

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/273082332>

The Zodiac in Ancient Jewish Art: Representation and Significance

Article in *Bulletin of the American Schools of Oriental Research* · December 1977

DOI: 10.2307/1356500

CITATIONS

7

READS

560

1 author:



Rachel Hachlili

University of Haifa

93 PUBLICATIONS 188 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



This is a book not an article [View project](#)



Jericho [View project](#)



AMERICAN SCHOOLS OF ORIENTAL RESEARCH

The Zodiac in Ancient Jewish Art: Representation and Significance

Author(s): Rachel Hachlili

Source: *Bulletin of the American Schools of Oriental Research*, No. 228 (Dec., 1977), pp. 61-77

Published by: [The American Schools of Oriental Research](#)

Stable URL: <http://www.jstor.org/stable/1356500>

Accessed: 05/04/2014 07:18

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



The American Schools of Oriental Research is collaborating with JSTOR to digitize, preserve and extend access to *Bulletin of the American Schools of Oriental Research*.

<http://www.jstor.org>

The Zodiac in Ancient Jewish Art: Representation and Significance

RACHEL HACHLILI

Tel-Aviv University, Tel-Aviv, Israel

Dedicated in memory of Michael Avi-Yonah

The purpose of this paper is to elucidate the significance of the zodiac in ancient Jewish synagogue art in light of its seemingly pagan representation. The discovery of four synagogue floors with zodiac panels demonstrates that they were an integral part of what is otherwise a very Jewish scheme. This article will consider the following: the decorative system of the zodiac panel, with its tripartite scheme and its composition; the Jewish zodiac, its origin, development and relationship to Roman and Byzantine art; and the meaning and iconography of the scheme, with reference to the significance of the zodiac panel.

Synagogues from Israel of the 4th-6th centuries C.E. typically had three-panel mosaic floors, the center panel of which usually contained the Jewish zodiac which reproduces the panel of the ark and the *mēnôrôt*. This floor type has been found at Beth-Alpha, 6th century (figs. 1:c and 3; Sukenik: 1932); Na^caran, 6th century (figs. 1:d, 4-6; Vincent: 1919; 1921; 1961), Ḥusaifa, 5th century (figs. 1:b and 7; Avi-Yonah: 1934), and Ḥammāt-Tiberias, 4th century (figs. 1:a and 2; Dothan: 1968). Sukenik (1932: 57) maintained that signs of the zodiac were to be found on the Kfar Bar^cam relief, but this view has since been refuted correctly by Ruth Amiran (1954: 181). The mosaic floor at Yaphia is a debatable zodiac (Avi-Yonah 1965: 326, nn. 4 and 5; Foerster 1967: 218-24).

The synagogue floor at Na^caran is especially interesting because of its destruction by Jewish iconoclasts who removed the human and animal figures, leaving the inscriptions. The design has been determined, however, by the remaining outlines.

In each occurrence the design of the mosaic is identical: two concentric circles inscribed within a square. Lehmann (1945: 1, 8) has called this type of

design the "radial type," while Hanfmann (1961: I, 246-47) has referred to it as the "abstract type." In the central circle, the frontal sun god (*Helios, Sol*) was depicted on a chariot with a sickle moon and stars in the background. The second circle was apportioned into 12 radial units, one for each zodiacal sign. The corners of the square were embellished with busts of the four seasons. Each zodiacal sign was accompanied by its Hebrew name, and each season was accompanied by a month which symbolized it. Thus, the design was well balanced, each section having a significant and integral place in the design (fig. 1). A possible exception to this might be the Beth-Alpha mosaic, where the central circle stands out lightly because it has a darker background than the rest of the design.

Although comparable zodiacal designs exist on ceilings and mosaic floors in Roman art, each has a unique design in terms of form, content, and intersegmental harmony. For example, the form is not always two concentric circles within a square. There are circular forms in an astronomical text of Ptolemy in the manuscript of the Vatican Library, gr. 1291, which probably originated around 250 C.E. (fig. 13; Webster 1938: pl. 9; Levi 1941: 290) and in the 6th-century mosaic floor of the Monastery of the Lady Mary at Beth-shean (fig. 17; Fitzgerald 1939: 7, pls. 6-8). Often, different figures are to be found in the various parts of the design (figs. 8-13). The contents of the central circle differ frequently, as in the 1st-century C.E. ceiling decoration of the southern adytum of the Temple of Bel at Palmyra (fig. 8; Seyrig 1933: 258-66, fig. 5; Lehmann 1945: 3, fig. 3), the 4th-century mosaic from Carthage (fig. 11; Webster 1938: 20, pl. 5), and the monastery floor at Beth-shean (fig. 17). Sometimes, the seasons are not included in the design, as at Palmyra (fig. 8) and the 3rd-century mosaic floor at

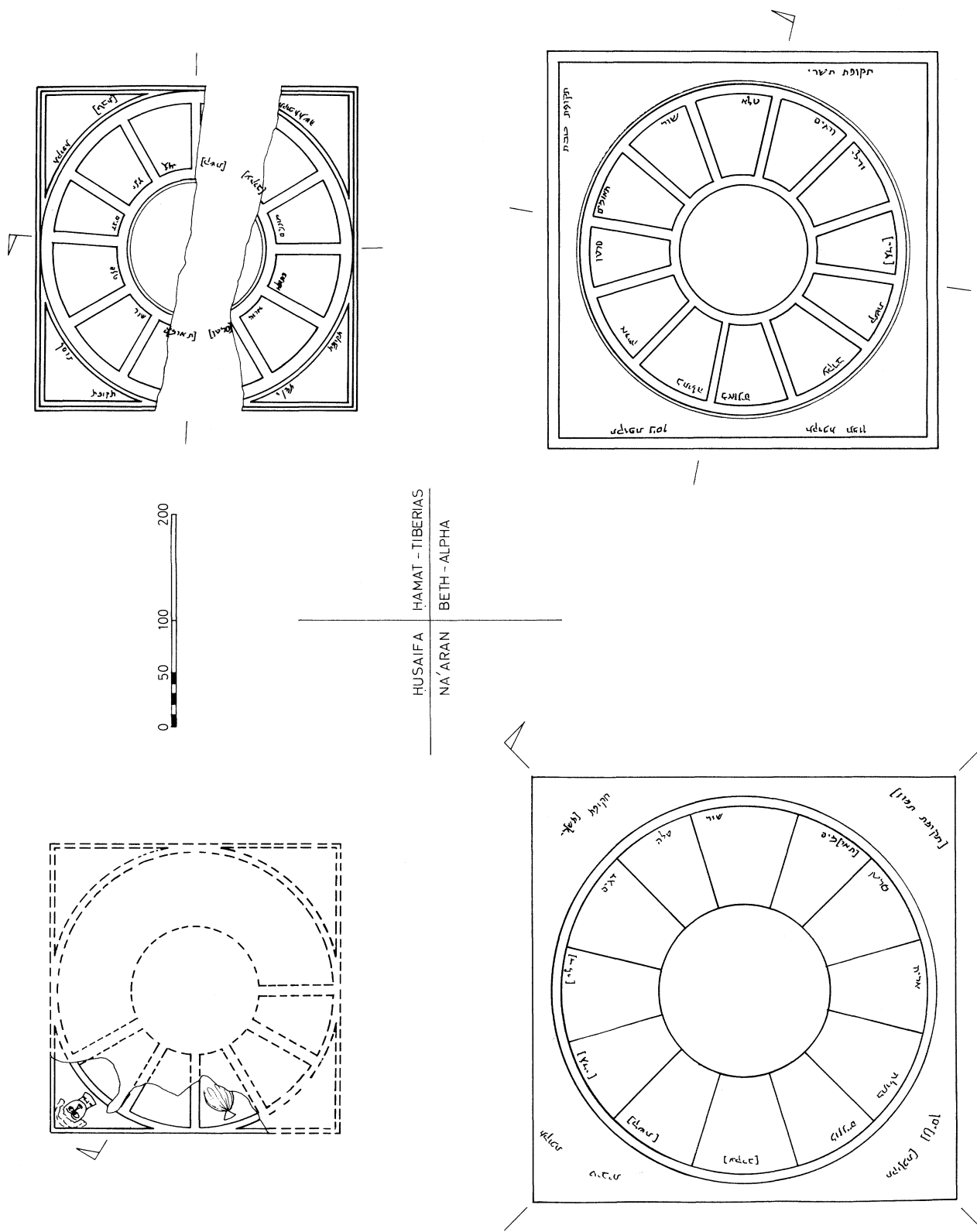


Fig. 1. Schematic drawing of the four Jewish zodiacs: a. Tiberias, b. Husaifa, c. Beth-Alpha, d. Na'aran. Drawing by Danny Behar: Dept. of Antiquities, Jerusalem.

