Backgammon

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Backgammon is one of the oldest board games for two players in which the playing pieces are moved according to the roll of dice. Players win by removing all of their pieces from the board. There are many variants of backgammon, most of which share common traits. Backgammon is a member of the tables family, one of the oldest classes of board games in the world.

Although luck is involved and factors into the outcome, strategy plays a more important role in the long run.[*citation needed*] With each roll of the dice players must choose from numerous options for moving their checkers and anticipate possible counter-moves by the opponent. Players may raise the stakes during the game. There is an established repertoire of common tactics and occurrences.

Like chess, backgammon has been studied with great interest by computer scientists. Owing to this research, backgammon software has been developed capable of beating world-class human players.

Backgammon

A backgammon set, consisting of a board, two sets of 15 checkers, two pairs of dice, a doubling cube, and dice cups

Players	2
Age range	5+
Setup time	10–30 seconds
Playing time	5–30 minutes
Random chance	Dice
Skills required	Counting, Tactics, Strategy, Probability

Contents

Rules

Backgammon playing pieces are known variously as checkers, draughts, stones, men, counters, pawns, or chips.

The objective is to remove (bear off) all of one's own checkers from the board before one's opponent can do the same. The checkers are scattered at first and may be blocked or hit by the opponent. As the playing time for each individual game is short, it is often played in matches, where victory is awarded to the first player to reach a certain number of points.

Setup

Each side of the board has a track of 12 long triangles, called points. The points are considered to be connected across one edge of the board, forming a continuous track in the shape of a horseshoe, and are numbered from 1 to 24. Players begin with two checkers on their 24-point, three checkers on their 8-point, and five checkers each on their 13-point and their 6-point. The two players move their checkers in opposing directions, from the 24-point towards the 1-point.[1]

Points 1 through 6 are called the home board or inner board, and points 7 through 12 are called the outer board. The 7-point is referred to as the bar point, and the 13-point as the mid point.[1][2]

Paths of movement for red and black, with checkers in the starting position
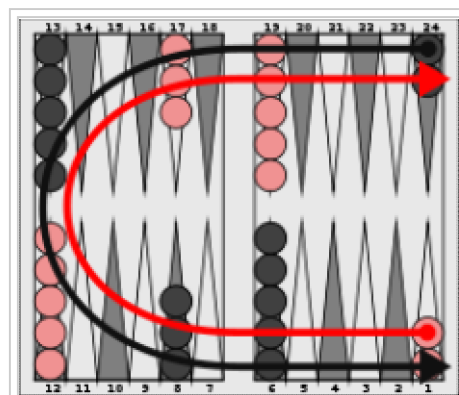
Movement

To start the game, each player rolls one die, and the player with the higher number moves first using both the numbers shown. If the players roll the same number, they must roll again as the first move can not be a double. Both dice must land completely flat on the right hand side of the gameboard. The players then alternate turns, rolling two dice at the beginning of each turn.[1][2]

After rolling the dice players must, if possible, move their checkers according to the number of pips shown on each die. For example, if the player rolls a 6 and a 3 (notated as "6-3"), that player must move one checker six points forward, and another or the same checker three points forward. The same checker may be moved twice as long as the two moves are distinct: six and then three, or three and then six. If a player rolls two of the same number, called doubles, that player must play each die twice. For example, upon rolling a 5-5 that player may move up to four separate checkers forward five spaces each. For any roll, if a player can move both dice, that player is compelled to do so. If players cannot move either die in a roll, given the position of their checkers then that turn is over and the turn passes to the opponent.

If it is possible to move either die, but not both, the higher number must be played. For example if a player rolls 6-3 and can only move a 6 or a 3, the 6 being the bigger number must be moved; if it is possible to move the 3 but not the 6 then the 3 is played.[1][2] Further, if one die is unable to be moved, but such a move is made possible by the moving of the other die, that move is compulsory.

