan directeur local adopté en vertu de la loi sur l'urbanisme et la construction de 1965. Les actions non autorisées affectant les caractéristiques du parc national et des monuments archéologiques sont passibles de sévères sanctions.

Gestion

Le site proposé pour inscription et la zone tampon sont la propriété de l'État d'Israël.

La gestion du parc national de Massada et de la réserve naturelle du désert de Judée sont sous la responsabilité juridique de l'autorité de protection de la nature et des parcs, tandis que la responsabilité des sites archéologiques incombe à l'autorité des antiquités israéliennes. Quant à la ceinture de terre agricole, elle est soumise au contrôle du conseil régional.

La gestion directe du parc échoit au directeur de ce dernier. Des gardes forestiers, opérant à partir des oasis d'En Gedi et d'Arad, à 20 km au nord et à 25 km à l'ouest de Massada respectivement, patrouillent régulièrement dans la réserve naturelle qui entoure le site archéologique.

L'autorité de protection de la nature et des parcs dispose de comités de planification responsables d'agréer et de mettre en œuvre les plans de développement. Des experts indépendants assistent aux réunions de ceux-ci, et des audiences publiques se tiennent en cas de questions d'intérêt national et international exceptionnel. L'autorité des antiquités israéliennes possède un comité indépendant de conservation, qui étudie les propositions et projets de conservation et de restauration.

Après la fusion de l'autorité en charge des réserves naturelles avec son homologue responsable des parcs nationaux en 1998, un plan de gestion des sites archéologiques dans les réserves naturelles a été élaboré, en collaboration avec l'institut de conservation Getty. Une version actualisée est actuellement en cours de finalisation : elle couvre tous les aspects de la question, et est en parfaite conformité avec les prescriptions *des Orientations devant guider la mise en œuvre de la Convention du patrimoine mondial* en ce qui concerne l'élément culturel.

Le nombre de visiteurs fait parti des problèmes les plus préoccupants : actuellement, il avoisine les 650 000, et devrait, selon les prévisions, atteindre 900 000 d'ici à 2001 et 1,25 million d'ici à 2010 (à noter cependant que la situation politique intérieure très troublée a entraîné une diminution drastique du nombre de visiteurs). Le site archéologique, ces dernières années, a également fait l'objet d'une volonté bien affirmée de « commercialisation ». Le programme de développement se penche sur ces points avec une attention toute particulière.

Un projet de construction d'un hôtel et d'un complexe de loisirs à 11 km au nord a été mis en suspens. La politique d'interdiction des actions commerciales en tout genre et des installations de pique-nique sur l'éperon rocheux est rigoureusement appliquée. Seule concession, une piste jalonnée de panneaux d'interprétation pour les visiteurs du site.

Un projet de nouvelle entrée du côté est, presque entièrement invisible depuis le promontoire, touche à sa fin, et toutes les installations y sont déplacées. Le bâtiment abritera du matériel d'interprétation, des installations de conservation, les bureaux de la direction, des restaurants, etc. Il est conçu intelligemment, de façon à ne pas avoir un impact négatif sur son environnement historique et naturel, et installé de

manière à n'avoir qu'un impact visuel minimum depuis le point de vue du sommet. Un parking souterrain pour les voitures et les mini-bus et un autre à ciel ouvert pour les autocars ont été mis en place.

Plusieurs entreprises commerciales doivent être transférées dans un nouveau complexe, invisible depuis le sommet. C'est là également que se trouvera l'auberge de jeunesse.

Un nouveau téléphérique, entré en opération en mai 1999, a divisé par deux le temps d'attente des visiteurs ; il part de la nouvelle entrée. Le site du terminal du haut a été choisi avec soin : il se trouve sous l'ancien portail d'entrée ; l'accès au site proprement dit se fait via un pont. Toutes les installations en cours de remplacement sont démolies, afin que le terrain reprenne son aspect de jadis.

Le projet de démantèlement et de transfert du téléphérique, qui date des fouilles des années 1960, est tout particulièrement primordial. Actuellement, il passe directement au-dessus de la rampe romaine, et pénètre dans l'enceinte par la brèche ouverte par les assiégeants, l'un des lieux historiques les plus significatifs du site.

Au pied du versant ouest de la colline se trouve une installation son et lumière, principalement utilisée à des fins éducatives.

Conservation et authenticité

Historique de la conservation

Ce sont deux voyageurs qui, en 1863, ont pour la première fois identifié le site comme Massada. D'autres visiteurs les ont suivis, dans la seconde moitié du XIXe siècle et au XXe siècle, notamment les érudits responsables de l'étude de la Palestine occidentale réalisée par le fonds d'exploration de la Palestine en 1867 et 1875.

