Play Stronger Chess
By
Examining Chess960

Usable Strategies of
Fischer Random Chess
Discovered

Gene Milener

Acknowledgments

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Handy Symmato 3D king.

About the Author

My surname is pronounced MILL-enn-urr. I was born in Brooklyn and was raised in Oneonta, NY, USA. I spent my childhood playing tennis and Strat-O-Matic sports games. I studied Human Experimental Psychology in graduate school, where I met Amy. I feed my family as a software developer. I was an original member of the team that created the Microsoft .NET CLR, a project that began hushed in 1997 and released in 2002.

After crashing one too many radio controlled racing cars several years ago, I aroused my hibernating interest in chess. I enjoy exchanging ideas about chess as a player, a reader, and a writer. I encourage chess players to attend their local chess club. There you can shake hands with your opponent and talk to his face. Play in some games that matter, play in USCF rated tournaments. Come win some, come lose some. The chess club is what sociologist Ray Oldenburg would call a great third place.

Introduction

What is Chess960?: This is a chess book, one that uses chess960 as a tool to better understand chess. My informal observations tell me that most active tournament chess players know what Fischer Random Chess is, though some are hazy on the details. Many are unaware that the name chess960 is replacing the old tentative names of Fischer Random Chess or Fischerandom or FRC.

Most chess players in America never join the USCF (United States Chess Federation) and they never play in rated tournaments. A large percentage of these casual chess players are barely aware of chess960 or FRC. I must address this briefly before I can proceed. Later in the book much more detail will be given.

In traditional chess, or what this book calls chess1, the same initial setup of White and Black pieces is used over and over for every game. In chess960 White's pieces on row 1 are randomly placed only minutes before the game starts, as determined by dice. On row 8, each Black piece is setup on the same column as the matching White piece. One possible setup is the chess1 setup. This random selection of the setup is the only rule change from chess1.

Each valid setup must obey two restrictions. First, the two bishops must start on opposite shade squares. Second, the king

must be between the two rooks. Once the moves begin, chess960 is just chess.

One goal of chess960 is to reduce the effects of memorized and repetitious opening moves. The other goal is to gain access to a vast untapped cache of new and interesting patterns and tactical strategies in chess play.

Chess Book Formats: In the world of chess books there are two dominant formats, neither of which is used for this book. One format is to have many chapters each devoted to a few annotated chess games. The other format focuses on a given well known traditional chess opening, such as the Ruy Lopez or the Sicilian Defense.

This chess book does look deeply into the opening phase of chess960, but not in any way you have seen before in any other book. This book approaches 250 pages in length, yet you could count on your fingers the full chess960 games it contains. The full games this book does contain are annotated, almost at every ply, but not in any way you have seen before. Whatever its strengths and weaknesses, this book does not cover the same chess topics that have already been covered multiple times by the other chess books on your shelf. The territory and ideas covered in this book are so new and novel that I found myself wishing someone else had already written something in depth about chess960, something I could use to guide my own efforts. Instead I had no previous work on which to build.

Chess960 is Just Chess: This book is about chess960. Chess960 is so similar to traditional chess1 that any book about chess960 is automatically also about chess in general. Many chess books exclaim that paying customers will learn valuable "secrets" about chess, or that "explosive" opening techniques will be learned. The implication is that increased Elo ratings will come to players who read them. These overly optimistic claims are forgiven in much the same way we forgive artistic license in an enjoyable movie. It never hurts to have an

additional exposure to a useful opening or middle game idea, but often the explosive secrets are already covered in books written long ago. I promise the chess players who buy this book that they will be exposed to chess ideas that truly are new.

Two Other Chess960 Books: To my knowledge as of December 2005 there have been only two other books written on the topic of chess960. The first was *Shall We Play Fischerandom Chess?* written in 2002 by former WCC (World Chess Champion) candidate Svetozar Gligoric. I was quite curious when I first opened Gligoric's book. I found in it discussions that surrounded the central topic without ever addressing chess960 playing strategies directly. Gligoric claimed only to discuss the history of ideas similar to chess960, and to collect contemporary opinions about chess960, and opinions about the current problems with traditional chess, and to show a few annotated chess960 games. Gligoric delivered well on those claims. But I was hoping for some penetrating intellectual analysis of chess960 itself.

The other chess960 book is *Fischer-Random-Chess (FRC/Chess960): The Revolutionary Future of Chess (Including Computer Chess)*, which was authored by Reinhard Scharnagl in 2004. The book is published only in German. I have translated his table of contents, so I believe I understand the range he sought to cover. Scharnagl's book covers some important topics that Gligoric did not. One such topic is his ideas for handling FEN and PGN computer notations for chess games, in a manner that also meets the needs of chess960. His book also introduced the chess960 three digit setup Id system that is most widely used today. Scharnagl's book does not attempt to penetrate into the strategies and tactics of chess960 itself.

There is a Lot to Say: I began writing this book before I realized that was what I was doing. I thought I was just taking notes on ideas and realizations that came to me as I became interested in understanding chess960 at a more analytical level. As my first notebook became full and gave way to my second, it

slowly dawned on me that there was a lot that needed to be studied and reported about chess960 itself. This was almost a paradox because it had also become clear to me that chess960 is just chess, it is not a "variant" of traditional chess1. Pure chess is incomplete without chess960. I realized that by comparing and relating chess960 and chess1 we can all achieve a deeper understanding of both of these chess rule sets.

Bobby Fischer had sound but negative reasons for inventing his refinement of the older shuffle chess ideas: he was looking to fix problems in chess1. While I still see merit in Fischer's arguments, I came to realize they are secondary to the positive reasons why the chess world at large should want to give chess960 a chance. Fischer feels "old chess" has nothing left to contribute to chess in general. I disagree, and I explain why in this book. I like both chess960 and chess1, and both add their own kinds of desirable aspects to fundamental chess that the other cannot.

Many Ways to Enjoy Chess: For chess enthusiasts there are many ways to enjoy chess beyond playing. Many players enjoy the formality and discipline of tournament competition. Many enjoy studying games played by others. Some like to teach chess to youngsters. Some like to research the history of chess. Some like to compose endgame puzzles. Some like to collect interesting chess sets. Some design cool chess fonts or pieces. Some like to write chess books, about which others like to write reviews. A precious few run tournaments or chess clubs. The list goes on. This book is for the enjoyment of chess enthusiasts who want to think about and converse on a wide range of issues in chess, just for the intellectual stimulation of new ideas. This book is also for players who want to understand chess1 and pure fundamental chess at a deeper level. Of course, this book is also for players who want to begin an analytical understanding of chess960 strategies and tactics.