Münster (near Bingen, see fig. 10; Parlasca 1959: 86-87, pls. 84:2, 86-87). Several examples have the representations of the months rather than of the zodiacal signs. This is found in the 2nd-century mosaic floors from Antioch (fig. 12; Levi 1941: 251, 281, fig. 3; Webster 1938: 26, 119, pl. 2:2), Carthage (fig. 11), and the monastery floor at Beth-shean (fig. 17). Moreover, the figures for the months are always accompanied by their names whereas the zodiacal signs are not. In some cases, the balance differs, with one section dominating the others. This is seen at Palmyra (fig. 8), where the circular dome containing the seven planets dominates the composition, and at Münster (fig. 10), where the sun god in the central circle is the focal point of the design. Therefore, while similarities between these illustrations and the Jewish designs do exist, the major difference is that only the Jewish zodiacs follow one particular scheme (fig. 1).

The fact that the Jewish communities always used the same scheme for their floors shows that they were not interested in a strictly decorative design. There was something unique about this design that caused them to adopt it. They were seeking a design which could be used to express a certain concept or idea. In this balanced representation of the three elements (sun god, zodiac, seasons), they achieved their two-fold purpose, uniting meaning and design.

In the zodiacal designs of Roman art, we can trace three stages of development; these are illustrated by the Palmyra ceiling, the Münster mosaic floor, and the Antioch mosaic floor. The Jewish design seems to be a continuation of this general development.

The first phase in the development of the design is the Palmyra ceiling (fig. 8), which is the earliest suitable for comparison with the Jewish zodiac. The focal point of the design is the central circle of seven planets. The outer circle contains the zodiacal signs in a continuous, running pattern, and the corners of the square are filled with Sirens. This design is comparable to the 3rd-century Bir-Chana mosaic floor (fig. 9), which has the planets in the center of the design in a similar geometric pattern. It also has the outer frame of the zodiacal signs (this comparison has been pointed out already by Lehmann 1945: 5, n. 29). However, rather than forming a continuous pattern, the zodiacal signs on the Bir-Chana mosaic are framed in separate units.

The next phase is represented by the Münster mosaic floor (fig. 10). Lehmann has noted (1945: 5) that this scheme, originally on the ceiling, is

projected on the floor here. Once again, the basic pattern occurs with the focal point of the design in the center. Now, however, the frontal sun god has replaced the seven planets, and in the outer circle, the zodiacal signs are divided into individual units. In both examples (Palmyra and Münster), the designs of the corners of the square are similar in composition: both have objects situated diagonally in the corners, with radiating designs filling the remainder of the area.

The final phase is found in the mosaic floor from Antioch (fig. 12), which exhibits the same pattern developed into a more balanced scheme. The central circle has become smaller and the outer circle has become larger. The outer circle is divided into radial units containing the figures of the months, while the corners contain representations of the seasons.

Fig. 2. Ḥammat-Tiberias.

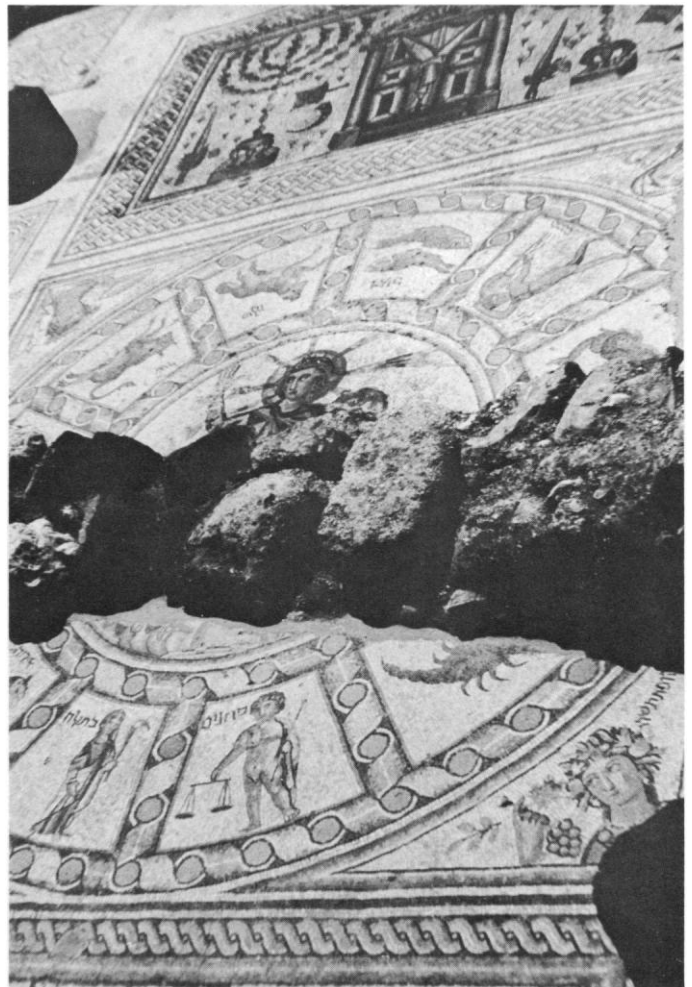




Fig. 3. Beth-Alpha (photo by Avraham Hay).

From these examples, we can trace the development of the design from Palmyra to Antioch (Lehmann 1945: 9). The basic form always remains the same—a square with two concentric circles. What changes, however, is the composition of the various parts and the balance among them. From a central circle containing the planets in a geometric design, there is a transition to a center with the sun god. A continuous, running zodiac in the outer circle is transformed gradually into one divided into radial units with a zodiacal sign in each unit. The merely aesthetic design of Sirens (or fish) in the

corners of the square is replaced by the functional as well as aesthetic design of the seasons. Finally, the total design develops from those of Palmyra, Bir-Chana, and Münster, where one section is dominant, to the more harmoniously balanced design of Antioch.

It thus appears that the Jewish mosaic design is related to the Antioch school and has its origin in Roman art. Each part of the design (central circle, outer circle, and the corners of the square) has comparable representations in the art of the preceding Roman period. In the Jewish designs,

there are differences in the depiction and in the execution of the figures in each part which underline the development of a distinctive design. Therefore, we must look at the representations of the various figures and parts as well as their parallels in Roman art. This will clarify their origin, how they were influenced, and the uniqueness and significance of the Jewish design.

In each of the Jewish zodiacs, the sun god is on his chariot in the central circle (Hanfmann 1951: I, 247, n. 214). In the Beth-Alpha and Na^caran mosaics (figs. 3-6), the frontal bust of the sun god is the axis of the circle and the entire composition. The sun god's chariot is represented by two wheels and four horses, two on either side of the god. There is a different representation at Tiberias (fig. 2; Dothan 1966-67: 130-31). There, the central figure is *en face*, looking toward his uplifted right hand. In his left hand, he is holding the globe and whip. As in the Beth-Alpha and Na^caran figures, there is a crown on his head and a halo with rays emanating from it. Unfortunately, very little remains of the chariot. In all three instances, the stars and crescent moon are

in the background. In the Tiberias representation, there is a star to the right of the whip and the crescent moon to the left, at the tip of the ray. At Na^caran, the celestial bodies are on the figure's cape, with the crescent moon near his thumb. Although there are many extant parallels for these representations of the sun god (Levi 1944: fig. 21; Stern 1953: pls. 29:1, 6, 31:6, 10, 11; Dothan 1966-67: 131-32), none of them include the background of the crescent moon and stars as depicted in the Jewish design.

