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The Evolution of Correspondence Chess



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Brave New World:

Human Intuition and Computer-assisted Chess

How a gang of amateurs bested some of the strongest players on earth

By Howard Sandler, Ph.D. and the Chessgames.com World Team

A Vietnamese woman living in Alaska, a lawyer from Toronto, a polymath from Ireland, an accountant from India, a scuba diver from Brazil, an electrical engineer from Virginia, a biologist from Norway, and over 5,000 others make up the Chessgames World Team. They are all chess fans who registered in *Chessgames.com's* series of massive online consultation games known as the Chessgames Challenge, that pits the members of the website against famous grandmasters (GMs). Is it even possible that such a loose confederation of amateurs could hold their own against strong opposition? Apparently so: The World Team has a record of three wins, three draws, and no losses—all against very strong players, including a scintillating victory

over a correspondence world champion. To understand their success we need to look at the role of computer analysis in the rapidly-evolving world of correspondence chess (CC). After that, we will look at critical moves in each game in an attempt to perceive how the World Team combined human intuition and computer evaluations to steer the games to victory. Finally, we will speculate about the future of CC as well as the Chessgames Challenge.

The format of the game is straightforward. The GM makes a move within a specified time control, usually two or three days per half-move. The World Team votes democratically, with each member voting for one move. The move that gets the most votes is actually played on the board and

presented to the GM. Members can also vote to offer or accept draws, actions which require a simple majority to approve. During the game, the World Team privately discusses its strategy and analysis to help reach a consensus on the strongest plan. Under this format, the World has played six games to date: two with correspondence GM Arno Nickel (win, draw), and one each with 2008 U.S. Champion GM Yury Shulman (win), 15th Correspondence World Champion 1996-2002 Gert Jan Timmerman (win), 13th Correspondence World Champion 1989-1998 Mikhail Umansky (draw), and WGM Natalia Pogonina (draw). Let's take a whirlwind tour through these modern masterpieces of collaborative chess.

Our story starts on August 18, 2006, when the Chessgames World Team played

its first move, 1. e4, against Correspondence GM Arno Nickel. Among his many successes, in 2009 GM Nickel finished clear first in the Simon Webb Memorial (a category 15 event) against a field of 12 of the strongest correspondence GMs in the world. According to the Chessgames co-founder Daniel Freeman, “Nickel was chosen as the first opponent precisely because of his success in defeating computers, especially his convincing victory over the monstrously strong cluster computer, Hydra. We had every reason to expect the World Team would lose, but learn a valuable lesson in the process.” Mr. Freeman’s opinion soon changed, when he witnessed the World organize itself and ultimately defeat Nickel: “The word challenge had reversed its meaning: it wasn’t so much the members we were challenging, it was the grandmasters!”

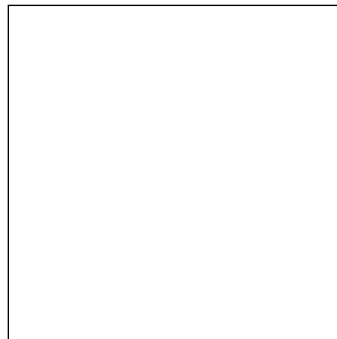
Controversy about computer use was present from the start, and as computer chess engines have become more and more powerful since 2006, these complaints were voiced more loudly in each successive game. Even before the World’s game with Nickel began, lengthy debates emerged about whether computer assistance was necessary or appropriate. Why did such strong reactions against computer-assisted correspondence games continue to surface? Many team members recall the days when correspondence chess was played on postcards, so their reactions were generational. Other members had played chess at online chess clubs, where computers are the lowest and most loathsome form of cheating. However, members more familiar with computer-assisted correspondence chess pointed out that the computer’s evaluations were often useless (in the opening phase), flawed (in closed positions), or artificially cut off (the horizon effect). They emphasized that to be successful it took people to provide overall strategic guidance, and that blindly following the computer’s advice every move would not be a winning strategy.

