

Chess960 Superhumans!

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Chess960 time at the Top Chess Engine Championship (TCEC, 2021a)! The more I watch these games, the more I feel that the gap between humans and engines is even higher in Chess960 than in normal chess. I loved the opening phase of this game between two of the less famous engines on show. I'm not sure I would have thought of any of Black's moves! The game VAJOLET2 – SLOWCHESS BLITZ is available for replay and download (TCEC, 2021b).



Fig. 1. TCEC Season 20, FRC League B, 2021-03-05: VAJOLET2 – SLOWCHESS BLITZ, Chess960 position #50 (Chess960, 2018; Scharnagl, 2004; Weeks, 2008; Wikipedia, 2021).

In common with most players, I always take a few minutes to size up a Chess960 position before I start to make moves! A first sweep through the position seems to indicate good and natural development prospects for the White pieces:

- Ba1 – White will play either b3 or b4 to activate the bishop along the long diagonal (saving a move over the fianchetto in normal chess),
- Nb1 – the standard knight development with c4 and Nc3 is obvious,
- Nc1 – an odd place for the knight, but d3 is a good spot for the knight in a 1.d4 opening. So, the moves d4 and Nd3 also seem indicated,
- Rd1 – the rook fits in well with any push of the d-pawn to d4,
- Qe1 – as always, the queen can fit in with virtually anything. Here it is well-placed to support the e4 push after d4 to set up a double pawn centre,

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- Bf1 – the bishop can – as in normal chess – support a Queen’s Gambit type advance with c4,
- Kg1, Rh1 – these are perfectly-placed to castle normally in one move once the bishop on f1 develops. However, since the king is already on the castling square g1, you might consider trying to achieve more with the rook than just moving it to f1. h4 and Rh3 comes to mind.

In conclusion, my first thought as White would be to play d4, c4, b3, Nc3, Nd3, e3(e4) with a natural d4–type opening. As we shall see, although VAJOLET’s White moves are somewhere in the ballpark of what I have described, SLOWCHESS’ Black moves are completely different!

1.c4. My natural first move would have been 1.d4 but this is also perfectly reasonable. **1...e5:** we have a sort of English! **2.Nc3 h5,** Fig. 2a.

This is the start of some remarkable moves from SLOWCHESS! First, Black is alert tactically and keeps the knight on b8 ready to meet Nd5 (attacking c7) with ... Na6 (followed by ... c6 to chase away the knight from d5). Secondly, Black sets up some sort of future connection between the bishop on a8 and the h-pawn (which would converge on g2 after a subsequent ... b6 and ... h4–h3.) and perhaps even between the bishop on a8 and the rook on h8 after ... Rh6–g6. After Black’s first move, White might even have considered a Botvinnik-style setup with g3, Bg2, e4, N1e2 and 0–0 (Rh1–f1) with either d3 or d4 to follow depending on circumstances. **2...h5** makes sure that Black can meet g3 with ... h4!

2...Nc6 would be the natural follow-up in a standard English opening, clamping down on d4 but **3.Nb5** here is extremely awkward! **3.Nb5 Bd6,** the only way to defend c7! **4.c5,** Fig. 2b. **4...Bxc5** **5.Nxc7 Qe7** **6.Nxa8.** Black should recover the piece but will need some effort to do so without losing material in return. In the meantime, White has netted the bishop pair already.



Fig. 2. (a) position 3w, (b) variation position 4b, (c) position 6w.

3.d4. White responds sharply, meeting wing play with central play. **3.h4** was also possible, preventing Black’s obvious play with ... h4–h3 and asking Black to demonstrate any other points to its second move. **3...exd4 4.Rxd4 h4 5.b3 Na6,** Fig. 2c. A huge contrast in approach! While White is placing all its pieces centrally, Black is playing around the sides! The knight covers c7 against Nd5 and avoids blocking the a8–h1 diagonal for the light-squared bishop on a8 after ... b6. **6.Nd3 b6 7.Nd5,** Fig. 3a. Suddenly, Black seems to be in severe danger after just seven moves. Nf6+ is a reply to many of Black’s most natural moves.

7...f5, Fig. 3b. Another shocking move! This move – abandoning the possibility of blocking the a1–h8 diagonal with a pawn – is not one you would expect to parry threats along the long diagonal! However, the f5–pawn takes away g4 from the white rook (neutralising the tactical threat of Nf6+) and highlights the lack of squares available to the white rook on d4. White’s attacking knight on d5 is

also not stable as it can be driven away by ... c6, a result of Black's foresight in placing the knight on a6 on move 5!