As Dothan has shown convincingly (1966-67: 132-34; fig. 2), the Tiberias sun god still has all the attributes of *Sol invictus*. At Beth-Alpha and Na^caran (figs. 3 and 6), the sun god is represented only by his bust and crown, the horses by their legs and heads, and the chariot by its front and two wheels (Goodenough 1958: 214-15). Consequently, the earliest depiction of the sun god (Tiberias) in Jewish zodiacs is similar to one in Roman art, but develops into a stylized design which is more abstract and subdued. The depiction of the Tiberias sun god is natural and full featured, like a picture

Fig. 4. Na^caran (Vincent: 1961: pls. 19, 21).



placed in the center of a frame. The sun god of Beth-Alpha, however, is integrated totally and harmonious with the rest of the design.

The outer circle of the design contains the 12 signs of the zodiac, identified with the 12 months of the year (Appendix). Aries is the first sign, being the first month of spring. According to his position in the circle, we see that at Na^caran and Ḥusaifa, the circle goes clockwise, while at Beth-Alpha and Tiberias, it goes counterclockwise. The signs (representing months) do not correspond to the seasons except at Tiberias and Antioch, where the zodiacal signs and seasons are coordinated, although at Antioch we have the personifications of the months rather than of the zodiacal signs.

By comparing the four zodiac circles, we find that at Na^caran and Ḥusaifa simple lines frame the zodiacal circle and each of the signs. At Tiberias, however, the scheme is framed by a patterned design. At Beth-Alpha, the same pattern frames the circle and some of the signs. In comparable circles, the zodiacal signs are continuous or separated only by simple lines, as at Na^caran (figs. 10 and 13). In the two synagogues—Beth-Alpha and Na^caran—the zodiacal figures are directed outward, with their feet toward the central circle. The figures of the upper half face the viewer but are inverted in the lower half. At Tiberias and Ḥusaifa

the opposite orientation is found. There, the figures are directed inward, with their heads toward the central circle. All the human and animal figures of the Tiberias floor are naked and in motion; at Beth-Alpha and Na^caran, on the other hand, they are clothed and standing. At Ḥusaifa, it is clear from remains that the figure of Sagittarius (*Qašar*) also was naked (Avi-Yonah 1934: 125). In all of the zodiacs, the animals are drawn in profile, facing forward.

There are also differences and similarities between the Jewish zodiacal signs and comparable depictions in Roman art, as illustrated by the following signs:

Leo (Lion, ^ḥ*Aryê*): At Tiberias, Leo is leaping forward as in the representation in Calendar 354 (fig. 14), Tivoli (Lehmann 1945: fig. 10), and Manuscript gr. 1291 (fig. 13); at Na^caran, he is sitting, and at Beth-Alpha, he is standing.

Scorpio (Scorpion, ^ḥ*Aqrāb*): At Tiberias and Beth-Alpha, Scorpio is moving forward, whereas at Na^caran he is standing. At Beth-Alpha, his tail touches his body, as is the case in Calendar 354 (fig. 14). At Palmyra, Libra is standing between the claws of the Scorpion (fig. 8).

Virgo (Virgin, *Bētûlâ*): The Virgo at Tiberias and Na^caran is completely clothed with her head covered and a torch in her left hand. At Beth-Alpha

Fig. 5. Na^caran (Vincent 1961: pls. 19, 21).

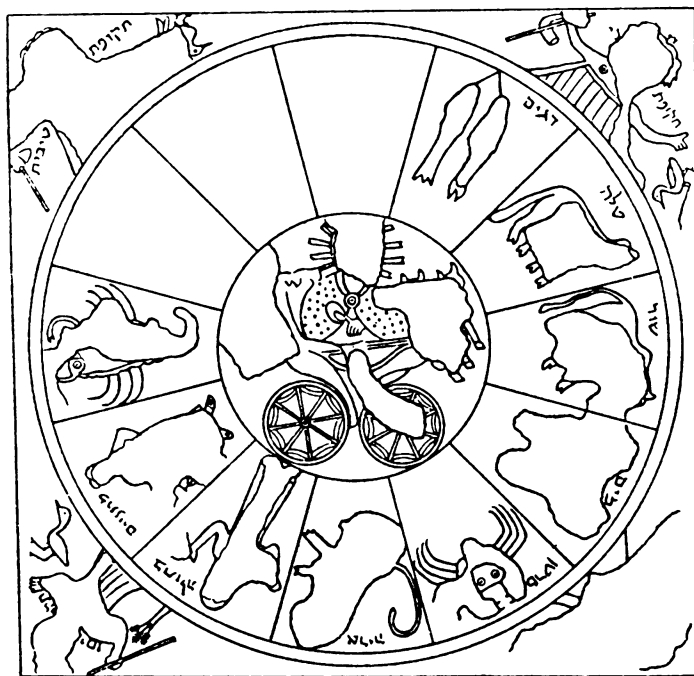


Fig. 6. Na^caran (Vincent 1961: pls. 19, 21).



she is sitting in an armchair (Sukenik 1932: 37).

Capricorn (Goat, *Gēdī*): The standard goat with horns and a fish tail appears at Tiberias, similar to most of the Capricorn figures in other zodiacs. Compare Dendera (Lehmann 1945: fig. 7) and Hagios Etheutherios (Webster 1938: pl. 1, pp. 117-19). Other examples are found in Calendar 354 (fig. 14) and the Bir-Chana floor (fig. 9). At Hūsaifa, only the horns of the figure remain. The sign is partially destroyed at Beth-Alpha, but it appears to be a lamb (Sukenik 1932: 38).

Libra (Scales, *Mōznayim*): Noteworthy here is the fact that at Tiberias and Na^ʿaran *waw* takes the place of an ^ʿ*alep* in *mōznayim*. In Jewish mosaic floors, *Libra* is always depicted as a person holding the scales in his right hand. This representation is also found in Manuscript gr. 1291 (fig. 13), in Calendar 354 (fig. 14), on the Palmyra ceiling (fig. 8), and on a 3rd-century coin (Sternberg 1972: pl. 4:2a). In early Roman art, however, *Libra* is depicted only as the scales, without a human figure as at Dendera (Lehmann 1945: fig. 7), Tivoli (Lehmann 1945: fig. 10), the Bir-Chana mosaic floor (fig. 9), and a Roman tombstone (Cumont 1919: fig. 7598). This representation continues into the Middle Ages in manuscripts (Webster 1938: pls. 12:26 and 13:27). It is noteworthy that if the Jewish designers were taking the name of the sign literally, they would have chosen the depiction of the scales rather than of the figure holding them.

