

Appendix

[There were several entries in of the first edition which contained general information rather than of descriptions of particular games. There has been no place for these in the main body of the book, and so they are grouped here. I have divided them into Practicalities, People, Organizations, Publications, and Miscellanea.]

Practicalities

Designing a variant. In the geometric universe that chess inhabits, there are many fascinating possibilities for new pieces and innovative board designs that go beyond the basics of the royal game to create a new 'flavour' for the play. However, most designs are not marketable because designers tend to underestimate the subtlety of what makes a good chess variant

Two of the secrets of variant design are elegance and balance. An elegant game combines a minimum of rules with a maximum of strategy. Chess itself is a simple game to learn, but its resulting strategy is profound. Any good chess variant should have similar elegance. Many inventors assume that making a game more complicated will make it better, but usually the opposite is true. The eternal challenges of regular chess do not arise from its complexity but from the subtle balances of different elements in the game. A good player has to do more than calculate variations; he must know how to judge the relative value of many competing strategic factors - for master players, the decision is often based on intuition. But in a variant with many extra pieces subtle distinctions of balance tend to become much less important - what does it matter if one gambits a pawn when each player has three queens? The endgame in which the pawn advantage becomes important will rarely be reached.

Another form of balance in chess worth analyzing is the battle between knights and bishops. Which is the better? The answer depends totally on the position. When a designer changes the parameters of board size, piece powers etc., the relative balance between

the pieces quickly changes, and must be reconstituted in some way to prevent the game from being too straightforward. So any good variant should have a similar myriad of strategical balances of this kind to keep the game intriguing.

Obviously, the design must have no technical flaws such as forced wins or draws. Many designs submitted to manufacturers permit a player to set up an impenetrable defence after which he cannot lose - these games are 'busted'. A similar problem is the unwinnable endgame. A personal favourite is the proprietary game Choiss which plays well except that all endgames tend to be draws due to the 'holes' in the board. In fact, in quite a lot of situations it isn't possible to win even with K+Q v K.

For three-player and four-player variants there is an additional design consideration. Because each player has more than one opponent, there is a strong tendency toward slow, defensive play that the designer must counter. Consider a standard three-player game. Player A attacks Player B and wins a Q for a R - but against player C, player A is a rook down. Attacks tend to benefit the uninvolved player. Within the games industry, this problem is considered to be a main reason why multi-player chess games have never been commercially successful despite dozens of clever attempts. In fact, due to their reputation as poor sellers, retailers will often decline to stock a multi-player game however good it may be. The first inventor to solve this problem in an elegant way, and without an excess of new rules, will be the first to succeed with this natural idea (Tom Braunlich).

Taxonomy. A number of attempts going back to at least 1908 (Maack), none wholly successful, have been made to classify chess variants.

George Dekle distinguishes ten general groupings: Ancestral Chess (chaturanga, shatranj, medieval), Oriental Chess (Xiangqi, Sittuyin etc), Shogi and variants, Decimal Chess (10x10, 10x8 etc) with added pieces, Enlarged Chess (boards larger than 8x8 but of dimensions other than decimal), Micro Chess (boards smaller than 8x8), Group Chess (multi-player games), Fairy Chess (orthochess

‘with a twist’), Not-Quite Chess (borderline games like Cheskers, Racing Kings, Ultima).

Marco Fabbri lists seven main categories, each broken down into sub-categories: Board, Initial position, Basic Movement rules, New Pieces, Capture rules, Check and checkmate, Number of players.

The most ambitious attempt at a taxonomy is that of Michael Keller (*World Game Review* 10) in which categories and sub-categories are examined, with examples, in considerable detail:

