

Table 36
IMPORTS OF CHEESE TO PERSIA, 1980-85

Year	Quantity (in tons)	Rank among Importers
1980	60,000	8
1981	73,800	6
1982	70,100	7
1983	85,500	5
1984	126,400	5
1985	109,500	5

Source: *FAO Monthly Bulletin of Statistics*, various issues.

aged with Swiss technical assistance, it produced a tasty kind of French *tomme de Savoie*, which was sold almost entirely in Kabul under the name *panīr-e baḡlān(i)*, or more simply *baḡlān*, until it was closed in 1360 Š./1981 because of growing political insecurity in the region (Balland, 1987, pp. 264-66).

In the 1360s Š./1980s Afghan cheese production thus reverted to the preindustrial, domestic sector, with unimportant marketable surpluses. The towns, particularly mushrooming Kabul, came to depend almost entirely on imported cheeses. The U.S.S.R. and other East European socialist countries replaced the Federal Republic of (West) Germany and Denmark as the main suppliers. No figures on this trade are available, but it is certainly small and irregular.

In Persia, on the other hand, the combination of declining domestic and growing industrial production (totaling ca. 100,000 tons, according to the U.N. Food and Agricultural Organization, though the figure is questionable) is nevertheless far from sufficient to meet the increasing national demand, and imports have been on the rise since the early 1360s Š./1980s. In those years Persia rose from eighth to fifth among cheese importers in the world. In 1363 Š./1984 imports reached a peak of 126,400 tons, that is, 7.2 percent of the total exchanges of cheese in the world (Table 36) and higher than the national production. The main supplier was Bulgaria, which shipped via Turkey a soft cheese selling in Tehran for three or four times less than the similar local *tabrīzī*.

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(DANIEL BALLAND)

CHEMISTRY. See KĪMĪĀ.

CHESS, a board game known in Sanskrit as *catur-aṅga-* ("having four members," a common designation for an army of four divisions); in Middle Persian as *čatrang*; in Persian as *šatrang*, *šatranj*, or *šatranj*; and in Arabic as *al-šatranj* or *al-šetrānj* (whence Sp. *ajedrez*, OFr. *eschex*, Fr. *échecs*, Eng. *chess*, possibly It. *scacchi*, Ger. *Schach*, etc., the latter two forms also under the influence of Persian *šāh* "king").

- i. *The history of chess in Persia.*
- ii. *Chess terminology.*

i. THE HISTORY OF CHESS IN PERSIA

The game of chess has a long history in Persia. Although its origin is wrapped in obscurity, it appears from its name, the organization of its pieces, and the earliest Persian traditions that it developed out of various ancient Indian board games (e.g., *aṣṭāpada*, cf. Mid. Pers. *hašt-pāy*, see below). In India chess may have been known already to Patañjali (2nd cent. B.C.), but the first certain mention of *catur-aṅga* occurs quite late, in the 6th century of our era (cf. Thieme, p. 215), which is also the period in which the game seems to have been brought to Persia. Three Book Pahlavi texts mention chess (*čatrang*): *Kār-nāmak ī Artaxšēr ī Pāpakān* (The book of the deeds of Ardašīr I, son of Pābag), *Xusrau u rētak* (Kosrow and his page), and *Vičārišn ī čatrang u nihišn ī nēv-artaxšēr* (The explanation of chess and the invention of backgammon). In *Kār-nāmak* (2.12) it is said that Ardashīr "with the help of the gods became more victorious and experienced than all others in polo, horsemanship, chess, backgammon, and other arts," and in the small treatise on Kosrow (Parvēz) and his page, the latter declares (15) that he is superior to his comrades in chess, backgammon, and *hašt-pāy*. The author of *Vičārišn ī čatrang* describes how the game of chess was sent as a riddle to Kosrow Anōšīravān (r. 531-79) by the "king of the Hindus Dēvsarm (?)" with the envoy Taxtarītūs (?) and how the riddle was solved by the vizier Vazurgmihr (Bozorgmehr, q.v.), who in his turn invented the game Nēv-Artaxšēr (i.e., *nard*, backgammon) as a riddle for the Hindus. These three Middle Persian sources do not, however, give any certain indication of the date when chess was introduced into Persia. Although *Kār-nāmak* and *Xusrau u rētak* refer to kings of the 3rd and 6th-7th centuries respectively, the mentions of chess are simply conventional and may easily represent late Sasanian or even post-Sasanian redactions. The story told in *Vičārišn* is clearly legendary and cannot be accepted as an accurate historical account. This story appears to be the subject of a wall painting of the early 8th century C.E. at Pyandzhikent. There two men play a board game in the presence of the king; one of them wears the costume and hair style of a Hindu and is making the traditional Persian gesture of surprise (forefinger pointing to lips), as if impressed by his opponent's prowess or intelligence (Bussagli, p. 46; for the dating of the wall paintings at Pyandzhikent, see Belenitskii and Marshak, pp. 35-46).