Sagittarius (Archer, *Qašat*): Only in the Jewish zodiacs at Beth-Alpha and Hūsaifa is the *Sagittarius* depicted as a person holding a bow and arrow in his left hand (Avi-Yonah 1934: 125). In every other instance, *Sagittarius* is a centaur, shooting a bow and arrow. This portrayal can be traced to the Babylonian representation (fig. 15). This depiction is found at Dendera (fig. 15b) and in Roman reliefs. These are mostly of the 2nd and 3rd centuries C.E., e.g., at Aion (Goldman 1966: 22b), Atlas supported by Jupiter (Glueck 1965: pl. 40:a), and also in a tombstone relief (Cumont 1919: fig. 7598). There are also Mithra reliefs with zodiacal belts portraying the archer as a centaur, as in the relief at Dura (Goldman 1966: pl. 20a). The archer-as-a-centaur motif is also to be found in Roman ceilings, such as the Palmyra ceiling (fig. 8), in mosaic floors, as at Tivoli (Lehmann 1945: fig. 10), and also in manuscripts (Manuscript 1291, fig. 13). In some cases the figure is winged, as in the Bir-Chana floor (fig. 9). In some cases, he is wearing a cape, as in the Athens relief (Webster 1938: pl. 1) and Calendar 354 (Stern 1953: pl. 12:2, p. 198). The

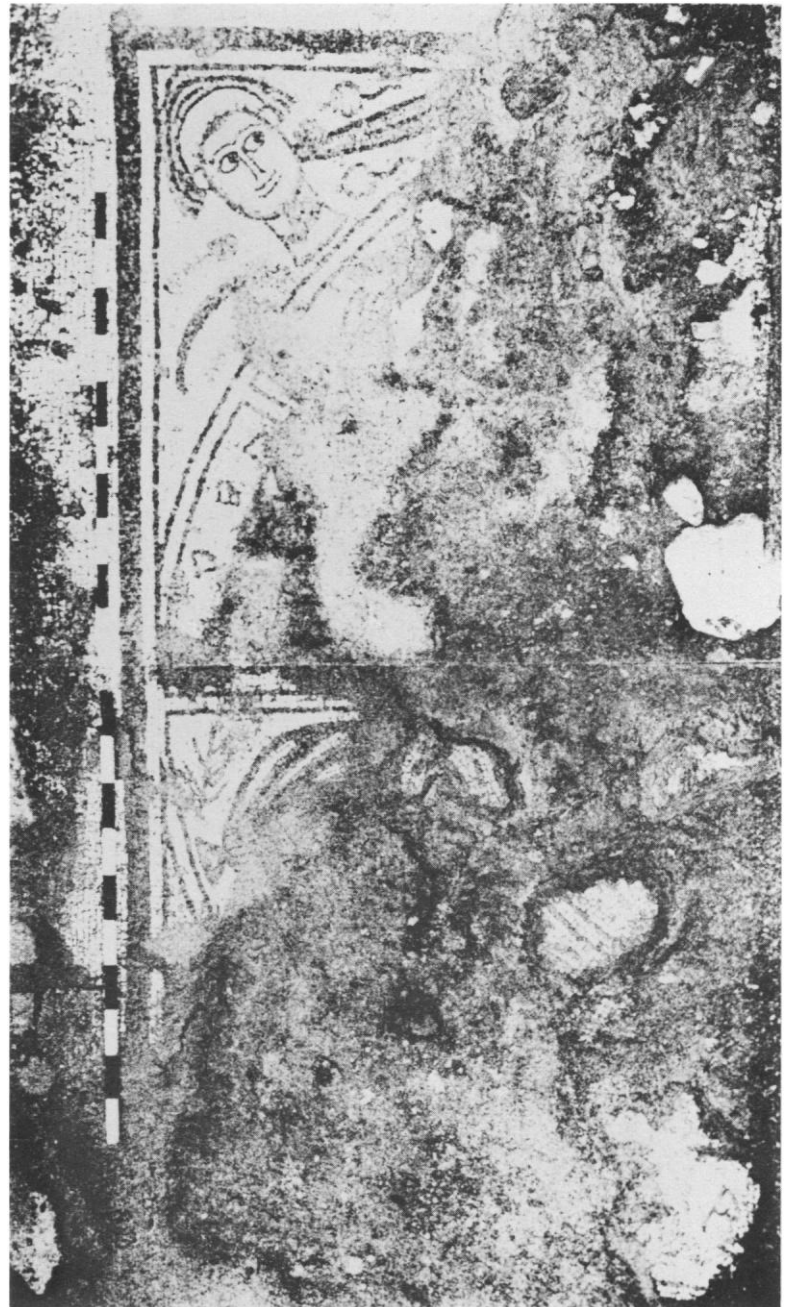


Fig. 7. Hūsaifa (Avi-Yonah 1934: pl. 44:3).

depiction of *Sagittarius* as a centaur continues into the Middle Ages in the zodiacs of various manuscripts and in other art forms (see Webster 1938: pls. 12:26 and 13:27).

The distinctive feature of *Sagittarius* in the Jewish zodiac is that it is a human figure shooting a bow, with the Hebrew inscription *qšt*, meaning



Fig. 8. Palmyra ceiling (Seyrig 1933: fig. 5).

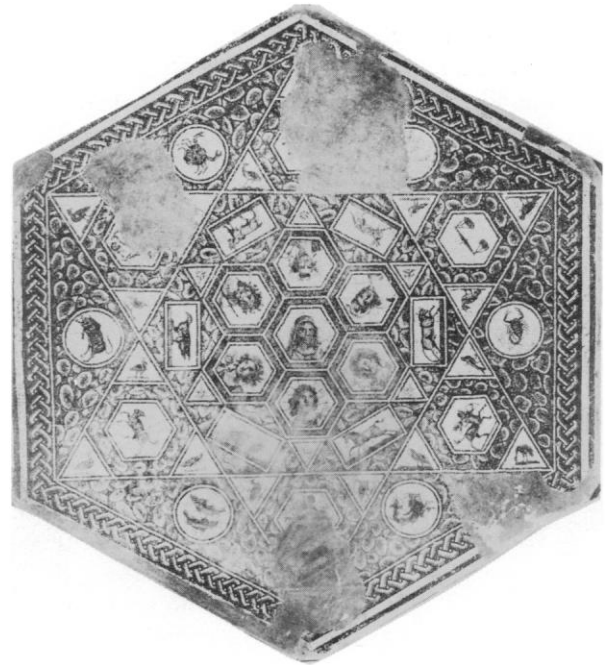


Fig. 9. Bir-Chana mosaic floor (Gauckler 1910: no. 447).



Fig. 10. Münster mosaic floor (Parlasca 1959: pl. 84:2).



Fig. 11. Carthage mosaic floor (Webster 1938: pl. 5:11).

“archer” (Suknik 1932: 37). This can be explained in one of two ways: either the artist drew the sign as a human archer because he took the meaning of *qš̄t* literally, or perhaps because the community felt that the centaur was a pagan hybrid figure and consequently would not want to use it.

Aquarius (Water-bearer, *Dēli*): On three zodiac floors in Jewish art we have three different representations of *Dēli*. In the Tiberias mosaic there is a figure pouring water out of an amphora. This follows most of the Roman representations, such as those of Palmyra (fig. 8), Calendar 354 (fig. 14b; Stern 1953: pl. 37: 3, 5-7, p. 199), and Manuscript 1291 (fig. 13), where Aquarius is represented as a Phrygian figure. The latter representation of Aquarius extends into manuscripts of the Middle Ages (Webster 1938: pls. 12:26 and 13:27). At H̄usaifa, *Dēli* is a large amphora with water pouring

out of it. Very few examples of this representation of *Dēli* exist (Cumont 1919: 1061; Avi-Yonah 1934: 125, n. 1; Goodenough 1958: fig. 153). In the Beth-Alpha mosaic, *Dēli* is unique; it is represented there as a figure drawing water from a well with a bucket. Compare the Jewish *maḥzôr* from 14th-century Germany, where there is a bucket lowered into a well (Weisenberg 1971: 51, fig. 5). This is a literal depiction of *Dēli* as a container of water and its carrier, as the amphora and water at H̄usaifa and the drawing of water at Beth-Alpha. At Tiberias, on the other hand, the representation of *Dēli* is similar to those generally found in Roman art.

In the Jewish zodiacs, the seasons (*tēqûpôt*) are placed diagonally (Weisenberg 1971: 46-47). At Na^caran, H̄usaifa, and Beth-Alpha, the heads of the busts are in the corners of the square, whereas at Tiberias the bust is reversed, with its head directed

Fig. 12. Antioch (Stern 1953: pl. 52:2).

