



CYLINDER SEALS

CYLINDER SEALS. The seals of Persia correspond in their types and use to those of Mesopotamia, beginning with amuletic pendants, which could also be used as seals, and developing into elaborately engraved seal stones, with a change in the Uruk period from stamp to cylinder seals. The latter seal form had a revival at the Achaemenid court, whereas the peoples of the Persian empire of that time (which included Babylonia) mostly used cone-shaped stamps or engraved seal rings.

The major work on the glyptic of Persia was done by Pierre Amiet (1972; 1986a). The comprehensive treatment of early stamp seals of Persia by Mahmoud Rashad (1990) must be used for all detailed information concerning those seals. Basic to the present article on seals of Persia is the one by Robert H. Dyson and Mary Virginia Harris (1986). Only characteristic types of stamp and cylinder seals will be exemplified and, with a few exceptions, these will be chosen from controlled excavated material.

Early Chalcolithic stamp seals. The earliest types of stamp seals in Persia were probably the variously shaped small chlorite amuletic objects, marked on the sealing surface by parallel grooves, of which one example ([Plate XXXVI/1](#); Henrickson, fig. 1: SG 73.100, pl. 1/A) was found in a level of the Dalma (Dalmā = Kangāvar) period (ca. 4800-4400 b.c.e.) at Seh Gabi (Seh Gābī) in the course of the Godin (Gowdīn) project in the Kangāvar valley, Kurdistan. That project has provided “the only well stratified Chalcolithic glyptic assemblage in highland western Iran” (Henrickson, p. 1). The comprehensive work on prehistoric and early historic stamp seals of Iran by Rashad was completed in 1986, before the



appearance of Elizabeth Henrickson's article, which therefore could not be used. Ernst Herzfeld recorded and acquired a number of seals related to [Plate XXXVI/1](#) at the site of Tepe Giyan (Gīān) near Nehāvand ([Plate XXXVI/2, 3](#); Herzfeld, p. 85 fig. 13: TG 2686, TG 2402). As yet no impressions of such seals have been found in Persia, but some of the impressions of the Halaf (Ḥalaf) period from Arpachiyah in Mesopotamia (5000-4500 b.c.e.) published by Alvo von Wickede look very much like the shapes of these early Iranian seals (von Wickede, pls. 54-80).

To the same period or only a little later probably belong the bead seals, one of which was found in the Bayat (Bayāt) phase of Tepe Sabz in the [Dehlorān](#) plain ([Plate XXXVI/4](#); Hole et al., p. 238 fig. 103/n). A bead seal of terracotta was found at Tepe Bendebal (Band-e Bāl; Dollfus, 1983, p. 261 fig. 95/1).

To this early period also belong seal designs from Seh Gabi with simple decoration of the circular stamping surface by a division into four quadrants, each quadrant filled with horizontal lines at right angles to the two adjoining quadrants. The pattern is seen on an impression of the Dalma period 4800-4400 b.c.e. ([Plate XXXVI/5](#); Henrickson, p. 5 fig. 2: SG 73.250) and may indicate the beginning of this well-organized design. Its continuation in later times is shown below.

Middle to Late Chalcolithic stamp seals. The next phase of stamp seals that can be distinguished at Seh Gabi belongs to a period called Kangāvar VII (ca. 3800-3600) by Henrickson. There were three hemispherical seals, one of them a high hemispheroid, and two button seals, a form specific to Persia having a convex sealing surface and a square or rounded, perforated knob for suspension in the back ([Plate XXXVI/6, 8](#); Henrickson, fig. 2: SG 73.209, fig. 3: 73.180). The seal in [Plate XXXVI/6](#) continued the simple decoration of the circle with each quadrant filled by horizontal lines at right angles to the two adjoining quadrants. A similar design is seen on a button seal from Tepe Sialk (Sīalk; [Plate XXXVI/7](#); Ghirshman, 1938, pl. LXXXVI: S. 117) and on one from Tepe Bendebal which has two perforations, perhaps to make up for a broken knob, although no traces are indicated in the drawing (Dollfus, 1983, p. 261 fig. 95/5).

The other button from Seh Gabi, of the Middle to Late Chalcolithic, and the two hemispheroids ([Plate XXXVI/9, 10](#); Henrickson, fig. 3: SG 73.54, SG 73.18) have a more complicated design. Each quadrant is now filled with angles receding in size toward the circumference. Moreover, the high hemispheroid ([Plate](#)



XXXVI/9) has the small triangles formed near the circumference scooped out of the stone. This seems to be a specifically Persian feature on hemispheroids and button seals. Variations of this seal design produced by the introduction of zigzag lines and the organization of the pattern in relation to a median line were collected by Jean Deshayes (1974a) from Susa A; Sialk III 4-5 (Plate XXXVI/11; Ghirshman, 1938, pl. LXXXVI: S.232): Giyan VC; and Hissar (Heşār) IB.

At Hissar in level I many seals are square and stalk-handled, though round and oval seals also occur (Plate XXXVI/12, 13; Schmidt, 1933, pl. XCI: H 1223, H 987). Center-dot circles and undulating lines introduce variations in the simple and often carelessly drawn designs. Erich F. Schmidt pointed out that as many as six “seals,” sometimes graded in size, lay on the chests or beside the upper arms of the skeletons.

For this reason he thought that they were ornaments, rather than seals. “The material is serpentine, alabaster, baked clay, gypsum and frit . . .”; “patches of hard and lustrous brown or mainly green coats on seals and beads” were mentioned by Schmidt as indications that the seals were glazed (1933, p. 355).

At the same period more carefully shaped and engraved seals were made at Tall-i Bakun (Tall-e Bakūn) near Persepolis (Plate XXXVI/14-18; Langsdorff and McCown, pl. 82/5, 9, 14, 18, 17). Characteristic of the seals is a crossing of lines and creation of sharply defined planes, which give a faceted appearance to several of the seals. A triangular shape for seals is a unique feature of the site. Some seal designs have a simple pattern of crossing oblique lines. Others have very complicated designs, especially the one in Plate XXXVI/16. One seal (Plate XXXVI/18), of which only half is preserved, is very close to a probably floral design from level XII at Tepe Gawra in Mesopotamia (Tobler, pl. CLXII/68).

The use of the seals for impressions on clay labels applied to bags and bales, on door sealings, and on other objects, has been discussed by Abbas Alizadeh (1988).

The fine patterns created on the basis of the cross with diagonal crossing lines (Plate XXXVI/16) may be a criterion for a date at the end of the Ubaid (Obayd) period, if Alizadeh is correct in limiting the seals to level III, by assigning building XIII, which he considers to have been a warehouse or storeroom, where many of the seals and impressions were found, to level III instead of IV (p. 20).



Of the seals found by M.-J. Steve in his excavations of the terrace of Susa I (Steve and Gasche, pl. 37) and drawn by Amiet ([Plate XXXVII/1](#); 1973b, pl. II/25) the large one with a complicated cross-shaped design corresponds to seals from Tall-i Bakun. One of the latter (shown in [Plate XXXVI/16](#)) was based on the same scheme as the one from Susa. The scheme is a combination of a cross with two opposed equilateral triangles overlaying each other. It is sketched in simplified form on a deformed lenticular tablet from the Acropole of Susa dated in the Proto-Elamite period (Amiet, 1971, p. 228, fig. 71/7). This may suggest that the design had a specific meaning.

The large size of that stamp is related to the large stamps found by Geneviève Dollfus at Djaffarabad (Jaʿfarābād), an example of which is shown in [Plate XXXVII/2](#) (Dollfus, 1971, p. 58, fig. 23/2; idem, 1973, p. 5 fig. 3/2), with markings that suggest some type of general meaning accepted in the community in which these objects were made and employed.

Figured designs on Late Chalcolithic seals. The number of figured designs on Chalcolithic seals is small in comparison with the geometric ones. To the same period as the large seals just discussed, however, Susa I, belongs a stamp seal ([Plate XXXVII/3](#); Amiet, 1972, no. 143), which shows a bovine animal with a long-legged feline above it and a dog at the side; the rest of the field is filled with swastika designs. The body of the bovine animal is stylized in two triangles with incurving sides, corresponding to the stylization of horned animals on Susa pottery, for example, the great beaker, frequently reproduced (Amiet, 1966, p. 41 fig. 13).

A seal of unparalleled style with two animals comes from level 27 of the Acropole at Susa. It shows a leaping feline above a goat facing in the opposite direction ([Plate XXXVII/4](#); Amiet, 1971, pl. XXII/7). A perhaps slightly later low hemispheroid from Seh Gabi ([Plate XXXVII/5](#); Henrickson, pl. I/D) shows two figures that cannot be determined from the photographs, but two animals are frequently found, often back to back or head to tail.

The next phase, later by two levels at Susa, has a more clearly discernible subject, a goat-headed demon restraining serpents, found in level 25 of the Acropole ([Plate XXXVII/6](#); Amiet, 1971, pl. XXII/6). The sealing is related by Amiet (1971, p. 220) to the numerous representations of such figures on stamp seals (see Barnett). One of these figures on stamp seals was excavated in Lorestān ([Plate XXXVII/7](#); Ghirshman 1935, pl. 38/36). In view of the fact that such goat-headed demons were also found at Tepe Gawra (Tobler, pls.



CLXIII/81, CLXIV/94-96) and Tell Asmar in Mesopotamia (Frankfort, 1935, p. 29 fig. 30), the figure obviously had a wide distribution beyond Lorestān. The most elaborate representations of the goat-headed figure, however, are those on sealings from Susa (Plate XXXVII/8; Amiet, in a level called Susa B by Le Breton, pp. 101-04).

The goat demon is particularly associated with serpents, which may represent the principal inimical force in these representations. The combination of horned animal and serpent is a motif that greatly outnumbered representations of a horned animal and feline, which became more common at a later date. A function of the seals as amulets against snakebite should also be considered.

Various Late Chalcolithic stamp-seal designs. Elaborate ornamental designs were found among the seal designs of the intermediate layer B at Susa; they were anchored in level 25 of the Acropole by one such design (Plate XXXVII/9; Amiet, 1973b, pl. II bottom).

A simple cross on a button seal (Plate XXXVII/10, with strongly convex sealing surface) was also found in level 25 of the Acropole and indicates the Late Chalcolithic date of that frequent motif.

A new feature in the shape of stamp seals was noted in the collars at the suspension holes of the example in Plate XXXVII/11, found in level 23 of the Acropole (Amiet, 1971, pl. XXII/10). The design, consisting of rows of curving lines, resembles some devices for decorating other Late Chalcolithic stamps.

