CHAPTER

1

Egypt

c. 3200–341 B.C., Dynasties I–XXX

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HISTORICAL SETTING

The Nile River was the life-giving geographic feature that allowed ancient Egypt to attain its height of artistic development in the dynastic periods from around 3200 B.C. to 341 B.C.; the river flows north about 900 kilometers from Upper Egypt to Lower Egypt, where it empties into the Mediterranean Sea.

This artery of fertile land in the Nile River Valley is bounded on the east by the Arabian Desert and the Red Sea and on the west by the Libyan Desert. Although it is an arid country with little rainfall, the fertility of the land is replenished regularly each year by silt deposits resulting from annual summer floods (July to September) due to the spring rains in the uplands of Ethiopia. In addition to the benefits for agricultural production, the river was critical in ancient times for transportation of indigenous building materials, communication, and trade with other regions.

Timber suitable for furniture production and building construction was not widely available in ancient Egypt; what was available was small and importation was essential. Due to the limited local supply Egyptians became proficient in using short lengths of wood as extensions. Imported timbers used in building construction included cedar, pine, fir, and cypress. Information on the Palermo Stone of around 2613 B.C. reveals that in the reign of Sneferu, 60 ships were constructed and sent to the Syrian coast for cedar. Structurally, the Egyptians needed large timbers to construct their large-scale buildings; consequently, they cut trees in Lebanon and transported the logs to Egypt.[1] Imported woods that figured prominently in furniture construction or decoration included ash, yew, ebony, elm, boxwood, and linden. Although small in dimension, acacia, palm, and sycamore were available locally

1. Geoffrey Killen, *Ancient Egyptian Furniture* (Warminster, Wilts, England: Aris & Phillips Ltd., 1980), 2.

and were used for house construction; when a palm tree was past fruit-bearing age, it was used for beams of houses. Local vegetation served as a source of inspiration for decorative schemes for both architecture and furniture design, often with symbolic connotations.

The most prevalent building material for small-scale structures (as houses and palaces) was the mud of the Nile, since it was economical and easy to use without advanced tools. Frequently mud was the covering for the pliable reeds and rushes that were interwoven and plastered to form wattle-and-daub construction. Other uses of the mud were to form solid mud walls or bricks. Brick made from the clay was sun-dried, although the Egyptians had the technical knowledge to produce glazed tile as early as the First Dynasty (3200–2980 B.C.). Monumental architecture (temples, funerary structures, military installations) was the product of stone, which was abundant.

The enormous scale of the monuments was due to the nature of the material and the methods of excavating the stone blocks, transporting them, and lifting the blocks into position. The quantity and variety of stone available in Egypt meant that granite, sandstone, limestone, and alabaster were preferred over basalt, quartzite, and schist. Both wood and stone were used in trabeated construction (synonymously termed *post-and-beam* or *post-and-lintel* construction), in which uprights (posts) support horizontal members (beams or lintels). The proximity of the posts is related to the tensile and compressive strength of the spanning material. For example, stone is high in compressive strength but limited in tensile strength; and to span great distances without intermediate vertical support a material must have high tensile strength; therefore, to compensate for the limited tensile strength of this spanning material, stone posts need to be placed close together, although some authorities believe that the Egyptians overcompensated in this regard. The forest of columns that characterizes the interiors of monumental architecture is a function of the strengths and limitations of the building material. The same interruptions of interior space by columns also characterized wood structures, although this depended on the size of the spaces to be spanned.

The character of ancient Egyptian exterior and interior architecture was also influenced by a climate in which there was minimal rainfall, intense sunlight, and little variation in temperature. These conditions led to architectural features that fostered indoor-outdoor relationships, including flat roofs, porticoes and loggias, windows placed high in the wall and roof ventilators to direct air to the innermost rooms, and open interior courts. The Egyptians of the period believed in life after death and placed objects of daily use in tombs for use in the hereafter. This aspect of culture, together with the arid climate, is largely responsible for our knowledge about and the preservation of ancient Egyptian art and architecture.

Motivation for most architectural monuments (as tombs and temples) was rooted in religious belief. Religion was, however, highly complex, since the system of belief was not uniform. In practice, Egyptian religion was polytheistic. Gods were associated with specific towns or regions. When one town perceived the greater power of another town's deity, its residents sometimes combined its attributes with those of one of their own gods. Thus a single religious tenet could be embodied in several deities with disparate external appearance. New deities emerged when the attributes of existing ones were combined. Gods might represent celestial bodies, depict human or animal forms, or portray a combination of human and animal features. Gods were the focus of specific temples, represented through reliefs and paintings in all types of architecture, and delineated in furniture design and other decorative arts.

Badawy draws a parallel between the tripartite spatial arrangement of the cult temple with that of domestic architecture. Sequentially, from the entrance, the temple characteristically comprised the following spaces: (1) the pylon and courtyard, often with a portico, (2) a hall in which the ceiling or roof was supported by columns,

termed *hypostyle,* and (3) the *naos,* or sanctuary, which contained the statue of the god. Correspondingly, the house spaces included: (1) the reception vestibule, (2) a columned central living hall, and (3) bedroom. From the entrance to the rear, spaces became accessible to fewer people, and more private. In the case of the temple, only the priest responsible for the cult ritual could enter the naos.[2] For commemorative purposes, household stelae were often erected in honor of the popular household god Bes, who was depicted as a dwarf with features that are part human and part animal (tail, mane, and ears of a lion).

Egyptian society was highly stratified. At the top of the hierarchal scale was the pharaoh, or king, whose powers were divine and who represented god on earth. Along with the king, princes and those who could trace their origins to the royal family wielded political power at this level. From his position of wealth and power the pharaoh was committed to such undertakings as promoting trade, protecting his country, and supporting crafts and encouraging the arts. Judging by the depictions of crafts activities in wall paintings and sculptures, handicrafts were highly esteemed by the ancient Egyptians, who were skilled in many media including metal, fiber, glass, and clay. However, these craftsmen, along with the peasants, were at the lower echelon of society. The middle class comprised priests, mayors, provincial governors, administrators, and high executive officials. These class distinctions were reflected in the decor and the size of a house, its number of rooms, the materials used, and the density of structures in cities. The residences of richer citizens were at times in walled enclosures with specialized outbuildings.

It is evident that a number of factors influenced design in this ancient setting. These included the Nile River and its vegetation, technology (materials and construction techniques), climate, religion, and social hierarchy. During the dynastic periods of ancient Egypt one or a combination of the foregoing factors affected spatial relationships, interior architecture, and furniture design.

SPATIAL RELATIONSHIPS

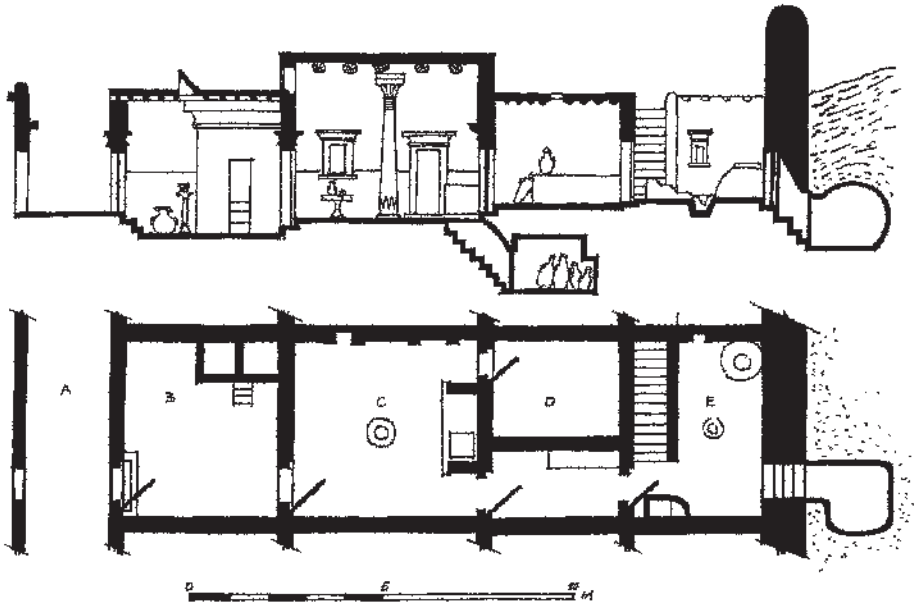
From pictorial evidence, excavations, and models of houses placed in tombs it is possible to ascertain the evolution of typical space configurations of the dynastic periods. Pictorial documentation (as paintings on tomb walls) gives information as to the number of stories in structures, the functional use of spaces, and interior architectural features, while excavations attest to the size of spaces and room relationships and illustrate the differences among various classes of citizens. The pottery models furnish more information about exterior architectural features; their significance is especially important in illustrating those characteristics that influenced the interior. Termed *soul houses,* the clay models were placed in tombs as receptacles for food offerings. From these it is possible to discern details about ventilation, porticoes, columns, loggias, windows, and doors.