Who should try chess960?: WCC Vasily Smyslov wrote that to be great at chess a player first has to "learn what the

pieces can do". A new chess960 player learns the pieces are called upon to coordinate in patterns unfamiliar from chess1. If you want to gain a deeper command of the pieces used in traditional chess1, study and play some chess960. If you are a player who does not remember traditional opening trees both broadly and deeply, then you should play some chess960. If raw memorization has not worked for your opening play and you would like to learn about alternative approaches to understanding the opening phase, you should read this book and play some chess960 games. If you assume the basic opening principles Aron Nimzovich described in his book *My System* are pure and true regardless of the initial setup behind the pawns, you should read this book and play some chess960 games. If you believe rooks are inherently pieces that cannot contribute until the early middle game, you should read this book. If you would like to feel more comfortable and confident in your traditional chess games that go out of book early, then you should play some chess960 games. It is true that chess960 games feel just like traditional chess games before the opening is completed. This has led to a casual consensus opinion that the chess960 middle games offer nothing beyond what chess1 offers. If you would like to know why this consensus must be revised, you should read this book. If you feel there is more to be enjoyed about chess than just the latest published opening book or the latest published grandmaster game, then you should read this book. And play some chess960.

Formal Recognition: I have one final point to make here in this introduction. The USCF should formally recognize and sanction chess960. This should be in the form of announcing that chess960 results can be submitted for formal rating just like any chess1 results.

Gene Milener
December 2005

Part 1

Beyond the Board

"The questions you ask set limits on the
answers you find."
   - *Temple Grandin, from* Animals in Translation

An informal statement of the rules for chess960 (or FRC) can be quite brief. The two bishops must start on different shade squares, and the king must start between the two rooks. After castling, the king and rook end on the same squares they always have. Done.

Chess960 is a drastic change in the initial setup. But in chess everything is at least transitively connected to everything else. Changing the setup affects many other things, not just the moves played during the opening phase. Terminology is affected. Notation is affected. Philosophical issues about chess are raised. How much weight should be given to tradition for its own sake? What exactly is a 'variant' of chess? Should chess960 advocates prefer to replace traditional chess or to attain full equality with it? Would there be a looming problem of a WCC title split, one for chess1 and another for chess960?

What kind of recognition should be made of chess960 by the USCF? Is chess960 just a solution to the traditional problem of repetitious opening moves, or is chess960 our opportunity to discover and harvest portions of the larger chess realm that have long been hidden from us? Are there other problems beyond the openings in chess1 that chess960 might be able to address? Part 1 will address topics like these. Discussions about the strategic and tactical ideas particular to chess960 will be discussed in Part 2.

Bobby Fischer announced his invention of FRC in 1996. I am not aware of any serious efforts he has since made to promote it. Others have stepped up to provide leadership and accomplishment in the promotion and growth of chess960, and we will be looking at the great work they have been doing. We will look at fine tuning the current rules of chess960. We will also examine ideas for additional rule changes for chess960.

1
Terminology
and
CRAN Notation

Chess960 is new. Not surprisingly it brings with it the need for some new terminology. Chess960 also gives us reason to revisit and refine some existing terminology. In this next section I define or refine terms that are needed before we can delve into our serious discussions.

Terms Needed Immediately

chess: In this book 'chess' is the *general* term for the fundamental game we all love, without being specific to either chess1 or chess960. Chess was invented in roughly the period from 1400-1475 AD. Chess implies a partial rule set, like an 8x8 board of checkered squares, alternating turns, checkmate of the king, the types of pieces and their basic powers of movement and capture, and pawn promotion. Chess variants, like Bughouse chess or Progressive chess or Fairy chess or Janus chess or Superchess, are not included in this term because they

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The Tyranny of Tradition

I confess: the first time I looked at chess960 I smirked. The initial setups looked complex and even chaotic. In those setups I perceived no structure and merely randomness. The pieces were no longer arranged symmetrically on the two wings, and they were no longer arranged by how tall each stands. This created an illusion of chaos, aided by my then still narrow experience with initial chess setups. That perceived chaos lacked appeal the same way helpmate chess puzzles composed by problemists lack appeal to me due to their unrealistic positions. Such positions with the king in the middle surrounded by oddly placed pieces do not occur in real play. After a matter of minutes I gave up on chess960 and returned to "real" chess.

One year later I was reviewing a chess game from the pages of John Nunn's superb book *Understanding Chess Move By Move.* I feel like a spectator when I review or replay a chess game, in the same way I feel like a spectator when I watch football. It was the Jan Timman – Judit Polgar game (Sigeman & Co., at Malmo 2000) in which Polgar carried an initiative through most of the opening even though Timman's moves all seemed solid and safe, even conservative. I felt like Polgar's aggressive moves were more than interesting, they were

aesthetically pleasing and even inspiring. Chess is indeed a melding of war and beauty.

Then I peeked inside my one modest and aging CD of chess games, which contains about 800,000 games. This led to a feeling of deflation and almost betrayal. For I saw that the exact moves Polgar played through the opening have been played in numerous other games too. Suddenly I felt like Polgar's play had a diminished value, like that of a Picasso print as compared to a Picasso original. At that moment chess960 popped back into my head. Starting from that day I spent my evenings researching chess960, though at first I had no inkling this would lead me to write a book.

Opening Repetition Data

The problem of excessive repetition of opening moves in chess1 would be better understood by the chess public if game annotations included a marker on the first novel move of every game. In the days before the personal computer, the *Informant* series was one of the few major sources of recent important games. The majority of games were annotated with one 'N' to indicate which was the first novel move of the game. Some games broke new ground surprisingly early, such as on Black's fourth move. Most novel moves occurred much later. I decided to gather some numbers.

Using my many sided die I randomly sampled 12 games from my 1990 (#50) *Informant* from each of the main opening headings A-E, for a total of 60 games. I tallied the mean average ply which broke new ground as being ply 22.5, or plair 12. The most repetitive heading was 'D' (lots of 1. d24 d75) at 27.8 plies, or plair 14. The least repetitive was 'A' (1. c24 c75, and 1. d24 f75) at 18.3 plies, or plair 10.

match preparations Kasparov had devised a variation deep into the middle game wherein he would sacrifice an exchange on his 21st ply. Kasparov would give up a rook to recapture Anand's bishop. Kasparov had further pre-calculated a tactical win for himself after the sacrifice. Anand's moves in game 10 were exactly as Kasparov had predicted, giving Kasparov the opportunity to spring his sacrifice and win. It took Kasparov only 6 minutes to play his complex 21 plies up to the sacrifice. From there Kasparov went on to the victory he had foreseen. In the Speelman game at the 6 minute mark, Jon would use another 2 minutes to decide that 3. Ng1f3 follows d24 c24.