Although it is probable that chess was known and played in Persia at the end of the Sasanian period, the earliest certain evidence is from after the Islamic conquest. The story recounted in *Vičārišn* was retold in Arabic prose by Ṭa'ālebī (350-429/961-1038) in *Gorar al-sīar* (pp. 622-25) and in Persian verse by Ferdowsī (d. 411/1020) in *Šāh-nāma* (Moscow, VIII, pp. 206-16; ed. Mohl, VI, pp. 193-201). In the latter work the story was expanded to include an explanation of the Indian origin of chess (Moscow, VIII, pp. 217-47; ed. Mohl, VI, pp. 201-23). Gav and Ṭalkand, two princes and half-brothers, sons by a single mother of the Indian king

Jamhūr and his younger brother and successor Māy, both lay claim to the throne after the death of Māy. War broke out between the two, and Ṭalkand, trapped on the battlefield without possibility of either escape or attack, died mysteriously in his golden saddle. His brother invented the game of chess in order to convey to their mother the news of this event.

A great variety of legends about chess appear in early Arabic sources (cf. Ebn al-Nadīm, ed. Flügel, pp. 172-73, tr. Dodge, I, pp. 341-42). Mas'ūdī (d. ca. 345/956), for example, describes how a series of learned kings of ancient India introduced various arts and sciences (*Morūj* I, pp. 153-61; ed. Pellat, I, pp. 86-90). Barhaman (Brahman) was the first. Under his son Bāhbūd the game of *nard* was invented, and a couple of generations later King Dabšalem composed the book *Kalīla wa Demna*. In the reign of his son Balhīt the game of chess was invented, and certain of its mathematical properties were explored, especially the calculation and cosmological interpretation of the sum of squares from 1 to 64. Mas'ūdī (*Morūj* VIII, pp. 312-17; ed. Pellat, V, pp. 218-20) also mentions six different forms of the game that were current in his time (see ii, below). Bīrūnī (q.v.), in his book on India (tr., I, pp. 183-85), describes an Indian variant of chess played with a pair of dice by four players on an ordinary board eight squares on a side; in his *Ātār* (tr. Sachau, pp. 134-36) he treats mathematical aspects of the problem of "the reduplication of the chess and its calculation." Ebn Kallekān also explains this problem in a story about the inventor of chess, supposedly an Indian sage named Šeṣṣa b. Dāher in the time of a certain king Šehrām (or Balhīt), who asked as his reward that a grain of rice be placed in the first square of a chess board and that the amount then be doubled in each successive square of the sixty-four (*Wafayāt*, Būlāq ed., 1299/1882, II, pp. 328-32; tr. de Slane, III, pp. 69-73). Other Muslim writers attributed the invention of chess to a variety of legendary wise men, usually Indian. Most frequently mentioned is Ḥakīm Šiṣa/Šeṣṣa/Šefa/Sisāk/Ses, etc., b. Dāser/Dāher/Dā'er al-Hendī (cf. Wieber, pp. 89ff.). In the form Dāser (e.g., in Moḥammad b. Maḥmūd Āmolī's *Nafā'es al-fonūn fi 'arā'es al-'oyūn*, comp. ca. 740/1340, cited in Yaktā'i, p. 71; cf. ii, below), for example, it is possible to recognize Dēvsarm (see above) and the Persian and Arabic Dābšalem/Dābšālīm (associated with *Kalīla wa Demna* and its compiler, also known as Bedpāy). In other stories (e.g., *Mo'allem al-šatranj*, cited in Yaktā'i, pp. 71ff.) Ḥakīm, Moḥammad b. 'Obayd-Allāh Lajlāj (a legendary son of Šefa b. Dāser according to Āmolī [see above] or a historical person and writer on chess living in Shiraz in the 4th/10th cent., cf. Wieber, p. 80), Šāt(a)rāš (cf. Yaktā'i; a distortion of *šatranj*?), Mandūdārī (the legendary queen Mandodarī, wife of the demon King Rāvaṇa of Laṅkā/Ceylon in the Indian *Rāmāyaṇa* epic), Hermes, and the historical Abū Bakr Moḥammad b. Yaḥyā al-Šūlī (d. ca. 336/941; cf. Ebn Kallekān, Būlāq ed., 1299/1882, II, pp. 328-32, tr. de Slane, III, pp. 69-73; and Ebn al-Nadīm, *Fehrest*, ed. Flügel, pp. 167, 172-73, tr. Dodge, I, pp. 329-31, 341-