Spatial Features of the Floor Plan and Three-Dimensional Spatial Characteristics

These documentary sources largely confirm that stylistic features characterizing domestic architecture throughout the dynastic periods were established during the Old Kingdom (c. 3200–2270 B.C.). Variations occurred according to the economic and social status of the owner, but there seem to be underlying principles of organization resulting from the influence of climate, religion, and the functional uses and adjacencies of spaces. The similarities and differences can be observed in: (1)

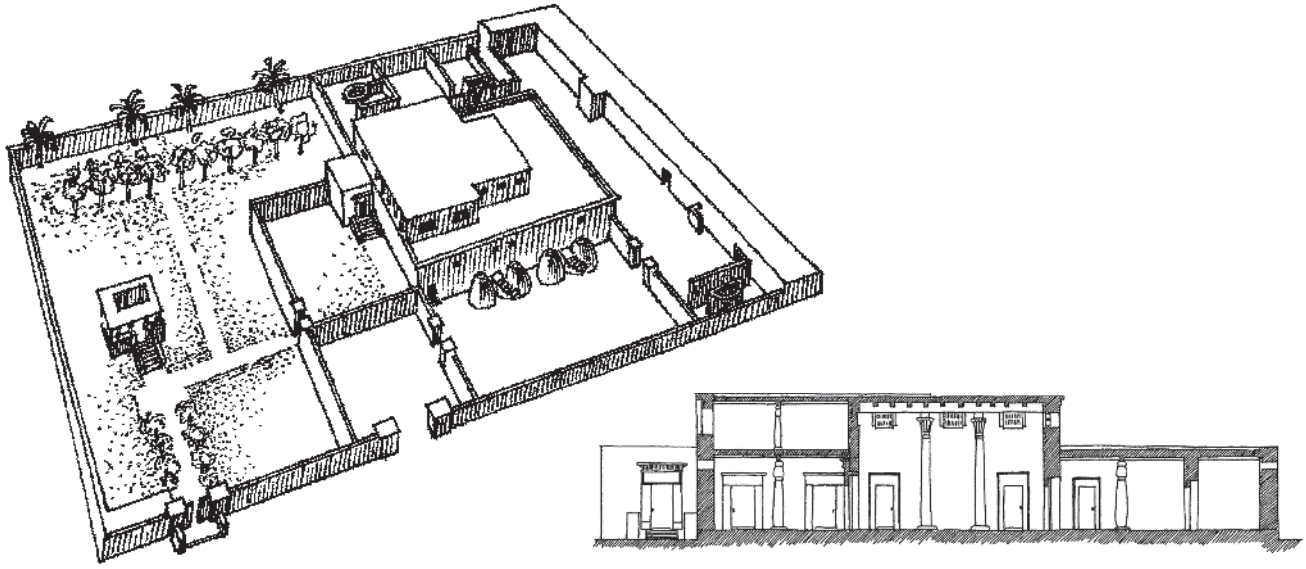
2. Alexander Badawy, *Architecture in Ancient Egypt and the Near East* (Cambridge: MIT Press, 1966), 35.

FIGURE 1-1 Plan and Elevation, Craftsman's Residence, Deir el Medina. Tripartite division. A, street; B, reception; C, hall with clerestory window between two roof levels; D, bedroom with corridor shown below; E, kitchen with stairs ascending to the roof.

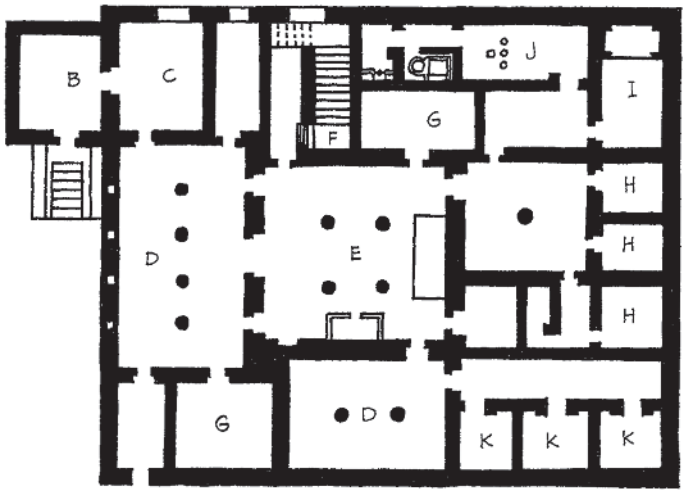


1-1

FIGURE 1-2 Plan, Plot Plan, Cross Section of Country Villa, Tel el-Amarna. Tripartite division. A, court; B, porch; C, vestibule; D, reception; E, hall or living room; F, stair to the loggia overlooking the court; G, storeroom; H, bedroom; I, master bedroom within harem area; J, anointing room with adjacent bathroom and closet; K, guest bedrooms.



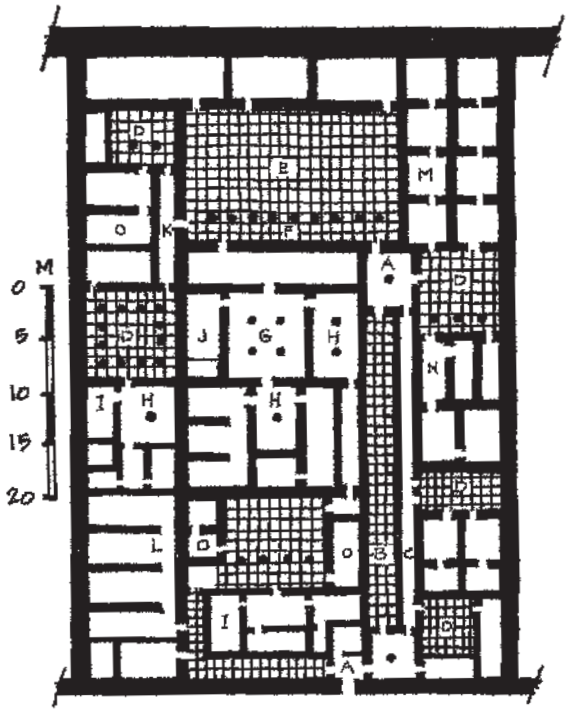
1-2



a craftsman's house (Figure 1-1) at Deir el Medina built during the Eighteenth Dynasty (1580–1314 B.C.) for the men working on the Necropolis, (2) a country villa (Figure 1-2) at Tell el-Amarna constructed in the New Kingdom (1580–1085 B.C.), and (3) a large urban mansion for a high official (Figure 1-3) in El Lahun (or Kahun), a temporary town for workmen and officials who were building the pyramid for a pharaoh of the Middle Kingdom (2131–1785 B.C.).

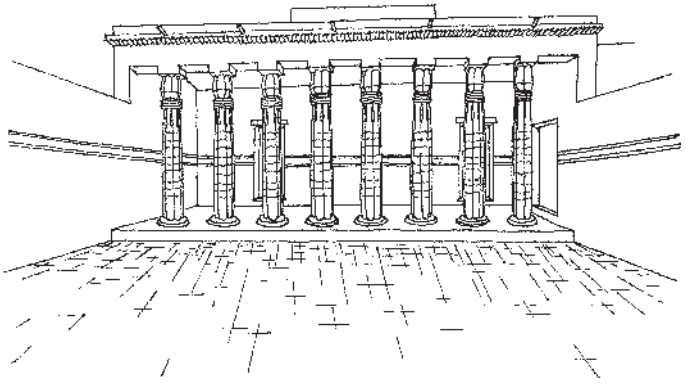
Bright sunshine, intense heat, little rainfall, and prevailing breezes were climatic factors responsible for features in each of the aforementioned residences. These factors are reflected in stylistic characteristics that were conducive to indoor-outdoor activities—the flat roof, portico, loggia, and open forecourt, and the fact that there were few windows. Since a pitched roof was unnecessary to repel rain and, therefore, not essential for the arid climate of Egypt, flat roofs were appropriately used for cooking, storage, and relaxation; the country villa incorporates a *loggia,* a roofed gallery (here at the upper level overlooking an open court) which functioned as another space for relaxation (see Figure 1-2). Originating near the central hall of the villa, a stair with landings ascends to the roof, while a single flight from the kitchen is used in the craftsman's house. Not only were the portico and its associated court conducive to indoor-outdoor endeavors but also the orientation toward the north or northwest took advantage of the prevailing breeze. A *portico,* a roofed porch upheld by columns, became a widespread, distinctive feature of affluent, middle-class houses by the Middle Kingdom, having been a royal symbol during the Old Kingdom (Figure 1-4).[3]

A commonality among houses of all classes was the use of the tripartite plan, which included reception rooms, a central hall or living room, and the private area. Of these functional areas, the ceiling of the central hall was typically higher than that of adjacent rooms. This allowed the incorporation of windows placed high in the wall, termed *clerestory* windows; since the roof level of this central hall rose above contiguous roof surfaces, the relative position of a clerestory window was between two roof levels (see Figures 1-1 and 1-2). This allowed light to penetrate the innermost spaces and provided ventilation to counter the intensity of heat from the very brilliant sun. Directed to capture the prevailing breeze, ventilators placed on the roof were another means by which light and air could enter the house.



1-3

FIGURE 1-3 Plan, Urban Mansion, El-Lahun (or Kahun). Tripartite division. A, vestibule; B, west corridor; C, east corridor; D, court; E, main court; F, columned portico; G, reception; H, hall or living room; I, bedroom; J, master bedroom; K, harem; L, stables; M, granaries; N, offices; O, storage. © British Museum.



1-4

FIGURE 1-4 Portico. Columned portico with a northern orientation.

3. Earl Baldwin Smith, *Egyptian Architecture as Cultural Expression* (Watkins Glen, NY: American Life Foundation & Study Institute, 1968), 199.

The *craftsman's residence,* a one-story structure of 75 square meters, was organized on a longitudinal axis wherein each room opened directly from the preceding space. The bedroom was flanked by one small corridor leading from the central hall to the kitchen (see Figure 1-1). Beginning with the reception room, which was below street level, each rectangular space was ascended by one or two steps; therefore, the rooms with the lowest ceilings were the bedroom and kitchen. Based on an analysis of ruins, as well as other documentary evidence, it has been concluded that changes in both floor and ceiling levels were typical. The ceiling of the central hall rose above adjacent rooms. In this plan, starting with the reception room, each room is raised by one or two steps.