So Kasparov successfully predicted the first 21 plairs of a hard fought game in a short title match. This illuminates the issues with the heavily analyzed chess1 openings in a way that aggregate statistics cannot. It is one thing to find the same game through the first 21 plairs when searching a database during post-mortem. It is quite another to correctly predict the first 21 plairs of a match game only days or weeks before the prediction proves accurate. At one level this correct prediction was fascinating, and at another it was horrifying. Most chess1 games in which the opening moves are entirely foreseen lack the exciting punch of this Kasparov-Anand gem. For better or worse, such a prediction could never happen in chess960.

An Optimistic Perspective on Chess960

"Old chess" is not dead, nor will it ever die, nor should it die. Chess1 should flourish. Chess960 is not about changing the rules of chess1. Chess960 is about recognizing that chess1 is a subset of Caissa's full chess. Chess1 is the small visible part of the whole chess iceberg. A large portion of chess lies hidden below the surface, as chess960. We cannot experience the fullness of pure chess if we limit ourselves to chess1 exclusively.

chess960 would not have to study the openings.   The theory is that since there is vastly more to learn about the opening phase in chess960 that there is no point in even trying.   A corollary implication is that grandmasters would never improve their opening play in chess960, an assertion I find unrealistic.

My guess is that chess960 grandmasters would study the opening phase, but not with the old chess1 technique.   The traditional approach to opening study, with its learning and retention of very specific ideas (or of move trees), would not apply to chess960. So new ways to study the opening would have to be invented.   The 960 setups in chess960 may seem endlessly diverse and complex, much like all the possible middle game positions are. Yet I believe the chess960 setups are less diverse than they seem at first. Firstly, it is closer to the truth to say there are only 480 setups, even though due to the traditional asymmetry in the castling rule that is technically false. Secondly, in strategic terms and in some tactical terms, each setup has similarities with many others, and these similarities can be recognized and leveraged.

These opening phase ideas will be discussed in detail in a later chapter.   I bring them up here to make a point about another drawback of chess1 relative to chess960.   In 1984 the first WCC title match between champion Anatoly Karpov and challenger Garry Kasparov turned into an embarrassing spectacle when it dragged on for months with draw after draw. Though ahead 5 wins to 3, Karpov was near physical and thus mental collapse. This compelled FIDE to step in and declare the match over with the infamous "no result". I doubt it was the daytime games that eroded Karpov's health. I suspect it was the nightly opening preparations for tomorrow's games that did the damage. In chess960 tournaments the players can go to bed early, guilt free. The old eliminated policy of having adjourned games was disliked because it caused this same sleep deprivation that is still caused by chess1 openings.

Chess960 has only a tiny following today in 2005, though I believe its popularity is growing. In the late 1990's Bobby Fischer could have promoted chess960 with the considerable force of his then still exalted status in the chess world. Instead to outsiders like me it seems Fischer played games of chess960 just in his living room when visitors were arranged. It was left to others to do the hard work necessary to breathe life into the chess960 concept.

Enter Hans-Walter Schmitt. Mr. Schmitt leads the Chess Tigers organization based in Mainz, Germany (ChessTigers.de). Fischer became the creator of chess960 in 1996 by making insightful refinements to the historical ideas of others. To me it seems history should record Schmitt as a "co-founder" of chess960. Schmitt has obtained sponsors (including FiNet and Livingston) and organized a large annual August chess event that includes rapid tournaments of both chess1 and chess960 (time controls are Game/20 minutes +5 seconds delay). This chess960 tournament has consistently drawn many of the biggest names in chess. World Chess1 Championship challenger Peter Leko has been involved. Several other world top ten rated players have been involved including Michael Adams, Alexei Shirov, FIDE champions Rustam Kazimdzhanov and Ruslan Ponomariov, Peter Svidler, Levon Aronian, and Entienne Bacrot. Many others from the current or past FIDE top 25 list play chess960 in Mainz. The famous names include Alexandra Kosteniuk, Antoaneta Stefanova, Yasser Seirawan, Vlastimil Hort, Artur Yusupov, Rafael Vaganian, and 2004 winner Zoltan Almasi (Almasi lost the title match to defending champion Svidler in August 2005). The Mainz chess960 tournament has earned the respect of everyone. Mainz has become the center of the universe for chess960. A chess1 tournament is held in Mainz during the same week. But the Mainz participants know it is their pioneering chess960 tournament that has gained world wide attention. Future chess

severe than is the resistance to chess960 in the real world today. I feel that difference tells us something positive about the merits of chess960 when tradition is excluded as a factor.

Yet there would be one important selling point in the argument for inclusion of chess1: the static nature of the chess1 setup has led to a higher quality of opening play than we would get from chess960. Since higher quality play is generally more enjoyable to spectators, this is an advantage chess1 has over chess960. Unfortunately, the heavy price for that higher quality has proven to be a great deal of opening repetition, and a loss of much interesting middle game variety that belongs as part of chess proper.

Back now in the real world, we can foresee a day when grandmaster chess960 tournaments might no longer be rare. As those games begin to accumulate in the latest databases, we will be judging the quality of play. The razor sharp opening play of chess1 will have given us a valuable benchmark of what constitutes superb opening play, making us better able to judge how well chess960 openings are being played.

During the 21st century I expect the argument for chess960 will eventually gain the respect of a critical mass of chess players and chess authorities. For now what people judge to be the better rule set for chess is based less on merit and more on the limited range of their experiences and what they grew up with. I call this the "tyranny of tradition". This book is urging readers to give more weight to merit over tradition in assessing chess960. The USCF should formally recognize chess960.

Opening Theme Tournaments

Occasionally we hear about an opening theme chess1 tournament being held. In such tournaments all players agree beforehand that all games will start with the same first few

moves. A theme tournament might have all games begin 1. e24 c75 2. c23, with Black then to choose his next move as in a typical game. Games from such tournaments have been included in the same formal player ratings by the USCF. The USCF rule book says nothing directly about this policy, but a USCF official has explicitly said and re-confirmed the rating of theme games is acceptable. Also, USCF members have reported that games from their theme tournaments were indeed rated (UsChess.org forum, 2005).