Early Uruk period seal designs. A supposedly human figure occurs in the glyptic of Seh Gabi. A seal impression of the Kangāvar period VI (ca. 3600-3100 b.c.e.; Plate XXXVIII/1) is described as “a squatting nude male figure” (Henrickson, p. 12 fig. 1: SG 73.150, pl. IIIA). Both the drawing and the photograph, however, clearly show the figure’s tail between its legs, which is not mentioned in the text but which seems to show a monkey, rather than a man. The design is compared to two from Sharafabad (Šarafābād; Plate XXXVIII/2, 3; Wright et al. 1980, fig. 6/4, 3). One drawing shows a creature with a tail, the other without it. Both drawings had to be turned at a right angle from the position in which they had been published so that the figure would appear seated instead of bent over, which is a posture not found for humans, monkeys, or demons on stamp seals. The impressions from both Sharafabad and Seh Gabi, whether showing man or monkey, mark the transition to scenes



with a narrative content, examples of which occur on multfigured seal impressions from Sharafabad (Plate XXXVIII/4, 5; Wright et al., fig. 6/8, 9). These scenes express one of the principal new functions of seals in Persia in the Middle Uruk period: to record human activities, here some sort of procession and perhaps processing of milk products. The imprints representing a human foot from Sharafabad (Plate XXXVIII/6) may indicate the use of stamps as amulets, doubtless for the protection of the foot, conceivably against serpent bite, to which the foot was most exposed.

In regard to style, the seal impressions from Sharafabad provide a stratigraphically determined indication for the “baggy” figures that appeared on seals of the Middle Uruk phase at Susa; see especially the illustration in Plate XXXVIII/7; Amiet 1972, no. 591), a cylinder found by R. H. Dyson in his sounding at S 14 in 1954. Unlike the row composition of the cylinder-seal impression from Sharafabad (Plate XXXVIII 4) the example from Susa (Plate XXXVIII/7) may show a human figure in some sort of relation with an animal, while two more animals seem to be facing each other. This shows increased variation in the composition, but the figures were still created with a drill, which was obviously in the initial stages of its use: Traces of the drill were not yet being eliminated by subsequent careful work with a graver.

Developed glyptic style of Susa II, the Uruk period, in Elam. The fully developed glyptic style of the period, contemporary with the glyptic of Uruk IV, was reached at Susa in what Amiet called the first urban stage of Susa. The numerous activities of agricultural workers and craftsmen portrayed in the seal impressions have served as a source of information for the technological and social development attained in this period (see the representations of granary workers on Plate XXXIX).

The drawing in Plate XXXVIII/8 (Amiet, 1972, no. 646) shows production of pottery, perhaps also of textiles, and what seems to be an accounting with sticks by a man who is being watched or even menaced by a standing overseer.

Seals that depict such activities were probably developed in level 18 of the Acropole excavations directed by Jean Perrot. At the time of these cylinders calculi were assembled and enclosed in balls, which were subsequently sealed. Holly Pittman (1990) points out that the fully descriptive scenes of activities cease at the end of the Uruk phase of level 17, at the time at which the shape of the tablets changed and written signs probably took over the notational



function that had been filled earlier by glyptic designs.

Glyptic of the Proto-Elamite period. The Proto- Elamite period was a development specific to Persia; it reached the distant frontiers of the country in what must have been a network of communication and exchange probably emanating from Susa (for an early essay on that subject, see Weiss and Young). Amiet's publications of the Proto-Elamite material and his work on the external relations of the peoples inhabiting Persia (especially Amiet, 1986a) are basic to all further studies. (For a full discussion of the Proto-Elamite glyptic and its functions see Pittman, 1990.)

Seals with very simplified designs, many of them geometric, are characterized by the glazed steatite of which they were made. Some have a slender, tall shape; others have squat shapes. They may have all assumed some functions of notation, communication, or both (Pittman, 1990). Such seals were divided by Pittman into two main styles, the multiple-element style and the hatched group (Plate XXXVIII/9, 10; Amiet, 1972, nos. 1070, 1151). Seals of that type originated in Susa at the time of the Jamdat Nasr (Jamdat Našr) period in Mesopotamia, about 3000 b.c.e., but lasted beyond that period into Early Dynastic I to about 2900 b.c.e. and even later, spreading throughout the northern regions of western Asia.

Two other styles were in use at Susa, named the wheel-cut and incised groups by Pittman. Examples of the wheel-cut group occasionally have bird or animal designs (Plate XL/1; Amiet, 1972, no. 1310) and resemble in their technique the brocade style of the Dīāla region of central Mesopotamia. The cylinders of the incised group have geometric patterns with frequent use of lozenges or chevrons (Plate XL/2; Amiet, 1972, no. 1256).

The "classic proto-Elamite style" (a term coined by Pittman) of levels 15-14 of the Acropole at Susa is less frequently found and was used primarily on pillow-shaped tablets. The most interesting among the seals show animals acting as humans, executed in a modeled, naturalistic manner with powerful, assured outlines. The example chosen here (Plate XL/3) is from level 15A (Amiet, 1971, fig. 59/7) and seems to show a regiment of dogs as archers (Amiet, 1971, p. 227, sees lions, but the hanging ears and tails seem dog like). The second example (Plate XL/4; Amiet, 1980b, no. 537) comes from the old excavations, but it is shown here because it is the earliest example of goats flanking a tree, one of the most enduring motifs of the ancient Near East. The different plants in the design also demonstrate the love of plants that characterizes Persian art



through the ages.

The influence of Early Dynastic Mesopotamia on glyptic at Susa. The design shown in [Plate XL/5](#) (Amiet, 1972, no. 1021) was included by Amiet in seals of the Proto-Elamite phase. However, the relation to reality that had characterized the representations of the Uruk period in Uruk and Susa and was still represented in the Proto-Elamite classic style seems to have disappeared from the artistic consciousness of the engraver of the seal in [Plate XL/5](#), who dealt not with the groundline as a base on which persons act but with a flat plane on which figures are distributed like silhouettes, sometimes seeming to float and lacking the corporeality of the earlier forms. Forms are twisted in an unnatural manner and are difficult to disentangle visually. Examples of such features also occurred at Ur (Legrain, 1921, no. 398). Designs like that in [Plate XL/5](#) were probably made in a period of crisis after the height of the Proto-Elamite phase. Such a date would also fit a design from the Villa Royale at Susa, which shows an equal lack of order (Carter, 1980, p. 65 fig. 17 left).

By the end of the period that corresponded to Early Dynastic I in Mesopotamia, the figures on cylinder seals were again solidly placed on a groundline. The banqueting scene of [Plate XL/6](#) (Amiet, 1972, no. 1441) corresponds to representations of the Late Early Dynastic I period from Nippur (Hansen, 1971) in the size of the figures, their arrangement, and their attire.

Other themes of the Mesopotamian Early Dynastic period (ca. 2800-2350 b.c.e.) that were taken over in Persia are the frieze of struggling animals, humans, and composite beings and chariot scenes, though the execution shows differences.

The latest of these seal designs has been reconstructed from a number of impressions from Susa combined ([Plate XL/7](#); Amiet, 1966, pp. 210, 211, fig. 156), made with a cylinder that can be dated to the end of the Early Dynastic period by comparison of the contest-frieze motif in the lower register with Mesopotamian examples of the late Mesanepada- Lugalanda stage (Boehmer, 1969, pp. 290-91). The two registers of [Plate XL/7](#) contain figures of female deities sitting on feline mounts, attended by youthful male acolytes. The scene in the upper register seems to be introduced by a huntsman with two dogs. All these motifs seem to embody specifically Elamite, non-Mesopotamian concepts. The combination of the Mesopotamian frieze motif with these



Iranian ones produced a style for which no parallels are known.

Several simple styles of seal engraving produced in Persia during the time of Early Dynastic II and III are represented by scattered finds and by the large find of seal impressions from Chogah Maran (Čoġā Marān; Levine and Young, 1987, pp. 48ff.).

A southeast Persian style documented at Shahdad and Tepe Yahya contemporary with the Akkad period in Mesopotamia (called Trans-Elamite by Amiet, 1986a). Several cylinders found at Shahdad (Šāhdād) show goddesses seated on their legs in the manner of the goddesses on the sealing in [Plate XL/7](#) from Susa. A goddess of vegetation and a horned goddess, probably a protectress of domestic animals, are seen in [Plate XLI/1](#), the best preserved cylinder (see Elr. II, fig. 26/h). Excavations at Tepe Yahya (Yaḥyā) have yielded cylinders showing related deities, differentiated from the representations from Shahdad by having wings ([Plate XLI/2](#); Lamberg-Karlovsky, 1971, p. 91 fig. 2/A pl. VI). Characteristic of all the seals is the representation of seated female figures whose legs seem to form a solid rectangle, often marked with chevrons indicating the pattern of the garments.

Mesopotamian influence of the Akkad period is discernible in a group of cylinders without provenance, of which at least one, in the Forūġī collection, is known to have been purchased in Persia ([Plate XLI/3](#); Porada, 1964, pp. 88-93). The wide-shouldered, narrow-waisted, and naturally proportioned figures are comparable to Mesopotamian types of the Akkad period, but the even distribution of the figures over the field of the cylinder differs from the arrangement of narrative Akkadian scenes, in which the open spaces suggest that the figures appear against a wide background.

The principal figure in this scene and in that in [Plate XLI/4](#) (Amiet, 1986a, p. 299 fig. 132/12) is a deity with serpents surrounded by acolytes. A lyre player or just a lyre appears in the field. The lyre is characterized by the ends of cords hanging down the front, as in a chlorite carving from Adab (Frankfort, 1969, pl. 11/A). The relationship links the cylinders to the chlorite carvings. The variety in the details of the iconography of the serpent goddess, in contrast to the representations on Akkadian seals, on which one and the same subject is treated in a fairly uniform way, may have been due to the lack of the existence of pictorial models in central places or to the absence of uniform written texts.

Two items on the cylinder in [Plate XLI/4](#) point to later representations. The



platform on which the goddess is installed looks like a structure with upcurving roof ends on both sides. A related platform appears in the seal impression of the Sukkalmah Tan Uli (Plate XLIV/1; see below). Furthermore, floral elements appear among the figures in the second and lowest register. These elements resemble in their outline later representations of tulips on seals of the time of the Early Sukkalmah (Plate XLIII/5; see below).

The shell cylinder of which an impression is illustrated in Plate XLII is included here, although there are no records of its origin in Persia; it can, however, be identified on the basis of its style as the finest of the southeast Persian examples of the time of the Akkad period. Its rich iconography has been discussed by the present writer, with suggestions by Pittman (Porada, 1988).