42) are mentioned. All these references suggest that chess spread from Persia to the Arabs and other Muslim peoples quite early in the Islamic period and with it the general assumption that the game had originated in India. It subsequently traveled to Byzantium and Europe, where it was already known before the Crusades.

From at least as early as the 6th century C.E. the main form of chess seems to have been played on a board with eight squares on each side and with more or less the pieces and arrangement that are known today. The chessmen are obviously categorized according to the traditional division of the Indian army (as mentioned, e.g., in the *Amarakoṣa*): *hasty-aśva-ratha-padāta*, that is, elephants, horses, chariots, and foot soldiers, led by the king and his counsellor. The arrangement of the pieces was described in *Vičārīśn ī cātrang*: the king (*śāh*) in the center, the two rooks (*raṣ*) on the right and left flanks, the counsellor (*fračm*; equivalent to the queen in the European version) beside the king, the elephants (*pīl*) like the royal guards (i.e., in the positions of the European bishops), the horses (*asp*; in the European version the knights) like the cavalry, and the foot soldiers (*padātak*; pawns) in the front line. Ferdowsī (Moscow, VIII, pp. 206-16; ed. Mohl, VI, pp. 193-201) follows this description closely, giving the Persian names of the pieces as *śāh*, *rok* (perhaps to be identified with the fabulous bird; cf. also OFr. *roc*, Eng. *rook*), *dastūr*, *pīl*, *asb*, and *pīāda*, but in the immediately following account of the invention of chess by Ṭālkand (Moscow, VIII, pp. 217-47; ed. Mohl, pp. 201-23) he mentions a board of 100 (i.e., 10 × 10) squares, with an extra piece in the shape of a camel (*oštōr*) on each side, between the elephant and the horse. The counsellor is called *farzāna* (wise). These names were borrowed or translated into Arabic, whence some of them found their way into European languages.

Although the chessmen have remained generally the same, the rules for their movements have undergone change. The most important took place in Spain around the middle of the 15th century, when the queen, which formerly could move only one square at a time diagonally, was given the power to move along the entire board both diagonally and in a straight line. This version of play was called *de la dama* (in the style of the queen), in contrast to *del viejo* (the old style). The modern form of castling (moving both king and rook in a single turn) was not introduced until the beginning of the 17th century. These innovations were then introduced to Persia and the rest of the Muslim world. Despite such alterations, however, the game is won in the same basic way, by *śāh-māt* (checkmate). It is generally supposed that *māt* is the Arabic perfect of the verb "to die," but this seems unlikely since the very point of the story, as told in the *Śāh-nāma*, is that the King is made powerless and paralyzed without being hit by anybody (cf. Murray, p. 159). Other pieces get killed (NPer. *košta*) but the King becomes *māt* (cf. Mo'in, III, s.v. 1-*māt*; Morgenstierne, p. 48), a word appearing in various Persian languages with the meaning "broken, para-

lyzed." Furthermore, early usage implies that Arabic *al-śāhmāt* was a loanword from Persian (cf. Dozy, *Supplément*, s.v. *śāh* and *śāhmāta*). The term was also adopted in most European languages (e.g., Sp. *jaque mate*).