Une étude archéologique limitée a eu lieu en 1955-1956, parrainée par la société d'exploration d'Israël, l'université hébraïque et le département des Antiquités. En 1963-1965, le professeur Yigaël Yadin a réalisé ses célèbres fouilles. Avant même la fin des fouilles, il avait été décidé d'ouvrir le site au public en qualité de parc national ; les travaux de conservation ont immédiatement commencé, et les chercheurs ont quitté les lieux.

Les travaux reposaient sur un plan défini par un comité de spécialistes, selon les normes en vigueur à l'époque (qui exigeaient l'utilisation de ciment Portland, aujourd'hui presque intégralement remplacé). Des conservateurs, d'Israël et d'ailleurs, n'ont jamais cessé de travailler sur ce site depuis cette époque, mettant sans cesse à jour leurs techniques et leur expertise. Sur les cinq dernières années, depuis le début du projet de développement de Massada, la plupart des édifices de la zone nord ont fait l'objet de travaux. En outre, des travaux d'évaluation et d'amélioration de la stabilité du rocher ont été conduits. Un vaste projet de stabilisation et de conservation est en cours sur le palais de l'Ouest ; à la tête de l'équipe de réalisation, le professeur John Ashurst (université d'Oxford, Royaume-Uni).

Dans le cadre du projet de développement, un programme quinquennal de conservation, qui devrait prendre fin dans le courant de l'année 2001, fait travailler quinze conservateurs formés et vingt ouvriers non spécialisés. À partir de 2002, un programme de maintenance planifié sera mis en œuvre par une équipe de cinq à sept ouvriers qualifiés. Il coïncidera avec l'introduction d'un suivi systématique. Un manuel détaillé, couvrant différents aspects de la conservation, de la maintenance et de la gestion, a été préparé et fait l'objet d'une actualisation systématique.

Dans le cadre du plan de gestion, une décision importante a été prise : celle de ne plus effectuer de plus amples fouilles sur le site principal jusqu'à la génération suivante. Des fouilles limitées seront cependant autorisées si des projets de conservation ou de restauration l'exigent.

Authenticité et intégrité

Il s'agit là d'un site demeuré intouché pendant plus de treize siècles. Les édifices et autres preuves de peuplement humain se sont graduellement effondrés et ont été recouverts, jusqu'à leur découverte dans les années 1960. Il n'y a eu aucun ajout ni aucune reconstruction (hormis une anastylose acceptable), et les matériaux inappropriés utilisés lors des premiers projets de conservation sont en cours de remplacement. Certains éléments archéologiques importants, comme les camps romains et les travaux de siège, demeurent virtuellement intacts. Le degré d'authenticité est donc très élevé.

Certaines raisons portent à examiner l'intégrité de Massada, à l'instar de la plupart des sites archéologiques. Comme nous l'avons dit précédemment, rien n'a été ajouté aux vestiges et rien n'en a été enlevé. Tout aussi important, le cadre où s'inscrit Massada, le magnifique et sauvage paysage de cette région, n'a pas changé depuis plusieurs milliers d'années. Les seules intrusions sont les installations destinées aux visiteurs, qui, sous leur nouvelle forme, ont été conçues et installées dans une optique de respect de l'endroit, et le téléphérique. Ce dernier a toujours prêté, et prête encore, à controverse. Cependant, l'accès au sommet rocheux est extrêmement ardu : en l'absence d'assistance, beaucoup de Juifs, pour qui ce site possède une immense valeur symbolique, seraient dans l'incapacité de le visiter. À chaque extrémité, les nouvelles installations ont été pensées et, dans le cas du terminal supérieur, placées avec soin, de façon à minimiser leur impact visuel.

Évaluation

Action de l'ICOMOS

Une mission conjointe d'expertise ICOMOS-UICN s'est rendue à Massada en mars 2001.

Caractéristiques

Massada est un site d'une grande beauté naturelle, s'inscrivant dans un paysage spectaculaire, sur lequel le roi de Judée Hérode le Grand a fait ériger un somptueux complexe palatial de style romain classique. Lorsque la Judée devint une province de l'empire romain, Massada devint le refuge des derniers survivants de la révolte juive, qui choisirent la mort plutôt que l'esclavage lorsque les

assiégeants romains percèrent leurs défenses. À ce titre, il présente une valeur emblématique pour le peuple juif.