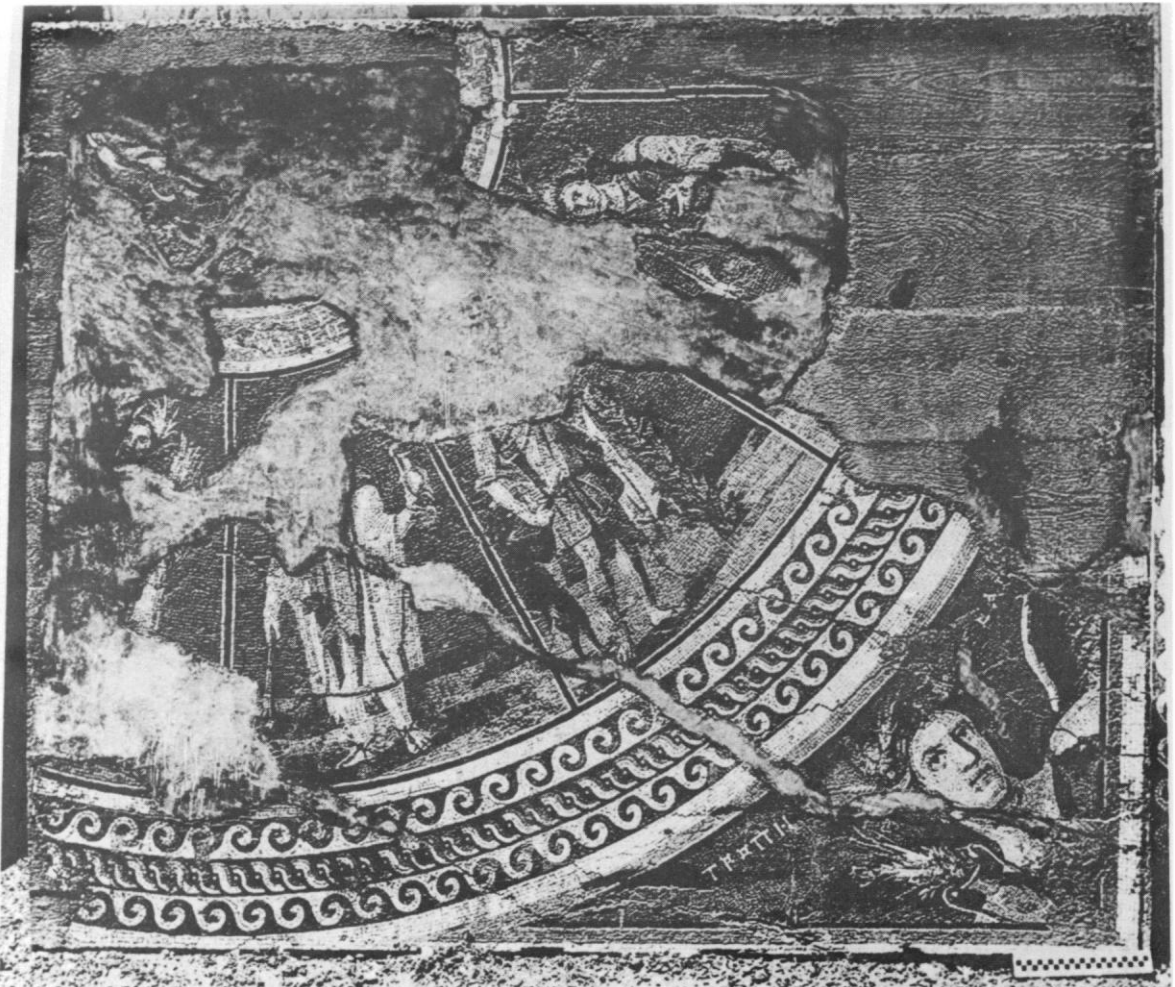




Fig. 13. Manuscript 1291 (Webster 1938: pl. 9:20).

toward the central circle. The orientation of the bust at Tiberias is the same as those in the Roman mosaics of Antioch (fig. 12) and Carthage (fig. 11). Moreover, in examples where the corners of the square are not filled with busts but with other designs, the orientation is the same; these also are directed toward the central circle. With the exception of the example from Husaifa, each season is represented by a bust of a woman with her jewelry and attributes and is accompanied by the name of the month which stands for the appropriate season. At Beth-Alpha, the figures are also winged.

At Tiberias and Beth-Alpha, the bust of the season *Nīsān* (Spring) is placed in the upper left corner, with *Tammūz* (Summer) and *Tēbēt* (Winter) following counterclockwise. At Na^caran, *Nīsān* (Spring) is in the lower left corner with the other seasons following counterclockwise. At Husaifa, the only preserved representation of the

seasons is *Tīšrī* (Autumn) and it is located in the upper left corner (Avi-Yonah 1934: 126-27).

The following descriptions of the representations of the seasons underline the similarities and differences between the seasons and their attributes in the various Jewish mosaic floors.

Spring (Nīsān): The figures from Beth-Alpha and Tiberias are jewelled with bracelets, earrings, and necklaces. The Tiberias figure is crowned with flowers and is holding a bowl of fruit in her right hand. The Beth-Alpha figure, however, has a shepherd's crook (*pēdūm*) and a bird (Sukenik 1932: 42). At Na^caran, the figure is holding a shepherd's crook with a sheaf of grain and a bird on either side of her (Sukenik 1932: 42).

Summer (Tammūz): Summer is represented in the Tiberias mosaic as a jewelled female bust crowned with olive branches, holding a sickle in her right hand and a sheaf of grain in her left hand. The

Beth-Alpha figure is also a jewelled female bust, but with fruits and field produce. The remains of the Na^caran mosaic show a cluster of grapes, a wand at the figure's right, and a bird at its left.

Autumn (Tišri): The Tiberias mosaic portrays a jewelled figure crowned with pomegranates and an olive branch and holding a cluster of grapes. At Beth-Alpha, the bust is jewelled and crowned, surrounded by pomegranates, figs, apples, a cluster of grapes, a palm tree, and a bird. The Na^caran bust has a crook and a šôpār in her right hand and a bird at her side. At Ḥusaifa, where the representation of autumn is the only remaining figure, we find a bust with pomegranates, a palm tree, and a šôpār at the right of the figure.

Winter (Tēbēt): The bust of winter at Tiberias is a draped figure, with water flowing from an amphora at her left. The Beth-Alpha figure has only a branch with two leaves and a cylindrical object (Sukenik 1932: 39; Goodenough 1953: 249, n. 499; Wischnitzer 1955: 142-43).

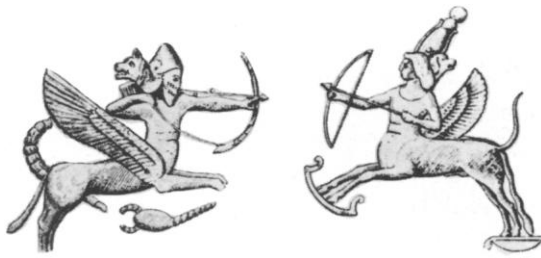
The representations of the seasons have specific attributes which can be compared to those found in the pagan world in floors of the 2nd-5th centuries. Most of these figures are winged busts and they are

usually crowned. Though their symbols are similar, they are not exactly identical with those of the Jewish zodiacs (a thorough study of the seasons was done by Hanfmann 1951: I, 192-96).