To my mind chess1 is a theme tournament run amok in what should be a chess960 world. For entertainment purposes only, let us look at whether and how the theme tournament concept could make possible some ratable games of chess960. Consider a chess1 theme tournament where all games began:

1.	e23	e76	2.	Qd1f3	Qd8f6	3.	Bf1e2	Bf8e7
4.	Be2d1	Be7d8	5.	Ng1e2	Ng8e7	6.	Ne2g3	Ne7g6
7.	Qf3e2	Qf6e7	8.	Qe2f1	Qe7f8	9.	Qf1g	Qf8g
10.	Ng3f1	Ng6f8	11.	*(any)*				
		(**D2.1**)						
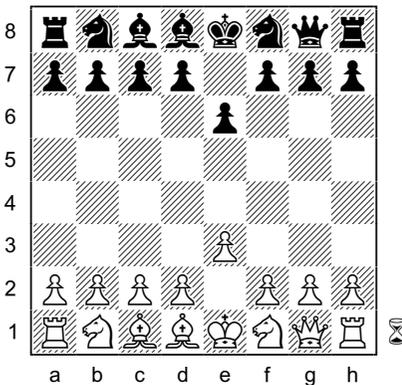
D2.1
After chess1 theme ply 10... Ng6f8.

White's next move is discretionary.

Very similar to chess960 R#745.

3
Formalizing the Rules
of Chess960

This chapter begins with a formal statement of the chess rule set named FRC. The FRC rule set captures a moment in history, June 1996, when Bobby Fischer announced his one proposed rule change. FRC is therefore considered to be unchangeable by definition. Later sections of this chapter progress from FRC to chess960. The informal description Bobby Fischer gave of FRC left some important formalities unaddressed. Later sections of this chapter will address those gaps.

I have also included a few editorial comments at the start of some sections. The chess960 rule set retains the eligibility to evolve further, if the consensus so desires. In a subsequent chapter I will propose a few more significant rule improvements for chess960.

The FRC Rule Set

Rule A1: Legacy chess rules continue by default.

Since the two knights are indistinguishable from each other, we divide 1920/2=960.

B3.2.1.1 Risk of Bias: Caution is advised when trying sequences different from BNQ. For example, we can imagine a method NQB. This might seem an equivalent method, since it will always be possible to place both bishops. Yet if BNQ and NQB were each run 960,000 times, we would see an even distribution in only the BNQ results. The NQB method would be biased against some setups.

Chess960 Piece per Square % Probabilities

Piece	Column Letter								
	a	b	c	d	e	f	g	h	
R-a	37.5	26.3	18.1	10.6	5.6	1.9	0	0	100
N-a	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	100
B-dark	25.0	0	25.0	0	25.0	0	25.0	0	100
Q	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	100
K	0	11.3	17.5	21.3	21.3	17.5	11.3	0	100
B-light	0	25.0	0	25.0	0	25.0	0	25.0	100
N-h	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	100
R-h	0	0	1.9	5.6	10.6	18.1	26.3	37.5	100
	100	100	100	100	100	100	100	100	

We can see the BNQ and NQB methods are different by examining the chance each gives to having the two knights start on the same shade of square. A brute force tally from all 960 setups shows there is a 40% chance the two knights will start on the same shade. When the knights are placed during the BNQ method, there remain three light and three dark squares open, and all are eligible. After one knight is placed, it is easy to see there is a 2/5 = 40.0% chance the second knight will be placed

4
Setup Id Numbers

Any chess960 setup can be notated by a short piece setup string such as RNBQ-KBNR. Chess computer programs use a similar kind of string in PGN files (see the chapter on FEN). Computers need no other setup Id format. While this setup string notation is handy for people too, there are times when this format is unwieldy for people, such as in conversation. To help chess players (not computers), the need was recognized for a corresponding three digit numeric identifier for setups.

There have been several setup Id systems invented. Fernand Joseph published one on the web in 2003/12 (see evonet.be/~marcsmet/ebbs/download/ FRC_960Pos.pdf), based on an iterative computer algorithm. His presentation of a piece string for all 960 setups can be a handy way to manually confirm the probabilities of various attributes occurring when randomly selecting a setup. It is a misleading coincidence that Joseph's method assigns 518 the chess1 setup, just as does the different S# system described below. Joseph's system divides the 960 setups into two reciprocal halves, but not in as useful a manner as does the R# system described below. The web site ChessGames.com uses a system built on the base 5 numbering system, which is also heavily dependent on an iterative computer program. Both of these systems are interesting or handy in their own way, but I believe there are even better systems available.

R# Relative Positions Table (Rpt), a-h

R# ♛♚	a – h		R# ♚♛	a – h
000	Q R K N N R		500	R N N K R Q
016	Q R K N R N		516	N R N K R Q
032	Q R K R N N		532	N N R K R Q
048	Q N R K N R		548	R N K R N Q
064	Q N R K R N		564	N R K R N Q
080	Q N R N K R		580	R N K N R Q
096	Q R N K N R		596	N R K N R Q
112	Q N N R K R		612	R K R N N Q
128	Q N R N K R		628	R K N R N Q
144	Q R N N K R		644	R K N N R Q
160	R Q K N N R		660	R N N K Q R
176	R Q K N R N		676	N R N K Q R
192	R Q K R N N		692	N N R K Q R
208	N Q R K N R		708	R N K R Q N
224	N Q R K R N		724	N R K R Q N
240	R Q N K N R		740	R N K N Q R
256	R Q N K R N		756	N R K N Q R
272	N Q R N K R		772	R K R N Q N
288	N Q N R K R		788	R K N R Q N
304	R Q N N K R		804	R K N N Q R
320	N R Q K N R		820	R N K Q R N
336	N R Q K R N		836	N R K Q R N
352	R N Q K N R		852	R N K Q N R
368	R N Q N K R		868	N R K Q N R
384	N N Q R K R		884	R K R Q N N
400	N N R Q K R		900	R K N Q R N
416	R N Q N K R		916	R K N Q N R
432	N N R Q K R		932	R K Q R N N
448	N R N Q K R		948	R K Q N R N
464	R N N Q K R		964	R K Q N N R

Bishop Table (Bt)

R# < 500 ♛♚	Row 1 a b c d e f g h	R# >= 500 ♚♛	S#, F#
00		01	01
01		00	11
02		07	00
03		06	04
04		05	05
05		04	10
06		03	14
07		02	15
08		08	03
09		09	12
10		10	06
11		11	09
12		14	02
13		15	08
14		12	07
15		13	13
♛♚ < 500 R#	Placement of the two White Bishops.	♚♛ >= 500 R#	S#, F#

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5
Additional Rules to Consider for Chess960

If history had not yet produced chess and we were now creating chess for the first time, I would propose a few additional rules for chess960, and probably for chess1 also. These rules are explained in this chapter.