C'est également un site archéologique d'une grande importance. Les vestiges des palais d'Hérode sont des exemples exceptionnels et très bien préservés de ce type d'architecture, tandis que les travaux de siège, intacts, sont les plus beaux et les plus complets que l'on puisse trouver dans le monde romain.

Analyse comparative

On compte plusieurs villas romaines impériales datant des Ier siècles avant et après notre ère dont subsistent encore des vestiges conséquents. La plus proche de la villa d'Hérode le Grand à Massada est probablement la *Villa Jovis*, légèrement plus récente, construite par Tibère sur un promontoire semblable, sur l'île de Capri. Toutefois, elle s'en écarte sous plusieurs aspects, et notamment par l'absence de structures administratives associées et de remparts comme l'on en trouve à Massada.

En ce qui concerne les camps militaires romains, le mur de circonvallation et la rampe d'accès, il n'existe aucun site comparable à Massada, que ce soit du point de vue de la visibilité ou de l'intégrité.

Recommandations de l'ICOMOS pour des actions futures

Il convient d'étudier avec attention l'emplacement du parking pour autocars à l'entrée du site. L'emplacement actuel brise la ligne du mur de circonvallation romain entre deux forts. Quant à la surface de goudron noir, elle est intrusive vue de dessus.

S'il existe clairement de bonnes relations entre les groupes responsables de la gestion des éléments « culturels » et « naturels », il serait cependant souhaitable qu'ils s'accordent à examiner avec attention leurs objectifs et programmes respectifs, afin de garantir l'homogénéité et d'éviter d'éventuels conflits.

Brève description

À Massada, où se sont immolés un millier de Juifs face à la puissante armée romaine, Hérode le Grand, roi de Judée, a fait construire un complexe palatial, afin d'en faire son refuge. Il conserve au sommet de cette forteresse apparemment imprenable, au cœur d'un paysage naturel sauvage d'une grande beauté, des vestiges importants. En contrebas se trouvent les sites et les travaux de siège encore non mis au jour de la grande armée romaine.

Déclaration de valeur

Le complexe palatial bâti par Hérode le Grand, roi de Judée, au sommet du spectaculaire site montagneux de Massada, au Ier siècle avant notre ère, se compose d'un groupe exceptionnel d'édifices romains classiques. Quand ce site défensif naturel, encore renforcé par des remparts colossaux, fut occupé par des survivants de la révolte juive contre le joug romain, il fut assiégé avec succès par des troupes romaines nombreuses. Le groupe de camps militaires et de travaux de siège de Massada sont les plus complets qui subsistent dans le monde romain. Massada est un symbole poignant de la lutte continue de l'homme contre l'oppression et pour la liberté.

Recommandation de l'ICOMOS

Que ce bien soit inscrit sur la Liste du patrimoine mondial sur la base des ***critères culturels iii, iv et vi*** :

Critère iii Massada est un symbole exceptionnel de l'ancien royaume juif d'Israël, de sa destruction violente à la fin du Ier siècle de notre ère, et de la Diaspora qui s'ensuivit.

Critère iv Le palais d'Hérode le Grand à Massada est un exemple remarquable des villas luxueuses du début de l'empire romain, alors que le camp et les fortifications autour du monument constituent les travaux de siège romains les plus beaux et les plus complets qui subsistent à ce jour.

Critère vi Les événements tragiques qui survinrent pendant les derniers jours des réfugiés juifs occupant la forteresse et le palais de Massada en font un symbole de l'identité culturelle juive mais aussi, plus universellement, du perpétuel combat humain entre oppression et liberté.

Recommandation du Bureau

Que ce bien soit inscrit sur la Liste du patrimoine mondial sur la base des ***critères iii, iv et vi***.

ICOMOS, septembre 2001

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

MASADA NATIONAL PARK (ISRAEL)

1. DOCUMENTATION

i) **IUCN/WCMC Data sheet**: (4 references).

ii) **Additional literature consulted:** Mazor, E. 2001. **Masada - Geology and Interrelated Heritage**. Report to Israel Committee for UNESCO and World Heritage Committee; **Masada Management Plan** (summary outline), Israel Nature and National Parks Protection Authority (January 2001); Israel N&NPPA , 1997. **Masada - King's Stronghold, Zealots' Refuge**. 32pp. (National Park interpretation book). Israel N&NPPA. **Masada - the Northern Palace**. 15pp. (Promotional and fundraising document). Yadin, Y. 1966. **Masada - Herod's Fortress and Zealots' Last Stand**. Weidenfeld & Nicolson, London. (Principal archaeological reference based on 1963-5 excavations).

iii) **Consultations:** 4 external reviewers contacted. Onsite consultations with national park director, senior members of park management team and professional advisers.

iv) **Field Visits:** March 2001 . Paul Dingwall and an ICOMOS representative.

