

Squash and Chess:

The Ball, the Brain and a Little Zwischenzug

By John Dewis



"Physical chess." You hear this a lot in response to the question, "What is squash?"

I have always taken the comparison to mean squash is won more by wits than strength and speed. This is odd for a sport where contestants sweat through their shirts and gasp for breath after a couple of games. But it might be true because one of the great virtues of squash is that despite enormous physical demands, a person in their prime is not necessarily favored to win. I have watched a man of eighty and a girl of thirteen each mop the floor with men of twenty-five. You might say this about fly-fishing, golf, or archery, but there are not too many full-throttled physical contests where this can be said. In squash, what you can do is secondary to whether you can think what to do. And that does sound like chess.

Both games lend themselves to obsession, and I am obsessed with each. Here are two hypothetical questions: (1) If we made chess maniacally physical, would it be like squash? (2) If we cut your body from squash, would it be like chess?

You might have played human-sized chess in a park. It turns out to be hard to keep track of pieces when you move among them. The mind works better when it can see everything at once, like a general watching his troops from a bluff. Big chess also reminds us that chess is already physical—your hand

does the mind's bidding, even if the game is played on your phone. And like real estate, location is everything. Pieces separated by great distance must work together.

This is a source of thrill or fury for the obsessed: the mind is fractured into many parts only to be asked to function as one. The essence of chess is that it is like an orchestra where the conductor has to play all the instruments.

But in chess your ability to execute designs of the mind has nothing to do with your *body*. You can play chess through the mail; if each player keeps a board at home, the very same game happens simultaneously in two locations. Squash cannot be played like this. And if virtual reality makes remote squash possible, rivals on distant continents would still sweat through their shirts.

In chess, the knight cannot jump quickly or slowly. At any moment it governs a set of possible landing pads out of sixty-four. Each piece is a portfolio of options. If those options were full-blooded actions, I would need space that reflected the dimensions of my body. Not merely a floor but volume. Something like a cell or a cube.

But what is a reasonable amount of space to cover? If I'm on a horse, it might be forty acres. If I'm on an eleven-man team, it might be a soccer field. If I'm a student at Harrow in 1860,



I might excuse myself from chapel and explore the courtyard just outside it.

A squash court is the goldilocks zone. I can get from A to B swiftly and back again in just a couple of breaths and strides, but doing it repeatedly stretches me, and doing it with purpose engages me. I am as happy as a hamster in a wheel.

I think cognitive science will reveal something physiologically appropriate about the size of a squash court for connecting mind and body and optimizing their capacity to act. Space is often physiologically determined. The size of a colonial village was measured by earshot: how far the voice of a herald could reach. A bird builds a nest the right size to hold eggs. Evolution of primates and trees has made your hand the right size to pick an apple.

If the mental content described by chess were made meaningfully physical, it would fill a squash court. Externalizing tasks should fill a space consistent with the body's parameters of sensation (like hearing and seeing) and movement (like running or lunging). Physical challenges would closely track mental ones. As a proselyte for the game, I have yet to meet a teenager who is not instantly at home on a squash court.

If I only had one chess piece and it were I, and I wanted to maximize my coverage of a cube especially attuned to the physiology and cognition of the human, where would I hang out? Opening chess strategy is to control the center squares, since from here you can do the most damage. Same with squash. I park myself at the T.

With the division of labor among pieces—diagonal, straight, horizontal, near, far, and the jumping knight—I would have to do it all myself. I would be the queen, who combines the capacities of the rook and the bishop and can cover the most space. I would not be the king. The object of chess is to immobilize the enemy's king: all moves are marshaled for checkmate. But the king cannot provide check on the opposing king, because this would put oneself in check, which is *verboten*. Two kings alone on the board would call off the game.

If squash were physical chess, you would be the queen, and the queen would be her own king. No special responsibilities or entanglements. The queen would be too busy saving herself to drag around a ceremonial husband who can only take one step at a time.

But two lone queens have their own problems. Queen-on-queen attacks are legal but suicidal: as soon as you move within range to kill, you are within range to be killed. Two non-confrontational opponents in bounded space presents an existential quandary. It would be a perpetual stalemate.

We need a shared objective such that when I achieve it, you do not, and vice-versa. We need something to fight over: the ball.