The World Team was fortunate to have a member known as “RandomVisitor” who consistently provided a backbone of analysis with his high-end equipment and engine. His analysis gave the World a strong start as it branched out in many analytic directions. There is an art to using the computer well: winning requires computer analysis to be skillfully interwoven with human intuition. All serious correspondence chess players are accustomed to this art. The strength of the GMs (even Shulman and Pogonina, who do not ordinarily play correspondence) lies in their keen instinct of when to regard their own judgments higher than the computer’s numerical evaluations. GM Nickel commented, “Well of course, correspon-

dence chess and over-the-board chess are nowadays two extremely different disciplines, more so than ever, because correspondence players in contrast to over-the-board players have full access to computer engines and databases.”

Neither the World Team nor the GMs blindly played the moves generated by their computers. In fact, the key move in the World Team’s first game against GM Nickel was generated by human intuition, and only later was it checked thoroughly by computers. Let’s take a look.

The World versus Arno Nickel “Brave New World”



White to play

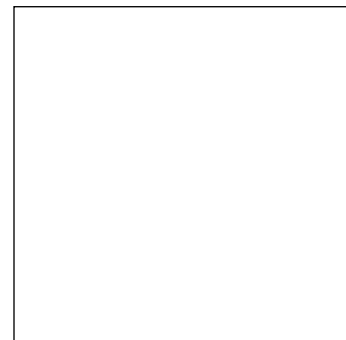
It is White’s turn to play, and the move **36. b4!** quickly ended the game. (The pawn is immune to capture: 36. ... Qxb4? 37. Qd8 mates in a few moves.) Today’s chess engines are able to take advantage of multi-core computers to find moves like 36. b4!, but in 2006, relatively few World Team members had computer engines of such power. Those that did were rarely able to delve 10 moves deep, even in overnight runs. The move came as a shock to GM Nickel. After the game was over, he praised the choice of 36. b4 over going into a complicated rook ending with 36. Qd8: “Practically speaking, I think 36. b4 was the stronger move, as it left Black without any defense, whereas the rook ending would have complicated things unnecessarily, as the white rook is not well placed in front of its own pawns.” (posted on February 11, 2007). GM Nickel had kind things to say about the World Team’s strength as well. Shortly after the game, he wrote “... in order to illustrate on which level this very complicated game has been played, I would suggest, that White managed to play on a 2700-2800 level (ICCF Elo), while Black played about 200 Elo points weaker. ... One can only congratulate the World Team for this fine achievement.”

The Chessgames World Team’s second game was against GM Yury Shulman. GM Shulman was born in Minsk, Belarus, and moved to the USA in 1999. Since

that time, he has been one of the top American players with an outstanding performance at the 2001 World Open (tied first), and wins at the 2006 U.S. Open Championship and the 2008 U.S. Championship. He also is generous with his time in support of U.S. chess at all levels. Once again, the outcome of the game was to be found in the many human moves that were made by both sides.

Although the World Team played “human moves” 17. ... f4 and 25. ... Qf7! (neither was the computer’s first choice), the move that perhaps best illustrates the need for an overarching human strategy was played in this position:

Yury Shulman versus The World “Not a Care in the World”



After 35. h3

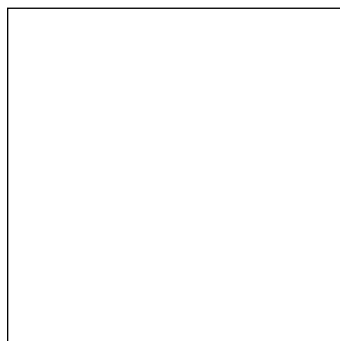
In this complicated position, the World played a move not even in the top ten computer candidates: **35. ... h6!** The move created a sort of *Zugzwang* (especially when followed by another non-computer move, 37. ... Kh8) which GM Shulman was not able to overcome. Shulman took his defeat with grace and humor, saying that “You really did show wonderful teamwork. When I heard about group forums ... I was shocked how serious my opposition is! ... I will be happy to answer your questions, if you do not mind advice from someone whom you beat so flawlessly.”

As GM Shulman noted, the World Team had an amazing ability to organize itself in order to best use the talents of all of its members. The development of a forum system for analyzing variations and distributing the work of the computer analysts, the willingness of those with chess engines to run analyses for those without such resources, and the ability of the World to merge human input with computer output all combined to make the team both effective and enjoyable.