2. SUMMARY OF NATURAL VALUES

The nominated property is the 276ha Masada National Park (IUCN Management Category II National Park, with elements of Category V Protected Landscape), located in southern Israel, approximately 18km south of En Gedi, on the eastern fringe of the Judean Desert. Adjacent to the park is the Judean Desert Nature Reserve (IUCN Category I), 28,956ha in extent, considered as a buffer zone for the nominated site.

The national park is dominated by Mount Masada, a partially isolated massif overlooking the Dead Sea. Masada is a fault-bounded uplifted block of the earth's crust (in geological terms a horst) associated with a down-thrusted rift valley (graben), occupied here by the Dead Sea. This rift valley is the landward extension of the huge Syrian-African Rift Valley System, formed along a tectonic plate boundary zone that stretches from the Indian Ocean, through the Red Sea and the Gulf of Eliat.

Rhomboid-shaped, with a flat top some 8ha in extent, Masada stands 100-400m above the surrounding terrain. It is separated from a large fault escarpment by steep canyons cut by rivers that descend from the Judean plateau to the Dead Sea. The rocks forming Masada include massive dolomites and limestones of marine origin, forming near-vertical cliffs, overlying less resistant limestones and chalk. Palaeokarst features occur in the nearby escarpment walls. West of Masada, is a landscape of hills, terraces and wadis forming the Judean Plateau. To the east, Masada is bounded by 18-80,000 year-old lacustrine silts, gravels, sandstones and conglomerates of the Lissan Formation, deposited in a huge lake that existed prior to formation of the Dead Sea.

Towering over the surrounding terrain, Masada is a landscape feature of great scenic attraction. From its summit, unhindered vistas of largely natural rural landscapes in the surrounding nature reserve, and of the Dead Sea, also have high scenic value. Although essentially an arid site, the region is a climatic and biogeographic transition zone, intermixing desert, steppe and Mediterranean elements.

A natural fortress (its name is the Hebrew term for fortress), Masada is the site of fortified palaces built in the 1st Century BC by the Judean King Herod, and it was the scene of the last stand made by some 1,000 Jewish zealots in their revolt against Roman rule in the period AD 66-73. The ingenious use of location, topography and geology, which transformed the site into both an opulent royal palace and a zealots' fortress, captures the spirit of the people of Israel who have come to regard Masada as a national shrine. Similarly, it is the uniqueness with which Masada intimately entwines cultural legacy and its special natural features that captures the imagination of the modern-day tourists who visit the site.

3. COMPARISON WITH OTHER SITES

The nomination document provides no information comparing Masada to other geological sites. Tectonic plate boundaries, rift valleys and horst-and-graben systems are common geological phenomena in global terms. Among existing World Heritage sites, rift valley systems are prominent in Lake Malawi National Park (Malawi) and the Kahuzi-Biega National Park (Democratic Republic of Congo); Gros Morne National Park (Canada) reveals plate boundary tectonics in a much more outstanding way, in fact this has been referred to as "a Galapagos for Plate Tectonics"; Macquarie Island (Australia) is a horst block on the boundary of the Indo-Australian and Pacific tectonic plates (two of the seven large tectonic plates of the Earth) in the southern ocean; and Tassili n'Ajjer (Algeria), Aïr and Ténèré Natural Reserves (Niger), and Uluru-Kata Tjuta National Park (Australia) all display eroded plateaux and escarpments in arid environments. IUCN concludes that Masada is an important geological site but is not of outstanding universal value. IUCN also notes that the geological values of the site are already well represented in other World Heritage sites.

4. INTEGRITY

Size and Boundaries

The boundaries of the nominated property, though somewhat arbitrary, are defined according to cultural rather than natural values. They are drawn to encompass the mountain and the entire surrounding Roman siege system, comprising eight campsites, a siege-wall and towers, and a large wood and earthen ramp. For purposes of historic authenticity, the visual integrity of the surrounding terrain in the nature reserve and the rural land is maintained by prohibiting under State law any construction within view of the mountain summit.

Management

The nominated site is a national park, protected under national conservation and antiquities statutes. Management responsibility is exercised principally by the Israel Nature and National Parks Protection Authority (NPA). That agency has planning committees and independent experts to assist in implementing management and development plans, while matters of national and international interest are subject to public hearings. The legal and administrative basis for managing the adjacent nature reserve is the same as for the national park. The area between Masada and the Dead Sea is managed as open space and agricultural land according to a masterplan under national planning legislation, administered by the regional council.