The game of chess has long played an integral part in Persian culture. It is mentioned frequently in Persian literature, and almost all the great poets have used it as a metaphor for human strife and the blows of fate (e.g., Mo'ezzi, Sanā'i, Kayyām, 'Aṭṭār, Awhādī, Kāqānī, 'Onsorī, Sa'dī, Hāfez). On the other hand, some writers, for instance, Kaykāvūs b. Eskandar, author of *Qābūs-nāma* (comp. 475/1082-83), followed theological tradition, warning against indulging in chess and *nard* (p. 76). At times the game has been depicted in miniatures, especially those illustrating the introduction of the game to the court of Kosrow I Anōšīravān (e.g., two manuscripts of *Śāh-nāma*, one copied in 731/1330-31 and now in the Topkapı Sarayı, Istanbul, Binyon, pl. XVI-B; and Pers. ms. 9 in the John Rylands Library, Manchester, Robinson, 1980, p. 110, no. 470, now attributed to western India in the Sultanate period). Occasionally a game of chess appears in illustrations of lyrical poetry, for example, a *gāzal* by Kātebī in the British Museum (Add. 16561, dated 873/1468, Robinson, 1957, pl. viii). It should be noted that in these illustrations the chessboard is usually depicted in monochrome (often white), which seems to have been normal for boards at least until the 9th/15th century. Apart from inlaid wood, stone, and other hard materials, chessboards could be made from leather (e.g., red shagreen). The chessmen are usually depicted simply as colored or marked pieces, rather than as sculpted figures, and the game was probably often played with such pieces in the early days. At the same time, however, exquisitely carved chessmen are known to have existed almost as long as the game itself; they were carved from wood, ivory, or stone. Already in *Śāh-nāma* (Moscow, VIII, p. 245; ed. Mohl, VI, p. 222) the chessboard of Ṭālkand is described as made of ebony (*ābnūs*) and the chessmen of teak (*sāj*) and ivory (*'āj*).

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(BO UTAS)

ii. CHESS TERMINOLOGY

Āčmaz (Turk. *ačmaz*, Ottoman Turk. *ačmāz*; also 'erā, Arab. loanword), the interposition of a chessman to keep the king out of check.

Asb "knight" (lit. horse). *Asb o farzīn nehādan* or *asb o farzīn tarḥ dādan*, the laying aside of one or more pieces (cf. *savār*) by the stronger party in order to make the game more even or to express a feeling of superiority.

Baydaq, *bedaq* (Arabicized form of Pahlavi *payādaq* "foot soldier, pawn"), *pāda* "pawn."

Baydaq al-baydaq, see *pāda-ye ašl*.

Begard "check" (lit. "turn back!"; *Šāh-nāma*, Moscow, VIII, p. 246 l. 3325).

Dast, round, game (e.g., *yak dast šātranj* "a game of chess").

Dastūr (lit. "minister"; *ibid.*, pp. 210 l. 2701, 246 l. 3311), *farzān*, *farzāna* (Pahl. *farzīn*, lit. "a sage"; *ibid.*, p. 246 l. 3319; *Bīrūnī*, *India*, p. 183), *wazīr* "queen." In Great chess *farzīn* and *wazīr* are two distinct pieces with different moves.

Farzān, *farzāna*, see *dastūr*.

Farzīn šodan, the promotion of a pawn when it reaches the end of the board.

Farzīnband, position in which a pawn is protected by the queen in order to block the forward movement of a hostile piece whose only chance of advancing is to take the pawn.

Ġā'eb, *ġā'ebhāna* (lit., absent, like somebody absent), to play blindfold or without looking at the board (Bland, pp. 24-25).

Gostareš "deployment."

Ḥarakat "move."

Kālā (lit., commodity), chessman (Bland, p. 46; see *mohra*).

Kāna "square, position" (lit. "house").

Keš, *kešt*, *kīš* "check" (lit. meaning uncertain; cf. *šāh*).

Koštān, see *zadan*.

Lāt and *lāt šodan*, also *pāt* and *pāt šodan*, when a player is left with a bare king (lit. meaning uncertain).

Manšūba, chess game, position, or stratagem (now obsolete; also *manšūbahāz*, *manšūbagošāy*).