Compartmented metal seals of eastern Persia and Afghanistan. Southeast Persian iconographical features survived in the finest of metal seals, in which geometric openwork designs, as on an example from Shahdad (Plate XLI/6; Hakemi, no. 317) or figured representations in repoussé (e.g. Plate XLI/7; Amiet, 1986a, p. 319 fig. 185) appear on the outer side of the seal. The outlines of the figure on the inside could have been used for sealing. Unfortunately, none of the figured seals, which were surely intended principally for display, has as yet been published from a controlled excavation.

An earlier type of geometric seal may be represented at Tepe Hissar in level III, where the back of the seal is still solid (Plate XLI/5; Schmidt, 1937, fig. 118: H.2697). One may guess that the display seals were made in the refined artistic atmosphere existing in and around the Third Dynasty of Ur in the 21st century b.c.e. (Pottier, 1980).

Early Old Elamite seals from the end of the Third Dynasty of Ur and the time of the rulers of Shimashki. The domination of Susa by the kings of the Third Dynasty of Ur (from the later years of Shulgi, 2094-47 b.c.e. onward) is reflected in the influence of the Mesopotamian glyptic style on that of the rulers of Shimashki and of the first Sukkalmah. The cylinders show worship of an enthroned deity portrayed in the manner characteristic of cylinders of the Ur III dynasty (e.g., Collon, 1982, nos. 429-39), in which a worshiper is led toward an enthroned god. Unlike the throne in the form of a temple facade shown in the Mesopotamian seals, however, those of Susa present the throne as a piece of furniture, especially on the imprint of an official of the Shimashkian ruler, Idaddu I (Plate XLIII/1; Amiet, 1972, no. 1678). In that



cylinder the object handed by the god to the worshiper is probably a symbol of authority (Amiet, 1972, p. 210), more clearly seen in [Plate XLIII/2](#).

On the imprint of a cylinder given to one of his officials by Idaddu, son of Ruhuratir and probably of Mekubi, daughter of Bilalama of Eshnunna ([Plate XLIII/2](#)) the style has developed away from that of Ur III, with the enthroned king (without divine headgear) seated on the left instead of on the right. The suppliant goddess has the counterweight for her necklaces hanging in the back, a detail more common in the Isin Larsa period (ca. 2000-1800 b.c.e.) than before. The symbolic object of authority is a hatchet engraved on the cylinder in such detail that one can recognize the head of a dragon vomiting the curved blade.

Only one cylinder exemplifies the seal design of a lesser, younger Shimashkian, Imazu, a son of Kindaddu, who was king of Anshan. It shows the standing king as a slender, youthful figure in a kilt handing the symbolic hatchet to a long-robed official, who extends both hands in the typical Elamite gesture with arms bent ([Plate XLIII/3](#); Amiet, 1972, no. 1679).

Two seal impressions of officials of an Ebarat show the deity seated on a temple throne of Ur III type (Amiet 1972, nos. 1680, 1686). Especially the second may have been a reused cylinder because the garment of the worshiper is somewhat unusual and the stone, "heulandite," is not common from that period. A third cylinder ([Plate XLIII/4](#); Amiet, 1972, no. 1685) indicates by the inscription that it belonged to a man serving Ebarat II. The enthroned ruler wears the flounced garment reserved for gods in Mesopotamia.

Both the king and the approaching official have the hair projecting over the forehead like a visor, in what was a typical Elamite hair style. The bird in the field is a distinctive feature of several cylinders of the period of the early Sukkalmah.

Other cylinders used after the time of the Third Dynasty of Ur at Susa are indistinguishable from Isin Larsa cylinders from Mesopotamian centers.

Early Old Elamite seals of the Sukkalmah (ca. 20th- 19th centuries b.c.e.). The cylinder seals of the Sukkalmah and their officials were divided by Ursula Seidl (1990) into three chronologically sequential groups. She has used the dates available for the seal impressions and cylinders of the period, which are



a valuable guide for further research.

Here a further division is suggested for the earliest group of cylinders, in which a western and an eastern group can be recognized. In the western group the placing of the figures conforms to the Old Babylonian presentation of a worshiper to a deity, while the attire of the figures is distinctively Elamite, especially the hair style with the hair projecting over the forehead. In the rare representations of deities with horned crowns the horns have an S shape turning outward at the ends, unlike the Babylonian horns, which turn inward at the top. The long garments show a narrow waist and a bell-like extension at the bottom. Most characteristic is the gesture of the hands, which are extended toward the deity or the ruler figure. The hands appear to be cupped to receive the bounty occasionally dispensed by the deity or the ruler in the form of streams of what was probably water (Plate XLIII/6; Porada, 1990, pl. II/16). Seidl suggests that the gesture also implies communication between god and worshiper and considers the meaning of the gesture to be one of prayer (1990, p. 132).

The eastern group is distinguished by the appearance of ladies in “crinolines.” Cylinder and stamp seals with this motif were found at Tell Malyan (Tall-e Malīān), ancient Anshan. Several of the cylinders show the lady seated under a vine. She wears a voluminous garment apparently made of a flounced material in several tiers. The male figure on the cylinder of the wife of Ebarat II (Plate XLIII/5; Lambert, 1979) wears a turban-like headgear and holds a flower, a motif for which there is no parallel in the west. Nor do women appear prominently in Old Babylonian ritual scenes, as they do in those of the eastern group of Sukkalmah-period cylinders of Persia. After W. G. Lambert’s publication of the seal in Plate XLIII/5, several cylinders and sealings of related style were published (Amiet, 1980a; Steve, 1989; Porada, 1990), but only one poorly reproduced cylinder seal and one stamp seal (Plate XLIII/7; Sumner, 1974, p. 172 fig. 12/i) have so far been published from the several representations of the lady under the vine found in the controlled excavation of Tell Malyan. These seal designs will feature prominently, however, in Pitmann’s forthcoming publication of the seals of the Kaftari (Kaftari) period from Malyan. They indicate the region in which the eastern group originated. One of the seal designs showing a ruler figure dispensing streams to a seated female was made with a cylinder belonging to an official of the Sukkalmah Palishshan, recently dated in the middle of the 20th century b.c.e. (Vallat, 1989; Pétrequin). A nice stamp seal with the lady under a vine (Plate XLIII/8),



in the Rosen collection, is unfortunately without provenance. The scenes of the eastern seals showing the lady are closely related to the principal configuration on the rock relief of Kūrangūn (Seidl, 1986, pl. 4, fig. 2b), where the lady behind or beside the god is characterized by her horned crown as a goddess.

Old Elamite seals: Popular, Anshan, or Kaftari style, ca.1900-1650 b.c.e. These three terms have been used to refer to relatively small seals, generally made of bitumen and having the designs deeply and sharply gouged, with extensive use of hatching. One of these cylinders shows the motif of the lady—or goddess—with a vine above her head (Plate XLIII/9; Amiet, 1972, no. 1899) in this deeply gouged style.

The principal motif of the seal in Plate XLIII/9 is a banqueting scene involving a god or king with a bird, placed on a small table between the enthroned figure and an attendant. Amiet has treated this and other subjects of the numerous examples of the style from Susa in some detail (1972, pp. 239-42). The principal motif of an enthroned figure with a cup, facing one or two worshipers, is derived from scenes of the Isin Larsa period. It is curious, as Amiet points out, that the worshipers generally have clasped hands and do not extend them in the Elamite gesture. Probably this was connected with the meaning of the scene and the use of these seals. Trees and occasionally animals are added to the scene. Several cylinders of the type show animals in various combinations (Amiet, 1972, nos. 1947-66). One portrays a lion attacking a bull. A typically Elamite motif is a large serpent with bearded head occurring on several cylinders of the group (Amiet, 1972, nos. 1900-07).

The style was used at Malyan in the Kaftari period (Plate XLIII/10, 11; Sumner, 1974, p. 172 fig. 12/a, d), but the carving is less precisely defined than on cylinders from Susa.

Late Old Elamite Styles: Cylinders of the later Sukkalmah, late 17th-16th centuries b.c.e. The images for god and ruler created in glyptic art for the Sukkalmah in the 17th century b.c.e. are best illustrated by the impression of the cylinder of Tan-uli (Plate XLIV/1; de Miroschedji, 1981, pl. 1/5). He was chronologically connected with the younger of two Kuk-nashurs, who had been a contemporary of the Babylonian king Amisaduqa (1646-26 b.c. e.; Börker-Klähn, p. 208, s.v. 8). On Tan-uli's sealing the god is seated on a throne formed by a coiled serpent, which he holds with one hand while raising with the other hand a ring and staff, from which streams of water flow downward,



crossing one another. The god has long, loose hair and wears a miter with horns, which are turned outward. His feet rest on a double platform that has upright corners, referred to by other writers as a horned altar but possibly representing architectural elements related to those of Trans-Elamite seals like the one in [Plate XLI/4](#).

The worshiper, probably the Sukkalmah, extends his cupped hands to receive the water. He has hair projecting above his forehead en brosse in the Elamite manner and wears a long skirt, which flares at the bottom, as in Old Elamite representations. Pierre de Miroschedji (1981) assembled the representations of the enthroned god and undertook their interpretation.

An important seal impression of the period is the remarkable design of the judge Ishme-karab-ilu ([Plate XLIV/2](#); Amiet, 1973b, pl. IX/48), which suggests the existence of a divine image on an elaborate metal structure. The stand is formed by two entwined serpents, which emerge from a mountain and are supported by two kneeling nude, bearded heroes (called lahmu by Wiggermann). Amiet notes that the minor deity standing in worship before the god on the structure wears a miter corresponding to that of a human-headed bull on a cylinder (Amiet 1972, no. 1909) that he considers contemporary but that seems somewhat earlier to this writer.

Early Middle Elamite cylinders. A change from the Old Elamite style to one here called Early Middle Elamite is due to a strong geometric stylization of the human forms, an enrichment of the subject matter by animal forms, and tight filling of the field with occasional abandonment of the groundline as the dominating element in the arrangement of the figures. Most closely related to the Late Old Elamite style is Seidl's Winnirkegroup. Winnirke was the mother of Tehiptilla, a prominent citizen of Nuzi; a second seal owner at Nuzi also had a cylinder of this style (Porada, 1947, nos. 613, 614). In an earlier publication (Porada 1946) Nuzi 614 was erroneously identified as the seal of Winnirke, whereas Winnirke's sealing was actually Nuzi 613. It was used on a tablet belonging to the first generation of Nuzi, now assumed to date about 1430 b.c.e. (Stein, p. 58). Seidl pointed out the characteristics of the group, which are a small size and geometric stylization of the figures. She describes the head as a rectangle, of which the nose rather than the chin forms the base. The upper body is formed by a triangle the point of which is the very narrow waist. The vertically striped (or pleated) skirt forms a narrow quadrangle. Very few cylinders of the type have inscriptions.