Rooms of small dwellings had more functional demands than larger residences and typically were more economical in terms of space and materials. While the craftsman's residence may be representative of spatial arrangements for this type of house, the activities which took place in each space would have varied from house to house. The reception room sometimes housed animals, served as a work room for craft activities, or functioned as a food preparation area. This room also at times contained a platform used as an altar to the god Bes. In the adjacent central or main hall, primary living activities of the household took place. This main hall was usually the loftiest space in a dwelling and, depending on its size, had one or more columns. A built-in dais was often used as a divan on which mats or rugs were placed. The part religion played in the lives of Egyptians in this period is attested to by the fact that, here too, a stela served as a commemorative shrine in the false door. The kitchen at the rear of the house was provided with an oven and other food preparation equipment. Leading from here were stairways giving access to a cellar for storage and to the roof for outdoor activities or for storage; in some small residences the stairway originated in the reception room.

Outside of the towns, where land was not at a premium, more space could be devoted to the *country villa,* with its walled enclosure and dependencies; chapel, granaries, kitchens, storerooms, chariot house, servants' quarters, and stables are examples of typical dependencies within the walled enclosure but which were not necessarily under the roof of the residence (see Figure 1-2). The wealth and social position of the owner are reflected in the spatial arrangement of the villa with its ancillary units. Compared to residences of owners lower on the socioeconomic scale, greater complexity is evident not only in the floor plan but also in three-dimensional spatial features.

The sequencing of rooms followed the norm in which a tripartite arrangement begins with the reception spaces and is followed by the great hall or living room and private section. Two reception rooms served as a transition to the living room from the porch; however, as was often the case, another reception room was included on the west side of the house. The central hall, square in plan, was a large space of approximately 169 square meters, with four columns to support the ceiling structure; the usual built-in furnishings were included in the form of a lustration slab, low dais, and a sunken brazier. It is surmised that the dais was used for family meals and for sitting during the day.

The master's private suite consisted of its own reception area accompanied by the master bedroom, other bedrooms (some used for the harem), a bathroom (equipped with a closestool), and an anointing room. At one end of the master bedroom the room narrowed to form an alcove for the bed, set on a dais. Comparatively isolated, other bedrooms for guests were accessed from the two-columned reception room.

Adjacent to the central hall the stairway ascended in three flights and two landings to the loggia at the main roof level of the residence; this gave a two-story configuration encompassing the stairway, the first reception room (vestibule), and the columned reception area on the first floor (see Figure 1-2). Placed on the north to capture the prevailing breeze, the loggia was a gallery at an upper story overlooking the open court. Recreational activities took place here.

Three-dimensional space delineation was enhanced in a number of ways. The spatial continuum of the Egyptian interior focused on the central hall. From the first reception room, largely a static space, one entered a space more dynamic due to the positioning of the columns and the stronger light. Two factors accentuated the progress from this point to the central hall. First, although there were three doors, the viewer could not fully comprehend the adjoining space and its greater volume; and, second, anticipation of movement into this central space was dramatized by the move from dimness to brightness. In the central hall, the greater volume is emphasized in a number of ways: greater ceiling height; ceilings with high textural interest deriving from the structural system; ceilings painted in a pattern of brilliant colors; and the use of clerestory windows placed high in the wall, with the consequent use of window gratings of wood or stone, by which strong light and shadow were cast. All of the foregoing were used to define space and facilitate movement through the space. The crescendo of three-dimensional experiences as one moved from the entrance to the focus on this centralized space was experienced in reverse by movement into the private area.

The *city mansion* represents a typical house for a prosperous official (see Figure 1-3). The mansion, like buildings in the craftsmen's section of the town, had common walls with neighboring mansions and, typical of planning concepts for residences of any size, a tripartite arrangement in functional relationships. Similarities in the plan of the country villa are obvious, but greater complexity is evident. Parallel corridors originated from the vestibule. The eastern corridor led past three courts that serviced offices and terminated in a series of spaces used for granaries. Premier access to the family quarters in the central section of the plan, on the other hand, was from the western corridor, leading as it did to the main court, which had a columned portico on the south side to take full advantage of the prevailing northern breeze. Through a series of reception rooms one approached the one-columned main hall, then the private area with bedrooms and bathroom.

The western portion of the residence was relegated to women. A new feature in the plan of the Middle Kingdom was the provision of a harem, appropriately associated with the master's apartment. Located near the harem, the master's bedroom, again, was recognized by the narrowing of the room to provide an alcove and a dais on which the bed was placed. Access to this section was only from the main court. With its own tripartite arrangement, the harem was serviced by two courts. Courts could be fully roofed or partially roofed. In the range of rooms on the southwest, the stables were approached only from the main vestibule.

INTERIOR ARCHITECTURE AND DECORATION

Documentary evidence of interior architecture and decoration of the Egyptian domestic residence comes from a variety of valid sources—texts, representations (drawings, paintings, reliefs, models), and excavations. Textual evidence is limited in information for domestic building for ordinary citizens, but written documentation discloses many details about palaces.

From the tombs of private citizens as well as those of the pharaohs, paintings and drawings on the walls disclose invaluable information about residential building. Based on the sections of houses depicted, it is known that houses were sometimes more than one story high; these representations disclose such features as spatial relationships, functional uses of spaces, interior architectural details, and decorative elements. Since domestic architecture was not constructed with permanence as a goal, no fully developed artifact for study is available. Therefore, to reconstruct the typical interior it is essential to rely on fragmentary ev-

idence from a variety of sources, among which are those found in excavations of building sites.

A number of excavation sites are significant in this regard. El Lahun was a planned town built for workmen employed to construct the pyramid for Pharaoh Senusert II in the Twelfth Dynasty (1887–1850 B.C.). It included residential structures for the artisans and workmen as well as for the high officials; the latter would have been furnished with a class of house designated as a mansion. Archaeological evidence, by revealing the structural outline, yields information about actual sizes and space relationships; fragments of painted plaster and wall paintings, window gratings, column features, and so on give details essential for reconstructing the representative interior.

Materials and Decorative Techniques

The annual deposits of alluvial soil in the Nile Valley provided substantial amounts of raw material for plaster, which had widespread use as a base for decorative painting used in residences at all socioeconomic levels. Clay plaster (coarse or fine), gypsum plaster, and whiting plaster (gesso) each had a function in the preparatory technique for decorative or mural painting. Straw was the binder for coarse clay plaster (some sand was inherent in the soil); this type was usually the first coat applied to mud or brick walls. Upon the coarse layer a coat of finer clay plaster was often applied, or it could be applied directly to the walls. While straw was not an essential ingredient, it could be added to fine clay plaster. Regardless of which procedure was employed, the final coat of plaster, the primary base for mural painting, was usually gypsum.[4]

Gypsum plaster was utilized in three different ways. First, it was used as a coating when walls had been clay-plastered; with the application of whitewash to fill the pores, it became an appropriate foundation for mural painting. Second, defects in the foundation material were leveled, making it a suitable surface for mural painting. Third, surface irregularities intended for relief designs were reconditioned.[5]

Beyond plaster, wood and stone each served as a ground for painting. Stone was abundant in Egypt and limestone was the most prevalent; following its period of ascendancy, sandstone became the preferred stone. Whitewash was applied before painting or before a color wash could be applied. Although paint was sometimes applied directly to wood, especially for furniture, it was customary to coat the wood with whiting plaster composed of whiting and glue (termed *gesso*). The surfaces of columns or stelae are examples of wood bases needing a coating of whiting plaster.[6]

The technique used for mural painting by the Egyptians is frequently referred to as *fresco,* a process whereby painting is accomplished by applying pigment to wet lime plaster. Although the term *lime plaster* is used, the evidence suggests that lime was not used by the Egyptians until the Ptolemaic period (305–30 B.C.);[7] rather, gypsum plaster was employed. Experiments have revealed that brush marks are left on the surface when painting is undertaken on the wet Egyptian gypsum plaster and, therefore, they did not use the true fresco process.[8] In true fresco the paints are integral with the plaster and thus do not peel.

The protective coating for mural painting was either varnish or beeswax. The use of colorless varnish to cover the murals seems to have begun in the Eighteenth Dynasty. Beeswax, on the other hand, was used both as a coating and as a binder in which pigment was mixed with the wax.

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4. A. Lucas and J. R. Harris, *Ancient Egyptian Materials and Industries* (London: Edward Arnold, 1962), 76–7.

5. Ibid., 77.

6. Ibid., 354–55.

7. Ibid., 76.

8. Ibid., 356.

Interior Architecture and Decorative Elements

Interior architectural detail and treatment of surfaces on the interior were regulated, in part, by the hierarchical status of the resident. Differences in material, construction technique, and decorative processes are evident. Reflected in material and construction technique, a craftsman's residence employed lighter materials for ceiling and roof in the use of poles spanning partition walls, above which were placed sticks and twigs plastered with mud. The more expensive method would have been to cover the undersides of the poles with plaster as a surface on which to paint. Expressed in decorative processes, faience inlay used for mansions would have been replaced by color applications for a workman's house. However, Badawy suggests that economy was also an issue in the palaces as "columns and uraei cornices were inlaid on the side most likely to be seen, while they were just painted on the reverse."[9] Despite these differences, similarities existed among the residences representing various socioeconomic levels.