In the Jewish mosaic design, the symbol of spring is the plate of fruit or the shepherd's crook. The plate of fruit, as depicted at Tiberias, also symbolizes spring in the 4th-century Daphne mosaic floor (Hanfmann 1951: II, 64, n. 23), the 6th-century church mosaic floor at Kabr Hiram (fig. 18:a; Hanfmann 1951: II, 117, n. 193), and the 3rd-century Beth Jibrin mosaic floor (Avi-Yonah 1933: pl. 2, p. 11). The shepherd's crook, which is the spring attribute at Beth-Alpha and Na^caran appears in the 3rd-century mosaic floor at Zliten, North Africa (fig. 16; Hanfmann 1951: II, 112, n. 135 and p. 148), the 5th-century Dair Salaib (Lebanon) church mosaic floor (Hanfmann 1951: II, 121, n. 192), and the 3rd-century Ostia mosaic floor (Hanfmann 1951: II, 114, n. 151). The summer attributes, the sickle and sheaf of grain, as at Tiberias, are comparable to those of Beth Jibrin (Vincent 1922: pl. 10:1) and Daphne (Antioch), (Hanfmann 1951: II, 100). In contrast, the summer attribute at Beth-Alpha is fruit. The autumn

Fig. 14. Calendar 354 (Stern 1953: pls. 7:2 and 37:5).





Babylonie.

Dendérah, Egypte.

Fig. 15. Archer (Sagittarius) (Stern 1953: pl. 37:4a, b).

symbols in the Jewish mosaics—pomegranates, and cluster of grapes—are also found at Daphne (Antioch). In the latter, however, the figure is carrying the fruit in her shawl (Hanfmann 1951: II, 101). Finally, winter, a draped figure with an amphora (as at Tiberias), is similar to that of the church mosaic in Kabr Hiram (fig. 18:d; Hanfmann 1951: II, 120, n. 193), the 5th-century church mosaic at Dair Salaib (Hanfmann 1951: II, 121), and the mosaic at Beth Jibrin (Avi-Yonah 1933: pl. 2, p. 11). The mosaics at Zliten (fig. 16) and Ostia (Hanfmann 1951: II, 114) have the draped figure, but without the amphora.

At Tiberias and Beth-Alpha, the faces of the four seasons in each mosaic floor are very similar in appearance; only their divergent attributes identify them. At Tiberias the figures usually have an attribute in their right hand with another at their left. At Na^caran, the figures are associated with the appropriate symbol but hold a wand in their hand and an inverted bird at their left.

The symbols and representations of the figures of the seasons in the Tiberias zodiac are similar to Roman and Byzantine floors as seen above, whereas the mosaic floors of Beth-Alpha and Na^caran have unique attributes and representations, underlining a distinctive Jewish style.

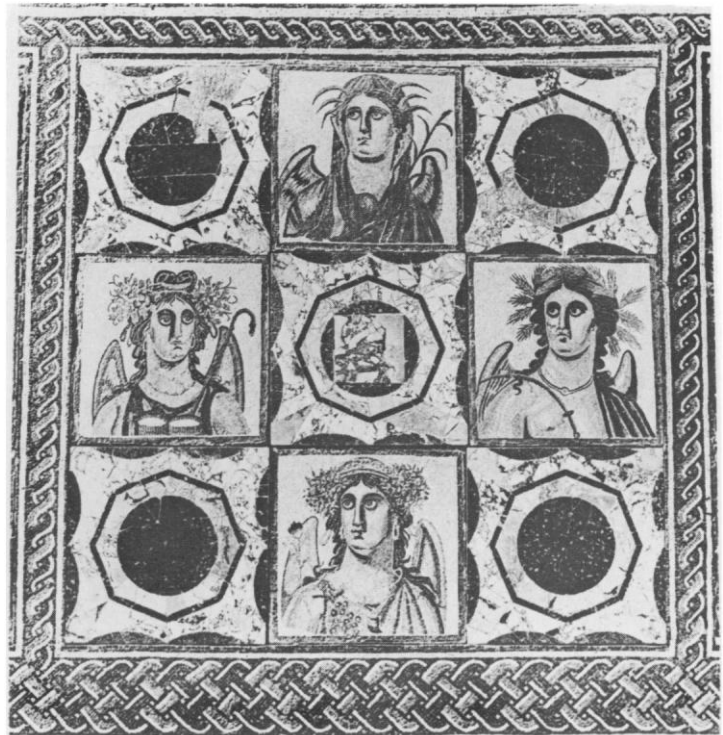
The Jewish zodiacal panel was not merely aesthetic but also functional. The four seasons (*tēqûpôt*) represent the year. Day and night are indicated by the central circle; the day is symbolized by the sun god and the night is symbolized by the background of the stars and the crescent moon. The zodiacal signs signify the 12 months of the year. In Jewish tradition, there are many references to the zodiacal signs as monthly representations (Avi-Yonah 1964: n. 29). Explicit evidence of this correlation has been discovered in an inscription on the mosaic floor of the En-gedi synagogue

containing (among other things) the names of the zodiacal signs, followed by their corresponding months (Mazar: 1970; Barag and Porat 1970: 97-100). The tradition is preserved in later literature, such as in ha-Kalir's poems where the names of the months are parallel to the zodiacal signs (Mirsky: 1971 and Avi-Yonah 1964: 55). Thus, the zodiacal panel represents day and night (sun god), the 12 months (zodiac), and the year (four seasons). The conclusion to be drawn regarding the meaning and purpose of this three part scheme is that it is a calendar.

Scholars have interpreted the significance of this panel in various ways (Avigad 1962: 68-69; Dothan 1966: 134; Goldman 1966: 59-62; Goodenough 1958: VIII, 215-18; Hanfmann 1951: I, 250-54; Renov: 1954; Sonne 1953: 9-11; Sternberg 1972: 76-84; Sukenik 1932: 56; Wischnitzer 1955: 142-44). It was Avi-Yonah (1964: 56-57), however, who recognized correctly that it was a calendar:

Without trying, therefore, to look for esoteric meaning in the zodiacal representations, which would imply serious deviations of the synagogue authorities (and of those

Fig. 16. Zliten mosaic floor (Hanfmann 1951: II, 112, no. 135).