'Whiteness': In December 2005 on Chessville.com, the Parrot lamented that the final 30 chess1 games in the Super-Final of the 58th Mens' Championship of Russia had tallied 9 wins for White and 0 wins for Black. The Parrot asked "Is chess dying of draws and 'whiteness'?". Months earlier I had written this chapter to address these exact concerns.

Proposed Chess960 Rule Set Differences From FRC

Rule C1: Fair First Move (FFM) rule.

By virtue of his unfettered first move, in legacy chess White has an unfair advantage (there is no other kind). Black wins only 3 games for every 4 White wins. The FFM rule eliminates this unsporting aspect of chess. By principle, this

6
FEN and Chess960

FEN: Forsyth Edwards Notation
PGN: Portable Game Notation
UCI: Universal Chess Interface

How is a chess game represented to a chess software program? The dominant format is the simple textual format PGN (such as yourfilename.PGN). Here is one game (R#229-S#314) taken from a Chess Tigers PGN file containing many games (I added the comment for illustration):

[Event "CCM5 - FiNet Open"]
[Site "Mainz"]
[Date "2005/8/11"]
[Round "1"]
[White "Bogojawlenskij"]
[Black "Krasenkow"]
[Result "0-1"]
[SetUp "1"]
[FEN "nqrkbbrn/pppppppp/8/8/8/8/PPPPPPPP/NQRKBBRN w KQkq - 0 1"]

1. c4 g6 2. Nb3 e5 3. f3 Be7 4. Bf2 f5 5. d4 Nf7 6. e4 fxe4 7. Qxe4 d6 8. h4
Bc6 9. d5 Bd7 10. g4 c6 11. Bg2 Nc7 12. O-O O-O 13. g5 Bf5 14. Qe2 cxd5 15. f4
dxc4 16. Qxc4 Ne6 17. Qb4 Nxf4 18. Ng3 Nxg2 19. Nxf5 gxf5 20. Kxg2 b6 21. Rfe1
Qb7+ 22. Kg1 Kh8 23. Qd2 Rxc1 24. Nxc1 Rg8 25. Kh2 h6 26. Qe2 {Any comments
inside curly brackets.} Bxg5 0-1

Part 2

New Chess Principles Discovered

> "What is beyond dispute is that at all levels playing a few games of Fischerandom every now and again can improve our understanding of standard chess, in particular by giving us a greater grasp of how to coordinate our pieces and how to develop them to their strongest squares."
>
> *- The British magazine* Chess, *May 2004, page 51*

Like everyone else did, I much enjoyed reading John Watson's acclaimed *Secrets of Modern Chess Strategy: Advances Since Nimzowitsch*. A significant portion of the book emphasizes the limitations of the traditional chess principles. The topic is addressed in a superbly comprehensive fashion, and a multitude of insightful observations are given. In one section Watson discusses how modern grandmasters have slowly become more willing to advance the pawns in front of their castled king. Consensus thinking on this topic has changed

relatively recently, since the era of Alekhine. During my studies of chess960 I realized this transformation of thought would have occurred earlier in chess history if chess960 had been in vogue. There are some things about fundamental chess that we can learn more efficiently from chess960 than from chess1.

I mention Watson's book because here in this book we next begin a novel approach to assessing the principles of chess. Some new principles and techniques will be described. Some long standing principles will be questioned even further than has already been the case in books about chess1. The end result for us will be a deeper understanding of both the chess pieces and the chess board. This kind of knowledge transcends the particular rule set we might use in any given chess game. This knowledge could be beneficial to anyone playing either chess1 or chess960.

In the chess1 literature about principles of strong play, there is the implicit assumption that the principles flow from fundamental chess, from considerations of the individual pieces and the board. By examining chess960 I have concluded that some of the principles derive in part from the mere particulars of the chess1 setup. Some of those principles look weaker when put to the test with a wider variety of initial setups. Comprehending which principles those are, and why they are less broadly applicable than assumed, can deepen our understanding of Caissa's unbiased chess.

In this part of the book it will be argued that the effects of the setup are more pervasive than even the chess960 community has recognized. Of course the opening phase is greatly affected. But I found that both the middle game and even the endgame are affected by the particulars of the setup. I suspect there is variation by setup in the relative values of the pieces (especially knights and bishops) during the opening phase and early middle game phase, though this book does not delve into that.

7

Strategies for the Modified Setup Phase

There are four phases to any chess game. Phases two through four are well known as the opening, the middle game, and the endgame. We have never before called it by a name, but I call the first phase the setup phase.

In the chess1 realm the setup phase has not been recognized as a phase at all. This is because the chess1 setup never varies the way it does in chess960. In chess1 we instead talk about opening "theory", referring to the accumulation of at-home pre-game calculation and analysis of the chess1 setup position. As part of the chess1 setup phase we also have the devised opening principles given by Aron Nimzovich in his *My System*, which was also written at home. The setup phase is different in chess960. Yes there can be at-home thought and preparations as part of the chess960 setup phase (as this book should demonstrate). But in chess960 the setup phase comes alive and requires thought in *real time*, in the several minutes after the pieces are set but before the clocks are started. This chapter is devoted to the topic of handling those pre-game minutes.

With this chapter we begin our technical examination of how to play stronger chess960 moves on the board. We will search for a logical system that can bring order to what can otherwise seem like an unstructured chaotic initial setup of pieces behind pawns. From order we may have a plausible opportunity to begin the long process of determining stronger opening play in chess960.

Do the Chess1 Opening Principles of Nimzovich Remain True for Chess960?

Suppose a brief ten minutes ago you and your opponent were given the chess960 setup you must use in your tournament game. You have never seen this setup before. If you are new to chess960 the setup looks unruly and chaotic to you. It will soon be time for you to make the first move as White. How do you determine a quality move to play?

Mimic Chess1: Perhaps one approach would be to play as close to a known chess1 opening as the setup allows. If you like the Ruy Lopez, open 1. e24 2. N-f3 (if possible) etc. If you like the Queen's Gambit, open 1. d24 etc. Obviously this approach would be doomed and even silly. Maybe an opening like the Reti, 1. N-f3 if possible, might be a plausible concept in many chess960 setups, but that really just delays the question until plair 2.