Floors

Floors were covered with a variety of materials. Probably the most widely used paving was mud plaster or brick made from the mud prevalent in the Nile River basin. Sometimes a liquefied mixture of gypsum concrete was poured, providing a uniform sheet for the floor surface. Less frequently used was stone, which was employed as a lining where moisture was a problem; stone slabs have been found in bathrooms. Found in a natural state in ancient Egypt, electrum, an alloy of gold and silver, was used as a partial facing on some pavements; the color depended on the relative proportion of gold to silver. In palaces, glazed tile was sometimes utilized.

Whitewash was the finish for many paved floors, a good background for painted floor surfaces. Decorative themes were often based on the plant and animal life of the environment. For example, in successive rectangular frames painters might depict a pond with fish, lotus and other aquatic plants, ducks, geese, bouquets of flowers, and greenery thickets. A recurring theme was the portrayal of traditional enemies of Egypt in paintings or inlay for interiors as well as furniture; underfoot was an appropriate place for their portrayal. Colors progressively increased in intensity from floor to ceiling so that the most subdued hues were used at floor level while the most brilliant were reserved for the ceiling. In this manner vertical movement was encouraged.

Walls

The primary surfacing material for walls was plaster applied to a base of brick or mud. Other materials and decorative techniques were contingent on the economic means of the resident. For the affluent, stone and glazed tile were used to line walls. Glazed tile had been used in the Third Dynasty (2778–2723 B.C.) to line walls, but in the New Kingdom (1580–1085 B.C.) it became more widely utilized in palaces.

Ornamental treatment for wall surfaces included designs accomplished in techniques integral with the wall, such as painting, inlay, and relief. In addition, mats and rugs were actually hung on walls, or designs representing rugs and mats were painted on the walls as a decorative treatment. Paintings included geometric arrangements, religious subjects, plant patterns, and animal life. Faience tiles were frequently used as architectural inlay, but a wide repertoire of variations in surface treatment was possible. These included application of relief through a buildup of glaze, painted designs applied on the glaze before the final glaze firing, or contrasting colors applied to incised designs in the glaze before the final glaze firing. Common colors were green, blue, and blue-green.

Relief from low to high was attained by the use of other materials. Plaster was fashioned into relief patterns, and wood carvings have been observed in palaces. Low relief

9. Alexander Badawy, *A History of Egyptian Architecture: The Empire (the New Kingdom), From the Eighteenth Dynasty to the End of the Twentieth Dynasty, 1580–1085 B.C.* (Berkeley: University of California Press, 1968), 152.

FIGURE 1-5 Interior. Floor, painted aquatic theme; wall, divided into dado with main field and frieze; ceiling (supported by columns with lotus capitals) painted with vultures and interlaced spiral motifs; door, capped with cavetto molding.

FIGURE 1-6 Walls and Ceiling from the Tomb of Sennefer, Egypt, Eighteenth Dynasty (c. 1527–1320 B.C.). Religious significance depicted in the Eye of Horus, a sun god. Figures sit in chairs with inclined backs and directional legs. Bridgeman Art Library.

FIGURE 1-7 Interior. Columns (incurved at the base) support major beams with finish spaces between; palm capital with abacus above. Upper wall with painted frieze integrated with grated clerestory windows.



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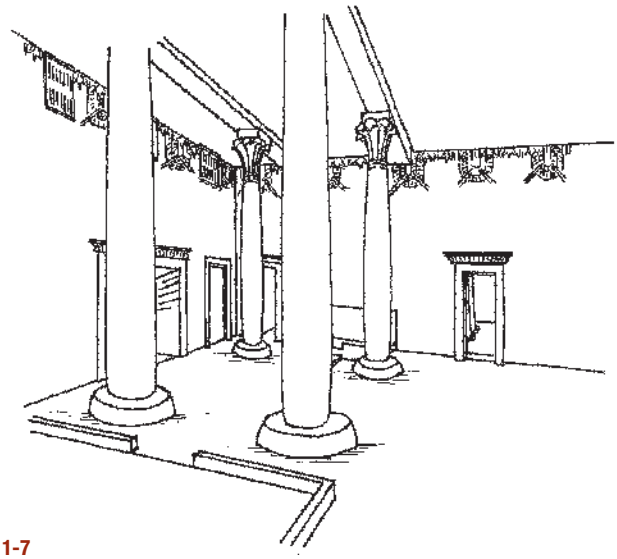
1-6

was painted as gold or metal, or electrum was fashioned in relief for architectural ornament. The sheet metal was attached with rivets or an adhesive, depending on the thickness of the overlay. If wood was the base, it was first covered with gesso and gold attached with an adhesive.

Often a wall was divided into areas between floor and ceiling—the dado, the main field, a frieze and cornice; on the other hand, the wall was sometimes without division. The aforementioned materials and decorative techniques were alternatives in the treatment of each of these wall surfaces. The *dado,* described as the lower part of the wall distinguished in some manner from that above, could be simple or complex (Figure 1-5). In a craftsman's house the dado was whitewashed and bordered above with a painted gray stripe, but more complex ornamental arrangements were possible. For example, one dado was composed of a floor-level narrow band decorated with an undulating line; above this were large amuletic signs, one representing life *(Ankh)* and one symbolizing protection *(Sa).* Each of these was separated by a superimposed rectangular arrangement suggesting paneling. The dado was surmounted by a succession of figures depicting the god Bes dancing.

In the main field, Egyptian figures were distinctively represented as flat and two-dimensional. Perspective was not understood, and there was no attempt to suggest depth and volume. Typically the human form was depicted in both profile and frontal view; head and legs were in profile while eyes and upper torso were frontal. Artistic canon required that men be portrayed with brown-red skin, women with yellow, as revealed in the Tomb of Sennefer for the wall painting above the dado (Figure 1-6).

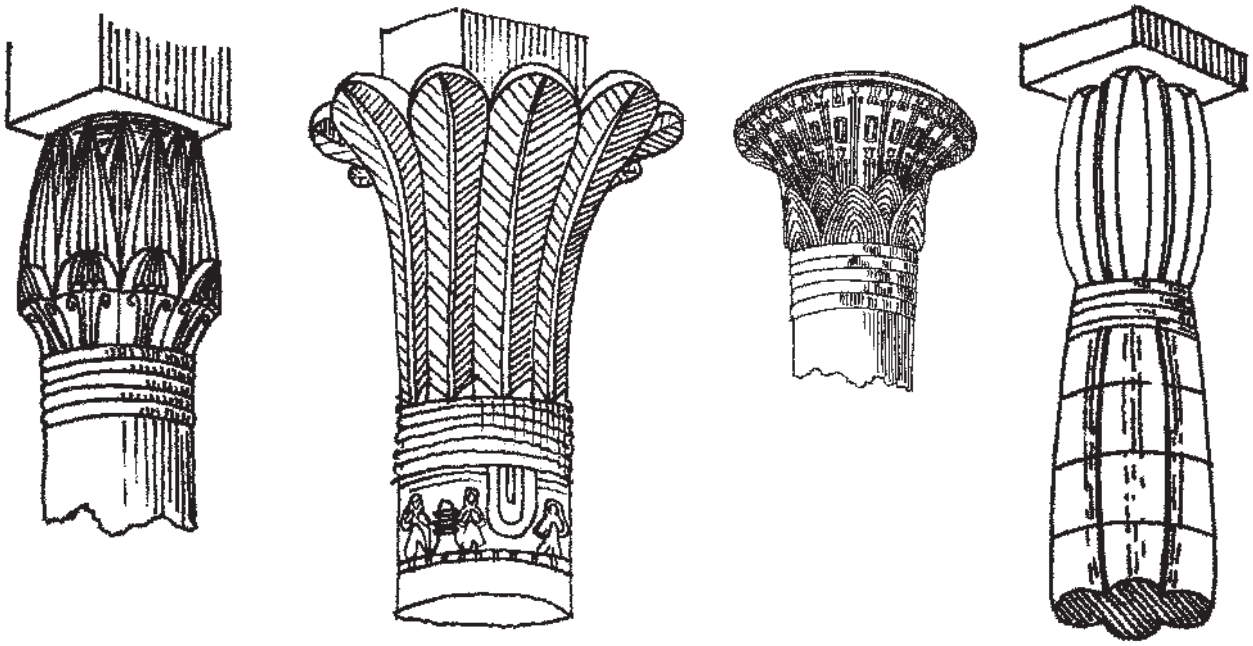
The frieze lying close to the ceiling was treated in a variety of ways. Painting was widely used, but painted low to high relief was incorporated also. Fragments from excavations reveal that in one modeled and painted frieze clerestory windows were simulated to coincide with the level and grating design of the actual windows (Figure 1-7). Cavetto molding was often used near the ceiling level. This was also the crowning molding used above door and windows.



1-7

Windows and Doors

The jambs of a typical door or window supported a lintel, above which was a torus molding or a crowning cavetto cornice (see Figure 1-5). Jambs supporting only a lintel formed a simpler treatment; the opening was usually square-headed. Ornamental techniques to enhance the jambs and lintels included inlay, pigment, and carved relief. The relief designs were often covered with thin sheets of gold or electrum, or paint was applied thickly. Faience and gold were used as inlay materials; although inlaid, the inserted glazed tiles could be in relief also. Symbolically, an addition of gold bequeathed life to figures of gods and the pharaoh. Sheet copper was sometimes applied with bronze or copper nails to cedar wooden doors. Pigment contributed to the colorful Egyptian interior—for example, a series of bright horizontal stripes in different hues with prominent use of red, blue, and yellow. Bright red was a hue frequently used for jambs, lintels, and shafts of columns. The rectangular windows were covered in openwork screens composed of vertical or horizontal bars, patterns of circle tracery, or lattice; grating materials could be stone or wood.