The World had the white pieces again in its third game, this time against the 15th World Correspondence Chess Champion, GM Gert Jan Timmerman. The pressure of playing against a player of Timmerman’s reputation raised the inten-

sity level of the game and presented a challenge to the ability of the World to maintain its cohesiveness. Fortunately, a number of team members stepped up to keep the peace and all was well. Once again, it was a non-computer move by the World Team that allowed it to win the Exchange in this position:

The World versus Gert Jan Timmerman “Dead to the World”



After 30. ... Na6

White played **31. b4!** (echoes of 36. b4! in the game against GM Nickel), a fascinating gambit in which the pawn can be taken three ways, and yet Black is destined to lose the Exchange. After **31. ... Nxb4 32. Bxe4 fxe4 33. Nd7 Rb7 34. Nc5**, the World went on to win an interesting endgame. For those who have further interest in this game, Tryfon Gavriel (kingscrusher) has an excellent video analysis on YouTube at youtube.com/watch?v=kXRv8AdQKcW.

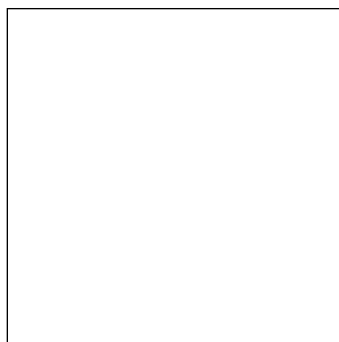
The World Team’s fourth game was a rematch against GM Arno Nickel. This time, however, Nickel understood just how seriously he needed to take this game in order to win. Before the game, he wrote, “In my first game against the World Team I just tried to play interesting chess and expected the success might come sooner or later. Now I know, the World Team is excellently organized for deep analysis, especially when it comes to a battle of bits and bytes. Here we can say the World Team is a monster with 99 eyes: it will find everything hidden deep down in the ocean of variations. Time to change strategies! I will eagerly wait for the rematch and, with White, try to surprise the Chessgames World Team with a completely new approach.”

If the World has an Achilles heel, it’s the opening phase. Perhaps exploiting this vulnerability was the “new approach” that Nickel mentioned, and indeed, the World got off to a rough start in the opening of the rematch. The opening seems to be a consistent weakness because of the format of these games. This may be because com-

puters are of little or no value in opening analysis. It may also be because many people sign up for the game, vote for their favorite opening moves, and then disappear when the opening doesn’t go as they wished. These circumstances conspire to make it very difficult for the World Team to sustain a coherent opening strategy.

In the Arno Nickel rematch, one key human move came early. In this position:

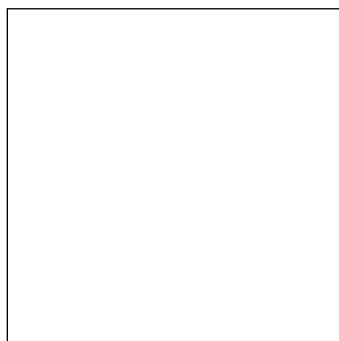
Arno Nickel versus The World “World Peace”



After 10. Be3

The Chessgames World Team’s decision to mix things up with **10. ... h5!?** was wise given that GM Nickel hoped to avoid complications so as to keep the draw in hand. By move 22 or so, however, many on the World Team thought that the game was already lost. Fortunately, the World played another “human move” that proved critical in eventually securing the draw. In this position:

Arno Nickel versus The World “World Peace”



After 23. Bb3

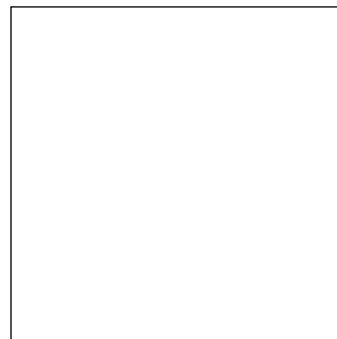
The Chessgames World Team offered to trade queens with **23. ... Qc5!** Nickel could not allow 24. Qxc5 dxc5 where the pawns would capture either a knight or a bishop. After the transition to an interesting queen, rook, and pawns ending, the World Team agreed to Nickel’s offer of a draw accompanying his 42nd move. After the game, Nickel wrote “... I did not want to take any risks, because it would have been a very bad feeling to lose a second time to the

World Team. This situation may explain some of my moves—like h2-h3. ... I don’t know if after that I really missed a win. You suddenly started to defend very accurately, and all my analysis ... led to either drawn or dubious positions.”