An impression on an uninscribed tablet from Susa ([Plate XLIV/3](#); Amiet, 1972, no. 2026) is a good example of the style. A god wearing a horned miter and multiple-tiered flounced robe is seated on a long-legged dragon with two short horns, perhaps replacing the more realistic serpent throne of earlier times. The god's footrest is a goatfish. The throne animal and the goatfish seem to be placed above waters personified by a small deity, whose bust rises at the left end of the undulating line of the waters. The god seems to grasp with the left hand the two straight watercourses that seem to flow into a globular vessel on his left. A small worshiper extends his hands in the Elamite gesture toward the watercourses, and a lahmu kneels at the right. A similar motif of watercourses flowing into a globular vessel and a kneeling lahmu appear on the god's left. Two small fish-ladies float at the top of the sealing, flanking god and worshiper.

Characteristic of the style shown in this impression is the multitude of figures, some of them very small, the fine hatching for the decoration of the god's robe, and the god's miter, in which a series of wads replace the multiple horns. Only one pair of horns rises from the base of the miter. The frontal horn is higher and curves more energetically outward than the one that appears in the back (Amiet, 1992, p. 259). One cylinder belonging to this general style was found at Surkh Dum (Sorkdom) in Lorestān ([Plate XLV/1](#); Porada, 1946, pp. 257-59, fig. 4; Muscarella, p. 353 no. 34; van Loon, 1989, pl. 134/32). Another cylinder belonging to this style from Surkh Dum was published by Maurits N. van Loon (1989, pl. 134/30).

A minute cylinder found at Chogha Zanbil ([Čoġā Zanbīl](#); Porada, 1970, no. 109) has only a deity on whose headgear the horns are very prominent. The deity holds a palm frond (?) and faces a worshiper, who extends his hands in the Elamite gesture of prayer. The cylinder probably belongs to the Old Elamite phase of the style, while the impression in [Plate XLIV/3](#) belongs to the later, Middle Elamite phase, with numerous figures in a free arrangement.

Seidl used the cylinder bearing the name Tanruhuratir (Porada, 1971, p. 32 fig. 6) for the formation of another Late Old Elamite group, which this author also places in Early Middle Elamite. Distinctive is the occurrence of only the god and the worshiper, both with elongated slender figures, as noted by Seidl. The god holds a staff, often but not always with balls or spheres in several registers. The cylinder of Tanruhuratir shows some similarities with that of Tepti-Ahar ([Plate XLIV/4](#); de Miroschedji, 1981, pl. VII; cf. Neghaban, 1991, pl. 79 ill. 31) found at Haft Tepe (see below). In both the scene is reduced to the



ruler and his god, and in both the god's symbol is an important element. Furthermore, both show the god holding a staff with globes, a ritual symbol that also increased in importance in Babylonia toward the end of the dynasty.

Middle Elamite glyptic of Haft Tepe. In the 15th and 14th centuries b.c.e. the site of Kabnak, modern Haft Tepe, appears to have played an important political role, "wealthy enough to organize and support cult and craft organization and powerful enough to engage in diplomacy and warfare with Babylonia" (Carter and Stolper, pp. 34-35).

The numerous seal impressions from Haft Tepe range in style from that of the Winnirke group to those made with cylinders of common Nuzi style, with large-figured designs.

The close connection with the glyptic tradition of the Sukkalmah is demonstrated by the fragmentary seal impression of judge Ishme-karab-ilu's cylinder (Plate XLIV/2) to which de Miroschedji drew attention (1981, p. 3 and n. 7). There is also a remarkable similarity between the horned miter of the standing god on the cylinder of Ishme-karab-ilu and that of king Tepti-Ahar from Haft Tepe (Plate XLIV/4). The most frequently represented figure on Haft Tepe sealings is the enthroned, long-haired god holding what seems to be an upright palm frond. Often this enthroned deity is offered a kid. In two cases bull-men are the figures offering the sacrificial animal (Negahban, 1991, nos. 245, 283). It is possible, however, that the two sealings were made with the same cylinder. The difference in the appearance of the seal designs may be due to the modern draftsmen (or women).

Characteristic of the Haft Tepe designs is the use of fine crisscross patterns for the garments of the figures and other surfaces.

The Haft Tepe style developed toward a massive, rounded manner due to considerable use of a large drill. A good example of the style is a seal in the Pierpont Morgan Library, New York (Porada, 1948, no. 1129), which the author considered in 1947 to be of doubtful authenticity because such cylinders were then unknown.

A Middle Elamite cylinder of Mitannian style. A fully developed Mitannian style was created, with much use of a fine drill, on a cylinder of carnelian in the Forūgī collection. The cylinder is Elamite, recognizable as such by the Elamite inscription (Plate XLV; Porada, 1970, pl. XIV/8). Typically Mitannian is the



palmette tree flanked by two goats, though these have their mouths placed on the fronds of the palmette tree in a manner very rare in Mitannian designs. The principal scene, in which a god or king, being fanned by a male figure, is served a bottle and a napkin by a female, is unique. This cylinder is one of the few examples of finely engraved hard-stone cylinders of Mitannian style to have been found in Persia. However, the common-style Mitannian seals of faience are represented in all excavations of the Middle Elamite period in Persia (Dyson and Harris, *passim*).

This carnelian cylinder is one of the few examples of finely engraved hard-stone cylinders of Mitannian style to have been found in Persia. However, the common-style Mitannian seals of faience are represented in all excavations of the Middle Elamite period in Persia (Dyson and Harris, *passim*).

Middle Assyrian and Kassite styles in Iran. A few cylinders of these styles were found in Persia. Surkh Dum yielded both a Middle Assyrian and a Kassite cylinder, of which the latter (van Loon, 1989, pl. 134/34) certainly indicates workmanship outside the main Kassite centers in Babylonia. The Middle Assyrian scene of a hero with two goats (Plate XLVI/2; van Loon, 1989, pl. 134/38), however, could have been imported from Assyria. The star in the sky is done in the regular Assyrian manner, with four intersecting lines. In Persian seals there are more variety and less regularity in the carving of stars, as seen in several cylinders from Susa (Amiet, 1972, nos. 1926, 2066, 2075, 2134).

Two hard-stone cylinders carved in the modeled, naturalistic style associated with Middle Assyrian cylinders were also found at Marlik (Mārlik; Negahban, 1977, pp. 91-93 nos. 7-8; the first was better reproduced in Amiet, 1989, p. 322/b); E. O. Negahban associated the cylinder with a sealing from Assur (Moortgat, 1947, fig. 13). The sealings from Assur, however, are known only from drawings. There is a question, therefore, how close the resemblance of that cylinder from Marlik to the one from Aššur actually was.

Middle Elamite cylinders of glass. Excavations of the 14th and 13th centuries b.c.e. at Susa and Chogha Zanbil have yielded fine cylinders of deep-blue glass, an innovation in western Asia. The style of the scenes engraved on these seals was derived from the Kassite in the representation of one, two, or three tall figures of gods and/or worshipers with an inscription of several lines. The term “pseudo-Kassite” was chosen for such seals at Chogha Zanbil (Plate XLIV/5; Porada, 1970, no. 1) because there are details that differentiate the style from genuine Kassite examples. One such detail in Plate XLIV/5 is the



unusual manner in which the central figure has wrapped his garment partly to cover the head. Another difference from Kassite designs consists in the crowns of the small trees in the border- like upper register. These trees share the crooked stems of the cylinder of Kidin Marduk, an official of the Babylonian king Burnaburiaš (1359-33 b.c.e.), the earliest cylinder to show this type of tree (Porada, 1981, p. 49 no. 26). Instead of having the globular crowns of the Kassite cylinder, however, they have stiff, horizontal branches on which rows of minute triangles may indicate pine cones.

Several such pseudo-Kassite cylinders were found at Tell Subeidi (Tal-e Subaydī; Boehmer, 1981, *passim*), as well as at Nippur (Matthews, 1992, pp. 15ff., 55ff.), both in Mesopotamia.

Amiet has commented on the close relation of the Elamite glass seals with Kassite ones and the difficulty in assigning the style to Elamite or Kassite origin (Amiet, 1986b).

Closely related to the pseudo-Kassite group is the elaborate Elamite group of seals, also made of the same deep-blue glass and showing one or two tall deities ([Plate XLIV/6](#); Porada, 1970, no. 16). Characteristic of these seals is the appearance of probable architectural frames filled with fine crisscrossing and a series of center-dot circles; the latter might represent the large square or circular clay nails that decorated Middle Elamite architecture, as at Chogha Zanbil. Other elements in these seals are volute trees and large birds.

A different motif in the elaborate group is an archer aiming at game, represented at Chogha Zanbil, Susa ([Plate XLIV/7](#); Amiet, 1972, no. 2082), and Marlik (Negahban, 1977, no. 6).

Middle Elamite cylinders of faience at Chogha Zanbil. Cylinders of faience are far more numerous than those of glass. The design was produced in a largely linear manner, far less carefully executed than the first two styles. Many different subjects are depicted, including a god of war (Porada, 1970, nos. 25, 27).

The most common motif, however, is that of a personage, god or king, raising a cup and facing an attendant. Such scenes are referred to as banquets ([Plate XLIV/8](#); Porada, 1970, fig. 54).

These scenes seem to be performed by humans rather than deities, though this is not certain, but only one cylinder shows a sphinx; otherwise such



supernatural creatures are absent from these seals. The suggestion was therefore made that a king and his aide were portrayed at a royal ceremony (Porada, 1970, p. 131).

Rows of animals, even of insects and numerous other subjects, are of unknown meaning. It should be noted that most of the cylinders found at Chogha Zanbil were devotional pieces, as noted by Roman Ghirshman. They were certainly not used on tablets, as were the glass cylinders, of which impressions were found on tablets from Nippur. As for the Kaftari-period cylinders, the faience cylinders of the later period were mass-produced wares not intended for sealing as were the finely executed hard-stone cylinders.

All three styles described at Chogha Zanbil, the pseudo-Kassite, elaborate Elamite, and linear style on faience seals were also employed at Susa (Amiet, 1971, nos. 2055-65, 2093-2115).