1-8

FIGURE 1-8 Capitals and Column Section. Capitals and shaft of column, *left to right:* lotus; palm; open papyrus flower with base representing the lotus (a composite capital), shaft section influenced by the original method of tying reeds together to form a single column, five bands at the top of shaft, capital representing the papyrus bud.

FIGURE 1-9 Ceiling Patterns. Linked spirals with rosettes in the interstices or arranged in bands; frequent use of plant life.

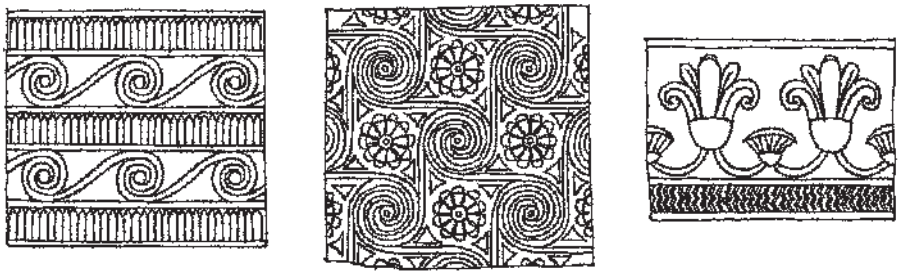
Ceilings

Serving as structural support for the ceiling, stone or wood columns interrupted some interior spaces, such as reception rooms and the main hall. Columns provided upward visual thrust closely related to the structural and decorative detail of the ceiling. Each column consisted of a *base, shaft,* and *capital.* Wooden shafts set in limestone bases were common; however, shafts were sometimes stone, particularly in monumental structures. The capital, the uppermost part of the column, was superimposed by an *abacus* (a plain block), which served as the transition to the horizontal structure above.

Design inspiration for the column originated with the plant life of the Nile River Valley. Prominent among the local vegetation were the palm, lotus, and papyrus, of which the palm was preferred for domestic architecture. The cross section of the shaft could represent earlier structural arrangements or the stem of a plant. First, in early structural methods, bundles of reeds had been bound at intervals by flexible bands of a plant material; thus, the cross section of the shaft imitated a cluster of reeds, resulting in a parallel series of narrow convex semicircular moldings (termed *reeding*) or, conversely, a series of parallel channels or flutes (termed *fluting*). Second, the stem of the papyrus plant was triangular in cross section, which was the inspiration for the shaft of this form of cross section. Third, there were circular sections typical of many single-stem plants. Typically, the column shaft was curved inward near the base, although the palmiform shaft was essentially cylindrical in form.[10] Five bands at the top of the shaft were characteristic. The surmounting capital was a conventionalized design based on the lotus bud or flower (symbol of Upper Egypt), the palm and palm fronds, the papyrus bud or flower (symbol of Lower Egypt), or by combinations of these (Figure 1-8). With the penchant of the Egyptians for applications of strong color, it is not surprising that decorative schemes for capital details were often painted; sculptural techniques were also employed.

Structural methods were largely responsible for the extent and character of ornamental decoration used on ceilings. Used for more humble residences, roughly cut and closely spaced beams were exposed. Covering the beams above was a perpendicular layer of small twigs or reeds; on top of this

10. Badawy, *Architecture in Ancient Egypt and the Near East,* 69.



1-9

tier was a covering of matting, above which was the roofing material. When the underside of the matting was plastered, beams and plaster surfaces were often whitewashed or painted. A more refined result was attained when the beams were concealed, resulting in a flat ceiling free of structural evidence above it. With this technique small poles were set perpendicular to and underneath the beams; mats were then fastened beneath the poles. A plaster layer applied to the mats provided a smooth foundation for painting. Alternative to the two foregoing methods was a system of exposed beams compriseing a beam of larger size perpendicular to which were placed beams of more diminutive size. Plaster covered the beams; the resulting compartments and beams could be painted in flat color or patterns.

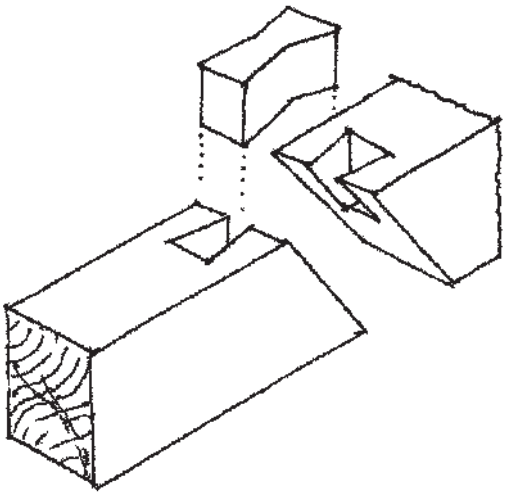
Countless examples of ceiling patterns are known to have included geometric and religious themes, scenes from nature, or some combination of these (Figure 1-9). Examples of overall patterns include diaper arrangements, linked spirals and rosettes, and linked spirals wherein the interstices featured bulls' heads. The central position of religion was attested to in many ways. Design motifs depicted on ceilings encompassed symbolic features such as a series of painted vultures, representing protection, some of which had wingspans of sixteen feet. Also signifying protection was the winged solar disk which, when combined with the cobra *(uraei)*, denoted royalty. Scenes from nature were revealed in the depiction of flying ducks with nests for young birds, a grape arbor pattern, and figures shown in clumps of papyrus. Two ceiling treatments (see Figure 1-6) from the Tomb of Sennefer illustrate a zigzag treatment for one section, while another section depicts a grape design. The significance of the latter is that Sennefer was not only Mayor of Thebes but also the superintendent of granaries and gardens of Amun; he was probably the chief vintner.

FURNITURE

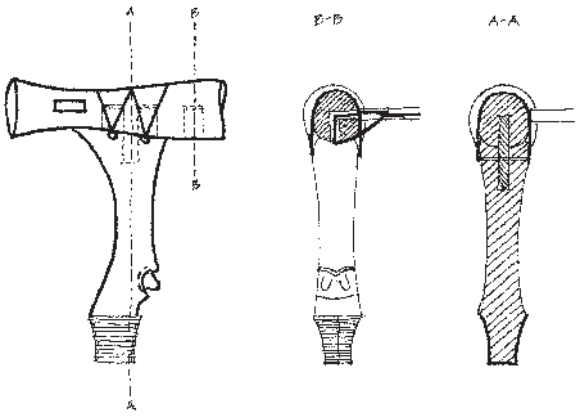
Furniture design reveals the same influences reflected in other arts of the dynastic periods: religion, inspiration from familiar objects, technology (materials and construction techniques), and social hierarchy. In particular, the size and stature of the people affected chair design. Their belief in life after death dictated that worldly goods were placed in the tombs for use in the afterlife; the decorative objects also placed there were those suited to the status in life of the deceased. Sealed in tombs and preserved due to climatic conditions, the most prevalent extant examples of ancient Egyptian furniture represent those of royalty or upper-class citizens.

Materials and Construction Techniques

Timber suitable for use in furniture construction was not widely available in Egypt; therefore, builders relied on imported woods. Due to unsuitably short lengths of local woods, by the Middle Kingdom (2131–1785 B.C.) the Egyptians began to use the scarf joint to extend lengths; dimensions of furniture changed perceptibly. The scarf joint was used to join two pieces of



1-10



1-11

wood at the end grain by using a double dovetail-shaped piece about half the depth of the two pieces to be joined (Figure 1-10).

Although wood was the primary material used in the production of furniture, other materials were used for structural and decorative purposes. Wet strips of leather wrapped around structural members, for example, shrank on drying to tighten mortise-and-tenon joints (Figure 1-11). Beyond its use as a binding material, leather was used in sheets to form the seats of stools and chairs. While ivory was not used extensively in the structure of furniture, examples of ivory furniture legs are in the Metropolitan Museum of Art, New York. Faience, colored glass, lapis lazuli, amethyst, onyx, turquoise, gold, silver, ivory, carnelian, and ebony were among materials that had widespread decorative use.

The decorative process by which these materials were used was inlay, whereby the pieces were let into a common ground with the surface level. Compared to contemporary standards these materials were thick (2 mm to 4 mm). The resulting designs can be classed as either *marquetry* (representational) or *parquetry* (geometric); however, both representational and geometric designs could be found on the same piece of Egyptian furniture. Gold and silver were used not only as materials for inlay but also as the covering for a wooden core; for example, for decorative results, gilding or thicker sheets of gold would be applied. The application of very thin sheets of gold foil over an object is termed *gilding.* Gesso was sometimes used as an adhesive; alternatively, it was fashioned into a relief design to which gold foil was applied. Thicker sheets of gold or silver were first beaten into a design, after which the sheet was applied with gold or silver nails to the wooden core of an identical relief design.

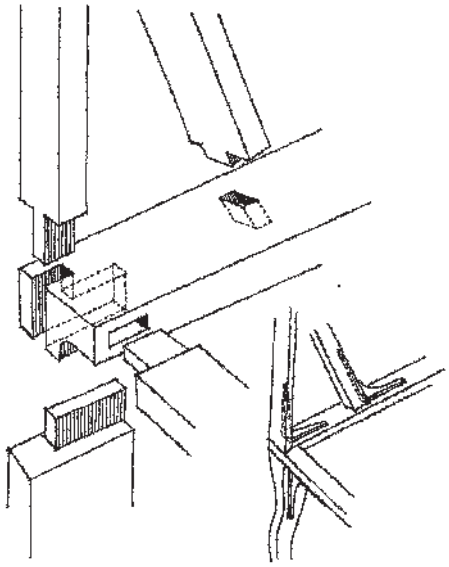
Painting for decorative effect was accomplished in a number of ways. The wooden piece was first covered with gesso, which served not only as a base on which to paint but also covered defects inherent in the wood. Subject matter of the paintings followed those of interiors, but pieces were also painted in single flat colors—white, red, and brownish-yellow were popular.