The more I analysed, the more it seemed that Black was doing ok in this position. A large part of me rebelled against this idea: how could Black still be fine after playing all these odd ideas in the first seven moves (... h5-h4 and ... Na6) from the starting position in the face of White's beautiful central strategy? The crux of the matter lies in the words *starting position*. The starting position of a Chess960 game is not the same as that of a normal chess game!



Fig. 3. (a) position 7b, (b) position 8w, (c) variation position 10b.

Firstly, Black's development was already pretty advanced from move 1! The black king was already 'castled' on g8, safe from any central dangers! Even more interestingly, the king could still castle to the queenside if matters got too hot on the kingside!

Secondly, looking at the starting position of the black queen on e8, you see that it defends light squares such as g6 that would normally be terribly weakened by the moves ... h5-h4 and ... f5. The moves Black is playing are strange, but they do seem to fit the positions of the pieces in this specific Chess960 position. 7... c6 loses to 8.Nf6+ gxf6 9.Rg4+ Bg7 10.Bxf6, Fig. 3c. 10... Rh7 11.Qc3 Qf8 12.Nf4 Ne7 (12... Nd6 13.Nh5 Ne4 14.Bxg7 Nxc3 15.Nf6#) 13.Nh5 Ng6 14.Bxg7 Rxc7 15.Nf6+ Kh8 16.f4 followed by f5 is winning for White.

7... Rh6 was what I was expecting to deal with the threat of Nf6+. However, there are some unexpected tactical problems. 8.Qc1 threatening Qxh6 followed by Nf6+ 8... Qe6. Black doesn't want to play ... Bxd5 to counter this threat as none of Black's opening play (... h5-h4, ... Na6) makes sense if the light-squared bishop is exchanged. However, Black's queen and rook are unpleasantly exposed to White's minor pieces after 9.N3f4.

8.Rf4 attacking the f5-pawn, opening the diagonal of the dark-squared bishop and getting the rook out of attacks such as ... c6 followed by ... c5. **8... Nd6 9.e4**. This sharp central break looks extremely strong. Somewhere in the mix, the bishop on f1 is now eyeing the loose knight on a6 along the f1-a6 diagonal! **9... fxe4 10.Ne5 Rh5**, Fig. 4a. A great defence, hitting the knight on e5, giving White no respite to develop further with Be2. **11.Rg4**.

11.Qc3, Fig. 4b. This looked very strong to me, introducing the violent threat of Nf6+ ... gf, Ng4 as well as the quieter but still unpleasant Be2. I probably wouldn't have spotted Black's key defensive resource if I hadn't been aware of the game continuation! **11... Bxd5**. I know I said earlier that Black's play doesn't make any sense if it is forced to exchange off this bishop. ... but tactics always trump logic! (11... c6 12.Nf6+ gxf6 13.Ng4 is completely winning for White! 13... Bg7 14.Nxf6+ Kh8 15.Nxe8 Bxc3 16.Bxc3+; 11... Qe6 12.Nc6 with the double threat of Nxd8 and Rxf8+.) **12.cxd5 Nb4**, Fig. 4c.



Fig. 4. (a) position 11w, (b) variation position 11b, (c) variation position 13w.

Beautiful! The key point is that Black threatens . . . Nxd5 forking the queen on c3 and rook on f4 while covering the f6-square against Nf6+ tactics! 13.Rxf8+ (13.Qxb4 Rxe5 14.Bxe5 Qxe5 15.Rxh4 leads to a variation examined later in the game; 13.Nxd7 Nxd5 14.Rxf8+ Qxf8 15.Nxf8 Nxc3 16.Ne6 Re8 leaves Black material up.) 13... Qxf8 (13... Kxf8 14.Nd3) 14.Qxb4 Qf4 (14... Qf6 may also be ok for Black.) 15.Qd4 Rg5 16.Nc4 Nxc4 17.bxc4 Rxc4 18.Bxc4 Rxc4 19.Bf1 Qg5+ was the surprising and beautiful perpetual indicated by my engine.

11... Bxd5 12.cxd5 Nb4. 12... Rxe5 13.Bxe5 Qxe5 14.Bxa6 looks a more natural way for Black to play. Why would Black spend a tempo to make White capture the knight on b4 rather than a6? You will see in a few moves. For a start however, the white queen is offside on b4 and no longer covers the white kingside dark squares.



Fig. 5. (a) position 15w, (b) variation position 16w, (c) position 17w.