Styles of Marlik: Middle Elamite, Mitannian, and local style of Hasanlu. A hunting scene on a glass cylinder of the elaborate Elamite style found at Marlik has already been mentioned above, as have two cylinders related to Middle Assyrian style. Amiet mentions some more cylinders of pseudo-Kassite style from that site (Amiet, 1989, p. 314), but a larger number of cylinders found at Marlik were examples of the common Mitannian style (Negahban, 1977, nos. 1-5). At least one of these Mitannian-style examples, however (no. 5), is unparalleled among Mitannian cylinders of more western regions. It is likely that there were workshops for that type of simple common Mitannian-type cylinder within Persia itself. The Marlik cylinders showing several rows of chevrons (Negahban, 1977, nos. 11-13) would have been produced in such an artless workshop. Another example of such a “pseudo-Mitannian cylinder” comes from Haftavan (Haftavān) Tepe near the town of Šāhpūr (Burney, 1972, pl. IV/b).

Of real interest among the cylinders of Marlik is one of gold ([Plate XLIV/9](#)) in a local style, showing a bird, a large feline, and, above them, a snake with the characteristic triangular head of the poisonous reptile (Negahban, 1977, fig. 9).

The forelegs of the feline are slightly curved out ward; the hind legs are bent in the opposite direction in an exaggeration of the natural motions of the animal. This stylization is also noticeable in the designs of animals on cylinders of local style from Hasanlu (Ḥasanlū) of the 9th century b.c.e. ([Plate XLIV/10](#); Marcus). This may be a stylistic trait specific to Persia.



Seals of the first half of the 1st millennium b.c.e. from Susa and other sites. Little is known about Elamite history from Susa in the first centuries of the 1st millennium b.c.e. “Elam repeatedly supplied military aid and political refuge to Babylonian opponents of Assyria while Assyrian armies strove to gain control over Babylonia and suzerainty over the Zagros highlands north of Khuzistan” (Carter and Stolper, p. 44).

Examples of several different stylistic groups among cylinders from Susa, published by Amiet, indicate the existence of various workshops at that center in the first two or three centuries of the 1st millennium b.c.e. Only those that manifest a clearly defined style will be mentioned here.

One general style continued Middle Elamite styles and motifs in a mostly crude and careless manner. For example, one group published by Amiet (1972, nos. 2131-45), all of faience, seems a continuation of the linear Chogha Zanbil groups.

A group represented by two cylinders from Susa (Amiet, 1972, nos. 2126-27) and one from Surkh Dum in Lorestān ([Plate XLVI/3](#); van Loon, 1989, no. 109) was discussed by Oscar White Muscarella (1981, p. 357 no. 38). The engraving is characterized by the deeply gouged bodies with rounded front and rear, by hatched sickle-shaped wings, erect ears, horizontally extended beaks, and, on the heads, a wedge-shaped form pointing downward, called a topknot by van Loon (1989, p. 431). The theme of the seals is that of griffins furiously attacking a horned bovine animal.

A hunting scene involving an archer and winged bulls and a griffin ([Plate XLVI/4](#); van Loon, 1989, no. 142) is included here because the cylinder obviously belonged to a well-established style, in which the forms were clearly defined and set off from the back ground by hatching in various directions. Although the authors drew attention to certain features that are characteristic of cylinders from Surkh Dum, like the forward-placed leg of the bulls, the cylinder so far remains unique at the site and is not paralleled else where. It was dated approximately in the 10th century b.c.e.

At Surkh Dum, however, there are several examples of a distinctive style, parallel to the Neo-Assyrian linear style of the 9th-8th centuries b.c.e. It is called here “serrated style” because of the serrated outlines of the figures, as in a chariot scene ([Plate XLVI/5](#); van Loon, 1989, no. 43). The motif is taken from Assyrian prototypes, cited by van Loon, but the detail in the garments of



the figures and the horses' harness is more carefully done than in the foreign samples, also noted by van Loon.

Another cylinder of the same style (Plate XLVI/6; van Loon, 1989, no. 48) shows a very different motif, a lion-dragon pursuing a winged bull. Still other themes of the serrated group are shown on the seals discussed by van Loon (1989, nos. 44-46).

One of the cylinders from Surkh Dum in the Metropolitan Museum of Art, New York (Plate XLVI/7) was discussed by Muscarella (1981, no. 39), who drew attention to the specific forms of the sacred tree that is the center of the design: spear-like upward-pointing branches flanking the three fronds of a palmette.

A multifigured hunting scene with the archer in the center (Plate XLVI/8) was dated in the 8th century by van Loon (1989, s.v. 143). At present there are no parallels for this lively panorama of a hunt on seals of that period.

It is surprising that only two cylinders at Surkh Dum were made of bronze, for the number of geometrically decorated simple patterns on metal seals is relatively large among seals without provenance in dealers' hands.

Tepe Sialk yielded numerous cylinders of several stylistic groups, one of which, of green stone, is related to the painted decoration on Sialk B pottery (Plate XLVII/1; Ghirshman, 1939, pl. XCVI: S. 737); on it the figures of a bull with a sheep standing with forelegs and hind legs close together above the bull are perhaps menaced by a lion who faces a serpent. These figures have the arched necks, the club-like wings, and the sectioned bodies that characterize some of the pottery paintings. On a related cylinder (Plate XLVII/2; Ghirshman, 1939, pl. XCVI: S. 810) a rider is attacked by a feline, seen on some painted vessels. A cylinder of a related but somewhat different style shows a seated figure drinking through a tube from a vessel while a number of horned animals and a large bird fill the field (Ghirshman, 1939, pl. XCVI: S. 1327). It is to be noted that Tepe Sialk has no Assyrianizing seals. By contrast, the majority of the cylinders found at Hasanlu are Assyrianizing, though most of them do not seem to be imports from metropolitan Assyrian sites but rather to have been made at provincial sites possibly within Persia. The date of the cylinders is probably 9th-8th centuries b.c.e.

At the Urartian fortress of Bastam (Bestām), far to the west, in Azarbaijan, the



stamp cylinders discovered fit into the styles known from other Urartian sites. One example, of blackened bone (Plate XLVII/3; Kleiss, p. 187/A), has the sharply pointed zigzag out lines for the winged genie and the lions and monster of the scene known from Karmir Blur (van Loon, 1966, p. 151, D1), also found on the genie and monster of an ivory stamp seal (Seidl, 1979, p. 140 D2). Another stamp cylinder published by Wolfram Kleiss (Plate XLVII/4; Kleiss, p. 187 B; Seidl, 1979, p. 139 D1), delicately carved on black stone, shows a winged genie and a worshiper with animals and a winged disk, all showing the strong Assyrian influence that characterizes many of the Urartian stamp cylinders. The date for those found at Bastam was determined to be the 7th century b.c.e. (Seidl, 1979, p. 146).

Neo-Elamite cylinders of the 8th-6th centuries b.c.e. In his basic work on Neo-Elamite glyptic Amiet suggested that the payments earned by king Shutruk-Nahhunte (716-699 b.c.e.) for his help to Merodach-Baladan of Babylonia against the Assyrian kings Sargon (721-05 b.c.e.) and Sennacherib (704-681 b.c.e.) had caused an influx of wealth into Elam that brought fine seal carvers to the Elamite court. Amiet divided this Neo-Elamite material, which largely consists of seal impressions on tablets, into three groups (1973a). The first is a group of tablets with sealings found in 1901 on the Acropole of Susa, in immediate proximity to a small temple of Shutruk Nahhunte II but on a slightly higher level. One of these impressions shows two genii flanking a tree, another a nude bearded hero overpowering an ostrich beside two confronted ram pant human-headed winged goats (Delaporte, 1920, pl. 48/14: S. 564, 42/11: S. 559). Both seal designs show exquisite execution in a style comparable to the modeled Assyro-Babylonian style of the late 8th-7th centuries b.c.e.

To these seals, which may represent the survival of seals of the late 8th-7th centuries on later tablets, de Miroschedji has added cylinders of the late cut style (Plate XLVII/5, 6), which he dates to the same time, the late 8th-7th centuries. On the basis of one cylinder (Plate XLVII/5; de Miroschedji, 1982, p. 52 fig. 1), found at Susa in level 7B on the site of the Ville Royale II, he established a number of valid Neo-Elamite criteria within the late cut style, including the position of animals and monsters in a quasi flying gallop and their extended bodies with thin, featureless heads. To Miroschedji's criteria may be added the stress on the creatures' breasts, which curve forward as in earlier Neo-Elamite cylinders (Plate XLVI/3) and characterize the Late Elamite style in general (Amiet, 1966, figs. 376-79).

Amiet's second group consists of impressions on tablets found below the



Apadana of Darius I (522-486 b.c.e.) at Susa. At the head of the group he placed an impression of the Acropolis group, showing a mounted archer pursuing a fleeing prey, resembling the one in [Plate XLVIII](#) (Porada, 1948, no. 812). The fact that in the Apadana group a number of the fleeing animals turn their heads back is thought by van Loon to have chronological significance (1988, p. 224); he places cylinders like that in [Plate XLVIII](#) in time between the Acropolis and Apadana groups.

Amiet placed his third group before the destruction of Susa in 646 b.c.e. Most of the seal designs show one or two monsters or animals confronted or with entwined bodies or necks, beautifully executed with minute details, largely produced by a very fine drill. An example is the cylinder of Hupan-kitin, son of king Shutruk-Nahhunte II ([Plate XLIX](#); cf. [Plate L](#)). That group is the second of de Miroschedji, who dates it from about 625 to about the time of the Persian conquest by Cyrus II (539 b.c.e.). De Miroschedji's discussion of the group is centered on an impression found in Neo-Elamite layers at Susa below the foundation of a palace of Darius I ([Plate XLVII/7](#); de Miroschedji, 1982, p. 56 fig. 3). The sealing shows the symbols of Marduk and Nabu, so common on Neo-Babylonian stamp seals of the 7th and 6th centuries b.c.e., and a winged lion-griffin of typical Elamite appearance. De Miroschedji associated the date of that impression with the date of the sealings found on the Acropole of Susa and the date of those found below the Apadana, as well as the assumed date of the Neo-Elamite impressions in secondary use among the fortress sealings of Persepolis (Hallock). While it is possible that there were only slight stylistic differences between Late Neo-Elamite cylinders, the historical difference between the theories of de Miroschedji and Amiet is considerable. Amiet thought that the incoming Persians might have been responsible for the motif of the mounted archer in hunting scenes, whereas de Miroschedji ascribed it to the Elamites.