A park management plan is currently being prepared. A summary outline of the plan reveals it to be comprehensive in its coverage of management policies and operational plans, with strong underpinning support from planning, forecasting and research. A conservation development project, begun in 1995, is nearing completion. This is intended to promote the conservation and enhancement of cultural assets, guide the implementation of a park interpretation plan, and determine proper levels of visitor services and infrastructure needs. This project incorporates an impressive series of resource assessments, condition reports, research investigations, and forecast surveys. The park is well funded through the NPA, with supplementary funding for visitor services facilities from the Ministry of Tourism. A well-trained staff of 50 is employed, under a park director and senior management team.

The site is well buffered from external development pressures, and there are currently no activities that are incompatible with park objectives or that threaten park values. There are no permanent residents in the park or in the adjacent nature reserve, and the gateway city of Arad (population 25,000) is located 22km away. Pressure from tourism is considerable, but the capacity to handle current and projected visitor levels appears adequate. Masada is one of Israel's most popular tourist venues, receiving about 700,000 visitors per annum. Numbers are forecast to increase to 1.2 million per annum by 2010. The new visitor centre complex and cable car transport system are designed to cope with this level of use without compromising park values or the visitor experience. There is little management intrusion on the site. Rock walls are monitored, and pinned in places, to ensure public safety in the event of earthquake and rockfall.

5. ADDITIONAL COMMENTS

The nomination document is primarily devoted to exposition of Masada's outstanding cultural heritage values, and it gives far less attention to its natural geological character and landforms.

6. APPLICATION OF CRITERIA

Masada has been nominated as a mixed (cultural and natural) World Heritage site. Its natural values have been nominated under natural criteria (i) and (iii).

Criterion (i): Earth's history and geological features

Mount Masada is an impressive landform, but it is neither unique nor outstanding in geological terms. It is a very small structural feature - a horst block, isolated by secondary faulting and stream erosion from its parent fault scarp. This huge escarpment, with a local relief of some 1,400m from the plateau summit to the shoreline of the Dead Sea (400m below sea level) is part of a truly global scale geological phenomenon - a rift valley system on a tectonic plate boundary extending from Israel for thousands of kilometers to the Indian Ocean and beyond. With summit dimensions of only 600m x 300m, Mount Masada is but an extremely tiny representation of this geological system. As such, Masada is of local significance only, and it fails to qualify as being of outstanding universal value either in geological evolutionary terms or as a geomorphological feature.

However, if Mount Masada is considered together with the surrounding buffer zone the picture changes somewhat. The adjacent nature reserve to the west incorporates a much larger representation of the uplifted component (horst) of the rift valley system, while the protected lands east of Masada National Park cover a large area of the downthrown block (graben). Beyond is the drowned portion of the graben - the Dead Sea. A huge lake that was the forerunner to the Dead Sea is evidenced by an extensive deposit of lacustrine sediments in the area between Masada and the Dead Sea. Consideration could, therefore, be given to incorporating the nature reserve and relevant parts of the open rural lands into the nomination, thereby providing a much more extensive and holistic geological representation of the rift valley system. This would impart greater geological significance to the nominated property. However, IUCN considers that such an expanded nomination would still not meet the criteria or outstanding universal value, for geological features. IUCN also notes that there would be questions of integrity associated with the incorporation of the open rural lands into any revised nomination. IUCN considers that the nominated site does not meet this criterion.

Criterion (iii): Superlative natural phenomena or natural beauty and aesthetic importance

Physiographically, Masada is a small and indistinguishable component of a much more prominent landform feature - a mountainous chain forming the eastern edge of the Judean Desert plateau. This upland is brought into even sharper focus by being set abruptly against the flat expanse of the Jordan Rift Valley floor. Its setting within the context of a much grander regional-scale landscape gives Masada special scenic values. Despite being physically isolated on the escarpment, what really sets Masada apart, and gives it an outstanding aesthetic quality, is the presence of ancient ruins.

Viewed either from below Mount Masada is an awesome sight. Its summit, affords spectacular vistas of the surrounding landscape. But its scenic qualities derive from an intimate combination of its physical attributes and the material remains of human occupation. Masada's aesthetic appeal, therefore, is the culmination of its natural character and associated cultural legacy.

Given that Masada is a well-displayed example of past successive human settlement intimately interrelated with the natural environment, there could be real merit in considering the site as a relict landscape within the World Heritage category of cultural landscape. IUCN considers that the nominated site does not meet this criterion.