For example, in the case of a 6-3 roll, no moves of 3 are possible by any checker. However there are 2 moves of a 6, with checker A or checker B. If checker A is moved 6, the 3 still cannot be played. If checker B is moved 6, a 3 now may be played. The rules

A Short Treatise on the Game of Backgammon, by Edmond Hoyle

state that the player is forced into moving checker B 6 points, and then 3. In short, the rules compel a player to exhaust every option available to complete both die moves where possible.

In the course of a move, a checker may land on any point that is unoccupied or is occupied only by a player's own checkers. It may also land on a point occupied by exactly one opposing checker, or "blot". In this case, the blot has been hit, and is placed in the middle of the board on the bar that divides the two sides of the playing surface. A checker may never land on a point occupied by two or more opposing checkers; thus, no point is ever occupied by checkers from both players simultaneously.[1][2]

Checkers placed on the bar re-enter the game through the opponent's home board. A roll of 2 allows the checker to enter on the 23-point, a roll of 3 on the 22-point, and so forth. A player may not move any other checkers until all checkers on the bar belonging to that player have re-entered the game.[1][2]

When all of a player's checkers are in that player's home board, that player may start removing them; this is called bearing off. A roll of 1 may be used to bear off a checker from the 1-point, a 2 from the 2-point, and so on. A die may not be used to bear off checkers from a lower-numbered point unless there are no checkers on any higher points.[1][2] For example if a player rolls a 6 and a 5, but has no checkers on the 6-point, though 2 checkers remain on the 5-point, then the 6 and the 5 must be used to bear off the 2 checkers from the 5-point. When bearing off, a player may also move a lower die roll before the higher even if that means 'the full value of the higher die' is not fully utilized. For example, if a player has exactly 1 checker remaining on the 6-point, and rolls a 6 and a 1, the player may move the 6-point checker 1 place to the 5-point with the lower die roll of 1, and then bear that checker off the 5-point using the die roll of 6; this is sometimes useful tactically.

If one player has not borne off any checkers by the time that player's opponent has borne off all fifteen, then the player has lost **a gammon**, which counts for double a normal loss. If the losing player has not borne off any checkers and still has checkers on the bar or in the opponent's home board, then the player has lost **a backgammon**, which counts for triple a normal loss.[1][2]

Doubling cube

To speed up match play and to provide an added dimension for strategy, a doubling cube may be put into play. A standard doubling cube is a six-sided die marked with the numbers 2, 4, 8, 16, 32, and 64. At the start of each game, the doubling cube is placed on the bar with the number 64 showing; the cube is then said to be "centered on 1". When the cube is centered, and before rolling the dice on their turn, players may propose that the game be played for twice the current stakes. Opponents must either accept ("take") the doubled stakes or resign ("drop") the game immediately. If the opponents take, the cube, showing the doubled stake, is moved to the opponent side of the board. Thereafter, the right to re-double belongs exclusively to the player who last accepted a double. Whenever a player accepts doubled stakes, the cube is placed with the corresponding power of two facing upward.[1][2] If the opponent drops the doubled stakes, he loses the game at the current value of the doubling cube. For instance, if the cube showed the number 2 and a player wanted to redouble the stakes to put it at 4, the opponent choosing to drop the redouble would lose a double game.
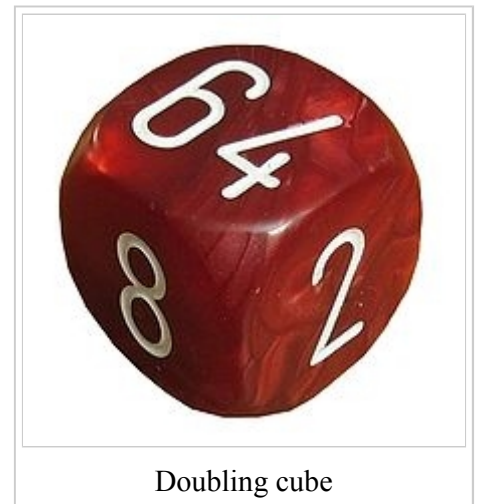
Doubling cube