- (1) Fixed initial position: (a) Equal armies; (b) Unequal armies.
- (2) Variable initial position: (a) Free/random selection; (b) Delayed deployment; (c) Secret deployment; (d) Creation and removal of units during play; (e) Variable units; (f) Choice of forces.
- (3) Historical and regional games: (a) Shatranj family; (b) Regional great chesses; (c) Shogi family; (d) Other Asian chesses; (e) Literary chesses.
- (4) Modified pawns and promotion: (a) Modified pawns; (b) Modified promotion.
- (5) Modified kings.
- (6) Combined pieces: (a) Pieces with added knight power; (b) Pieces with differing capturing moves.
- (7) Other new pieces: (a) Leapers; (b) Riders; (c) Hoppers; (d) Chess/draughts combinations; (e) Miscellaneous pieces.
- (8) Plane boards: (a) Great Chess; (b) Minichess; (c) Irregular boards; (d) Infinite boards.
- (9) Multi-dimensional boards: (a) Three-dimensional; (b) Multiple boards; (c) Four or more dimensions.
- (10) Non-planar boards: (a) Cylindrical; (b) Round; (c) Rebound.
- (11) Mosaic: (a) Hexagonal; (b) Triangular; (c) Other tilings.
- (12) Boards modifying movement: (a) Restricted movement; (b) Increased/alterd movement.
- (13) Miscellaneous board modifications: (a) Boards with moving parts; (b) Boards altered during play; (c) Special effects on selected squares.
- (14) More than one move per turn: (a) Fixed-length series; (b) Variable-length series; (c) Progressive.
- (15) Movement limitations: (a) Limited choice of moves; (b) Other movement restrictions; (c) Dice chess.
- (16) Multiple units per square: (a) Units functioning independently; (b) Combining units.
- (17) New types of movement: (a) Relay; (b) Teleportation; (c) Crossings; (d) Castling; (e) Miscellaneous.
- (18) Movement of enemy and neutral units: (a) Enemy units; (b) Neutral units.
- (19) Miscellaneous movement modifications: (a) Modifications of earlier moves; (b) Hidden movement; (c) Simultaneous movement; (d) Periodical rule changes.
- (20) Right to capture: (a) Limitations of right; (b) Extensions of right.
- (21) New methods of capture: (a) Coordination; (b) Rifle; (c) Custodian; (d) Capricorn; (e) Dynamo; (f) Miscellaneous; (g) Mixed.
- (22) Disposition of captives: (a) Conversion; (b) Repositioning; (c) Immobilization; (d) Demotion.
- (23) Side effects of capture: (a) Effects on capturing unit; (b) Other side effects.
- (24) Modifications of objective: (a) Capture of all opposing units; (b) Loss of all own units; (c) Multiple targets; (d) Multirex; (e) Modified check; (f) Other objectives.
- (25) Modification of number of players: (a) Three-handed; (b) Four-handed; (c) More than four; (d) Team.

[Readers will please *not* put forward the classification adopted in this book as an alternative taxonomy, whether with approval or otherwise. The aim was not to attempt an

academic classification of games, but merely to divide a given set of material into reasonably homogeneous and digestible chunks. The requirement is very different.]

People

Boyer, Joseph (1895-1961). Describing himself as a chess militant and a Marxist, Boyer was a ceaseless campaigner for variant chess. He was the author of two minor classics, *Les Jeux d'Échecs Non Orthodoxes* (1951) and *Nouveaux Jeux d'Échecs Non Orthodoxes* (1954). His other works included *Les Jeux de Dames Non Orthodoxes* (jointly with V. R. Parton). He also wrote verse. Boyer organized over a score of international correspondence tournaments of variant chess and was the prime mover in the Centre d'Étude des Jeux de Combinaison in Paris.

Parton, Vernon Rylands (1897-1974). An active campaigner for variant chess, Parton published nine monographs on his ideas, the contents of which however tended to overlap. Parton followed his father's footsteps into a teaching career which ill-health soon forced him to leave. His interests were wide and he was a great believer in Esperanto. He will be remembered in particular for Alice Chess, unquestionably his most imaginative game.

[In the first edition, David also mentioned the following:

Organizations

NOST (Knights of the Square Table). U.S. social postal chess organization formed in 1960 by Bob Lauzon and Jim France. Chess variants formed a prominent part of its activities. NOST held an annual convention and at its peak enjoyed an active membership of several hundred. The club succumbed to Internet competition.

AISE. The Associazione Italiana Scacchi Eterodossi (AISE) had its roots in the burgeoning interest shown in variant chess by the Florence Chess Circle, with the active participation of orthochess masters Castaldi, Porreca and Scafarelli, in the years following World War II. In 1971, the Associazione

Betza, Ralph. Inventor and researcher of chess variants.

Castelli, Alessandro. President of AISE and editor of *Eteroscatto*.

Cohen, Philip M. Contributor to *Nost-algia* whose column *Olla Podrida* was for long time a source of chess variants.

Dawson, Thomas R. Problemist; acknowledged as the father of Fairy Chess.

Jelliss, George. Problemist and founder of *Variant Chess*.

Keller, Michael. Founder, editor and publisher of *World Game Review*.

Klüver, Hans. Problemist and variant enthusiast.

Murray, H. J. R. Chess historian and author.