A third theory about the origin of the motif is implied by van Loon's publication of a cylinder from Surkh Dum showing a mounted huntsman menacing a winged goat, which could have been made as early as the end of the 8th century b.c.e. ([xlvi/8](#); van Loon, 1988, pl. I, p. 222). This early dating points toward the origin of the motif in still earlier times and in foreign, that is, Assyrian seals. Several examples of the Neo-Assyrian linear style from the 9th-8th centuries exist, showing a mounted huntsman aiming with bow and arrow at game animals (Moortgat, 1940, no. 653; Teissier, no. 233). It must be said, however, that in all cases the archer turns back to shoot, unlike the



version of the motif in Neo-Elamite designs, where the hunter shoots straight at an animal fleeing before him.

A resolution of the problem of the origin of the motif may emerge from work on the seal impressions on the Persepolis fortification tablets, which are being studied by M. C. Root and M. B. Garrison. Their material includes the much discussed sealings of the spearman on horseback defeating two enemies. The original seal owner was Cyrus, son of Teispes (xlvi/9; drawing by van Loon, 1988, pl. IIb; see [cyrus ii](#)). The identification of the original seal owner with a Persian ruler, grandfather of Cyrus II, which has been questioned, seems entirely justified in view of the exceptional iconography. Not only is the motif used with human enemies, which is unusual, but the unparalleled precision of their representation and the detailed execution of the design suggest that this was indeed a very special cylinder, worthy of a ruler. How the cylinder came into the possession of a second owner, who used it on the fortification tablet, remains an enigma.

A late Elamite cylinder from Chogha Sabz (Čoġa Sabz; xlvii/10; published by van Loon, 1988, pl. IIIb) represents a class of seals showing a monster, symbolizing a deity and facing a worshiper, which is probably datable to about 520 b.c.e. (van Loon, 1988, p. 224).

Seals of the Achaemenid empire in Persia. From a study of the impressions of the Fortification tablets of Persepolis it seems most likely that the Achaemenid rulers and their officials took over the style and iconography of Neo-Elamite glyptic.

Darius I (522-486 b.c.e.), to whose initiative all pictorial matter of the Persian residences, Pasargadae and Persepolis, and the rock relief of [Bīsotūn](#) is ascribed, was probably responsible also for the creation of the Persian court dress (see [clothing ii](#)) and for the glyptic iconography that is recognizable by the presence of that dress. Darius was probably also involved in the creation of some of the limited motifs of Achaemenid cylinder seals.

However, the style of each region in which such seals were produced, Persia, Babylonia, Syria, and Anatolia, differed considerably, with each country having distinctive glyptic characteristics (cf. Moorey, pp. 865 -69). Here only the style documented from Persian sources will be exemplified. The primary site for the recovery of the court style in cylinder seals is the Treasury at Persepolis, which yielded tablets and clay labels sealed with the cylinders of



treasurers of Darius and Xerxes (486-465/4 b.c.e.; Schmidt, 1957, pp. 4 -41).

The most characteristic subject of these seals is that of a royal hero standing on pedestal monsters (a term coined by Schmidt for crouching composite creatures like bearded sphinxes), extending his arms and holding up lions or monsters in a gesture of triumph ([Plate LI](#); Porada, 1948, no. 824). Above the royal hero frequently appears a winged disk, from which often rises a crowned male bust, now thought to represent the royal fortune, Farnah, rather than the supreme god, [Ahura Mazdā](#). The terminal of the scene is often a date palm, which also may have a religious significance.

Details in the execution of these dated sealings provide criteria for a chronology of Achaemenid glyptic. For example, the king's crown in the early sealings of Darius shows the stepped crenellations and below them the circlet with dots that represent a miniature rendering of the crown of Darius portrayed on the rock relief of Bisotūn (see [crown i](#)). In sealings on tablets of the last years of Darius the crenellations had become small spikes encircling the top of the king's tall polos, corresponding to the representation of his crown in the reliefs of his palace, which were made at the end of his reign or in the time of Xerxes (for example, Schmidt, 1953, pls. 138b, 139b, the first bearing the name of Xerxes, the second of Darius).

On sealings showing the hero with the earlier type of crown, furthermore, the wings supporting the disk or the divine bust are straight like boards. On sealings where the later type of crown is represented, the majority of them belonging to the time of Xerxes, the wings are more elegant and naturalistic ([Plate LI](#)). They are of considerable length with the curved ends formed by radially arranged primary feathers, which are differentiated from a zone of shorter, secondary feathers and from a zone of tertiary feathers. Probably such wing representations, which correspond to those on monumental reliefs at Persepolis, were influenced by Egyptian prototypes.

The earlier seal designs of Darius show a greater variety of subject matter than the later ones, in which the figure of the triumphant king has almost assumed the character of an icon repeated with only minor variations.

One such earlier design shows the king in a hunt from a chariot on a cylinder said to have been found at Thebes in Egypt, now in the British Museum ([Plate LII](#); Porada, 1979, p. 80 fig. 43). The king may also be shown attacking a lion on the ground, as in an unfinished cylinder found at Pasargadae (Stronach, pp.



178 79, pl. 162/a-b). But there are no scenes from Persian art showing the king involved in fighting a battle. A cylinder without provenance in the Forūgī collection demonstrates the principle very clearly by showing the “icon” of the king standing on winged bulls, holding up two lions in a gesture of triumph, while a Scythian soldier is about to execute a shackled Sogdian or Scythian enemy (Porada, 1979, p. 83 fig. 45).

Ritual scenes in which soldiers or priests officiate are very rare. A frequent motif, on the other hand, is single animals, which seem descended from the neo-Elamite monsters in their fine execution.

The remarks made here about the sealings of the Treasury should not be taken as an indication of glyptic in the wider circle of the upper layers of the Achaemenid bureaucracy. That survey will be possible only on the basis of the sealings from the Fortification tablets.

In both groups of sealings from Persepolis, however, it is obvious that Achaemenid cylinder seals are well executed, as can be expected from seals that were the tools and probably also the privilege of higher administrators during the three millennia of the use of cylinder seals.>

BIBLIOGRAPHY

A. Alizadeh, “Socio-Economic Complexity in Southeastern Iran during the Fifth and Fourth Millennia B.C. The Evidence from Tall-i Bakun A,” *Iran* 26, 1988, pp. 17-34.

P. Amiet, *Elam*, Auvers-sur-Oise, France, 1966.

Idem, “Antiquités du désert du Lut I. À propos d’objets de la collection Foroughi,” *RA* 68, 1968, pp. 97-110.

Idem, “La glyptique de l’Acropole (1969-1971).

Tablettes lenticulaires de Suse,” *CDAFI* 1, 1971, pp. 217-33.



Idem, "Antiquités du désert de Lut II," *RA* 70, 1976, pp. 1-8.

Idem, *Glyptique susienne des origines à l'époque des perses achéménides. Cachets, sceaux-cylindres et empreintes antiques découverts à Suse de 1913-1967*, 2 vols., MDAFI 43, Paris, 1972.

Idem, "La glyptique de la fin de l'Elam," *Arts Asiatiques* 28, 1973a, pp. 3-32.

Idem, "Glyptique élamite, à propos de documents nouveaux," *Arts Asiatiques* 26, 1973b, pp. 3-45.

Idem, "Bactriane proto-historique," *Syria* 54, 1977, pp. 89-121.

Idem, "Archaeological Discontinuity and Ethnic Duality in Elam," *Antiquity* 53 (209), 1979, pp. 195-204.

Idem, "La glyptique du second millénaire en provenance des chantiers A et B de la Ville Royale de Suse," *Iranica Antiqua* 15, 1980a, pp. 133-47 (esp. "Annexe 4" with M.-J. Steve, H. Gasche, and L. De Meyer, "La Susiane au deuxième millénaire. À propos d'une interprétation des fouilles de Suse").

Idem, *La glyptique mésopotamienne archaïque*, 2nd rev. ed. with supp., Paris, 1980b.

Idem, "The Archaic Glyptic at Shahr-i Sokhta (Period I)," in *Prehistoric Sīstān I*, Rome, 1983, pp. 199-210.

Idem, *L'âge des échanges inter-iraniens, 3500-1700 avant J.-C.*, Paris, 1986a.

Idem, "Kassites ou Elamites?" *Bibliotheca Mesopotamica* 21, 1986b, pp. 1-6.

Idem, "L'usage des sceaux à l'époque initiale de l'histoire de Suse," in L. De Meyer, H. Gasche, and F. Vallat, eds., *Fragmenta Historiae Elamicae. Mélanges offerts à M.-J. Steve*, Paris, 1986c, pp. 17-24.

Idem, "Autour de Marlik," in L. De Meyer and E. Haerinck, eds., *Archaeologia Iranica et Orientalis. Miscellanea in Honorem Louis Vanden Berghe*, Ghent, 1989, pp. 311-22.

Idem, "Tiars élamites," *Studi micenei ed egeo-anatolici* 30, Rome, 1992, pp. 257-65.



Idem and M. Tosi, "Phase 10 at Shahr-i Sokhta," *East and West* 28, 1978, pp. 9-13.

R. D. Barnett, "Homme masqué or dieu-ibex?" *Syria* 43, 1966, pp. 259-76.

R. M. Boehmer, "Zur Glyptik zwischen Mesilim- und Akkad-Zeit," *ZA* 59, 1969, pp. 261-92.

Idem, "Glyptik der späten Kassiten-Zeit aus dem nord-östlichen Babylonien," *Baghdader Mitteilungen* 12, 1981, pp. 71-81.

Idem, *Tell Imlihye, Tell Subeidi, Tell Abbas*, *Baghdader Forschungen* 7, 1985.

J. Börker-Klähn, *Untersuchungen zur altelamischen Archäologie*, Ph.D. diss., Berlin, 1970.

C. Burney, "Excavations at Yanik Tepe, North-west Iran," *Iraq* 23, 1961, pp. 138-53.

Idem, "Excavations at Haftavan Tepe 1969. Second Preliminary Report," *Iran* 10, 1972, pp. 127-42.

B. de Cardi, *Excavations at Bampur*, American Museum of Natural History, Anthropological Papers 51(3), New York, 1970.

E. Carter, "The Susa Sequence—3000-2000 B.C. Susa. Ville Royale I," *AJA* 83, 1979, pp. 451-54.

Idem, "Excavations in the Ville Royale I at Susa. The Third Millennium B.C. Occupation," *CDAFI* 11, 1980, pp. 11-134.

Idem and M. W. Stolper, *Elam. Surveys of Political History and Archaeology*, University of California Publications, Near Eastern Studies 25, Berkeley and Los Angeles, 1984.

D. Collon, *Western Asiatic Seals in the British Museum. Cylinder Seals II. Akkadian—Post Akkadian Ur III—Periods*, London, 1982.

Idem, *Western Asiatic Seals in the British Museum. Cylinder Seals III. Isin-Larsa and Old Babylonian Periods*, London, 1986.