Veneer, plywood, and *bending* were techniques of woodworking. Veneer was used frequently by the Egyptians. A sheet of more expensive wood or other material covered the surface of a wood of lower quality; the veneer was not let into the core as inlay pieces are. Lucas and Harris cite caskets from the tomb of Tutankhamen in which the veneer comprised strips of ivory framing marquetry panels.[11] Plywood is known to have been utilized. As is typical today, it was composed of layers of wood in which the grain direction of each layer was perpendicular to the preceding layer; by this means warping was prevented and strength was increased. Small wooden pegs were used to join the dif-

11. Lucas and Harris, 454.

ferent layers. Ash, an important wood, had qualities which made it suitable for steam bending, but it has not, as yet, been proved definitively that this technique was used.

Egyptian furniture makers used a wide variety of joints. The dowel and the mortise-and-tenon were widely employed. The dowel is a cylindrical piece of wood fitting into holes of corresponding size in the two pieces to be joined. It was used by itself or in conjunction with another jointing method; for example, a dowel was sometimes inserted into the mortise-and-tenon joint to make it more secure. If the dowels came to the surface they were sometimes capped with another material, as gold or ivory or ebony. With the mortise-and-tenon joint as a means of joining two pieces of wood, the rectangular projection of one piece *(tenon)* fitted into a hole *(mortise)* of corresponding shape and size; frequently the tenon was visible, since it extended through the adjoining piece (Figure 1-12). Other joints included the butt, the half joint, and the miter, with its many variations.

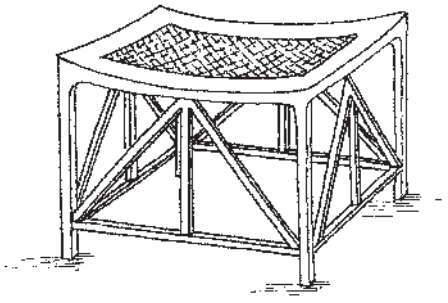


1-12

FIGURE 1-10 Scarf Joint. Utilized to extend the length of timbers due to short lengths of local woods. Adapted with permission of Aris & Phillips, Ltd.

FIGURE 1-11 Method of Securing Joints. Wet leather thongs wrapped around structural parts and threaded through drilled holes of the adjoining part tightened the joint on drying.

FIGURE 1-12 Chair Jointing Methods. Mortise-and-tenon joint used to attach the back above the seat rail, the legs below the seat rail, and to join the seat rails. Bracket used to brace the juncture of the seat rail and stiles.



1-13

FIGURE 1-13 Lattice Stool. Perimeter stretcher connects square-section legs; struts between the stretcher and the seat rail; single cove seat; interwoven seat surface.



1-14

FIGURE 1-14 Folding Stool (c. 1400 B.C.). Duck's head connects to the floor level stretcher (round in section); single cove seat. © British Museum.

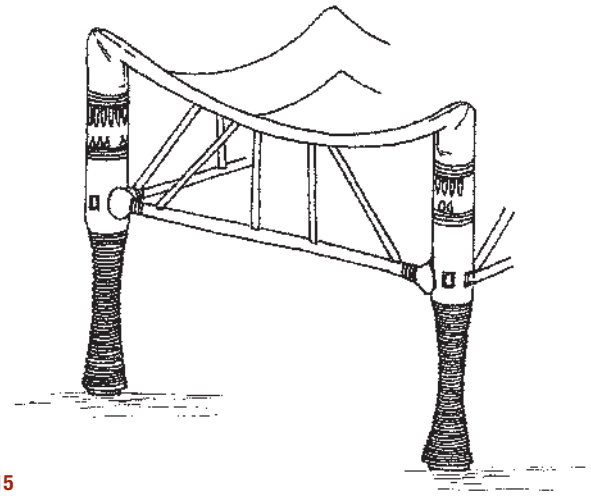
Typical Pieces and Stylistic Features

Seat Furniture

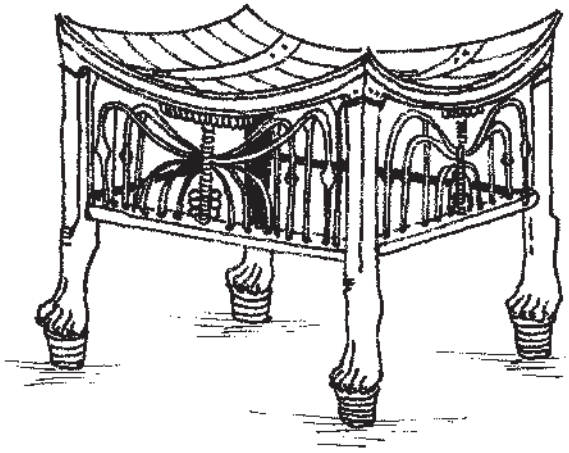
One of the earliest types of seating was the stool, used by all levels of society, royalty and ordinary citizen alike. Stylistic variations were numerous. Lattice stools represented one of the most popular types (Figure 1-13). These were rectangular in form, with some combination of the following features: square-section legs (with no splay) connected by a perimeter stretcher; both vertical and diagonal struts joining the stretcher with the seat rail; a flat or single-cove or double-cove seat surface; seat surface materials of interwoven rushes, reeds, or wooden slats. Holes drilled in the seat rails were used to integrally attach the interwoven reeds or rushes by passing the strands through the holes as they were woven to form the string seat.

The preponderance of other stools varied widely in design. Among the most interesting is the folding stool (Figure 1-14). Each of the diagonal pieces terminated with a duck's head, the beak of which connected with the floor-level stretcher of round section. Seat rails were rectangular in section and coved. The mechanism for pivoting was a bronze rivet. The seating surface was frequently leather.

Many round-legged stools were characteristic during the Eighteenth Dynasty (Figure 1-15). Basically cylindrical in



1-15



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1-17

shape, the top portion of the leg and the foot were essentially the same diameter, but just below the stretcher the leg began to narrow and then swelled again at floor level. Incised lines characterized the narrowing neck. Although these gave the impression of having been turned, there is no technological evidence to support this theory. The space between the perimeter stretcher and the seat rail was sometimes filled with a lattice arrangement. Sometimes no intermediate treatment was utilized; the inclusion of a filling was not essential to make the stool structurally sound.

Animal-leg stools had the distinction of realistically carved feline or canine legs that were placed directionally; that is, it was possible to distinguish back from front legs. A reeded, truncated conical base was used below the carved animal foot, usually sheathed with a metal (Figure 1-16). An example of a leg from a piece of furniture is the bull's foot (Figure 1-17). The only consistent commonalities among this group were the latter features. Otherwise there were variations in the seat surface, which was coved or flat; materials were woven rush or board. Perimeter stretchers were used on some, while, alternatively, one stretcher united the rear legs and another stretcher joined the front legs. One especially fine example from the tomb of Tutankhamen had a design motif representing the union of Upper and Lower Egypt in the space between the stretcher and seat rail.

At first chairs were status symbols and, consequently, were used by nobility and high officials. By the Eighteenth Dynasty (1580–1314 B.C.) they were probably used in ordinary households. In the developmental sequence the chair emerged by adding a back to the stool (Figure 1-18). A remarkable example of an early chair in the Metropolitan Museum of Art is a chair from the tomb of Hatnofer, buried in 1473 B.C. (Figure 1-19).[12] Suggesting an early date in the design of chairs is the fact that the back rises straight above the seat. The back is composed of alternating light and darker panels and carved openwork symbolic motifs: the god Bes, the *djeb* for stability or endurance, and tyet amulets, all of which were used to assure the well-being of the owner. Curved braces attached with pegs were used to fasten the back to the seat.

The straight back eventually became inclined, but when the slant was added the profile of the chair revealed a triangular opening formed by the addition of three struts in the back by connecting the seat rail with the crest of the back (Figure 1-20). This was necessitated by placing the lower part of the back slightly forward toward the front of the seat; thus the inclined back was formed.

The class of chairs (with square-section straight legs, straight or inclined back, and without arms) would have some combination of the following characteristics: There were two stretchers, one to connect the front legs and one to join the back legs. Seats were square with a flat surface and most had through tenons. Attached to the seat rail and the stile of the back was a wooden bracket of the same angle. The inclined back was composed of wooden slats, either spaced regularly or abutting. Variations to the above might be in the addition of directional animal legs and in the curved form of the cresting rail of the back. If arms were added they had armrests that were parallel with the floor and arm supports

FIGURE 1-15 Stool, Round-Section Legs. Probably shaped by hand rather than turned by lathe. Double coved seat rails. Struts connect stretcher to seat rail.

FIGURE 1-16 Stool with Animal Legs. Legs directionally positioned. Motif symbolizing the union of Upper and Lower Egypt used between the stretcher and seat rail. Double-coved seat using board surface.

FIGURE 1-17 Leg from a Piece of Furniture (3100–1700 B.C.). Made of elephant ivory. Musée du Louvre/Bridgeman Art Library.

FIGURE 1-18 Reconstruction of the Chair of Queen Hetepheres from Her Tomb at Gaza, c. 2600 B.C. (wood overlaid with gold). Egyptian National Museum/Bridgeman Art Library.

FIGURE 1-19 Hatnofer's Chair. Mortise-and-tenon joinery; pegs secure tenons as well as seat and back braces. Boxwood, cypress, ebony, and linen cord. Height 20⅞ inches. The Metropolitan Museum of Art, Rogers Fund, 1926 (36.3.152).