Schmittberger, R. Wayne. Variant enthusiast and inventor; formerly editor of *Games* magazine.

Wood, Baruch H. Journalist; founder, editor, and publisher of *Chess*.

The singling out of Parton for a detailed entry was curious - he now seems merely a prolific and largely undisciplined inventor no more worthy of note than a dozen others - but this was the text as I received it.]

Scacchistica Italiana Giacotori per Corrispondenza (ASIGC) was founded, Armando Silli taking a leading role, and this actively involved itself with the variant ideas of Roberto Salvadori and Roberto Magari. In 1975 AISE was formed as an affiliated organization of ASIGC. The following year the first national tournament of Progressive Chess took place at La Spezia. The official organ of AISE, *Eteroscatto*, first appeared in the Spring of 1978, and the next year AISE seceded from ASIGC to become an independent body. The lead taken by AISE in organizing national and international events and in encouraging research into popular variants firmly established Italy as

a leading nation in the field of variant chess. AISE, like NOST, was a casualty of the Internet.

Publications

Nost-algia. The magazine of NOST. Chess variants featured prominently, notably in Philip Cohen's *Olla Podrida* pages.

Eteroscacco. The official organ of AISE. It began life in October 1976 as *E.Sc.I* (Eterodossia Scacchistica Italiana), a fanzine edited by Armando Silli, which ceased publication in December 1977. *Eteroscacco* itself appeared regularly from 1978 until it closed with the December 1999 issue, shortly before the effective demise of AISE in 2000. It was a prestigious journal devoted to chess variants. [It was resurrected in 2006 as an Internet publication.]

Yoga-Schach. Publication launched by Klaus Burchkhardt in 1982 linking yoga and chess.

Variant Chess. U.K. magazine founded by George Jelliss in 1990, and subsequently edited by Peter Wood. Since 1996 it has been published by the British Chess Variants Society. The current editor (2007) is John Beasley.

[*Variant Chess*, unlike *Eteroscacco* and *Nost-algia*, is still going strong, though

Miscellanea

Chess Variant Pages. Internet site devoted to chess variants. Begun as a website created by Hans Bodlaender in January, 1995. Initially consisted largely of selected variants including several historic chess games. Interest in the site increased and viewers contributed new variants; these prompted Bodlaender to introduce graphics. In the following years the website grew rapidly in popularity and in the Spring of 1997 David Howe joined as joint editor. Subsequently, four additional editors were established to meet the increased demand: John William Brown, Tom Cook, Pavel Tikhomirov and Vu Vo. The site remained at Hans Bodlaender's personal webspace at Utrecht University but it was clear that the interest would soon outgrow its

British Chess Variants Society. Founded in 1996. The society publishes the magazine *Variant Chess*, and maintains a web site.

whether it will outlive the present production team remains to be seen. Increasingly, magazine editors are coming to prefer the simpler and less expensive procedure of publishing on the Internet. But there is a downside: Internet material is basically transitory, and there are no libraries of legal deposit such as there are for conventional material. To cite just one example among many, the web site maintained by the late Stan Goldovski vanished without notice after his untimely death and took all his Losing Chess material with it, though his friends were able to reinstate most of it using copies they had downloaded. Nor do computer-readable archives have more than a temporary life, and even if they are kept they have to be transferred to new media at regular intervals. The backup discs I made when writing a book in 1989 could not be read on any computer commercially available today, because the format in which they were written is long out of date and drives capable of reading them are no longer manufactured. Yet I have been to the British Library and studied a book printed more than five hundred years ago, and a manuscript written more than seven hundred.]

current home. In consequence, a new location was found and a domain name for the site obtained. Later, some editors left and four new editors joined the team: Fergus Duniho, Jean-Louis Cazaux, Ben Good and Peter Aronson.

Rules for variants were developed and published and competitions introduced, the first two for Progressive Fischerandom Chess. Competitions to design variants followed, many stipulating the number of board squares. Besides these, the site gained an encyclopedia of pieces (the Piececlopedia), sample games, several Java applets, numerous files for playing variants with the proprietary *Zillions of Games* program, and a versatile game playing system known as Game Courier. Created by Fergus Duniho, the system can be

used to play almost any variant.