The game is rarely redoubled beyond four times the original stake, but there is no limit on the number of doubles. Although 64 is the highest number depicted on the doubling cube, the stakes may rise to 128, 256, and so on. In money games, a player is often permitted to **"beaver"** when offered the cube, doubling the value of the game again, while retaining possession of the cube.[3]

A variant of the doubling cube "beaver" is the "**raccoon**." Players who doubled their opponent, seeing the opponent beaver the cube, may in turn then double the stakes once again ("raccoon") as part of that cube phase before any dice are rolled. The opponent retains the doubling cube. E.g. White doubles Black to 2 points, Black accepts then beavers the cube to 4 points; White, confident of a win, raccoons the cube to 8 points, whilst Black

retains the cube. Such a move adds greatly to the risk of having to face the doubling cube coming back at 8 times its original value when first doubling the opponent (offered at 2 points, counter offered at 16 points) should the luck of the dice change.

Some players may opt to invoke **The Murphy rule** or the "automatic double rule." If both opponents roll the same opening number, the doubling cube is incremented on each occasion yet remains in the middle of the board, available to either player. The Murphy rule may be invoked with a maximum number of automatic doubles allowed and that limit is agreed to prior to a game or match commencing. When a player decides to double the opponent, the value is then a double of whatever face value is shown (e.g. if two automatic doubles have occurred putting the cube up to 4, the first in-game double will be for 8 points). The Murphy rule is not an official rule in backgammon and is rarely, if ever, seen in use at officially sanctioned tournaments.

The **Jacoby rule** allows gammons and backgammons to count for their respective double and triple values only if the cube has already been offered and accepted. This encourages a player with a large lead to double, possibly ending the game, rather than to play it to conclusion hoping for a gammon or backgammon. The Jacoby rule is widely used in money play but is not used in match play.[4]

The **Crawford rule** is designed to make match play more equitable for the player in the lead. If a player is one point away from winning a match, that player's opponent will always want to double as early as possible in order to catch up. Whether the game is worth one point or two, the trailing player must win to continue the match. To balance the situation, the Crawford rule requires that when a player first reaches a score one point short of winning, neither player may use the doubling cube for the following game, called the **Crawford game**. After the Crawford game, normal use of the doubling cube resumes. The Crawford rule is routinely used in tournament match play.[4] It is possible for a Crawford game never to occur in a match.

If the Crawford rule is in effect, then another option is the **Holland rule**, which stipulates that after the Crawford game, a player cannot double until after at least two rolls have been played by each side. It was common in tournament play in the 1980s but is now rarely used.[5]

Variants

Main article: Tables (board game)

There are many variants of standard backgammon rules. Some are played primarily throughout one geographic region, and others add new tactical elements to the game. Variants commonly alter the starting position, restrict certain moves, or assign special value to certain dice rolls, but in some geographic regions even the rules and directions of the checkers movement change, rendering the game fundamentally different.

Todas tablas from the Libro de los juegos

Acey-deucey is a variant of backgammon in which players start with no checkers on the board, and must bear them on at the beginning of the game. The roll of 1-2 is given special consideration, allowing the player, after moving the 1 and the 2, to select any desired doubles move. A player also receives an extra turn after a roll of 1-2 or of doubles[6].

Hypergammon is a variant of backgammon in which players have only three checkers on the board, starting with one each on the 24-, 23- and 22-points. The game has been strongly solved, meaning that exact equities are available for all 32 million possible positions.[7][8]

Nackgammon is a variant of backgammon invented by Nick "Nack" Ballard[9] in which players start with one fewer checker on the six point and midpoint and two checkers on the 23 point.[8][10]

Russian backgammon is a variant in which players start with no checkers on the board, and both players move in the same direction to bear off in a common home board. In this variant, doubles are more powerful: four moves are played as in standard backgammon, followed by four moves according to the difference of the dice value from 7,

and then the player has another turn (with a few exceptions).[11]

Gul Bara and **Tapa** are also variants of the game popular in south-eastern Europe and Turkey. The play will iterate between Backgammon, Gul Bara, Tapa and back until one of the players reaches a score of 7 or 5.