12. Catherine H. Roehrig, "Life Along the Nile," *Metropolitan Museum of Art Bulletin* (Summer 2002): 27.



1-18



1-19

that were placed on the side rail, but short of the front seat rail. The space under the armrest was often filled with symbolic motifs and could be open or solid.

Directional animal legs were joined with perimeter stretchers; the space between the stretcher and the seat rail was variously treated with symbolic motifs, lattice, etc. Seats were either single coved (see Figure 1-14) or double coved (see Figure 1-16). Finials were used sometimes to head the legs at seat level. Arms, when employed, were either solid or featured open-work designs. Arm supports were essentially parallel with the floor and the arm rest originated from the side seat rail, short of the front seat rail. Inlay and applications of precious sheet metal were frequently utilized.

More elaborate chairs used more expensive materials and methods, especially for royalty (Figure 1-21). Found in the tomb of the parents of the wife of Amenophis III, who ruled 1417–1379 B.C., this chair illustrates a number of ornamental and struc-



1-20



1-21a



1-21b

tural techniques: carving, gilding, and veneering. The reeded, truncated cylindrical base for the foot was covered with silver, carved ornament was covered in gold leaf, and gilding was used for the finials of a woman's head-crest and the front legs. The veneer for the seat frame and back was attached by glue and wooden pins. A concave backrest was new in the New Kingdom, as was the rounded stretcher. The backrest portrays dual images of the princess Sitamun, daughter of Amenophis III. She is depicted as receiving an ornate collar; a band of lotus flowers and buds is shown above this scene. On the cresting rail of the back symbolic carved motifs were incorporated: the disk signifying the sun with wings, and serpents *(uraei),* which denoted royalty.

Appropriate to royalty is the Golden Throne of Tutankhamen, on which materials and design details exemplify royal status in life (Figure 1-22). The *uraei* (the sacred asp symbolizing sovereignty) served as the treatment of the armrest. Materials and



1-22

FIGURE 1-20 Chair with Inclined Back, c. 1400–1295 B.C. Incline accomplished by moving lower back toward front of chair with three struts connecting back seat rail with crest of the back. Courtesy of the Brooklyn Museum, 37.40E, Charles Edwin Wilbour Fund.

FIGURE 1-21 Chair of Princess Sitamun (Eighteenth Dynasty, c. 1400 B.C.). Replica. Gilding for carved decorative detail; structural change in the curved back rest. Replica, Property of Baker Furniture Research Museum.

FIGURES 1-22 and 1-23 The Golden Throne of Tutankhamen, Egypt, Eighteenth Dynasty. Gold-plated wood inlaid with semi-precious stones. *At left:* Back. Queen Ankhesenamun holds a salve-cup and spreads perfumed oil on her husband's collar. Werner Forman/Art Resource, NY. *Following page:* Frontal view. Egyptian National Museum, Cairo/Bridgeman Art Library.



1-23

techniques included gold-plated wood inlaid with semiprecious stones. The frontal view of the back shows Queen Ankhesenamun in the act of spreading perfume on her husband's collar (Figure 1-23). Typical to chairs of the period were the directional animal legs, struts (partially destroyed) connecting the stretcher to the seat rail, lion head as cresting for the leg at seat level, inclined back, and curved back.

Tables

Tables are known to have been used extensively during the dynastic periods; proof of this lies in the fact that so many were represented in paintings and in sculptural reliefs. That so few have survived is perhaps owing to the fact that a very common use was to place them outside burial chambers to receive food offerings. Aside from religious use, functional uses for the household included the practice of using tables as workbenches, stands for vases, individual tables for dining, and perhaps for display of valuable objects.

A popular type of table seems to have been rectangular in shape, with splayed legs and a perimeter stretcher (Figure 1-24). In this example a small torus molding was used above the rail with a cavetto molding serving as a transition to the tabletop. Similar tables were constructed where the square-sectioned legs rose straight and where the cavetto molding was eliminated. Hieroglyphs sometimes were used to decorate the edges of these pieces.



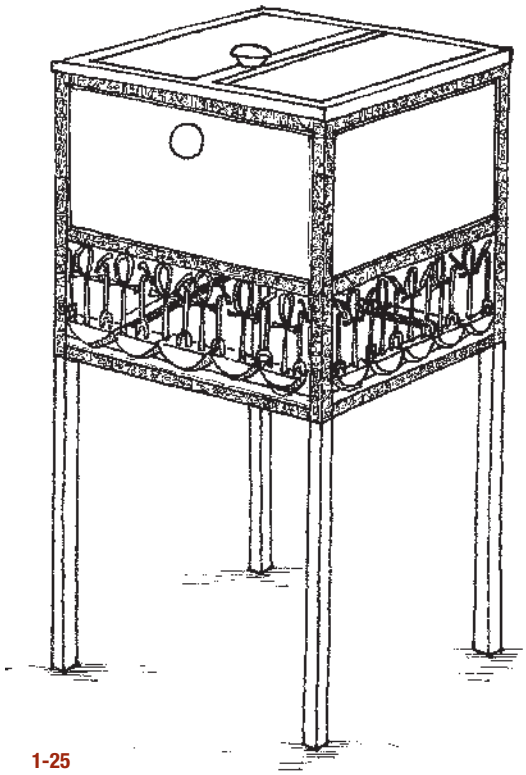
1-24

FIGURE 1-24 Table (Seventeenth Dynasty–Eighteenth Dynasty, c. 1530 B.C.), Thebes. Wood. Splayed legs with perimeter stretcher. Torus molding under the tabletop surface. The Metropolitan Museum of Art, New York, Gift of Lord Carnavon, 1914 (14.10.5).

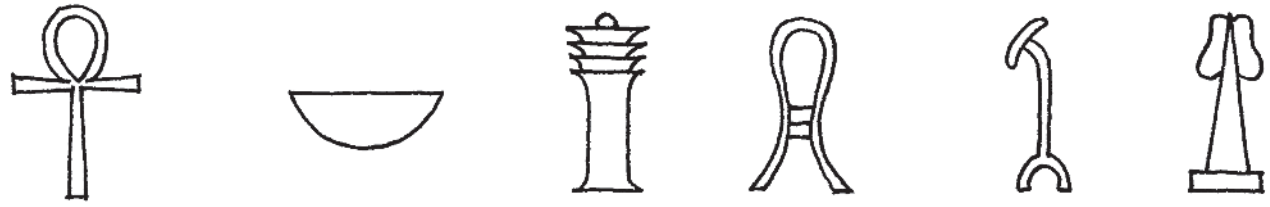
Storage Pieces

Chests were used variously as containers for jewelry, clothing, cosmetics, and linens, as well as for an assortment of other household articles (Figure 1-25). Many chests had square-sectioned legs, short or tall, which continued up to form the stiles of the storage compartment. Those with tall legs most often employed the stretcher, with infill designs that included such arrangements as lattice and hieroglyphs; the latter had magical significance in assisting the deceased in their journey in the afterlife (Figure 1-26). Lids for chests had a range of configurations including flat, single- or double-pitched gable, and domed (Figure 1-27 and see Figure 1-28). Closure for the lids was typically accomplished by wrapping a cord around two knobs, one placed on the body and one on the lid. The insides of chests were often divided to systematize storage. Judging by the extant examples, it is evident that Egyptian cabinetmakers were cognizant of panel construction.

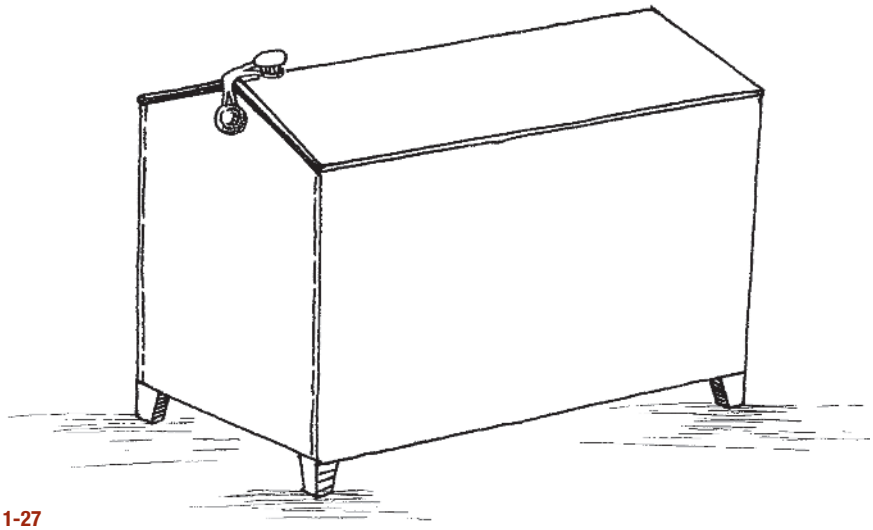
Decorative techniques ran the gamut from simple to highly complex. Methods included veneer, inlay, painting, and carving; gesso covering the wood frames served as a base for painting as well as for gilding. A coffer from the treasury of the tomb of King Tutankhamen is of wood and ivory with applied gold and silver (Figure 1-28). Prominent symbols are the *ankh* (life) and *was* (dominion).