Māt, see *šahmāt*.

Mohra "chessman" (lit. "bead, marble").

Naq' "chessboard," also known as *roq'a-ye šātranj*, *takt-e šātranj*, *hesāt-e šātranj*, *kānahā-ye šātranj*, *šafḥa-ye šātranj*, 'arša-ye šātranj, *karbās-e šātranj*, and *waraq-e šātranj*.

Pāt, see *lāt*.

Pāda, see *baydaq*.

Pāda-ye ašl (lit., the original pawn; Ar. *baydaq al-baydaq*), two special pawns, one to each side, in Great chess. They are positioned in front of the *farzīn*'s rook (Bland, pp. 12-13, and pl. 1).

Pīl, *fil* "bishop" (lit. "elephant").

Pīlband, protecting the bishop with two pawns.

Qā'em, *qāyem*: I. a box or bag to hold a set of chess; 2. an idiom indicating that the two sides are equal.

Qā'emāndāz "chess player."

Qal'a raftan "castling" (lit. "going to the castle").

Roq' (Arab. *rokk*) "rook." This piece is sometimes made in the shape of a bird rook.

Roq'a, see *naq'*.

Šāh "king," see also *keš*.

Šāhāt (*sic*), interposing a piece between the king and a hostile piece (Bland, p. 57; cf. *āčmaz*).

Šāhfāt (*sic*), sacrificing a piece to save the king (Bland, p. 57).

Šāh-māt "check mate," also simply *māt* (origin uncertain; possibly from Arab. *māt* "he is dead").

Šāhqām, term signifying a drawn game when one player, in order to escape certain checkmate, repeatedly checks his opponent's king. It may also refer to escaping checkmate by sacrificing a number of pieces (*Borhān-e qāte'*, ed. Mo'in, I, p. 1236; *Dehqodā*, s.v.; Bland, pp. 53-57).

Šāh-roq', when the king and a rook are attacked by the same piece.

Šāhšāh "check."

Savār "chess piece" (lit. "on horseback").

Sīāh-mohra bāzī kardan, allowing the opponent to choose black.

Tā'bia (lit., arrangement), opening, deployment (now obsolete; see *gostareš*; Bland, pp. 47-49).

Tarḥ dādan, to give as odds.

Wazīr, see *dastūr*.

Zadan, lit. "to strike, to kill," capturing a chessman from the opponent; also *koštān* "to kill."

Žarb "turn" (Arab., lit. "strike") in chess and backgammon.

Types of chess.

Šātranj-e moraqqā' (lit. "patched chess"), like standard chess, the only difference being that the bishops are placed next to the rooks, instead of the horses.

Šātranj-e dawāt al-ḥoṣūn (lit. "chess with castles"), is played with a board with ten by ten squares. The four

corner squares are called *heṣn* "castle." There are four extra pieces, *dabbāba* (lit. "battering ram"), which move like the bishop (cf. *al-ṣaṭranj al-tāma* "complete chess," in Bland, p. 28). According to Mas'ūdī (*Morūj VIII*, p. 313, ed. Pellat, V, p. 219) the *dabbāba* moved like the king. The game is played like *ṣaṭranj-e moraqqā'*, but with the difference that the king can be castled provided it is not hindered on the way and there is no promotion of pawns. A variety mentioned in the *Šāh-nāma* (Moscow, VIII, pp. 245-47) also has ten by ten squares but four *oštōr* "camels" positioned between the bishops and knights.

Šaṭranj-e kabīr (great chess) or *ṣaṭranj-e kāmel* (complete chess), a more elaborate game, played with 56 men, 28 on each side, on a board with 112 squares (10 × 11 plus one projected extra square on the right of the second row of each side). Each side consisted of a king, a *wazīr*, a *farzīn*, two giraffes (*zarrāfu*), two *dabbābas*, two advance guards (*ṭalī'a*), two bishops, two knights, two camels (lion [*šūr*] in Āmolī, apparently a misspelling of camel [*šotor*]), two rooks, and eleven pawns including a peculiar pawn called the original pawn (*pāda-ye aṣl*, *Ar. baydaq al-haydaq*). Chessmen are arranged in three rows (see Bland, pl. II). There are three kinds of moves: straight (*mostaqīm*: *wazīr*, *dabbāba*, rook), oblique (*mo'awwaj*: *farzīn*, bishop, *ṭalī'a*), and mixed (*morakkab*: knight, camel, giraffe), which pieces use to move one square (*wazīr* and *farzīn*), two squares (*dabbāba* and bishop) or more (rook and *ṭalī'a*). The moves of camels and giraffes are not clear according to Bland. Pawns can be promoted, but only to the rank of the piece they belong to except for the original pawn. This pawn, once it reaches the end of the board, can be put back anywhere on the board. Should that happen twice the pawn is called *šāh-e maṣnū'a* (false king) and moves as a king (Bland, pp. 11-13, pls. I-II).