Another simple variant of Backgammon is to only allow a maximum of five checkers on any point. This variation is not part of the official rules, but has proved popular with casual players in some regions (e.g., Britain).[12]

Strategy and tactics

Backgammon has an established opening theory, although it is less detailed than that of games like chess. The tree of positions expands rapidly because of the number of possible dice rolls and the moves available on each turn. Recent computer analysis has offered more insight on opening plays, but the midgame is reached quickly. After the opening, backgammon players frequently rely on some established general strategies, combining and switching among them to adapt to the changing conditions of a game.

Backgammon set, 19th century

The most direct strategy is simply to avoid being hit, trapped, or held in a stand-off. A "running game" describes a strategy of moving as quickly as possible around the board, and is most successful when a player is already ahead in the race.[13] When this fails, one may opt for a "holding game", maintaining control of a point on one's opponent's side of the board, called an anchor. As the game progresses, this player may gain an advantage by hitting an opponent's blot from the anchor, or by rolling large doubles that allow the checkers to escape into a running game.[13]

The "priming game" involves building a wall of checkers, called a prime, covering a number of consecutive points. This obstructs opposing checkers that are behind the prime. A checker trapped behind a six-point prime cannot escape until the prime is broken.[13] A particularly successful priming effort may lead to a "blitz", which is a strategy of covering the entire home board as quickly as possible while keeping one's opponent on the bar. Because the opponent has difficulty re-entering from the bar or escaping, a player can quickly gain a running advantage and win the game, often with a gammon.[1]

A "backgame" is a strategy of placing two or more anchors in an opponent's home board, while building a prime in one's own board. The anchors obstruct the opponent's checkers and create opportunities to hit them as they move home. The backgame is generally used only to salvage a game wherein a player is already significantly behind; using a backgame as an initial strategy is usually unsuccessful.[1][13]

"Duplication" refers to the placement of checkers such that one's opponent needs the same dice rolls to achieve different goals. For example, players may position all of their blots in such a way that the opponent must roll a 2 in order to hit any of them, reducing the probability of being hit more than once.[1][13] "Diversification" refers to a complementary tactic of placing one's own checkers in such a way that more numbers are useful.[13]

Many positions require a measurement of a player's standing in the race, for example, in making a doubling cube decision, or in determining whether to run home and begin bearing off. The minimum total of dice rolls needed to move a player's checkers around and off the board is called the "pip count". The difference between the two players' pip counts is frequently used as a measure of the leader's racing advantage. Players often use mental calculation techniques to determine pip counts in live play.[13]

Social and competitive play

Club and tournament play

Enthusiasts have formed clubs for social play of backgammon. Local clubs may hold informal gatherings, with

members meeting at cafés and bars in the evening to play and converse.[14] [15] A few clubs offer additional services, maintaining their own facilities or offering computer analysis of troublesome plays.[16] Some club leaders have noticed a recent growth of interest in backgammon, and attribute it to the game's popularity on the Internet.[17]

Medieval players, from the 13th century Carmina Burana

A backgammon chouette permits three or more players to participate in a single game, often for money. One player competes against a team of all the other participants, and positions rotate after each game. Chouette play often permits the use of multiple doubling cubes.[1]

Backgammon clubs may also organize tournaments. Large club tournaments sometimes draw competitors from other regions, with final matches viewed by hundreds of spectators.[18] The top players at regional tournaments often compete in major national and international championships. Winners at major tournaments may receive prizes of tens of thousands of dollars.[19]