There is always the symmetrical approach to opening with Black, as in the spirit of the chess1 Petroff Defense, for example: **1. e24 e75 2. Ng1f3 Ng8f6 3. Nf3:e5 Nf6:e4 4. Qd1e2 Qd8e7 5. Qe2:4 d76 6. d24 d6:Ne5 7. d4:e5 Nb8c6 8. Bf1b5**. It will usually lead to a disadvantage for Black to answer each White ply with the equivalent mirror ply, waiting for the plair when continuing the symmetry would cause disaster.

Classic Chess Opening Principles: A more reasonable approach would be to use the very general principles beginners learn for chess1 openings, the principles enunciated by Nimzovich. I like the way Reuben Fine restated these ideal principles in his *Chess the Easy Way*. Of course, these ideals might not all be achievable in every game. Here I may slightly alter Fine's wording, mostly to eliminate the chess1 bias.

1. Open by advancing a center column pawn.

2. Prefer developing moves that also create a threat against the opponent. Knights are best for this.

3. Develop knights before bishops.

4. Develop each piece to the square best for it, then leave it there until opening development is completed.

5. Make one or two pawn moves in the opening, not more.

6. Do not bring your queen out early.

7. Castle as soon as possible, preferably toward the 'h' wing.

8. Play to get control of the center.

9. Always try to maintain at least one pawn in the center.

Now, do these venerated recommendations qualify as fundamental principles of chess, or are they merely principles of chess1 setup position? After examining chess960, I believe some of these principles apply well to both chess1 and to all of the chess960 setups. However, the other principles on this list are of lesser stature. They work for chess1, but they are limited to chess1 and a handful of other similar setups. They are context sensitive principles, brittle, not always broadly applicable to chess regardless of the initial position. Indiscriminant

obedience to these principles could be outright harmful in some chess960 setups.

I see this realization as harmonious with John Watson's central thesis, that best possible play is guided by the particulars of the given position rather than by general principles. We know the chess1 setup is a 'position', but were rarely say so explicitly. The static nature of the chess1 setup led to a confound in the perspective available to Nimzovich when he formulated his opening principles. I wonder whether Nimzovich explicitly thought in terms of the distinction drawn here, between principles dependent on the particular chess1 setup versus fundamental principles of chess that apply well regardless of how the pieces are arranged behind the pawns. Either way, the fact that about half of his opening principles do apply well to all chess960 setups shows us some truths. First, Nimzovich was successful at penetrating into the foundation of the general chess opening phase. Second, it shows us that chess960 is just chess: even radical rearrangements of the rank 1 pieces are subject to some of these same opening principles. This is a counter-balance to anyone who might go to far in rejecting any role for principles in chess play. Third, it is harder to fully understand opening principles when restricting oneself to chess1 and rejecting consideration of chess960.

Next we reassess each classic opening principle in the context of chess960.

Principle 1 (central pawn): This principle has been routinely disobeyed by grandmasters playing chess960 at Mainz. For many setups the data show grandmasters judge it more effective to open with wing pawns. Sometimes the advancing of central column pawns is long delayed. Wing pawn openings happen at a much higher rate in some setups than they do in others like the chess1 setup.

Principle 2 (threaten): This principle is partly true for chess960. Who can argue with the idea of threatening the

8
From Setup Attributes
to
Opening Moves

In this chapter we turn our attention to actual chess960 games played by masters attending the annual Mainz event each August. In Mainz, all games within any one round use the same randomly chosen initial setup. We will focus on one setup at a time, gathering together several games that all used that same setup. We will catalog the attributes of the setup, and use those attributes to give advice or make predictions about the opening play. Then we will see how well those predictions matched the realities of several games that used the setup.

How Much Variability?: We are generally interested in commonalities shared among games within each setup. The ability of any system to make predictions about opening play is strongest when the opening play is relatively unvaried. So we will watch for any kind of sameness among games starting from the same setup. We will watch for different players making the same mobilization maneuvers, or creating the same pawn structures, or coordinating their pieces in the same way, or
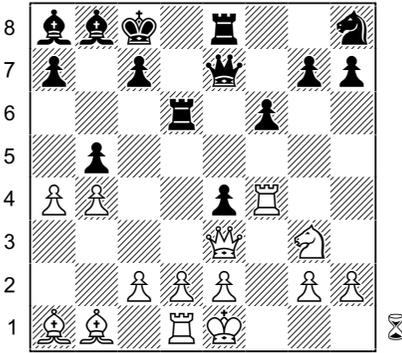
D.Baramidze – R.Kazimdzhanov
After 12. Rf14 b75.
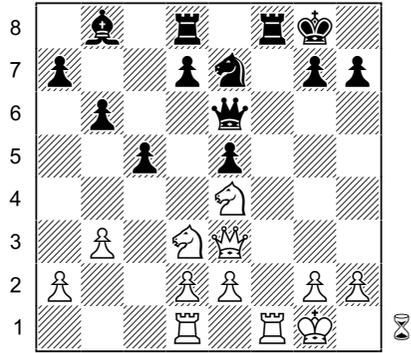
A.Dreev – I.Farago
After 12. Qf2e3 Bd5:Be4 13. f5:e6 Qf7:e6
14. Ng3:Be4 Nc8e7.
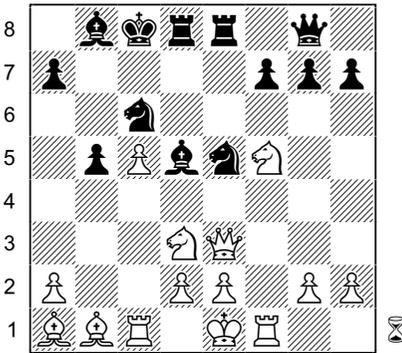
F.Vallejo Pons – A.Petrosian
After 12. Ng3f5 Ng6:e5.
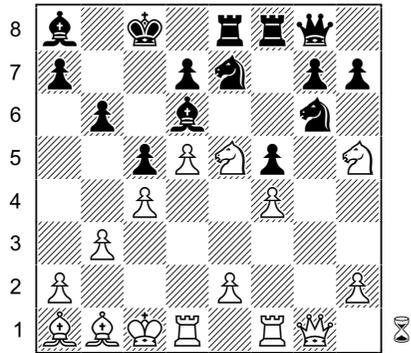
L.Nisipeanu – V.Meijers
After 12. Nd3e5 Rf78.