1-25



1-26



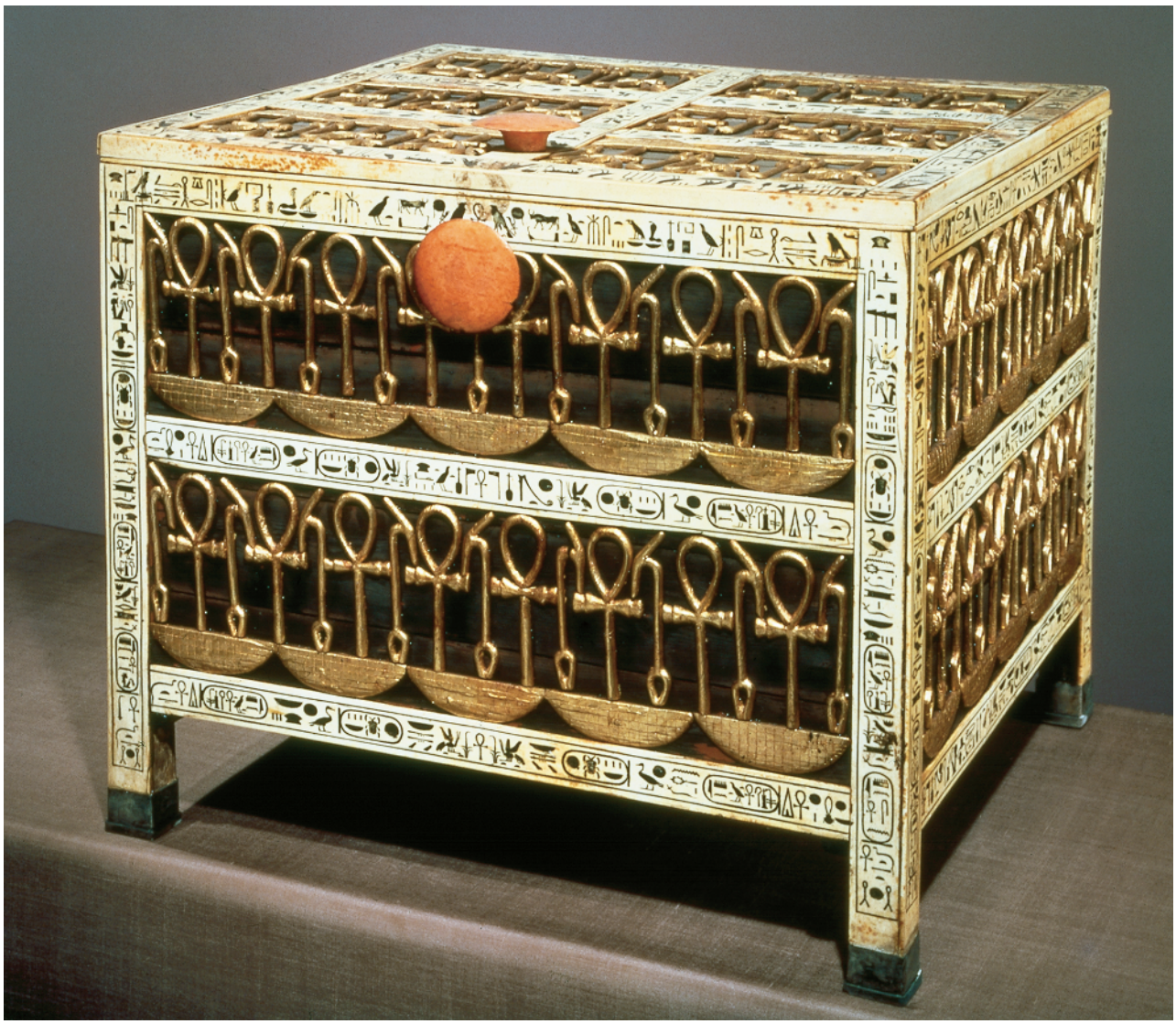
1-27

FIGURE 1-25 Chest. Wood partially gilded. Square section legs continue as stiles of the body of the piece. Hieroglyphs used symbolically and decoratively above the stretcher.

FIGURE 1-26 Hieroglyphs. Magical significance attributed to symbols, left to right: *ankh* (life); *neb* (all); *djeb* (stability or endurance); *sa* (protection); *was* (dominion); *sma* (union).

FIGURE 1-27 Chest. Gable lid with knobs on top and body around which a cord was wrapped for closure.

FIGURE 1-28 Chest of Wood, Ivory with Applied Gold and Silver (c. 1370–1352 B.C.); Inside Divided into Sixteen Compartments. Egyptian National Museum, Cairo/Bridgeman Art Library.



1-28

FIGURE 1-29 Bed. Curved side rails with rectangular cross section functioned to raise the head; footboard divided into three decorative panels. Bed surface of interwoven material. Brackets reinforce the side rails and the stiles of the back. After an object in the Egyptian Museum, Cairo.

FIGURE 1-30 Bed Footboard. Gold-covered footboard. Symbol of the union of Upper and Lower Egypt decorates the center panel. After an object in the Egyptian Museum, Cairo.

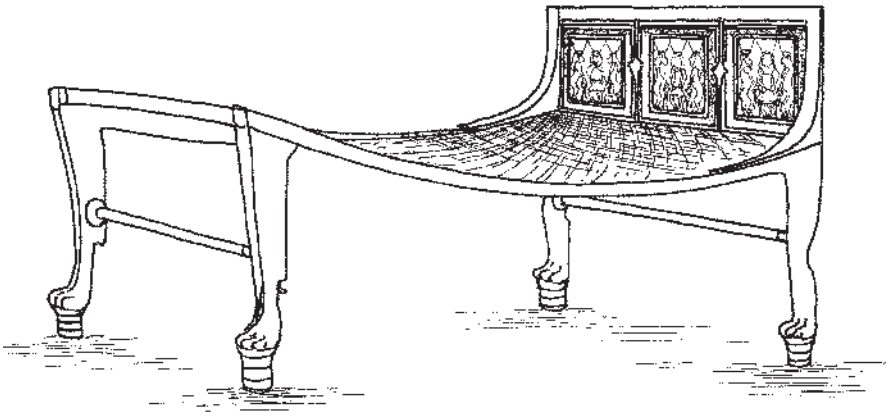
FIGURE 1-31 Ivory Headrest with Shu, the Egyptian God of Air, from the Tomb of King Tutankhamen (c. 1370–1352 B.C.). Egyptian National Museum, Cairo/Bridgeman Art Library.

Beds

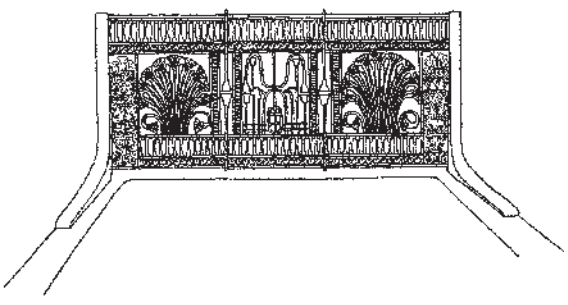
While there were variations in the style of beds over the dynastic periods, there were also basic similarities (Figure 1-29). Overall, the frames of beds comprised side rails that were rounded, often elliptical, but occasionally rectangular in section. Reinforcing members were used to connect the two side rails; of wood or leather, at first these were flat and later curved, and their function was to support the surface of the bed. When the side rails extended beyond the bounds of the frame the ends often were in the shape of an open papyrus flower; alternatively, the ends of the rails flared within the bounds of the frame where the perpendicular cross rail intersected. These side rails could be straight, but many times they dipped in the center, which in effect accentuated the higher part of the bed where the head rested; a footboard was typical at the other end. The bed surface was attached to the rails in either of two ways: (1) slots cut through the frame through which webbing of leather was interlaced, or (2) woven techniques that entailed wrapping the rail with linen cord, reed, or rush, which was then woven into a matting.

The footboard was the most decorated part of the bed and featured typical decorative techniques (Figure 1-30). While a single panel was sometimes used, it was common to divide the footboard into three panels, each visually separated by the use of a papyrus molding. A repertoire of decorative motifs typical of the period was utilized in standard materials and techniques; however, plain slats were used also. Dowels were used to attach braces to the side rails and the stiles of the footboard; gold or other capping materials were used to cover the dowels.

Supporting the frame of the bed were animal legs placed in a directional position; one stretcher at each end connected the legs. Baker suggests that over the period of the Old Kingdom (3200–2270 B.C.) there is a sequence in the use of specific animal legs from early to late, as follows: (1) bull's legs; (2) thinner legs with hoofs resembling the gazelle; (3) feline with paw foot and claw; (4)



1-29



1-30



1-31

lion's leg. The latter was the most generally used.[13] Under the paw or hoof there was a reeded and truncated cone-shaped base or drum which was often sheathed with metal, such as gold, silver, bronze, or copper.

The Egyptians slept with their feet toward the footboard panel. Heads rested on rigid headrests (Figure 1-31). The materials were of wood, stone, or ivory, but occasionally they were slightly padded. Usually the headrests had a curved upper section on which the head rested and a column that separated it from a base. The designs ranged from simple to ornate.

ORNAMENT

Ornamental detail was often associated with symbolism. Among the more important motifs, listed here with the symbol of each, were winged sun (royal dignity); *ankh* (life); *djed* (endurance); *was* (dominion); *sa* (protection); *sma* (union); *neb* (all); scarab (eternal life or resurrection); serpent (royalty); vulture (protection). Animal life and plant material of the Nile River Valley figured prominently in both architecture and furniture design; the palm, papyrus, lotus, and palmette were frequent design elements. In addition, motifs originating with the Egyptians and used in subsequent stylistic periods included the sphinx, spiral, guilloche, and wave pattern. The scarab, sun disk, serpent, human figures, and gods and goddesses (often with combined features of both human and animal forms) were also significant.

13. Hollis S. Baker, *Furniture in the Ancient World* (New York: Macmillan, 1965), 144.