International competition

See also: List of World Backgammon champions

The first world championship competition in backgammon was held in Las Vegas, Nevada in 1967. Tim Holland was declared the winner that year and at the tournament the following year. For unknown reasons, there was no championship in 1969 or 1970, but in 1971, Tim Holland again won the title. The competition remained in Las Vegas until 1975, when it moved to Paradise Island in the Bahamas. The years 1976, 1977 & 1978 saw "dual" World Championships, one in the Bahamas attended by the Americans, and the *European Open Championships* in Monte Carlo with mostly European players. In 1979, Lewis Deyong, who had promoted the Bahamas World Championship for the prior three years, suggested that the two events be combined.[20] Monte Carlo was universally acknowledged as the site of the World Backgammon Championship and has remained as such for thirty years.[21] The Monte Carlo tournament draws hundreds of players and spectators, and is played over the course of a week.[19]

By the 21st century, the largest international tournaments had established the basis of a tour for top professional players. Major tournaments are held yearly worldwide. PartyGaming sponsored the first World Series of Backgammon in 2006 from Cannes and later the 'Backgammon Million' tournament held in the Bahamas in January 2007 with a prize pool of one million dollars, the largest for any tournament to date.[22] In 2008, the World Series of Backgammon ran the world's largest international events in London, the UK Masters, the biggest tournament ever held in the UK with 128 international class players; the Nordic Open which instantly became the largest in the world with around 500 players in all flights and 153 in the Championship, and Cannes, which hosted the Riviera Cup, the traditional follow-up tournament to the World Championships. Cannes also hosted the WSOB Championship, the WSOB finale which saw 16 players play three-point shootout matches for €160,000. The event was recorded for television in Europe airing on Eurosport.

The World Backgammon Association (WBA) has been holding the biggest backgammon Tour of the circuit since 2007, the "European Backgammon Tour" (EBGT), regrouping tournaments such as "Portuguese Open", "Georgian Open", "French Open", "Cyprus Open", "City of Venice", etc. With a total payout of around US$1,000,000, it is the richest circuit in backgammon, bringing the best players of the world together. WBA also stages the "US Open" and other events around the globe. WBA has contributed to a high stakes event called "Crowns Cup" broadcast on several TV-channels.[citation needed]

Gambling

When backgammon is played for money, the most common arrangement is to assign a monetary value to each point, and to play to a certain score, or until either player chooses to stop. The stakes are raised by gammons, backgammons, and use of the doubling cube. Backgammon is sometimes available in casinos. Before the

commercialization of neural network programs, proposition bets on specific positions were very common among backgammon players and gamblers.[23] As with most gambling games, successful play requires a combination of luck and skill, as a single dice roll can sometimes significantly change the outcome of the game.[13]
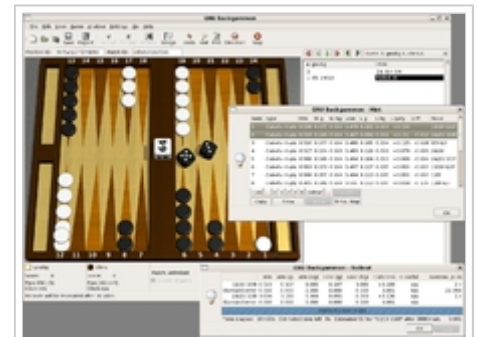
Cheating

Numerous cheating methods have been used in backgammon. In over the board games, these include moving the checker the wrong number of spaces; using magnetic, shaved, or weight-loaded dice and using special throws to produce the dice number desired. The most common cheating methods in online backgammon include assistance from software or a third party, intended disconnections and rating manipulations.

Software

Play and analysis

Backgammon has been studied considerably by computer scientists. Neural networks and other approaches have offered significant advances to software for gameplay and analysis.