The squash ball certainly has physical properties that matter: it bounces poorly, is of a specific size and grade of rubber and makes a great sound when struck and when it hits the wall. The squash ball also has abstract properties. It is a method for marking space—the way clock numbers mark time or a note marks a position on a scale or a sounding marks depth beneath the waves. Tactically the ball describes the current non-location of your opponent. And if your opponent is good, it also describes her future location.

The ball in squash is a hypothesis. Every ball you hit is accompanied by the silent query, "How about there?" If the ball comes back, you earn another occasion to wonder, "Okay, then how about there?" And so on until you manage to hit it someplace it doesn't come back. For two non-confrontational opponents in bounded space, the ball is the idea of your opponent's location as a function of the knowledge of your own.

Each time you send the ball somewhere you gain purchase on the set of possible moves of your opponent. Instead of attacking your enemy, you send her on a series of errands.

Just like chess. Each time you move in chess, you tweak the causal flow of events to restrict or demand response. You chip away at your opponent's power until finally she is unable to move. To keep the



upper hand, the mind tries to imagine the whole set of responses to a given move, and then your own response to these, and so on, trailing on and on into the future. The reason chess works well in the mind is that "How about there?" is only ever answered for the one move you end up choosing. The functional correlate to an entire rally in squash is one move in chess—and the thinking that leads up to it. The flight of the ball in squash appears in chess as the flight of pure thought.

In chess my mind cages you by its ability to predict your own mind. Squash asks that every turn of the mind is actually played out, which means your own physical limitations might also come up against my mind or your own mind. This makes for a point of departure from chess: my goal in squash is not to cage you, but to set you free. Every shot is a dare to extend yourself beyond what you thought and is a chance to dare back. Squash is a flight of successive freedoms in which finally someone fails.

This makes squash a perfectly human game. Its demands are perfectly attuned to the capacities of a human organism, mind and body. Playing squash externalizes the very functionality of the mind. In this sense it is indeed physical chess.

IBecause chess happens in the mind only—but in two minds—each move requires a pause that takes up residence in your head and your opponent's head. Opposing assaults build, blend and gel with every move, like stopping on every page of a flip-book.

The rapid fire of squash escapes the mind, generating too many data points to contain at a glance. There might be a momentary pause between points—the fetching of the ball, the wiping of a hand on a wall, the serve—but the unit of play is the shot. Shot by shot the character of a game emerges like a ship through fog. The game itself, however, is a living scene that must refresh as quickly as the ball changes location. There is no taking stock. Players are forced into an eternal present.

Cognitive scientists say we commit to actions at the neural level before we are aware of having decided to act. Chess splits action and reaction so that your move arrives as the conclusion of a series of thoughts. Squash forbids this kind of deliberation. The ball moves too fast. It is a game that not only requires mental clarity, but mimics mental function. The life flashing before your eyes is yours.

It is possible to overthink in both games. In chess it will be because you have extrapolated too far and committed to a future too easily disrupted. In squash overthinking is failure to commit to the shot you're making for fear there was a better choice. No matter how long I stare at the chess board I may still fail to see what's coming. For a thinking person's game, it is at times perilously thought-resistant. Squash is more properly pre-reflective—shoot first, ask questions later. Which makes squash even more like the mind than chess, because chess slows down our reactions in the hopes that with more time the mind can do more. Cutting the body from squash would look like chess—but this would not make it less mental, just less in the moment. Squash might be physical chess but chess is not quite mental squash.

Practice improves both games by helping control what you can in a world where nothing goes as planned. You strive for consistent shots in squash and for lines of attack in chess. Habituation in both suggests working principles and pattern recognition. You know the knight and queen will work nicely against a guarded king, without necessarily seeing the move that delivers checkmate. You know running your opponent the length of the diagonal will tire her out, without knowing where or when you will dish the winner. The whole world cannot hang on one move: in chess, because you cannot see far enough ahead, and in squash because the future has already come and gone.

Both games are leveraged for epiphany. This is the secret of success for both squash and chess in transforming restless youth into attentive students and thoughtful citizens. Clear vision in a chaotic world builds courage and mental discipline. Playing squash and chess, I feel that I cannot fall out of the world, and that I am better when I return to it.



ROSENTHAL-DE VERE, PARIS, 1867

The expected move: Black's Qb6 (red square) to capture White's Bc4, also checking White's Ke1.
 The Intermezzo: Rc8 (yellow square) to Rc1+ (green square).
 The purpose: exchange rooks ... before capturing White's Bb4 (with Qb6xb4).