A.Dreev - I.Farago, R#731, 1-0:

White went hypermodern in the opening and won in the endgame. After the opening White had not advanced either central pawn. Indeed both of White's central pawns were on their original squares blocked by his own pieces! It was not until the 45th ply of the game that White finally moved a central

9
Is the Middle Game
Really the Same?

Chess960 is just chess, even though it may not look like chess the first time you see a randomly chosen setup. I am never surprised to read quotations like this:

"It feels like normal chess. But there is no theory yet." *(Vishy Anand 2003, speaking about chess960 and R#272-S#017 BNQB-NRKR in particular,* ChessTigers.de.*)*

There is a general consensus that somehow games of chess960 turn into games of chess1 at about the start of the middle game:

"About 10-15 moves were needed to reach positions reminiscent of classical chess." *(Erne Hirman 1996, as reported in Gligoric's* Shall We Play Fischerandom Chess?*)*

"Usually we get a normal position after around 10-15 moves, but sometimes we forget to develop some pieces, because they are on odd squares." *(Peter Svidler 2002, from* ChessTigers.de*)*

underlying perspective is backwards. We do *not* want the earliest possible merge. As an extreme to make the point, it would be awful if chess960 were unable to remain distinct from chess1 for only 3 plairs. Much more interesting would be a merge that slowly evolves stretching well into the middle game. The chess960 position will achieve what feels like chess normalcy long before the ply that fully completes the merge with chess1. This early normalcy is a strength of chess960, as is its delayed merge with chess1. The ideal chess960 setup leads to games that have the feeling of normal chess after only a small number of plairs, but that remain distinguishable from chess1 for as many plairs deep as possible. A chess player who plays only chess1 can legitimately reject chess960 for himself if he savors the pre-game calculation aspect of chess1. But that spirit would taste sour if extended into the middle game.

Opening setups in chess1 are maximally restricted, and the repetition of common opening plair patterns continues as an inevitable consequence of that. But chess middle games had better come in all rational shapes and sizes. For the sake of players and especially for spectators, the more rational middle game variety that occurs among the games of a tournament the better. The only caveat is that we do not want to see middle game positions that look and feel chaotic, like composed "mate in 2" or "mate in 3" puzzles, where there exists no signs of prior intelligent play leading up to the position.

Two Assertions

In this chapter I make two major assertions. First, I claim that by choosing from among the few chess960 games published from the Mainz tournaments I can find several that have positions deep into the middle game that are unlike chess1 middle game positions. I claim these chess960 positions can be distinguished from chess1 without additional clues beyond the

Proportion of Games Where White & Black Castled to Opposite Wings.
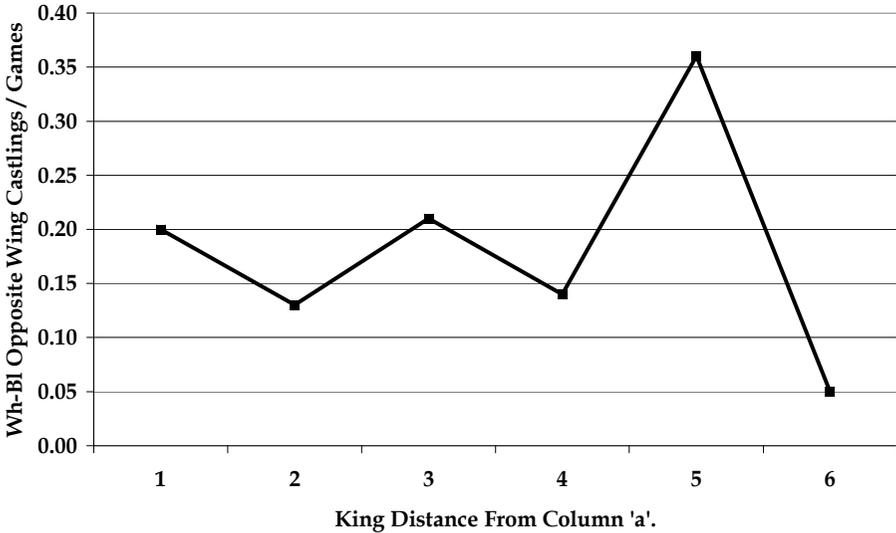
The above chart shows a steady rate of opposite wing castling for the 1-4 x-axis value range. That rate is about 17 times per 100 games. The data at x-axis value 4 fits both the chess960 data and data from Mainz chess1 as a control group. In fact my numbers were exactly the same for chess1: again chess960 is just chess.

The extreme data point at x-axis value 5 is based on very few games and so is unreliable. No surprise then that it is an outlier.

A Mega Database 2004 scan for chess1 games played at slow time controls showed a lower opposite wing castling rate of only 8%. All together, this chart plus the earlier charts hint that chess960 would lead to a slightly higher rate of opposite wing castling, compared to chess1.

The Simple Rate of Castling: The graph below suggests that players are more likely to castle if they can do so to the 'h' wing. It makes 'h' wing castling more difficult when the king

10
Influences on the Endgame

On their first exposure to chess960, most chess1 players find the chess960 setups and openings to be awkward or chaotic. Gligoric reports that in 1995, immediately after Anatoly Karpov played his first game of chess960, Karpov's tentative impression was that chess960 might lead to middle game positions that are not "harmonious". Now we inquire about the endgame. It is possible to reach strange or awkward endgame positions by legal moves. Does chess960 lead to awkward endgame positions? The answer is no.

As evidence, I expect that most readers will be able to determine which two of the following four diagrams came from live chess960 games. The other two diagrams were derived from composed chess problems (very slightly tweaked so there may be no precise solution). The composed diagrams demonstrate that it is possible for a legal endgame position to be awkward looking. The other two diagrams are simply from live chess960 play, and they look perfectly normal for chess1.

Every chess1 player knows there is a strong relationship between the opening phase and the middle game. And everyone knows there is a strong relationship between the middle game phase and the endgame. These same direct relationships exist in chess960. Plus for chess960 we explicitly called out the previously implicit setup phase, which of course has a strong relationship to the opening phase. These relationships can be expressed by the "SOME" symbol set used below. These letters stand for Setup, Opening, Middle game, and Endgame.

chess1:	(S) → O → M → E
chess960:	S → O → M → E

The quotations from Capablanca are shifting our attention away from the simple direct relationships of O→M and M→E to the transitive relationship O→E:

O→M & M→E, thus **O→E**

O→E skips one node, M. When we look at this from the chess960 perspective we can see the two-node transitive relationship S→E:

S→O & O→M & M→E, thus **S→E**

Over the past half century the chess1 literature has supported the O→E relationship by documenting numerous opening variations designed to achieve endgame goals early in the game. We will be looking at those variations shortly below. Afterward we will try applying these chess1 O→E concepts to chess960.