The draw in the second game with GM Nickel was a wake-up call for many on the Chessgames World Team, as it signaled that the World was not invincible, especially to a strong CC grandmaster who was willing to take chances to win. This set the stage for the World’s fifth game, played against the 13th World Correspondence Champion, Mikhail Umansky. In 1995, Umansky won the World Correspondence Championship, then in 2004 he scored clear first (leading by two whole points) in the ICCF 50 Years World Champion Jubilee, an invitational tournament that included all living former ICCF world champions. The World knew that it was in for an arduous battle.

The World Team had the black pieces against a man known as “one of the most creative players in the world, similar to Kasparov in CC,” according to GM Tansel Turgut, one of the leaders in the 24th World Correspondence Championship. Umansky’s creativity kept the team off balance as he played a number of non-engine moves, and the team did not keep pace. One member lamented, “we are doing less and less thinking on our own,” as they increasingly relied upon the computers to just keep the position level. This was perhaps exacerbated by the scheduling, in which the tail end of the Nickel rematch and the opening of the Umansky game overlapped. The World was happy to accept Umansky’s offer of a draw after his 36th move in this position:

Mikhail Umansky versus The World “It Takes All Kinds”



Final position

That happiness was short-lived. The chess community was shocked and saddened by the news that Umansky had passed away in December, 2010.

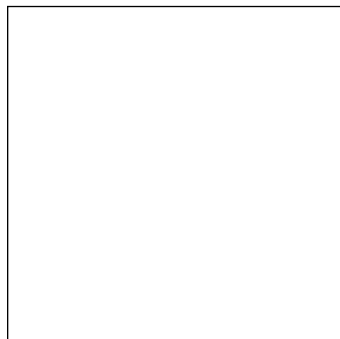
The World Team’s sixth and most recent game was played against WGM Natalia Pogonina. Pogonina is not only among the top women playing chess today, she is

also a great promoter of chess around the world. This game got off to a rocky start over a disagreement between the World Team and Pogonina's husband/manager Peter Zhdanov, who saw no harm in being a member of the World Team while the game was in progress. This led to some harsh words being exchanged, including Zhdanov's calling the World Team "space-bar masters", a pejorative term that the World later adopted as a badge of honor. Happily, differences were reconciled and the game got underway on schedule.

After that initial controversy, this game presented even more challenges to the World Team. First, the system of analysis forums had been stretched beyond its limits during the Umansky game under the pressure of increasingly greater reliance on stronger and faster engines. One member commented that the serious contributors might be jeopardizing their marriages. Second, Pogonina's preference of a time control of one half-move per day undermined the World's main strength: its ability to organize itself. Finally, the World Team struggled to integrate an influx of new members into its ongoing structure. Fortunately, team member Jeremy Pflasterer developed customized online software to help, going far beyond the core features offered by the website itself. Although many versions of this idea had been proposed, Jeremy stepped up and made the idea work, with a product called the Online Analysis Tree. It is a Wikipedia-inspired website that anyone can edit by adding nodes and comments to an analysis tree. It has the potential to become a significant organizational tool for team play.