Is this not true of tennis, too, or any grueling *tete-a-tete* sport? If the squash court is the mind externalized—a space for human-calibrated tasks—then one key feature of squash not found in tennis (or table tennis or badminton) is that two minds occupy the same space and two bodies occupy the collective space of two minds.

Like in chess, the space you vie for in squash is shared. You shadow and dodge one another. Tennis is a series of assaults on enemy ground; in squash the place I send you might be the place you send me. Chess space is also collectively owned: only pawns move in one direction, a vestige of war fought in straight lines across vast plains, where spoils amounted to actual territory crossed.

If squash were played without walls, the court would have to be the size of a golf course or a city or the moon. Containing the game in a room bends the world inward, as

the sprawling surface area of your lungs is packed in your chest. In chess, space is condensed because movement is mental—it is shorthand for position under the constraint of rules.

In squash movement is condensed because the space is mental, places the mind can send the body. All the force in the world cannot push the ball outside the

mind. It rebounds right back into the game, and

you are stuck navigating the local physical consequences of full mental freedom.

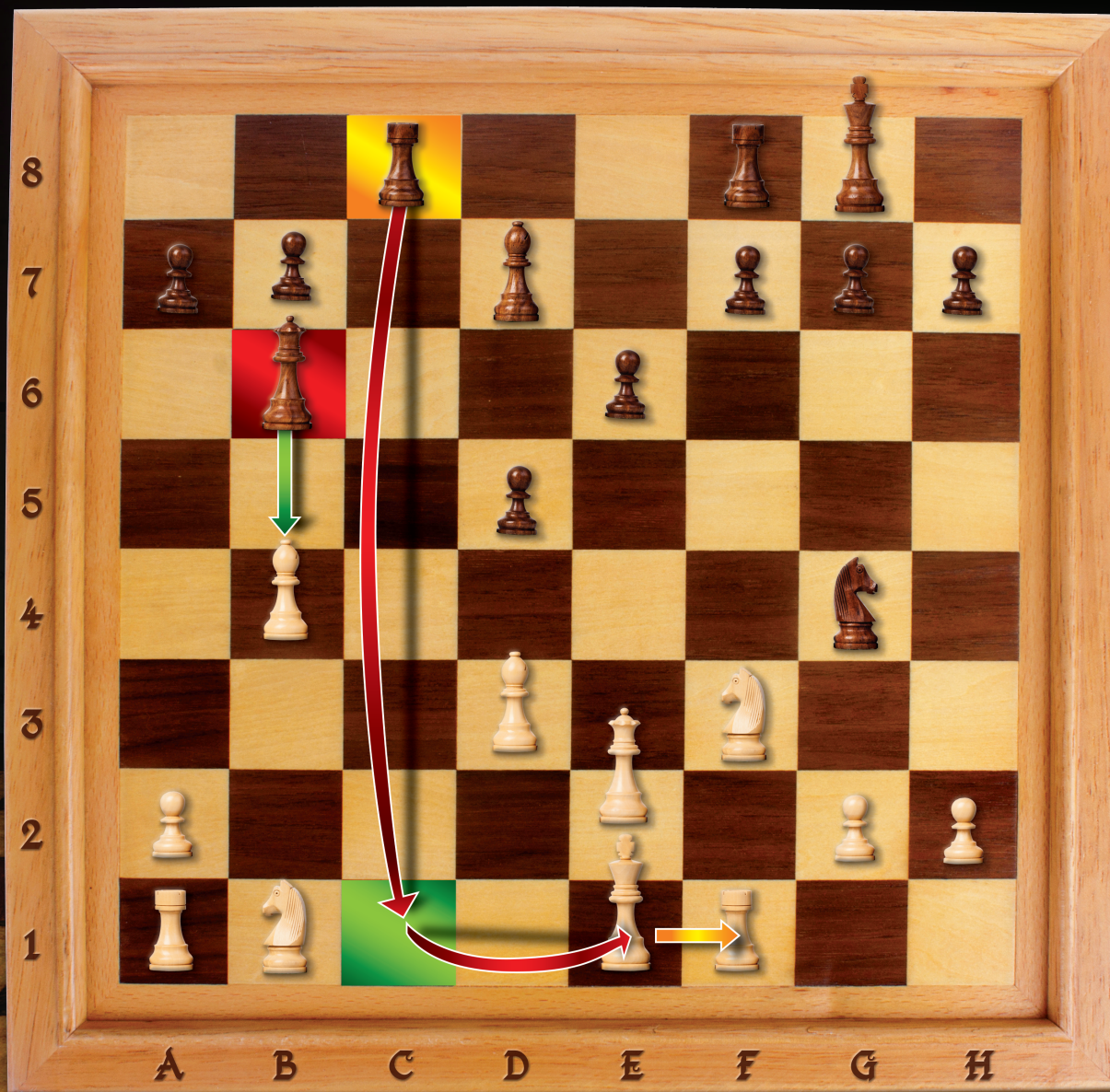
To a spectator, players appear to be dancing or miming one other. Two bodies sharing mental space are going to end up coordinated. Something like jazz, it is the only dance where choreography is the outcome, rather than the plan. I might hit a ball directly where I just was, on the good authority that it is someplace my opponent was not. You get to know your opponent by constantly messing with her, like Harpo Marx when he catches his own reflection off-guard in a mirror by starting a sneeze and his reflection finishes it.