7. RECOMMENDATION

The Bureau did not recommend the inscription of Masada National Park on the World Heritage List under natural criteria.

The Bureau discussed the possibility of a larger natural site, potentially involving other countries, which would have to be presented as a new natural nomination.

CANDIDATURE AU PATRIMOINE MONDIAL - ÉVALUATION TECHNIQUE UICN

PARC NATIONAL DE MASADA (ISRAËL)

1. DOCUMENTATION

i) **Fiches techniques UICN/WCMC:** (4 références)

ii) **Littérature consultée:** Mazor, E. 2001. **Masada - Geology and Interrelated Heritage.** Report to Israel Committee for UNESCO and World Heritage Committee; **Masada Management Plan** (summary outline), Israel Nature and National Parks Protection Authority (January 2001); Israel N&NPPA , 1997. **Masada - King's Stronghold, Zealots' Refuge.** 32pp. (National Park interpretation book). Israel N&NPPA. **Masada - the Northern Palace.** 15pp. (Promotional and fundraising document). Yadin, Y. 1966. **Masada - Herod's Fortress and Zealots' Last Stand.** Weidenfeld & Nicolson, London. (Principal archaeological reference based on 1963-5 excavations).

iii) **Consultations:** Quatre évaluateurs indépendants. Consultations sur place avec le Directeur des parcs nationaux, des cadres de l'équipe de gestion et des conseillers professionnels.

iv) **Visite du site:** Mars 2001. Paul Dingwall et un représentant de l'ICOMOS

2. RÉSUMÉ DES CARACTÉRISTIQUES NATURELLES

Le site proposé est le Parc national de Masada (Catégorie de gestion II de l'UICN, Parc national, avec des éléments de la Catégorie V, Paysage protégé), qui couvre 276 hectares dans le sud d'Israël, à environ 18 km au sud d'En Gedi, sur la frange orientale du désert de Judée. À proximité du Parc, il y a la Réserve naturelle du désert de Judée (Catégorie UICN I), d'une superficie de 28 956 hectares, qui est considérée comme une zone tampon pour le site proposé.

Le Parc national est dominé par le mont Masada, un massif partiellement isolé qui surplombe la mer Morte. Masada est un horst (bloc soulevé de la croûte terrestre entre deux failles), associé à une vallée effondrée entre deux compartiments soulevés (graben), occupée ici par la mer Morte. La vallée est une extension vers l'intérieur de l'immense système de Rift Valleys syro-africain, formé sur l'extrémité d'une plaque tectonique qui s'étend de l'océan Indien jusqu'à la mer Rouge et au golfe d'Elath.

De forme rhomboïdale, avec un sommet plat d'une superficie de huit hectares, le mont Masada domine les alentours de 100 à 400 mètres. Il est séparé d'un grand escarpement de faille par des canyons profonds creusés par des rivières qui descendent du plateau de Judée vers la mer Morte. Masada est formé de dolomites massives et de calcaires d'origine marine formant des falaises quasi verticales et recouvrant des calcaires et des craies moins résistants. Les parois proches de l'escarpement présentent des caractéristiques paléokarstiques. À l'ouest de Masada, un paysage de collines, de terrasses et d'oueds forme le plateau de Judée. À l'est, Masada est bordé par des sédiments lacustres qui ont entre 18 000 et 80 000 ans, des graviers, des grès et des conglomérats de la formation Lissan déposés dans un grand lac qui a précédé la formation de la mer Morte.

Dominant le paysage alentour, Masada présente des qualités paysagères importantes. Depuis le sommet, la vue dégagée sur des paysages ruraux essentiellement naturels de la Réserve naturelle et sur la mer Morte présente aussi une grande valeur esthétique. Bien qu'il s'agisse essentiellement d'un site aride, la région est une zone de transition climatique et biogéographique où se mélangent des éléments du désert, de la steppe et de la Méditerranée.

Forteresse naturelle (son nom signifie forteresse en hébreu), Masada possède des palais fortifiés construits au premier siècle av. J.-C. par le roi Hérode de Judée et a été le siège de la dernière résistance des 1000 zélotes révoltés contre l'occupation romaine entre 66 et 73 de notre ère. L'utilisation judicieuse de cet emplacement, de sa topographie et de sa géologie pour construire un palais royal opulent et une citadelle où se réfugièrent les

zélotes captive l'imagination du peuple d'Israël qui considère Masada comme un sanctuaire national. C'est également la manière unique dont le patrimoine culturel et les caractéristiques naturelles particulières se mêlent intimement à Masada qui captive aujourd'hui l'imagination du touriste moderne.

