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COLUMNISTS

Novice Nook

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Chess Exercises

Quote of the Month:

   "You can't play what you don't see."

Michael de la Maza calls it chess vision; I call it board vision. By whatever name it is the same thing – the specialized "vision" that your brain develops to enable you to better comprehend what is happening on a chessboard. The development of this kind of specialized vision is similar for many endeavors. For example, a football fan sees a play as an orderly set of 22 players, 11 on offense and defense, each trying to achieve a goal – a non-fan sees it as 22 guys seemingly running around like chickens with their heads cut off.

The main way to develop board vision is to play lots of slow games. Secondary ways include playing over others' games (this can be useful for other goals, like recognizing *good* patterns much more than developing general board vision), doing problems, or playing fast games. However, there is one shortcut you can use that can substitute partially for playing lots of slow games – exercises. I don't mean chess *problems*, where you are trying to find a win or mate in so many moves, but rather exercises that attempt to strengthen your board vision.

De la Maza recommends exercises in his popular **ChessCafe** article *400 Points in 400 Days* and in his book *Rapid Chess Improvement*. Below are some that I know to be effective, presented in this order: Beginning, Intermediate, Advanced.

Beginning Exercises
B1. Knight Obstacle Course

This is a variation many students love – especially those who love mazes. I place a Knight and a King of the opposite color on the board in any position except a Knight's move apart. I then add many obstacles in the form of the other pieces (it doesn't matter their color – only the Knight and the opposing side's King are key). The Knight makes as many consecutive moves as it takes to "capture" the King. The following are some (increasingly harder) Obstacle Courses with the white Knight trying to capture the black King, using the white pawns as obstacles. An answer is provided after each diagram.
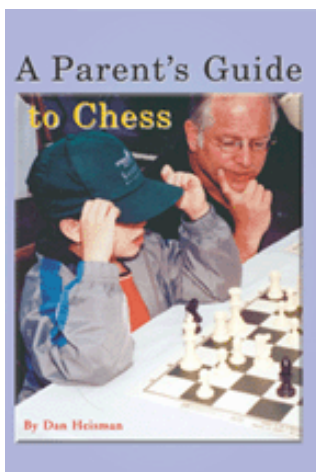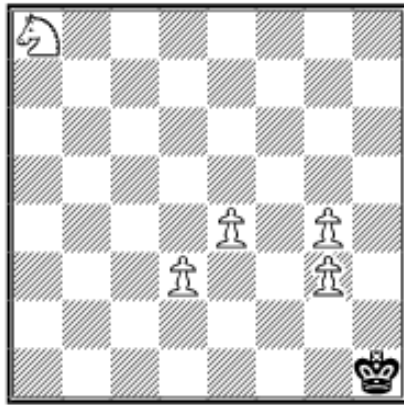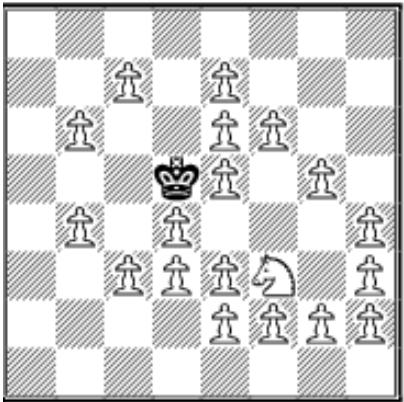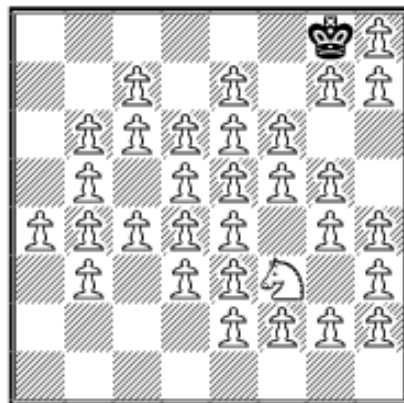
A. This maze for beginners requires care to get to h1 via f2, such as: Nb6-c4-b2-d1-f2-xh1
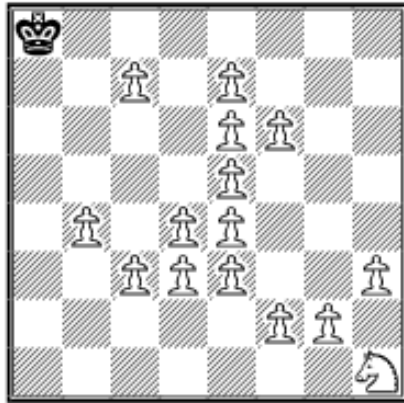
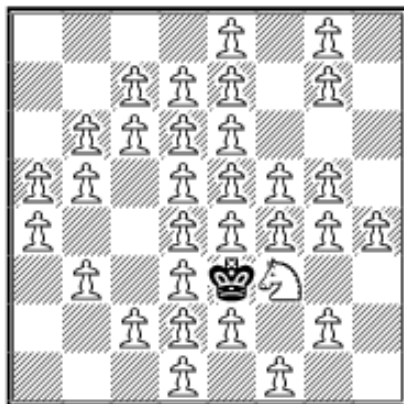B. This easy maze has many solutions, e.g., Ng3-f5-d6-c8-b6-xa8