11
Winning Comparisons

The design of the chess1 rule set gives White an advantage toward winning. I see this as inherently unfair to the players, and undesirable for spectators.   Those who created chess around 1475 could have prevented White's advantage with something like the FFM (Fair First Move) rule. In chess1 since 1965, White's advantage has led to more victories for White than for Black, by a ratio of 4/3= 1.33 (Watson, page 93). This means White accumulates 33% more wins than does Black.   In this context 33% is a big number, and it violates the spirit of sporting competition.   No wonder we hear frustrated players utter phrases like "I wasted a White". Or to paraphrase Watson: White feels an obligation to play for a win, but a draw with Black is considered an acceptable result. That many players feel this way when assigned the Black pieces is unhealthy for chess. We accept White's unfair advantage only because we were born into it.

The consensus from the chess960 grandmasters at Mainz is that the average chess960 setup gives White an even larger advantage than White has in chess1. Here are some quotations that articulate the consensus (from ChessTigers.de):

E.Bacrot – R.Ruck, 1-0
R#708-S#651 RNKR-BQNB
Mainz 2005/08, Rd.11, Wh/Bl=1.89.

	Actual White	Actual Black	Chispa White	Chispa Black
1.	Nb1c3	d75		
2.	d24	Ng8f6		
3.	g24	e76		Nf6:g4 +.1
4.	g45	Nf6d7	=, +.1	=, +.2
5.	Qf1h3	Qf8g?	e24 +.1	h76 +.1
6.	e24?	c76?	Bh1:d5 +1.1	d5:e4 +.3
7.	e4:d5	c6:d5 (**D11.14**)	=, +1.3	=, +1.3
8.	Bh1:d5!	e6:Bd5?	=, +1.3	Nb8c6 +1.3
9.	Nc3:d5	Nb8c6	Threatens Nd5e7 fork.	=, +2.0
10.	Qh3g	Nd7e5	Coordinates on c7.	=, +2.0
11.	d4:Ne5	Rd87	=, +2.0	=, +2.0
12.	c24	Kc1/Rad	White went on to win with a pawn material advantage.	

Why did Ruck as Black get into trouble? One answer is that Black had to play against the ninth highest rated chess player on the planet. More directly, Black's 5... Qf8g put his K and Q on squares of the same shade, and it weakened square e7. These factors primed the knight fork threat at the weakened e7 square. The inherent weakness in R#708 at c7 was also exploited by the coordination of 9. Nc3:d5 and 10. Qh3g. In chess1 both pieces setup adjacent to the king protect the square in front of the king, but not so in R#708 RNKR-BQNB.
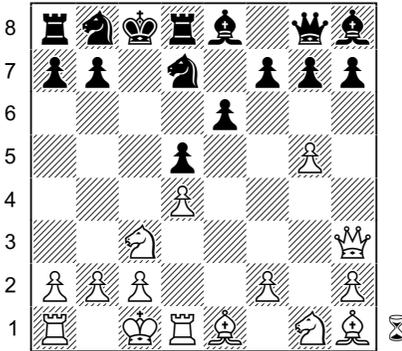
D11.14 E.Bacrot – R.Ruck, 1-0
Mainz 2005, R#708, Wh/Bl
After 7. e4:d5 c6:d5 +1.3
Next 8. Bh1:d5! e6:Bd5? +2.0
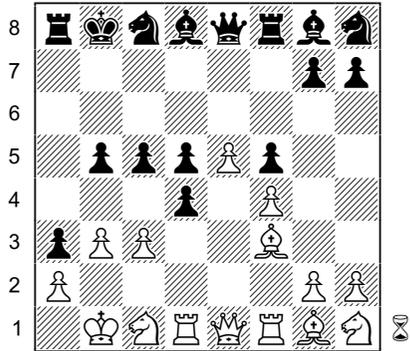
D11.15 A.Kosteniuk – I.Sokolov, 0-1
Mainz 2005, R#913-S#829, Pawn Plies
After 10... b65 11. c23. Next 11... Nh8g6
+.6 12. Nc1d3? -.2 (c3:d4 +.6) c54

After the first eight plairs were completed, Black still had seven of his eight pieces on his rank 1, and none enjoyed a single open line of mobility or pressure. Black's king sat on a pawn-less diagonal, and was several moves away from castling. White's sacrificial combination launched by 8. Bh1:d5! made possible the devastating penetration of White's knight.

Numerous Early Pawn Moves: As long as we are tangentially touching on the topic of chess960 games that open with numerous pawn moves, we can for fun also glance at the R#829 game between Kosteniuk – Sokolov (**D11.15**). After the first 21 plies the opening phase was nearly over, and Sokolov had yet to move a non-pawn piece. Alexandra was violating the classic Nimzovich opening principle against excessive pawn moves to almost the same degree, as she had only one vacant rank 1 square. All four knights were on their initial square. This odd game also showed how readily chess960 players sometimes abandon the pleadings of their kings for a high quality king fort.

12
Reviewing Our Broadened Understanding of Chess

Chess960 is an Incremental Change: In this book chess960 has been used to gain a better perspective and understanding of chess1, and of chess. Chess was not revised in the year 1475, rather chess was invented in 1475. Like most human inventions, chess was merely an incremental step above several similar games that preceded it. The changes that created chess were radical in that half the pieces were discarded and replaced by more mobile pieces (though the same names were reused).

In 1996 Bobby Fischer invented FRC. Like most human inventions, FRC was merely an incremental step above several similar ideas that preceded it. This change was miniscule compared to the changes of 1475. FRC is exactly one rule change, that in the initial setup the rank 1 pieces need not be lined up the same way every time.

The FRC proposal could be viewed as chess borrowing the 3-Move rule change adopted for checkers in the early 1900's.

13
Annotated Games

Annotation Format

Chess playing computer programs are imperfect, as are grandmasters. But programs have become tenacious challengers even to grandmasters. So the recommendations of programs are usually respectable or better. In my annotation format, every actual move is accompanied by a specific best move suggestion from a chess program, plus the program's specific numeric evaluation of its best move. Many chess books would instead have whitespace on the remainder of each line, which I do not see as preferable.

There are times when a chess playing program gives out inconsistent or contradictory evaluation values. These are sometimes due to the horizon effect, meaning its total blindness to what might happen after the last ply calculated. There can be other reasons also. Some individual best move suggestions or their evaluations may be inaccurate, as with any human generated annotation. There is no guarantee that the program's suggestions are always among the very best moves.

Overall I feel that together the suggestions and evaluations of the program do much to clarify the trends and crucial points

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(mh75)