Idem, *First Impressions. Cylinder Seals in the Ancient Near East*, London, 1987.



Idem and J. Reade, "Archaic Nineveh," *Baghdader Mitteilungen* 14, 1983, pp. 33-41.

G. Contenau and R. Ghirshman, *Fouilles de Tépé-Giyan près de Néhavand*, Musée du Louvre, Département des Antiquités Orientales, Série Archéologique 3, Paris, 1935.

J. Curtis, *Nush-i Jan III. The Small Finds*, London, 1984.

L. Delaporte, *Musée du Louvre. Catalogue des cylindres orientaux. Fouilles et missions*, Paris, 1920.

P. Delougaz and H. J. Kantor, "New Evidence for the Prehistoric and Protoliterate Culture Development of Khuzistan," in *Vth International Congress of Iranian Art and Archaeology* I, Tehran, 1968, pp. 14-38.

J. Deshayes, "Tureng Tépé et la période Hissar IIIC," *Ugaritica (Mission de Ras Shamra 81)* VI, 1969, pp. 140-63.

Idem, "Cachets susiens et chronologie iranienne," *Syria* 51, 1974a, pp. 253-63.

Idem, "La XI^e campagne de fouilles à Tureng Tépé," *Paléorient* 2, 1974b, pp. 491-94.

Idem, "À propos des terrasses hautes de la fin du III^{me} millénaire en Iran et en Asie Centrale," in *Le plateau iranien et l'Asie Centrale des origines à la conquête islamique. Leurs relations à la lumière des documents archéologiques*, C.N.R.S., Colloques Internationaux 567, Paris, 1977, pp. 95-112.

R. Dittman, *Betrachtungen zur Frühzeit des Südwest-Iran*, Berliner Beiträge zum Vorderen Orient 4, Berlin, 1986a.

Idem, "Seals, Sealings and Tablets. Thoughts on the Changing Pattern of Administrative Control from the Late-Uruk to the Proto-Elamite Period at Susa," in U. Finkbeiner and W. Röllig, eds., *Ĝamdat Nasr. Period or Regional Style?* TAVO, Beihefte B62, Wiesbaden, 1986b, pp. 332-66.

G. Dollfus, "Les fouilles à Djaffarabad de 1969 à 1971," *CDAFI* 1, 1971, pp. 17-161.

Idem, "Cachets en terre cuite de Djaffarabad et "cachets" apparentés," *RA* 67, 1973, pp. 1-19.



Idem, "Les fouilles à Djaffarabad de 1972 à 1974.

Djaffarabad, périodes I and II," *CDAFI* 5, 1975, pp. 11-220.

Idem, "Tépé Jowi," *Iran* 15, 1977, pp. 169-72.

Idem, "Djaffarabad, Djowi, Bendebal. Contribution à l'étude de la Susiane au V^e millénaire et au début du IV^e millénaire," *Paléorient* 4, 1978, pp. 141-67.

Idem, "Djowi et Bendebal. Deux villages de la plaine centrale du Khuzistan, Iran," *CDAFI* 13, 1983, pp. 17-275.

R. H. Dyson, Jr., and M. V. Harris, "The Archaeological Context of Cylinder Seals Excavated on the Iranian Plateau," in M. Kelly-Buccellati et al., eds., *Insight through Images. Studies in Honor of Edith Porada*, Bibliotheca Mesopotamica 21, Malibu, Calif., 1986, pp. 79-110.

R. H. Dyson, Jr., and M. M. Voigt, "Iran," in *Chronologies in Old World Archaeology*, 2nd ed., Chicago, 1992, pp. 122-78.

N. Egami and S. Masuda, *Marv-Dasht I. The Excavation at Tall-i Bakun*, The Tokyo University Iraq-Iran Archaeological Expedition, Report 2, Tokyo, 1962.

Idem and T. Gotoh, "Tall-i Jarri. A Preliminary Report of the Excavations in Marv Dasht, 1961 and 1971," *Orient* 13, 1977, pp. 1-14.

U. Esin, "Zur Datierung der vorgeschichtlichen Schichten von Degirmentepe bei Malatya in der östlichen Türkei," in R. M. Boehmer and H. Hauptmann, eds., *Festschrift Kurt Bittel. Beiträge zur Altertumskunde Kleinasien*, Mainz, 1983, pp. 175-90.

H. Frankfort, *Oriental Institute Discoveries in Iraq, 1933/34. Fourth Preliminary Report of the Iraq Expedition*, Oriental Institute Communications 19, Chicago, 1935.

Idem, *The Art and Architecture of the Ancient Orient*, 4th rev. printing with additional biography, Baltimore, Md., 1969.

S. Fukai, K. Horiuchi, and T. Matsutani, *Marv Dasht III. The Excavation at Tall-i Mushki, 1965*, The Tokyo Iraq-Iran Expedition, Report 14, Tokyo, 1973.

R. Ghirshman, *Fouilles de Sialk, près de Kashan I-II*, Paris, 1938-39.



Idem, *Village perse-achéménide*, Mémoires de la Mission Archéologique en Perse 36, Paris, 1954.

C. Goff (Meade), "Excavations at Tall-i-Nokhodi," *Iran* 1, 1963, pp. 43-70.

Idem, "Excavations at Tall-i-Nokhodi, 1962," *Iran* 2, 1964, pp. 41-52.

Idem, "Excavations at Bābā Jān. The Bronze Age Occupation," *Iran* 14, 1976, pp. 1940.

H. G. Güterbock and J. A. Brinkman, "Seal Inscriptions," *Archiv für Orientforschung* 28, 1981, pp. 71-76.

A. Hakemi, *Catalogue de l'exposition. Lut, Shahdad (Xabis)*, Tehran, 1972.

R. T. Hallock, "The Use of Seals on the Persepolis Fortification Tablets," in M. Gibson and R. D. Biggs, eds., *Seals and Sealing in the Ancient Near East*, Bibliotheca Mesopotamica 6, Malibu, Calif., 1977, pp. 127-33.

C. Hamlin (Kramer), "Seh Gabi, 1973," *Archaeology* 27, 1974, pp. 274-77.

D. P. Hansen, "Some Early Dynastic I Sealings from Nippur," in D. G. Mitten, J. G. Pedley, and J. A. Scott, eds., *Studies Presented to George M. A. Hanfmann*, Mainz, 1971, pp. 49-54.

E. Henrickson, "Chalcolithic Seals and Sealings from Seh Gabi, Central Western Iran," *Iranica Antiqua* 23, 1988, pp. 1-19.

E. Herzfeld, "Aufsätze zur altorientalischen Archäologie II. Stempelsiegel," *AMI* 5, 1933, pp. 49-124, esp. pl. 8.

F. Hole, K. V. Flannery, and J. A. Neely, *Prehistory and Human Ecology of the Deh Luran Plain. An Early Village Sequence from Khuzistan, Iran*, The University of Michigan, Memoirs of the Museum of Anthropology 1, Ann Arbor, 1969.

D. Homès-Fredericq, *Les cachets mésopotamiens protohistoriques*, Documenta et Monumenta Orientis Antiqui 14, Leiden, 1970.

L. Jacob-Rost, *Die Stempelsiegel im Vorderasiatischen Museum*, Berlin, Berlin, 1976.



W. Kleiss, "Bastam," *Iran* 11, 1973, p. 185-88.

C. C. Lamberg-Karlovsky, *Excavations at Tepe Yahya, Iran, 1967-1969*, Bulletin, American School of Prehistoric Research 27, 1970.

Idem, "The Proto-Elamite Settlement at Tepe Yahya," *Iran* 9, 1971, pp. 87-96.

W. G. Lambert, "Near Eastern Seals in the Gulbenkian Museum of Oriental Art, University of Durham," *Iraq* 41, 1979, pp. 1-45.

A. Langsdorff and D. E. McCown, *Tall-i Bakun A. A Season of 1932*, Oriental Institute Publications 59, Chicago, 1942.

L. Le Breton, "The Early Period at Susa, Mesopotamian Relations," *Iraq* 19, 1957, pp. 79-124.

A. Le Brun, "Recherches stratigraphiques à l'Acropole de Suse (1969-1971)," *CDAFI* 1, 1971, pp. 163-216.

Idem, "La glyptique du niveau 17B de l'Acropole (campagne de 1972)," *CDAFI* 9, 1978, pp. 57-154.

L. Legrain, *Empreintes de cachets élamites*, Mémoires de la Mission Archéologique en Perse 16, Paris, 1921.

Idem, *The Culture of the Babylonians from Their Seals in the Collection of the Museum*, The University Museum, Publications of the Babylonian Section 14, Philadelphia, 1925.

Idem, *Archaic Seal Impressions*, Ur Excavations III, Philadelphia and London, 1936.

L. Levine and T. C. Young, Jr., "A Summary of the Ceramic Assemblages of the Central Western Zagros from the Middle Neolithic to the Late Third Millennium B.C.," in *Préhistoire de la Mésopotamie. La Mésopotamie préhistorique et l'exploration récente du Djebel Hamrin*, Colloque International du C.N.R.S., Paris, 1987, pp. 15-54.

M. N. van Loon, *Uartian Art*, Istanbul, 1966.

Idem, "Two Neo-Elamite Cylinder Seals with Mounted Huntsmen," *Iranica Antiqua* 23, 1988, pp. 221-30.



Idem, in E. F. Schmidt, M. N. van Loon, and H. H. Carvers, *The Holmes Expedition to Luristan*, Oriental Institute Publications 108, Chicago, 1989.

M. Marcus, *Emblems of Identity and Prestige. The Seals and Sealings from Hasanlu, Iran*, University of Pennsylvania Monographs, Philadelphia, forthcoming.

H. P. Martin, *Fara. A Reconstruction of the Ancient Mesopotamian City of Shuruppak*, Birmingham, U.K., 1988.

D. M. Matthews, *Principles of Composition in Near Eastern Glyptic of the Second Millennium B.C.*, Orbis Biblicus et Orientalis, Série Archéologique 8, Freiburg and Göttingen, 1990.

Idem, *The Kassite Glyptic of Nippur*, Orbis Biblicus et Orientalis 116, Freiburg and Göttingen, 1992.

P. de Miroschedji, "Le dieu élamite au serpent," *Iranica Antiqua* 16, 1981, pp. 1-25.

Idem, "Notes sur la glyptique de la fin de l'Élam 1982," *RA* 76, 1982, pp. 51-63.