The game against Pogonina proved to be odd in many respects. On the 10th move, the votes for 10. Bf4 and 10. a4 were exactly tied, 164 to 164. Here was the position:

The World vs Natalia Pogonina "Flat Earth Society"

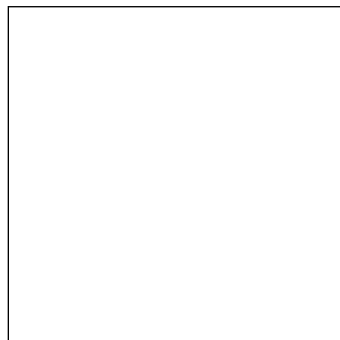


After 9. ... Nbd7

Thankfully the rules had foreseen this possibility: In the event of a tie vote, the software breaks the tie by selecting one of the moves at random. So the software

flipped a cyber-coin and played the standard book move 10. Bf4, not the computer-preferred move 10. a4. Many of the top analysts on the World Team regarded 10. a4 as the stronger move in that position, and suggested that this was exactly what lost White's opening advantage. Despite the level nature of the game, the World still managed to generate some excitement by playing 44. Nd6 to reach this position:

The World vs Natalia Pogonina "Flat Earth Society"



After 44. Nd6

Although the rook on d1 is unprotected, 44. ... Qxd1 was not the end of the World. Play continued 45. Ne8+ Kf8 46. Nxf6+ and Pogonina soon was compelled to return the material with 61. ... Rxf2+, forcing a draw. The World Team recognized the perpetual check and offered a draw on the next move.

The World Team is not composed entirely of diehards who devote hours each day to the game. To the contrary, there are many enthusiasts who follow the game less closely, and even those who don't believe that they have invested enough time to cast an informed vote. Nonetheless, even the non-voters identify with the World and root fervidly for its success. Member David Zechiel explained, "I'm sure there are many more like me who enjoy the battle, check in often, and take a small measure of pride when the World wins or draws. ... I always enjoy it when a member of the team throws out a new idea for consideration: if the move has potential, you can almost hear the gears grinding as computers all over the globe search out the position looking for hidden nuance in the new move." These non-voting members play much needed roles, such as educating the World Team about the etiquette of offering a draw, or summarizing the main ideas recently posted with flair and levity. When emotions run high, some members ratchet down the intensity by injecting some humor into the discussion. One member, OhioChessFan, created a huge number of song parodies during the Pogo-

nina game, like this spoof of The Who's "Pinball Wizard":

*Ever since I was a young boy
Hustling chess on the playground
From Soho down to Brighton
I was the best around
I ain't seen nothing like him
He's the best by far
That chess-playing-dumb kid
Sure clicks a mean spacebar.*

What is the future of computer-assisted chess? Many suspect that draws will abound as the computers get faster, the engines get stronger, and the human input becomes less important. There is another view, however, that is best expressed by ICCF GM Tansel Turgut. His approach is to sacrifice a pawn, or the Exchange, or both, for long-term positional advantages. He then presses those advantages to wins against those who follow computer engines that struggle to understand these positions. It will be difficult for a large team to vote against high-ply computer lines, but if Turgut is correct, this will be the only way to succeed against a strong GM who has a high level of positional understanding backed up by his or her own computer resources.

What lies next for the World Team? The latest GM to accept the challenge is Armenian-born grandmaster Varuzhan Akobian, now one of the strongest players in the USA with a USCF rating of 2705. The game is scheduled to begin on August 10, 2011, when Akobian makes his first move. Anybody can register for the game right now, for free, at Chessgames.com. With teammates like OhioChessFan, RandomVisitor, and you, the World is ready to face whatever challenges lie ahead. ■

Footnote / Acknowledgement:

This article could not have been written without the generous help of teammates like Marcelo Adaes, Larry Crawford, Mark Elzey, John Jerz, Benjamin Legaspi, Gerry McCarthy, Brian McLean, Jeremy Pflasterer, James Satrapa, Jim Schwar, Greg Sheehan, and Dave Zechiel. Special thanks go to Peter Spizzirri and Daniel Freeman for their support. This article is dedicated to the memory of the best teammate anyone could have: *Rinus*.

1. Game versus GM Nickel:
chessgames.com/1426491
2. Game versus GM Shulman
chessgames.com/1443541
3. Game versus GM Timmerman:
chessgames.com/1464744
4. Rematch versus GM Nickel
chessgames.com/1501785
5. Game versus GM Umansky
chessgames.com/1531174
6. Game versus WGM Natalia Pogonina
chessgames.com/1589895