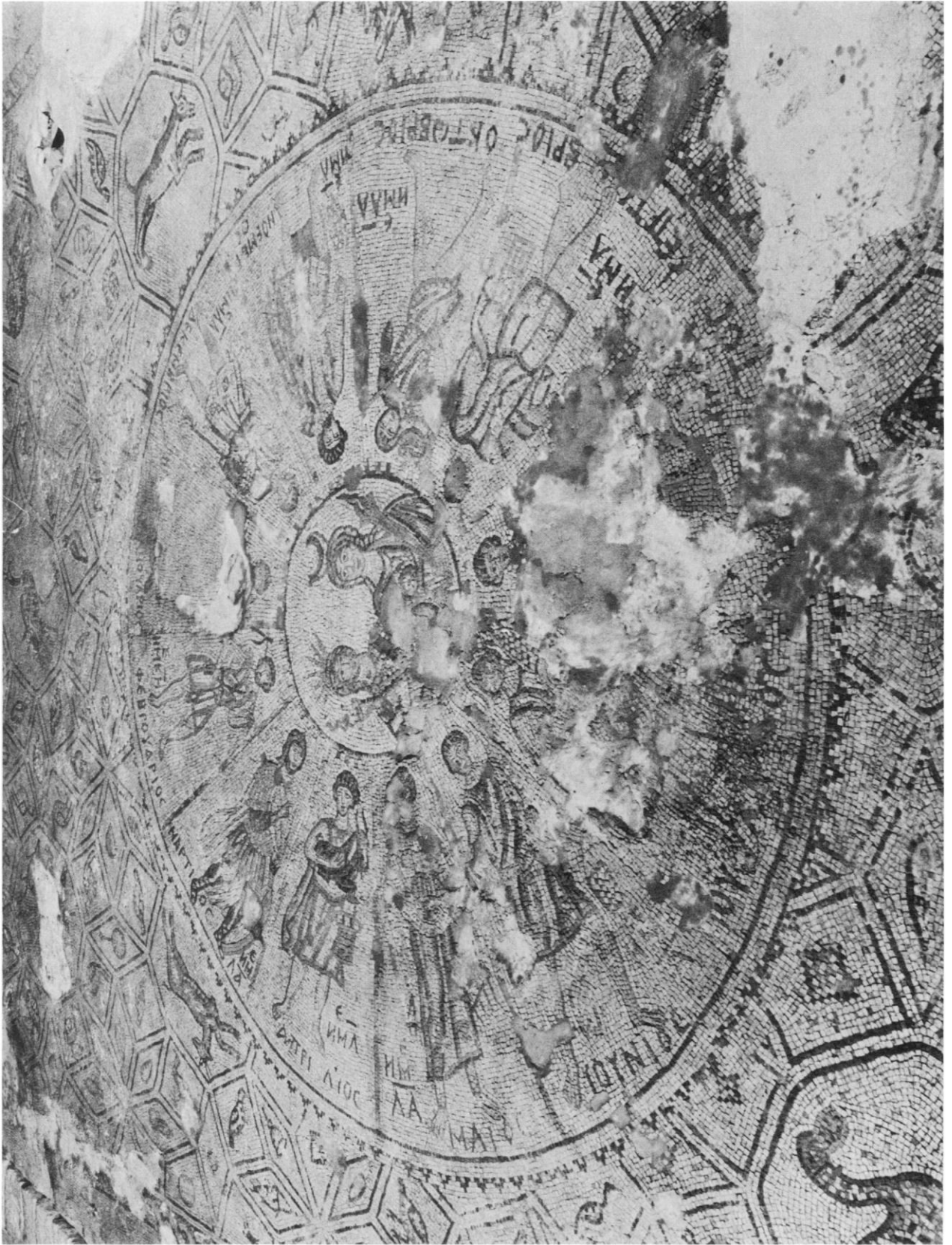


Fig. 17. Beth-shean monastery mosaic floor (photo by Avraham Hay).

supervising them) from the rules of the *halakhah*, we can regard the zodiac panel as a reminder of the duties toward God implied in a fixed calendar. . . . The calendar indicated the times of daily prayers; it fixes the Sabbath . . . ; it allows one to calculate the days on which fall the feasts and the fasts; in short, it governs almost all the acts of common congregational worship. . . .

Despite the fact that both zodiacs and calendars appear in Roman art, each has its own use; they are never integrated into one design. The zodiac has a cosmic and astronomical meaning. This is evidenced in the following illustrations: the god holding the zodiacal wheel or circled by it (Levi 1944: 287-314; Glueck 1952: 5; 1965: pls. 46, 48), the zodiacal wheel circling the seven planets (Palmyra and Bir-Chana), and the zodiac circling the sun god (Münster and Tivoli). When there are activities associated with the months, encompassing principal religious and civil events of the year, they represent a civil and agricultural calendar (Levi 1941: 276). Illustrations include the 2nd and 3rd-century Roman calendars in the mosaics of Antioch (fig. 12) and Carthage (fig. 11; Webster 1938: pl. 5:11; see also Levi 1941: 251-91; Hanfmann 1951: I, 251; Webster 1938: 35-36, 46-47; and Strzygowski 1888: 23ff.) and the 6th-century Christian mosaic floors of the Beth-shean monastery (fig. 17; Fitzgerald 1939: 7) and El-Hammam (Avi-Yonah 1935-36: 22, pls. 46-47, 50-51).

In Roman calendars, the iconography for the same month differs from calendar to calendar (Levi 1941: 276). As Levi (1941: 288) has pointed out, in the Roman and Christian calendars the personification of each month is a single figure "but a figure always depicted in full activity and never as a symbol." In the Jewish calendars, conversely, the respective months are always symbolized by the same zodiacal sign. Indeed, the months are always represented by their zodiacal signs in Jewish thought, art, and literature (Goodenough 1958: 195-215). The reason for the use of zodiacal signs and not representations of the labors associated with the months is probably that the community preferred using an abstract symbol to represent human activity directly. This underlines its religious nature and liturgical purpose. Therefore, the Jewish calendar, which integrates the zodiacal wheel (Levi 1941: 282, n. 73) with the calendar of Roman and Christian art, is an

independent variety in its form, design, and meaning.

In the light of the earlier discussion regarding the Jewish scheme (cf. fig. 1), it is logical to conclude that the designers followed a pictorial prototype. The form, content, and balance of the design always remain the same. The execution of the general design, however, can be divided into two types; one represented by Tiberias and Ḥusaifa, and the other by Beth-Alpha and Na^caran. The entire design of the first type is directed toward the center, while the second is directed outward. The comparable Roman floors were similar in design and detail to Tiberias in the depiction of the seasons and the zodiacal signs of Scales (Libra), Archer (Sagittarius), Goat (Capricorn), Water-bearer (Aquarius), and the sun god. This likeness indicates a non-Jewish artist, probably of the Antioch school (Dothan 1966-67: 134). The design of the other two floors, however, indicates that they were executed by Jewish artists because they used an iconography drawn from the literal meaning of the words archer (= *qšr*) and water-bearer (= *dly*), depicting them accordingly. This is clearly the case at Beth-Alpha, because the Jewish artist signed his work (Suknik: 1932; Shapiro 1960: 10-11).

There is also a development in stylistic execution of the Jewish calendar during the period from the 4th to the 6th centuries, i.e., from the naturalistic-ideal style of the earliest synagogue (Tiberias) to the reserved-stylization at Na^caran. Outstanding stylistically is the Beth-Alpha calendar which defies placement in any artistic category of this period (Shapiro 1960: 9-13; Kitzinger 1965: 22). In general, these stylistic changes correspond to the development of art in the ancient world, from the Hellenistic to the Byzantine periods.

Two changes mark the transition in Jewish calendar design. The first is from the natural-voluminous to the ornamental-linear style. The second is from the imitation of nature to stylistic description, with emphasis on the outline of the design. At Tiberias, the Hellenistic influence (Antioch) is clear; the figures and their movements are natural and their faces are full featured and expressive. A three-dimensional appearance is created through the artist's use of shadowing. In the linear style, the figures are *en face* and two-dimensional; their limbs have a doll-like appearance. The legs are directed to the side, not oriented frontally with the upper trunk of the body. There is no indication of age or sex, women differ from men by wearing jewelry, and color is used only



Spring



Summer



Autumn



Winter

Fig. 18. Kabr Hiram, church mosaic floor: a. Spring, b. Summer, c. Autumn, d. Winter (Hanfmann 1951: II, 117-20, no. 193).

to emphasize the different parts of the body. At Beth-Alpha, the artist used only the essential lines to portray the figures; the human face is expressed by one continuous line outlining the eyebrows and nose, a square for the mouth, and simple circles for the eyes. Generally, the style is standardized, disproportionate, and lacking in anatomical concern.

By comparing the zodiacs of the four Jewish synagogue mosaic floors and tracing their origin and development from Roman art, it may be concluded that the Jewish zodiacal panel is a liturgical calendar. In every Jewish calendar, the form, composition, and balance of the three-part scheme are identical, suggesting the existence of a prototype. The basic design of the Jewish calendar is probably drawn from the Antioch school. It is unique, however, in its balanced and harmonious conflation of the three parts. The design has its roots

in the art of the preceding period with the two major designs which are part of the Jewish calendar: the astronomical zodiac and the agricultural calendar. The Jewish scheme unified both of these into the distinctive design of the seasons, zodiacal signs, and sun god, signifying a liturgical calendar. When the synagogue replaced the Temple, the annual ritual acts, performed by the priests, were represented symbolically in synagogue art. The calendar became the frame of the annual rites now enacted by the community. Thus, it was guaranteed a central location in Jewish synagogue mosaic floors.

Acknowledgment

I wish to express my indebtedness to the Memorial Foundation for Jewish Culture for the grant awarded to me in 1973-74 which furthered my research on this subject.