3. COMPARAISON AVEC D'AUTRES SITES

Le document justificatif n'établit aucune comparaison entre Masada et d'autres sites géologiques. À l'échelle mondiale, les lisières de plaques tectoniques, les Rift Valleys, les horst et les graben sont des phénomènes géologiques communs. Parmi les biens du patrimoine mondial existants, les Rift Valleys sont spectaculaires dans le Parc national du lac Malawi (Malawi) et dans le Parc national de Kahuzi-Biega (République démocratique du Congo); le Parc national Gros Morne (Canada) révèle une tectonique de lisière de plaque beaucoup plus spectaculaire: le site a même été baptisé «les Galápagos des plaques tectoniques»; l'île Macquarie (Australie) est un horst limitrophe des plaques tectoniques indo-australienne et pacifique (deux des sept grandes plaques tectoniques de la Terre) dans l'océan Austral; le Tassili n'Ajjer (Algérie), les Réserves naturelles de l'Aïr et du Ténéré (Niger) et le Parc national Uluru-Kata Tjuta (Australie) présentent tous des plateaux érodés et des escarpements en milieu aride. En conclusion, l'UICN estime que Masada est un site géologique important mais sans valeur universelle exceptionnelle. L'UICN ajoute que les caractéristiques géologiques du site sont déjà bien représentées dans d'autres biens du patrimoine mondial.

4. INTÉGRITÉ

4.1. Dimensions et limites

Les limites du bien proposé, quelque peu arbitraires, sont définies par des valeurs culturelles plutôt que naturelles. Elles comprennent la montagne et l'ensemble du système de siège romain avec huit sites de campement, une muraille et des tours, ainsi qu'une vaste rampe de bois et de terre. Par souci d'authenticité historique, l'intégrité visuelle du paysage environnant, dans la réserve naturelle et dans la zone rurale, est maintenue par une interdiction, inscrite dans la loi, de construire dans le périmètre visuel du sommet de la montagne.

4.2. Gestion

Le bien proposé est un parc national protégé au titre de la Loi sur la conservation de la nature et des antiquités. La gestion est exercée principalement par l'Autorité israélienne de protection de la nature et des parcs nationaux (APN). Cette agence dispose de comités de planification et d'experts indépendants qui aident à mettre en œuvre la gestion et les plans de développement tandis que les questions d'intérêt national et international sont soumises à consultation publique. La base juridique et administrative de la gestion de la réserve naturelle adjacente est la même que pour le parc national. La zone qui sépare Masada de la mer Morte est gérée en tant qu'espace ouvert et terre agricole selon un plan magistral relevant de la Loi de planification nationale administrée par le Conseil régional.

Un plan de gestion du parc est en préparation. Le résumé du plan révèle qu'il sera complet du point de vue des politiques de gestion et des plans opérationnels et bénéficiera d'une assise solide en matière de planification, prévision et recherche. Un projet de conservation et de développement a été entamé en 1995 et sera bientôt terminé. Le but est de promouvoir la conservation et d'améliorer les qualités culturelles, d'orienter la mise en œuvre d'un plan d'interprétation du parc et de déterminer le niveau approprié des besoins en services touristiques et infrastructure. Le projet comprend une série impressionnante d'évaluations des ressources, de rapports sur l'état du site, de travaux de recherche et d'enquêtes prévisionnelles. Le parc est bien financé, par l'intermédiaire de l'APN, et le ministère du Tourisme apporte des ressources supplémentaires pour les services d'accueil des visiteurs. Le parc emploie un personnel bien formé de 50 personnes, dirigé par un directeur et un comité de gestion.

Le site est bien protégé des pressions extérieures du développement et il n'y a pas, pour l'instant, d'activités incompatibles avec les objectifs du parc ou menaçant les valeurs du parc. Il n'y a pas de résidents permanents dans le parc ou dans la réserve naturelle adjacente et la ville d'Arad (25 000 habitants) se situe à 22 km de là. Les pressions du tourisme sont considérables mais la capacité d'accueillir le nombre de visiteurs, actuel et prévu, semble adéquate. Masada est un des lieux touristiques les plus populaires d'Israël et reçoit environ 700 000 visiteurs chaque automne. Ces chiffres devraient augmenter jusqu'à 1,2 million par année d'ici à 2010. Le

nouveau complexe pour les visiteurs et le système de transport par téléphérique sont conçus pour répondre à ce niveau d'utilisation sans compromettre les valeurs du parc ou l'expérience des touristes. Il y a très peu d'interventions de gestion dans le site. Les parois rocheuses sont surveillées et renforcées par endroits pour garantir la sécurité du public en cas de tremblement de terre ou de chute de pierres.