P. R. S. Moorey, "Metalwork and Glyptic," in *Camb. Hist. Iran* II, 1985, pp. 856-69.

A. Moortgat, *Vorderasiatische Rollsiegel. Ein Beitrag zur Geschichte der Steinschneidekunst*, Berlin, 1940.

Idem, "Assyrische Glyptik des 13. Jahrhunderts," *ZA*, N.F. 13 (47), 1942, pp. 50-88.

U. Moortgat-Correns, "Bemerkungen zur Glyptik des Diyala-Gebietes," *OLZ* 54, 1959, cols. 341-59.

O. W. Muscarella, "Surkh Dum at the Metropolitan Museum of Art. A Mini Report," *Journal of Field Archaeology* 8, 1981, pp. 327-59.

E. O. Negahban, "The Seals of Marlik," *JNES* 36, 1977, pp. 81-102.

Idem, *Excavations at Haft Tepe, Iran*, University Museum Monographs 70, Philadelphia, 1991.



H. Nissen, "The Development of Writing and of Glyptic Art," in U. Finkbeiner and W. Röllig, eds., *Ĝamdat Nasr. Period or Regional Style?* TAVO, Beihefte, B62, pp. 316-31.

J. Perrot, "La séquence archéologique de Suse et du sudouest de l'Iran antérieurement à la période achéménide. Introduction," *Paléorient* 4, 1978, pp. 133-38.

G. Pétréquin, "Les vases K/guna(N)gi et la chronologie élamite," *Nouvelles Assyriologiques Brèves et Utilitaires* 1, 1990, p. 13 (16).

M. Piperno, "The Lithic Industry at Tepe Yahya. A Preliminary Typological Analysis," *East and West* 23, 1973a, pp. 59-74.

Idem, "Technology Behind the Ancient Lapis Lazuli Trade," *Expedition* 16, 1973b, pp. 15-23.

H. Pittman, *Art of the Bronze Age. Southwestern Iran, Western Central Asia, and the Indus Valley*, New York, 1984.

Idem, *The Glazed Steatite Style*, Ph.D. diss., Columbia University, New York, 1990.

E. Porada, "The Origin of Winnirke's Cylinder Seal," *JNES* 5, 1946, pp. 257-59.

Idem, *Seal Impressions from Nuzi*, *The Annual of the American Schools of Oriental Research* 24, New Haven, Conn., 1947.

Idem, *Corpus of Ancient Near Eastern Seals in North American Collections*, Washington, D.C., 1948. Idem, "Problems . . . in Cylinder Seals of the Akkad Period from Iran," *Compte rendu . . . 11^{me} Rencontre Assyriologique Internationale*, Leiden, 1964, pp. 88-93.

Idem, *Tchoga Zanbil IV. La glyptique*, MDAFI, 1970.

Idem, "Aspects of Elamite Art and Archaeology," *Expedition*, spring-summer 1971, pp. 28-34.

Idem, "Achaemenid Art, Monumental and Minute," in R. Ettinghausen and E. Yarshater, eds., *Highlights of Persian Art*, Boulder, Colo., 1979, pp. 57-94.

Idem, "The Cylinder Seals Found at Thebes in Boeotia," *Archiv für*



Orientforschung 28, 1981, pp. 1-70, 77-78. Idem, "Art in Iran i," in *EIr.* II, 1987, pp. 549-65.

Idem, "Discussion of a Cylinder Seal, Probably from Southeast Iran," *Iranica Antiqua* 23, 1988, pp. 139-43.

Idem, "More Seals of the Time of the Sukkalmah," *RA* 84, 1990, pp. 171-81.

M.-H. Pottier, "Un cachet en argent de la Bactriane," *Iranica Antiqua* 15, 1980, pp. 167-74.

Idem, "Matériel funéraire de la Bactriane méridionale de l'âge de bronze," Paris, 1984.

M. Rashad, *Die Entwicklung der vor- and frühgeschichtlichen Stempelsiegel in Iran*, AMI, Ergänzungsband 13, Berlin, 1990.

M. Roaf, "Excavations at Tell Mohammad Arab in the Eski Mosul Dam Salvage Project," *Iraq* 46, 1984, pp. 141-56.

V. Sarianidi, *Die Kunst des alten Afghanistan*, Leipzig, 1986.

E. F. Schmidt, "Tepe Hissar Excavation," *The Museum Journal* 23, 1933, pp. 323-483.

Idem, *Excavations at Tepe Hissar, Damghan 1931-1933*, Philadelphia, 1937.

Idem, *Persepolis I. Structures, Reliefs, Inscriptions*, Oriental Institute Publications 68, Chicago, 1953.

Idem, *Persepolis II. Contents of the Treasury and Other Discoveries*, Oriental Institute Publications 69, Chicago, 1957.

U. Seidl, "Die Siegelbilder," in *Bastam I*, Teheraner Forschungen 4, Berlin, 1979, pp. 137-49.

Idem, *Die iranischen Felsreliefs von Kurangun und Naqsh-e Rostam*, Berlin, 1986.

Idem, "Altelamische Siegel," in *Contribution à l'histoire de l'Iran. Mélanges offerts à Jean Perrot*, Paris, 1990, pp. 129-35.

E. A. Speiser, *Excavations at Tepe Gawra*, Philadelphia, 1935.



D. L. Stein, "A Reappraisal of the Shaushtatar Letter from Nuzi," *ZA*, 79/1, 1989, pp. 36-60.

M.-J. Steve, "Des sceaux-cylindres de Simashki?" *RA* 83, 1989, pp. 13-26.

Idem and H. Gasche, *L'Acropole de Suse*, MDAFI 46, Leiden and Paris, 1971.

D. Stronach, *Pasargadae. A Report on the Excavations Conducted by the British Institute of Persian Studies from 1961 to 1963*, Oxford, 1978.

Idem and R. Michael, "Tepe Nush-i Jan. Part 1. A Third Interim Report," *Iran* 16, 1978, pp. 1-11.

W. M. Sumner, "Excavations at Tall-i Malyan, 1971-1972," *Iran* 12, 1974, pp. 155-80.

Idem, "Excavations at Tall-i Malyan (Anshan) 1974," *Iran* 14, 1976, pp. 103-15.

B. Teissier, *Ancient Near Eastern Cylinder Seals from the Marcopoli Collection*, Los Angeles, 1984. A. J. Tobler, *Excavations at Tepe Gawra II*, Philadelphia, 1950.

M. Tosi, "Excavations at Shahr-i Sokhta, a Chalcolithic Settlement in the Iranian Sīstān. Preliminary Report on the First Campaign, October-December 1967," *East and West* 18, 1968, pp. 9-66.

Idem, "Excavations at Shahr-i Sokhta. Preliminary Report on the Second Campaign, September-December 1968," *East and West* 19, 1969, pp. 283-386.

Idem, "Excavations at Shahr-i Sokhta," *Prehistoric Sīstān* 1, 1983, pp. 73-125.

F. Vallat, "Les documents épigraphiques de l'Acropole (1969-1971)," *CDAFI* 1, 1971, pp. 235-45.

Idem, "Les tablettes proto-élamites de l'Acropole (campagne 1972)," *CDAFI* 3, 1973, pp. 93-103.

Idem, *Suse et l'Élam*, Recherches sur les grandes civilisations, Mémoire 1, Paris, 1980.

Idem, "Le scribe Ibni-Adad et les premiers sukkalmah," in *Nouvelles Assyriologiques Brèves et Utilitaires* 2, 1989, pp. 23-24 (34).



L. Vanden Berghe, *Archéologie de l'Iran ancien*, Leiden, 1959.

Idem, *Bibliographie analytique de l'archéologie de l'Iran ancien*, Leiden, 1979.

Idem and E. Haerinck, *Bibliographie analytique de l'archéologie de l'Iran ancien. Supplément 1. 1978-1980*, Leiden and Louvain, 1981.

Idem, *Bibliographie analytique de l'archéologie de l'Iran ancien. Supplément 2. 1981-1985*, Leiden and Louvain, 1987.

H. H. Von der Osten, *Altorientalische Siegelsteine der Sammlung Hans Silvijs von Aulock*, Uppsala, 1957.

H. Weiss and T. C. Young, Jr., "The Merchants of Susa. Godin V and Plateau-Lowland Relations in the Late Fourth Millennium B.C.," *Iran* 13, 1975, pp. 118.

A. von Wickede, *Prähistorische Stempelglyptik in Vorderasien*, Münchener Universitätsschriften, Philosophische Fakultät 6, Munich, 1990.

F. A. M. Wiggermann, "Exit Talim! Studies in Babylonian Demonology I," *Jaarbericht Ex Oriente Lux* 27, 1983, pp. 90-105.

H. T. Wright et al., "Time and Process in an Uruk Rural Center," in *L'archéologie de l'Iraq du début de l'époque néolithique à 333 avant notre ère*, C.N.R.S. Colloques internationaux 580, Paris, 1980, pp. 265-82.

[Plate XXXVI](#). Drawings of Early, Middle, and Late Chalcolithic stamp seals from Persia.

[Plate XXXVII](#). Drawings of Late Chalcolithic seal designs.

[Plate XXXVIII](#). Drawings of ancient seal impressions from the Susa II period (1-6, 8) and modern impressions of Proto-Elamite cylinders (9, 10).

[Plate XXXIX](#). Susa II seal impressions.

[Plate XL](#). Ancient and modern (1, 4) cylinder-seal impressions, Proto-Elamite period to Early Dynastic III.

[Plate XLI](#). Modern impressions of late 3rd millennium b.c.e. cylinder seals and 3rd to early 2nd millennium stamps, most probably from eastern Persia.



[Plate XLII](#). Impression of a southeast Persian shell cylinder seal contemporary with the Akkad period in Mesopotamia.

[Plate XLIII](#). Ancient (1-3) and modern impressions of Old Elamite cylinder seals.

[Plate XLIV](#). Drawings of ancient seal impressions in Middle Elamite style (1-4) and modern impressions of contemporary cylinders.

[Plate XLV](#). Impression of Middle Elamite carnelian cylinder seal in Mittanian style.

[Plate XLVI](#). Modern impressions of cylinder seals of the late 2nd and early 1st millennia b.c.e.

[Plate XLVII](#). Modern cylinder-seal impressions of the 1st millennium b.c.e., the ancient Neo-Elamite (7) and the pre-Achaemenid (9) periods.

[Plate XLVIII](#). Impression of a Neo-Elamite cylinder seal.

[Plate XLIX](#). Impression of the cylinder seal of Hupan-kitin, Neo-Elamite period.

[Plate L](#). Impression of a Neo-Elamite cylinder seal.

[Plate LI](#). Impression of Achaemenid cylinder seal.

[Plate LII](#). Impression of Achaemenid cylinder seal.