APPENDIX

Spring - *Nīsān*

Ram, Aries, *Ṭalē*
Bull, Taurus, *Šór*
Twins, Gemini, *Te^oômîm*

Summer - *Tammûz*

Cancer, Cancer, *Sarṭan*
Lion, Leo, *ʿAryê*
Virgin, Virgo, *Bētûlâ*

Autumn - *Tišrî*

Scales, Libra, *Môznayim*
Scorpion, Scorpio, *ʿAqrāb*
Archer, Sagittarius, *Qašat*

Winter - *Tēbēt*

Goat, Capricorn, *Gēdî*
Water-Bearer, Aquarius, *Dēlî*
Fish, Pisces, *Dāgîm*

BIBLIOGRAPHY

- Amiran, R.
1954 A Fragment of an Ornamental Relief from Kfar Bar^cam. *Eretz Israel* 3: 178-81 (Hebrew).
- Avigad, N.
1962 The Mosaic Pavement of the Beth-Alpha Synagogue and Its Place in the History of Jewish Art. Pp. 63-70 in *The Beth-shean Valley*. The 17th Archaeological Convention. Jerusalem: Israel Exploration Society.
- Avi-Yonah, M.
1933 Mosaic Pavements in Palestine. *Quarterly of the Department of Antiquities of Palestine* 2:146-48.
1934 A Sixth-Century Synagogue at Isfiya. *Quarterly of the Department of Antiquities of Palestine* 3: 118-31.
1935-36 The Mosaic Pavement at Hammam, Beisan. *Quarterly of the Department of Antiquities of Palestine* 5: 11-30.
- 1964 The Caesarea Inscription of the Twenty-Four Priestly Courses. Pp. 46-57 in *The Teacher's Yoke: Studies in Memory of Henry Trantham*, ed. E. J. Vardaman, J. L. Garrett, and J. B. Adair. Waco, TX: Baylor University.
- 1965 La Mosaïque Juive dan ses relations avec la mosaïque classique. Pp. 325-29 in *La Mosaïque Greco-Romaine I*. Paris: Editions du Centre national de la recherche scientifique.
- Barag, D., and Porat, Y.
1970 The Synagogue at En-Gedi. *Qadmoniot* 3: 97-100 (Hebrew).
- Cumont, F.
1912 *Astrology and Religion among the Greeks and Romans*. New York: Putnam.
1919 Zodiacus. Pp. 1046-62 in *Dictionnaire des Antiquités Grecques et Romaines*. Daremberg: Saglio.

- Dothan, M.
1966-67 The Figure of *Sol Invictus* in the Mosaic of Hammath-Tiberias. Pp. 130-34 in *All the Land of Naphtali*, ed. H. Z. Hirschberg (Hebrew). Jerusalem: Israel Exploration Society.
1968 The Synagogues at Hammath-Tiberias. *Qadmoniot* 1: 116-23 (Hebrew).
- Feuchtwang, D.
1915 Der Tierkreis im der Tradition und im Synagogenritus. *Monatschrift für Geschichte und Wissenschaft des Judentums* 51: 241-67.
- Fitzgerald, G. M.
1939 *A Sixth Century Monastery at Beth Shan (Scythopolis)*. Philadelphia: The University Museum, University of Pennsylvania.
- Foerster, G.
1967 On the Mosaic of the Japhia Synagogue. *Yediot* 31: 218-24.
- Gauckler, P.
1910 *Inventaire de Mosaiques de la Gaule et de l'Afrique, II*. Paris: Leroux/Académie des inscriptions et belles lettres.
- Glueck, N.
1952 The Zodiac of Khirbet Tannur. *Bulletin of the American Schools of Oriental Research* 126: 5-10.
1965 *Deities and Dolphins: The Story of the Nabataeans*. New York: Farrar, Strauss, & Giroux.
- Goldman, B.
1966 *The Sacred Portal: A Primary Symbol in Ancient Judaic Art*. Detroit: Wayne State University.
- Goodenough, E. R.
1958 *Jewish Symbols in the Greco-Roman Period*, Vol. 8. New York: Pantheon.
- Gundel, H. G.
1972 Zodiakos. Pp. 462-99, 598-654 in *Paulys Realencyclopädie der classischen Altertumswissenschaft*, Vol. 10A.
- Hanfmann, G.
1951 *The Season Sarcophagus in Dumbarton Oaks*. Cambridge: Harvard University.
- Kitzinger, E.
1965 *Israeli Mosaics of the Byzantine Period*. New York: UNESCO / The New America Library.
- Lehman, K.
1945 The Dome of Heaven. *Art Bulletin* 27:1-17.
- Levi, D.
1941 The Allegories of the Months in Classical Art. *Art Bulletin* 22: 251-91.
1944 Aion. *Hesperia* 13: 297-314.
- Lieberman, S.
1970 A Preliminary Remark to the Inscription of En-gedi. *Tarbiz* 40: 24-26 (Hebrew).
- Mazar, B.
1970 The Inscription on the Floor of the Synagogue in En-gedi. *Tarbiz* 40: 18-23 (Hebrew).
- Mirsky, A.
1971 Aquarius and Capricornus in the En-gedi Pavement Inscription. *Tarbiz* 40: 376-84 (Hebrew).
- Narkiss, M.
1940 The Zodiac in Jewish Art. *Kiryath Sepher* 41: 513-19 (Hebrew).
- Parlasca, K.
1959 *Die Römischen Mosaiken im Deutschland*. Berlin: de Gruyter.
- Renov, S.
1954 The Relation of Helios and the Quadriga to the Rest of the Beth-Alpha Mosaic. *Bulletin of the Israel Exploration Society* 43: 198-201.
- Saller, S. J., and Bagatti, B.
1949 *The Town of Nebo (Khirbet el-Mekharryat) with a Brief Survey of the other Ancient Christian Monuments in Transjordan*. Publications of the Studium Biblicum Franciscanum 7. Jerusalem: Franciscan Press.
- Schapiro, M.
1960 *Israel: Ancient Mosaics*. UNESCO World Art Series 14. Greenwich, CT: New York Graphic Society.
- Seyrig, H.
1933 Nouveaux monuments et de Baalshamin. Palmyriens des Cultes de Bel. *Syria* 14: 258-60.
- Sonne, I.
1953 The Zodiac Theme in Ancient Synagogues and in Hebrew Printed Books. Pp. 3-13 in *Studies in Bibliography and Booklore*.
- Stern, H.
1953 *Le Calendrier de 354: étude sur son texte et ses illustrations*. Paris: Geuthner.
- Sternberg, A. G.
1972 *The Zodiac of Tiberias*. Tiberias, Israel: Stanberg.
- Strzygowski, J.
1888 Die Monatszyklen der Byzantischer Kunst. *Repertorium für Kunstwissenschaft* 11: 23ff.
- Sukenik, E. L.
1932 *The Ancient Synagogue Of Beth-Alpha*. Jerusalem: Magnes Press.
- Thiele, G.
1898 *Antike Himmelsbilder*. Berlin: Weidmann.
- Vincent, R. P. L. H.
1919 Le Sanctuaire Juif de'Ain-Doug. *Revue biblique* 16: 532-63.
1921 Le Sanctuaire Juif de'Ain-Doug. *Revue biblique* 30: 442-43.
1961 Une Sanctuaire dans la region de Jericho, la synagogue de Na^caran. *Revue biblique* 68: 163-77.
- Waerdan, B. L. Van der
1952-53 History of the Zodiac. *Archiv für Orientforschung* 16: 216-30.
- Weidner, E.
1931 Der Tierkreis und die Wage aus Himmel. *Archiv für Orientforschung* 7: 170-78.
- Weisenberg, E. J.
1971 Calendar. Pp. 43-50 in *Encyclopedia Judaica*, Vol. 5. Jerusalem: Keter.
- Wischnitzer, R.
1955 The Beth Alpha Mosaic. *Jewish Social Studies* 17: 142-44.