New editors with specific responsibilities joined the team: Tony Quintanilla (new web page publishing), Ed Friedlander (Java applets for playing on a web browser) and Antoine Fourrière (new games for the Game Courier). The Chess Variant Pages remains a non-commercial website run by hobbyists for hobbyists. Its editorial staff of volunteers implement the aims of the site which are to educate people about chess variants, encourage game play, and to provide a place for free discussion. Facilities for publishing documents are also provided with a wide selection of fonts and layouts. The popularity of Chess Variant Pages is evident, with almost a quarter of a million page views and nearly 100,000 visitors a month. At the time of writing, the number of web pages has grown to well over 4,000 with an active discussion board and gaming system.

[Some of this will be out of date even before it appears in print, but I have retained it because users of the pages may like to read the story of its creation and early development.]

Fairy Chess. Term sometimes given to variant games but more usually to problems and tasks in which the board, men or rules are changed in order to express an idea or theme impossible in orthochess. The name, which has resisted attempts to change it, was coined by Henry Tate of Melbourne in 1914.

Heterochess Olympiads. The first Heterochess Olympiad by correspondence was organized by AISE in 1988. Variants played, nominated by the participating teams, were Chessgi, Circe Progressive, Marseillais, Mutation, Italian Progressive, Progressive Take-all, Avalanche, and Losing Chess. Eight teams from six countries took part, the first three places being occupied, as expected, by Italy. Results (game points in brackets): Italy (I) 7 (78), Italy (III) 6 (72.5), Italy (II) 5 (80), England 4 (49.5), Canada 3 (59.5), U.S.A. 2 (47), Czechoslovakia 1 (34.5), New Zealand 0 (18). An album containing all the games of the event was published by AISE in 1992. The second Olympiad was started in 1993. Eight teams took part: Bohemia-Moravia-Slovakia (combined team equivalent to the former Czechoslovakia), England, Esperanto(!), Italy

(two teams), North America, Poland, and Ukraine. Italy (I) were the winners, with England second and Ukraine third. A third Olympiad was completed in October 2000.

Kriegsspiel, Kriegspiel. Literally ‘war game’; generic term given to table-top games, originally of Prussian origin, played on a map or other representation of terrain. Drawing, consciously or unconsciously, on the chess model, these games had as their aim the training of officers in military strategy, and in this respect differed from those variants which adopted military names for the pieces but whose object was to ‘improve’, or at least rationalise, the game of chess. Kriegsspiels required large playing areas and a profusion of pieces, whereas military chess games did not differ significantly from orthochess in board size or the number of pieces employed.

Some consider Weickmann’s Grosses Königs-Spiel (1664) to be the forerunner of kriegsspiels. Certainly the inventors of the early kriegsspiels acknowledged their indebtedness to chess. Thus Helwig, Master of Pages to the Duke of Brunswick who instructed him to evolve a game for the training of young men in the art of war, described how, in developing his Military Chess (1780), the first game to introduce terrain features on a board, ‘I should achieve my objective in the quickest way if I took for its basis the game of chess ... my idea was to adopt the game to my own game’, adding that ‘chess players were the first to welcome my invention’ (Brace). Giacometti, whose enlarged board included a river, described his Jeu de la Guerre as a new game of chess, whilst Firmas-Périés, closely following the ideas of Helwig, declared his Jeu de Stratégie an attempt to make chess, in its context as a wargame, more realistic (and bigger: by some 2,500-odd squares). Von Pillsach kept the link alive with Siege Chess (1820) which, whilst using terrain features, retained the distinctive four-handed board (8x8 with four 8x3 extensions) introduced by K.E.G. in Dessau in 1784. Interestingly, an early ‘blind’ kriegsspiel had the two players deploying their forces on maps, an umpire keeping them informed about the proximity of enemy forces; a procedure introduced as a chess novelty a half-century later (Faidutti). As time passed, these war

games became more and more sophisticated and were officially incorporated into military training in several countries. In the latter half of the 19th century simplified kriegsspiels, restored to their role as games, began to appear on the market. A present-day survivor, *Stratego* (formerly *L'Attaque*), has a history approaching 100 years.

Following World War II the adult wargame, which may take account of a host of peripheral factors such as leadership, morale and weather, began to make its appearance through specialist games companies like *Avalon Hill* and *S.P.I.* It can safely be said that there is no link between chess and modern wargames.

Patents. Patent applications, whether or not approved, are a rich source of variants which may or may not have been subsequently marketed. The surge of chess-type games began over a century ago and continues unabated.