A screen shot of GNU Backgammon, showing an evaluation and rollout of possible moves

The first strong computer opponent was BKG 9.8. It was written by Hans Berliner in the late 1970s on a DEC PDP-10 as an experiment in evaluating board game positions. Early versions of BKG played badly even against poor players, but Berliner noticed that its critical mistakes were always at transitional phases in the game. He applied principles of fuzzy logic to improve its play between phases, and by July 1979, BKG 9.8 was strong enough to play against the ruling world champion Luigi Villa. It won the match, 7–1, becoming the first computer program to defeat a world champion in any board game. Berliner stated that the victory was largely a matter of luck, as the computer received more favorable dice rolls.[24]

In the late 1980s, backgammon programmers found more success with an approach based on artificial neural networks. TD-Gammon, developed by Gerald Tesauro of IBM, was the first of these programs to play near the expert level. Its neural network was trained using temporal difference learning applied to data generated from self-play.[25] According to assessments by Bill Robertie and Kit Woolsey, TD-Gammon's play was at or above the level of the top human players in the world.[25] Woolsey said of the program that "There is no question in my mind that its positional judgment is far better than mine."[25]

Neural network research has resulted in three modern commercial programs, Jellyfish,[26] Snowie[27] and eXtreme Gammon[28] as well as the shareware BGBlitz[29] and the free software GNU Backgammon.[30] These programs not only play the game, but offer tools for analyzing games and offering detailed comparisons of individual moves. The strength of these programs lies in their neural networks' weights tables, which are the result of months of training. Without them, these programs play no better than a human novice. For the bearoff phase, backgammon software usually relies on a database containing precomputed equities for all possible bearoff positions.

Internet play

Backgammon software has been developed not only to play and analyze games, but also to facilitate play between humans over the internet. Dice rolls are provided by random or pseudorandom number generators. Real-time online play began with the First Internet Backgammon Server in 1992.[31] It is the longest running non-commercial backgammon server and retains an international community of backgammon players.

History

The history of Backgammon goes back approximately 5,000 years.

Board games have existed for millennia in Ancient Egypt and Southwest Asia. The ancient Egyptian game senet, was excavated, along with illustrations, from ancient Egyptian royal tombs.[32] The Royal Game of Ur, played in ancient Mesopotamia, may also be an ancestor of modern day table games.

Brädspel ("board game") set recovered from the warship *Vasa*, which sank in 1628.

Ancient Iran

See Also: Nard

Excavations at Shahr-e Sokhteh (Persian شهر سوخته , literally "The Burnt City") in Iran have shown that a similar game existed there around 3000 BC. The artifacts include two dice and 60 checkers, and the set is believed to be 100 to 200 years older than the sets found in Ur, and on the board found at Shahr-e Sokhteh the fields are fashioned by the coils of a snake.[33][34]

Rome

The ancient Romans played a number of games remarkably similar to backgammon. *Ludus duodecim scriptorum* ("Game of twelve lines") used a board with three rows of 12 points each, and the checkers were moved across all three rows according to the roll of dice. Little specific text about the gameplay has survived.[35] *Tabula*, meaning "table" or "board", was a game mentioned in an epigram of Byzantine Emperor Zeno (AD 476–481). It was similar to modern backgammon in that the object of the game was to be the first to bear off all of one's checkers. Players threw three dice and moved their checkers in opposing directions on a board of 24 points.[36][37]

India

Touraj Daryaee (2006)— on the subject of the first written mention of early precursors of backgammon—writes:

> "The game of backgammon is first mentioned in Bhartrhari's *Vairagyasataka* (p. 39), composed around the late sixth or early seventh century AD. The use of dice for the game is another indication of its Indic origin, since dice and gambling were a favorite pastime in ancient India. The rules of the game, however, first appeared in the Middle Persian text *Wizarisnı Catrang ud Nihisnı New Ardaxsır* (Explanation of Chess and Invention of Backgammon), composed in the sixth century during the rule of the Sasanian king Khosrow I (530–571). The text assigns its invention to the Persian sage Wuzurgmihr (Arabic/Persian) Buzarjumihr/Bozorgmehr, who was the minister of King Khosrow I, as a challenge for the Indian sages."[38]