5. AUTRES COMMENTAIRES

Le document justificatif est essentiellement consacré aux valeurs exceptionnelles de patrimoine culturel de Masada et beaucoup moins détaillé en ce qui concerne les caractéristiques géologiques naturelles et la topographie.

6. APPLICATION DES CRITÈRES

Masada est proposé en tant que bien mixte (culturel et naturel) du patrimoine mondial. Pour les valeurs naturelles, les critères naturels (i) et (iii) ont été invoqués.

Critère (i): histoire de la terre et processus géologiques

Le mont Masada est une forme de relief impressionnante mais elle n'est ni unique ni exceptionnelle du point de vue géologique. C'est une très petite structure – un horst isolé par des failles secondaires et l'érosion de sa faille parentale. Ce grand escarpement, avec un relief local d'environ 1400 mètres depuis le sommet du plateau jusqu'aux berges de la mer Morte (à 400 m au-dessous du niveau de la mer) fait partie d'un phénomène géologique d'échelle réellement mondiale – un système de rift sur une plaque tectonique qui s'étend, à partir d'Israël, sur des milliers de kilomètres jusqu'à l'océan Indien et au-delà. Les dimensions du sommet (600 x 300 mètres) font que le mont Masada n'est qu'un élément extrêmement minuscule de ce système géologique et n'a donc qu'une importance locale. Il n'a aucune valeur universelle exceptionnelle, que ce soit du point de vue de l'évolution géologique ou de ses caractéristiques géomorphologiques.

Toutefois, si l'on considère le mont Masada avec la zone tampon environnante, l'image change quelque peu. À l'ouest, la réserve naturelle adjacente comprend une représentation beaucoup plus vaste de l'élément soulevé (horst) du système de rift tandis que les terres protégées à l'est du Parc national de Masada couvrent une vaste superficie de blocs effondrés (graben). Au-delà, se trouve la portion immergée du graben – la mer Morte. La présence du vaste lac qui a précédé la formation de la mer Morte est évidente dans les importants dépôts de sédiments lacustres que l'on trouve dans la région séparant Masada de la mer Morte. On pourrait, en conséquence, envisager d'incorporer la réserve naturelle et les parties pertinentes des terres rurales ouvertes dans la proposition, ce qui fournirait une représentation géologique beaucoup plus vaste et plus complète du système de rift. Cette mesure renforcerait l'importance géologique du bien proposé. Cependant, l'UICN considère que cette proposition ne remplirait pas non plus les critères et ne donnerait pas de valeur universelle exceptionnelle aux caractéristiques géologiques. L'UICN ajoute que des questions d'intégrité se poseraient si l'on intégrait des terres rurales ouvertes dans une proposition révisée. L'UICN considère que le site proposé ne remplit pas ce critère.

Critère (iii): phénomènes naturels éminemment remarquables ou de beauté exceptionnelle

D'un point physiographique, Masada est un élément petit et impossible à distinguer d'une caractéristique topographique beaucoup plus importante – une chaîne de montagnes qui forme l'extrémité est du plateau du désert de Judée. Ce haut plateau est, en outre, mis en valeur par l'étendue plate de la vallée du Jourdain. Son emplacement, dans le contexte d'un paysage d'échelle régionale beaucoup plus vaste donne à Masada des valeurs panoramiques spéciales. Même s'il est isolé sur l'escarpement, ce qui ajoute un élément particulier à Masada et lui donne sa qualité esthétique exceptionnelle, c'est la présence de ruines anciennes.

Vu d'en bas, le mont Masada est impressionnant. Le sommet offre un panorama spectaculaire sur le paysage environnant. Mais ses qualités paysagères proviennent d'une association intime des caractéristiques physiques et des vestiges matériels de l'occupation humaine. L'attrait esthétique de Masada provient donc de l'association des caractéristiques naturelles et culturelles.

Étant donné que Masada est un bon exemple d'établissements humains successifs en harmonie étroite avec le milieu naturel, il serait sans doute justifié d'évaluer le site en tant que paysage relique dans la catégorie des paysages culturels du patrimoine mondial. L'UICN considère que le site proposé ne remplit pas ce critère.

7. RECOMMANDATION

Le Bureau n'a pas recommandé l'inscription du Parc national de Masada sur la Liste du patrimoine mondial.

Le Bureau a discuté de la possibilité de proposer un plus grand site naturel, éventuellement avec d'autres pays, et qui devrait faire l'objet d'une nouvelle proposition e site naturel.