Primrose Dames (U.K. patent 20,874 of 1899) was the creation of *Lewis Waterman*, a noted games' inventor. Board 16x16, each side having 16 dames (bishops), 6 knights and 4 members (kings). The object was to get all of one's members into the 'house' (eight central squares, g-j/8-9). Members did not capture, and if captured were returned to their start squares. The same year saw *Moncrieff's Game* (U.K. patent 10,857) a four-player extravaganza requiring four chessboards representing Europe, Asia, Africa and America) with positions for artillery between the boards and four central squares representing a city, the purpose of the game being to capture or 'checkmate' the city. Each player had 26 men in a wood (walnut, mahogany, ebony and boxwood) representing each of the four continents. The forces were made up of a king (which moved like a queen), 12 infantry pieces composed of 2 generals (rooks), 2 colonels (bishops), 2 captains (knights) and 6 men (pawns), together with 8 cavalymen and 5 artillerymen. 'It will be seen,' declares the applicant, 'that this game, while resembling chess, possesses an advantage over chess, seeing that it embraces all the moves in chess and a considerable number additional'. In sharp contrast was U.K. patent 514 of 1890, *Burglar and Policemen*, a simple game played on a 5x5 board. All the

pieces were knights. One side was the *Burglar* (initially on c3) and the other the *Policemen* (on a1,c1,e1,a5,c5,e5). The burglar moved first; no capturing; the burglar lost if he could not move. (How did he win?) A forerunner of several such games.

Wuterich's Game (Emil Wuterich, patent 1239 of 1899), if marketed, is unlikely to have found much favour. Board 9x9 with a further rank of five squares positioned centrally at either end. Each side had 26 pieces corresponding to the letters of the alphabet. The vowels were arranged on the extra rank (l. to r.) IAEUO, respectively a N, Q, B, K and R. The consonants were arrayed in the order B-L and M-W (l. to r.) on the next two ranks, with XYZ spaced evenly in front. Consonants moved one square forwards or sideways and could only capture straight ahead. The game was won by checkmate or the king (U) gaining the back rank of the enemy's camp and there, with pieces of either colour, spelling out a pre-arranged five-letter word which, of course, had to contain a U, an improbable achievement against modest opposition. A player forming a word of four or more letters orthogonally or diagonally, the men being of either colour, could claim back a captured man.

H. *Stranders's* patent 7840 of 1891 had players starting with squares as well as pieces, the board being formed as play proceeded, a player having the option of placing a square next to a square already played together with a man, or putting a man on a square already played. The idea anticipated several proprietary games of recent vintage. *Krona* (U.K. patent 3022/1894) had a 9x9 board with 8 Esquires, 8 Knights and a Prince a side arranged in two ranks. Object was to get the Prince (who was immune from capture) to the central square. Esquires moved and captured as pawns but no two-square jump or promotion, knights as fers (one square diagonally) and prince as king. Just after the turn of the century *Adolph Muller's* hexagonal board appeared (patent 3214 of 1902). It was intended for general games use without chess being specifically mentioned. Chess games making use of playing cards or the alphabet were not uncommon whilst variants using military and naval nomenclature proliferated. Thus *T. F. Gaynor* (patent 20002 of 1914) has units of the Services moving as chessmen on

the 8x8 board which is divided into the sea (files a-d) and land (files e-h). (Lasker had patented a wargame on an 11x11 board in 1901.) Airships and captive balloons made their appearance in U.K. patent 9366 of 1913 (G. Paulus).

It is impossible to cover, even in outline, all chess variants that have been patented, but a summary of those filed in a few countries in a recent decade (the 1970s) will give some feel for the sort of ideas inventors consider worthy of the considerable expense involved. David Akers (U.S. patent 3909000 of 1974) came up with a game played on a vertical cylinder of unspecified dimensions with the usual pieces in normal array sandwiched between two lines of pawns.

Casimir Strozewski (U.S. 4045030 of 1976) entered a three-coloured hexagonal 9x9 board with the hexes along axes of 90 degrees or 45 degrees to each other and an extra bishop and pawn a side.

New set designs (cubic, stacking, royalty etc) are in evidence and one sees football (for example, French patent 2443854 of 1978), dice and other familiar deviations. Useful (if available, which is unlikely) for variant enthusiasts are the pieces described in French patent 2435269 of 1979 (W. O. Schoendorf) which covers a 10x8 board game and illustrates a knight with a mitre on its head. A West German application for the same game shows a bishop with a knight's head. The use of dual pieces in variants has since become quite common. Board designs are another popular field of endeavour. One such (U.S. patent 3761093 of 1971 filed by Fred Migliore) has indicia on the squares, each indicium representing a conventional chessman. All pieces are of the same design, their moves governed by the squares they stand on. A round board of 64 spaces, unusually arranged to have eight concentric circles of cells, was filed (U.S. patent 3775554 of 1971) by someone called Capablanca. Another board, in the shape of a nautilus, has no less than 192 spaces (David Hitchcock, U.S. patent 3851883 of 1973).