13.Qxb4 Rxe5 14.Bxe5 Qxe5, Fig. 5a. 15.g3. 15.Rxh4 e3, Fig. 5b, is suddenly rather fraught for White. This position could also be reached from 12.Qc3 Bxd5 13.cxd5 Nb4 14.Qxb4 Rxe5 15.Bxe5 Qxe5 16.Rxh4 e3. 16.Qd4 exf2+ 17.Kxf2 Qg5 threatening the follow-up . . . Nf5 and . . . Bc5. STOCK-FISH manages to hold the balance for you but it's an unpleasant experience for White! 18.Rg4 Qc1 19.g3 Nf5 20.Qe4 Qd2+ 21.Be2 Bc5+ 22.Kg2 Ne3+ 23.Kf3 Nxd5 24.Rd1 Qe3+ 25.Kg2 Qxe4+ 26.Rxe4 Ne3+ 27.Rxe3 Bxe3 is the main line.

15... Be7 16.Qe1 0-0-0!! Fig. 5c. Suuuuper-long castling! The point of all Black's previous play! Risks such as 7... f5 are acceptable if you know there is a safe spot for your king on the opposite flank away from the weaknesses you have created! You may only now (as I did!) realise the point of 12... Nb4: if Black had let White capture on a6 with the bishop after 12... Rxe5, queenside castling would be impossible, prevented by a bishop on a6!

The rest of the game is still interesting but less relevant to our theme. Black has a pawn for the exchange, a weak d5–pawn as a target and plenty of play on the dark squares. The game is approximately balanced and ended in a draw on move 80.

17.Bg2 hxc3 18.hxc3 Bf6 19.0–0 Rh8 20.Qe2 e3 21.fxc3 Bg5 22.Re1 Kb7 23.Bf3 Qf6 24.Qf2 Kb8 25.Bg2 Qe5 26.Rd4 Re8 27.Rd3 Ne4 28.Bxe4 Qxe4 29.Rd4 Qh7 30.Rg4 Rh8 31.Qg2 Bf6 32.Re4 g5 33.Kf1 Be7 34.Ke2 Bd6 35.Rc4 Re8 36.Kd2 a5 37.Rh1 Qg7 38.Kd3 g4 39.Qe2 Qg6+ 40.Kd2 Qf5 41.Rd1 Rg8 42.Kc1 Rg5 43.Qg2 Ka7 44.e4 Qe5 45.Kb1 Rh5 46.Qf2 Kb8 47.Re1 Rh3 48.Qf4 Rxc3 49.Qxe5 Bxe5 50.Rf1 Re3 51.Rf5 Re1+ 52.Kc2 g3 53.Rxe5 g2 54.Rg5 g1Q 55.Rxc3 Rxc3 56.Kd3 Re1 57.Rc3 Kb7 58.Rc2 Kc8 59.Kd4 Kd8 60.Rc3 d6 61.Rc2 b5 62.Kd3 Kd7 63.Rh2 Ra1 64.Rh7+ Kc8 65.Rh8+ Kb7 66.Rh2 a4 67.bxa4 bxa4 68.Kc3 a3 69.Kc4 Rd1 70.Rh3 c6 71.Rxa3 cxd5+ 72.exd5 Kb6 73.Ra8 Rc1+ 74.Kb3 Kb5 75.a4+ Kb6 76.Re8 Rh1 77.Rc8 Rb1+ 78.Kc2 Rb4 79.Ra8 Kc5 80.Ra5+ ½–½.

REFERENCES

- Chess960 (2018). <https://chess960.net/wp-content/uploads/2018/02/chess960-starting-positions.pdf>.
- Sadler, M. (2021). <https://matthewsadler.me.uk/engine-chess/chess960-superhumans/>.
- Sadler, M. & Regan, N. (2016). *Chess for Life*. Gambit. ECF Book of the Year.
- Sadler, M. & Regan, N. (2019a). *Game Changer: AlphaZero's Groundbreaking Chess Strategies and the Promise of AI*. New in Chess. ECF 2019 Book of the Year; Winner of FIDE's 2019 Averbakh-Boleslavsky Award. See also tinyurl.com/1bi3w4sr and tinyurl.com/ym3a3f7d.
- Sadler, M. & Regan, N. (2019b). *Zeitenwende im Schach: AlphaZeros Bahnbrechende Strategien und die Verheissungen der KI*. New in Chess.
- Scharnagl, R. (2004). *Fischer-Random-Schach (FRC/Chess960)*. ISBN-10: 383341322-0.
- TCEC (2021a). <https://tcec-chess.com/>. The TCEC live and archive site.
- TCEC (2021b). <https://tcec-chess.com/#div=frc31b&game=1&season=20>.
- Weeks, M. (2008). <https://www.mark-weeks.com/cfaa/chess960/c960strtt.htm>. Three Chess960 start-position resources: A generator, a comparator and an indexed list.
- Wikipedia (2021). https://en.wikipedia.org/wiki/Fischer_random_chess#References.