In the 11th century *Shahnameh*, the Persian poet Ferdowsi credits Burzoe with the invention of the tables game *nard* in the 6th century. He describes an encounter between Burzoe and a Raja visiting from India. The Raja introduces the game of chess, and Burzoe demonstrates *nard*, played with dice made from ivory and teak.[39][40] Today, Nard is the name for the Persian version of backgammon, which has different initial positions and objectives.[41] H.J.R. Murray details many versions of Backgammon; modern Nard is noted there as being the same as backgammon and maybe dating back to 300 - 500 AD in the Babylonian Talmud.[40]

East Asia

It was popular for a time but then replaced by other games such as the chess variant Xiangqi.[42]

Europe

The *jeux de tables* (Games of Tables), predecessors of modern backgammon, first appeared in France during the 11th Century and became a favorite pastime of gamblers. In 1254, Louis IX issued a decree prohibiting his court officials and subjects from playing.[40][43] Tables games were played in Germany in the 12th century, and had reached Iceland by the 13th century. In Spain, the Alfonso X manuscript *Libro de los juegos*, completed in 1283, describes rules for a number of dice and table games in addition to its extensive discussion of chess.[44] By the 17th Century, tables games had spread to Sweden. A wooden board and checkers were recovered from the wreck of the Vasa among the belongings of the ship's officers. Backgammon appears widely in paintings of this period, mainly those of Dutch and German painters (Van Ostade, Jan Steen, Bosch and others). One surviving artwork is "Cardsharps" by Caravaggio (the backgammon board is in the lower left). Others are the Hell of Bosch and interior of an Inn by Jan Steen.

England

In the 16th century, Elizabethan laws and church regulations prohibited playing tables, but by the 18th century backgammon was popular among the English clergy.[40] Edmund Hoyle published *A Short Treatise on the Game of Back-Gammon* in 1743; this described rules and strategy for the game and was bound together with a similar text on whist.[45]

In English, the word "backgammon" is most likely derived from "back" and Middle English "*gamen*", meaning "game" or "play". The earliest use documented by the Oxford English Dictionary was in 1650.[46]

United States

The most recent major development in backgammon was the addition of the doubling cube. It was first introduced in the 1920s in New York City among members of gaming clubs in the Lower East Side.[47] The cube required players not only to select the best move in a given position, but also to estimate the probability of winning from that position, transforming backgammon into the expected value-driven game played in the 20th and 21st centuries.[47]

Beginning in the mid-1960s, the popularity of Backgammon surged, in part due to the charisma of Prince Alexis Obolensky, who was known as "The Father of Modern Backgammon".[48] "Obe", as he was called by friends, co-founded the International Backgammon Association[49] which published a set of official rules. He also established the World Backgammon Club of Manhattan, devised a backgammon tournament system in 1963, then organized the first major international Backgammon tournament in March, 1964 which attracted royalty, celebrities and the paparazzi. The game became a huge fad and was played on college campuses, in discothèques and at country clubs;[48] stockbrokers and bankers began playing at conservative men's clubs.[50] People young and old all across the country dusted off their boards and checkers. Cigarette, liquor and car companies began to sponsor tournaments and Hugh Hefner held backgammon parties at the Playboy Mansion.[51] Backgammon clubs were formed and tournaments were held, resulting in a World Championship promoted in Las Vegas in 1967.[20]

Most recently, the US Backgammon Federation (USBGF) was organized in 2009 to repopularize the game in the United States. Board and committee members include many of the top players, tournament directors and writers in the worldwide backgammon community. The USBGF has recently created a Standards of Ethical Practice to address issues tournament rules fail to touch on.

See also

- Backgammon notation
- Backgammon players (category)
- Tables (board game)
- Table games

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External links

- Backgammon at the Open Directory Project
- US Backgammon Federation
- GNU Backgammon: A free open-source Backgammon sofware
- rec.games.backgammon on Usenet
- Video tutorial with Gus Hansen
- Backgammon positions and problems