Variants for three and four players are much in evidence, particularly the former. Three-player games tend to be played either on tricorner boards having 96 spaces (Netherlands patent 2401677, G. van der Laken, is one of

several examples), or on hexagonal boards, these latter in a number of different designs of which a West German patent of 1974 (with subsequent applications in France and the U.S.), in the names of A. Treugut and J. Bottcher, is but one example. The inventors introduced an extra piece, the Cardinal, moving like a queen. The cardinal represented the 'social-political' element; it could neither take nor be taken, serving merely as a block. A mated player, whose pieces were otherwise immobilized, could continue to move his cardinal with the advantage that no player was obliged to drop out. Alternative hexagonal-shaped boards were put forward for this game: the cells were either triangles (106), distorted squares (121) or hexes (151). Interestingly, the first chess variant filed in Germany (1881) was for a three-player game. Chiu-Hua Chang of Taiwan has a four-player game (U.S. patent 4067578 of 1976) on a 192-square board divided into areas representing countries, a diminution of Moncrieff's game. By contrast, Karl Whitney Jr. (U.S. 3843130 of 1973) crowds four sets of chessmen plus eight additional pieces onto a board of 136 squares.

Space games have perennial fascination for inventors. Two such (both U.S.) are 3937471 of 1974 (Gerald Brenman) which has two 8x8 boards one above the other, the lower board with the standard array whilst the upper board has 'at least one additional piece and pawn'; and 3767201 of 1971 (James Harper), basically a vertical arrangement of seven boards successively of 4, 16, 36, 64, 36, 16, 4 squares.

[Several of these seemed worthy of entries in the body of the book and I have put them there, but to have removed them from the present text would have spoilt its structure and I have let them remain here as well.]

Variants In Fiction. Writers, and particularly writers of fantasy and science fiction, are given to inventing strategy games, many arguably chess variants. The seminal game is surely Jetan, described at length by Edgar Rice Burroughs in his novel *The Chessmen of Mars* (1922) and perfectly playable. Most of the best-known SF writers have indulged at one time or another - Alan Burt Akers, Isaac Asimov, Lord Dunsany (Green Idol Chess), Gerard Klein, John Norman, Lewis Padgett

(*The Fairy Chessmen*), A. E. Van Vogt. H. G. Wells sets about describing a game between God and Satan in *The Undying Fire*: ‘But the chess they play is not the ingenious little game invented in India; it is on an altogether different scale ...’ An account of a game, Pole Chess, in which board and pieces are made of ice, is given by Piers Anthony in his *Robot Adept*. The usual pieces are transformed into Goblins (Ps), Dragons (Rs), Trolls (Bs), Griffins (Ns), Ogress (Q), and Demon (K) ‘But this was Pole Chess, so there was one additional set of pieces: the poles. When all the other pieces were set up, the white and black poles stood to either side, just off the board, centred’. A pole could move directly to any empty square; it could not be captured and served only as a block. ‘Some players swore that Pole Chess was the best variant ever; others condemned it as a decadent offshoot’. Further on, Anthony describes ‘Huffdraw’, ‘A device that had come into play in the last few centuries because too many tournaments were being stymied by frequent draws. There were several applications, depending on the type of draw that was threatened. But the basic

element was the removal of “dead” pieces; those that hadn’t moved in some time’. Another candidate is Klin Zha from the series *Star Trek*, a strategy game of multi-movement though without any obvious chess link (Leonard Loyd, 1989). A variant only in the sense of time control is described by Thomas Harris in his modern classic, *The Silence of the Lambs* : ‘Two men sat at a laboratory table playing chess. If they noticed the enormous rhinoceros beetle slowly making its way across the board, weaving among the chessmen, they gave no sign ... Then the beetle crossed the edge of the board. “Time, Roden,” the lean one said instantly. The pudgy one moved his bishop and immediately turned the beetle around and started it trudging back the other way. “If the beetle juts cuts across the corner, is time up then?” Starling asked. “Of course time’s up then,” the pudgy one said loudly without looking up.” Of course it’s up then. How do you play? Do you make him cross the whole board? Who do you play against, a sloth?’”

[Again, several of these appear in the body of the book, but I have left them here as well.]