Jawāreḥī, a kind of chess that according to Mas'ūdī (loc. cit.) was played on a board of seven by eight squares with twelve pieces, six on each side and representing different organs of the human body. The game was invented in the 4th/10th century (ibid.; it is not mentioned by Āmolī).

Types of chess more removed from the original comprise the following:

1. A game played with dice and a board with four by sixteen squares. The chessmen were set as in the following diagram. The number of eyes on the dice determined which piece to move (1 = pawn, 2 = rook, 3 = knight, 4 = bishop, 5 = queen, 6 = king). Mas'ūdī (loc. cit.) describes a variant of this game in which chessmen are arranged in four rows at the narrow ends of the board, with the pawns in the four inner rows.

2. A game, well known at the time of Āmolī, that was played on a circular board, in the middle of which there was a small circle. Once a king was moved to this circle and was left there he could not be checked. Pawns could capture each other when meeting head-on; they could not be promoted. Bishops could meet one another. Mas'ūdī (loc. cit.) mentions a round game, which he attributes to Byzantium.

3. *Falakīya*, a game played with dice on a round board, on which the squares of inner circle were named after the twelve houses of the zodiac, and those of the outer circle after the five planets (twice), the sun, and the moon. Movements were according to celestial rank, for instance, Saturn (*Zoḥal*) moved seven squares, Jupiter (*Moštārī*) six, Mars (*Merrīk*) five, the sun four, Venus (*Zohra*) three, Mercury (*'Oḡāred*) two, and the moon one. The player who threw the highest number on the dice began by placing a piece of his choice from the outer circle in a square of the inner circle. If a piece was moved to a house in which it would be in regression (*kāna-ye raj'at*) it had to move back the appropriate number of squares. After all the pieces had been moved to the inner circle they were moved back to the outer one. To win the game one had to gather the sun and Jupiter on one's own side and Mars and Saturn on the opponent's. Mas'ūdī (*Morūj VIII*, p. 314, ed. Pellat, loc. cit.) describes a similar game, in which, however, colors also played a role in the movement of the pieces.

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(MOḤAMMAD DABĪRSĪQĪ)

THE CHESTER BEATTY LIBRARY, a collection of manuscripts, printed works, and artifacts, predominantly Oriental, assembled by Alfred Chester Beatty and opened to the public in Dublin in 1954.

- i. *The library and its founder.*
- ii. *Persian manuscript collection.*
- iii. *Coptic Manichean manuscripts.*

i. THE LIBRARY AND ITS FOUNDER

Alfred Chester Beatty (b. New York City, 7 February 1875, d. Monaco, 19 January 1968) was the son of a prosperous banker and stockbroker (Kennedy, p. 22) and was educated at private schools and Princeton University before transferring to Columbia University in New York. In 1898 he became one of the first graduates of the School of Mines (Kennedy, pp. 21-22). He began his career in Colorado, where, after beginning as a laborer, he worked as a mining engineer, manager, and consultant (Kennedy, pp. 22-23). As his career prospered, he worked in many parts of North America and Africa. At the age of thirty-five years, when he was forced to retire from active field work for reasons of health, he was already a very rich man. He was particularly noted for devising techniques for the extraction of copper from low-grade ores (Kennedy, p. 32). His friend Herbert Hoover, a mining engineer who later became president of the United States (1929-33), persuaded Beatty of the advantages of London as a base for worldwide mining operations (Kennedy, p. 26). He settled there and in 1914 launched Selection Trust, the