I have dreamt of chess before, where my own existence is somehow tangled up in the movement of pieces on the board. Particularly dreamy is the dog-leg movement of the knight. These dreams feel something like squash.

Classic combinations and elegant checkmates, too, have correlates on the squash court. Experts know how to create conditions in which great moves become playable. A squash rally might involve hitting deep backhand rails to each other in the hopes of putting away a loose ball up front. I might sense my opponent's subtle failure to return to the T because she is anticipating another rail, so I hit a boast to move her to the upper right-hand corner of the court. If she is caught off-guard and has to run full-bore to reach the ball, there is a good chance she will not have the poise

to drop it in front and still get out of the way of her own ball. She is probably stuck hitting a cross court.

I am at the T, ready to cut it off. I plotted for this winner back when we were hitting backhand rails. Of course things could have gone very differently—she might have had the same plan.



A chess player would call a tactical boast from the back a *zwischenzug*, an in-between, intermediate move. This is a scenario where you forego an available move by doing something else first—something coercive. Now when you make the expected move you want, it has more impact. It's a setup. In chess this usually means trading material before making the move that wins material. Often a *zwischenzug* is a check on the king and requires immediate response.

Action and reaction are components of most games, mind or body. And causality is taken by most to be a law—perhaps *the* law—of the universe. Every effect has a preceding cause, which explains it. Even if we cannot predict everything, it is true that once something happens, it will have had causes. This points to a startling conclusion: everything that happens has been determined since the beginning of time.

Chess is so intoxicating because it presents an alternative fiction to a deterministic universe. It trades a fixed chain of causes for discreet volitions. Each move has been motivated by some other move and so on back to the first, but each move I get appears to be a fresh chance to make things go better.

The freedom is especially palpable in chess: after a handful of standard openings there are more possible games than there are atoms in the visible universe. An embarrassment of choices. Our brain, while playing chess, is contemplating the universe. The look of causal reasoning in the mind might be the look of causality in the cosmos.

Cosmic sports put you in touch with an enduring truth or insight about the nature of existence. Surfing, for instance, places you into the universe of particles and waves, by making you a particle on a wave. It gives you some grasp of the structure of matter. Yoga seeks to momentarily to annihilate the self, offering you some inkling of your own recent and future non-existence.

Squash puts your mind lock-in-step with your body in such a way that defies you to ask which half is calling the shots. A human is a creature capable of causal reasoning. Some even think this is all that thinking amounts to. If the only thing causal reasoning has to reason about is the causal universe, however, it feels like thought and the universe are redundant. We appear to be just some instance of the universe observing itself. As

big data makes our own behavior less and less surprising, we will delight more and more in amusements that defy the algorithms. Chess primes the mind for causal disruption, and squash asks the body to do the unthinkable—embody disruption.

The frequency of astonishing moments in chess is a feature of the cosmic scale of possibilities: a small percentage of a really big number is still a big number. In squash the sheer pace of play results in a chess-like multitude of outcomes and mind-bending displays of physicality.

Chess and squash are activities where causality is so tightly appreciated, that anything out of the ordinary seems like something that quite simply should not have happened. We are knocked off balance when a costly sacrifice pays off, by a desperate lob from the front that nicks in the back corner and rolls out, or by a swallow-tail checkmate in the middle of the board. For being so tightly determined, squash and chess provide a steady stream of miracles.

In golf you might get a hole-in-one once in your lifetime. This is because you only strike the ball about thirty times an hour, and the better you are the fewer times you get to hit it. In squash you hit the ball about thirty times a minute, which means a hole-in-one every day.

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