C. This slightly harder maze has also many solutions, such as Nd2-e4-g3-h5-f4-xd5

D. White must go something like Nd2-f1-g3-h5-f4-g6-f8-d7-c5-b7-e8-f7-h6-xg8!

(To make this easier, remove the pawn on b4 or the one at h8!)

E. Here try Ng1-h3-f2-h1-g3-h5-f6-h7-f8-g6-h8-f7-e8-b7-c5-a6-b4-a2-c3-b1-a3-c4-xe3!

These exercises may be done with other pieces, such as Rooks and Bishops, although the Knight is the most "fun."

B2. Minimal Piece Paths

In this exercise I invented, the student is asked to find the *shortest path* to capture a King, again with consecutive multiple moves of a particular piece. Each time he does so successfully, that path is rendered impossible by adding a blocking piece, like a pawn.

For example, suppose the moving piece is a Rook and the Rook is on c3 and the King on g6. At first these will be the only pieces on the board. Suppose the student first finds the two-move path Rc6xg6. For the next step replace the Rook back on c3 but add a pawn, for example on c5, to block the used c3-c6-g6 path:
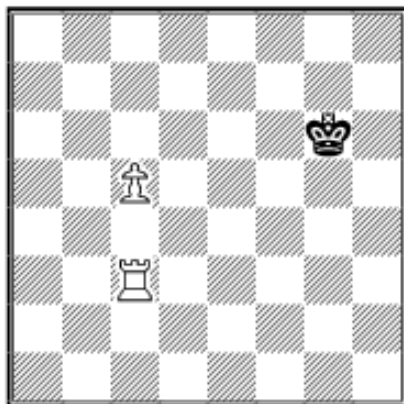
Now the student must try and find *another* two-move path, which in this case is Rg3xg6. Afterwards, that path is then also blocked, let's say with a pawn at f3. The student now has to figure out that all two-move paths are now blocked. Once he does that, the student is asked to find a three-move path. Suppose he then finds Re3-e6xg6. Then this path is also blocked, say with a pawn on e6:
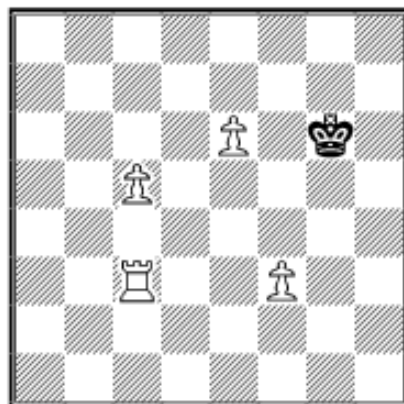
The student is then asked to find another three move capture with the Rook, say Rc1-g1xg6, whereupon that path is also blocked with a fourth pawn. This process continues until *all* possible paths to capture the King *in any number of moves* are blocked. The exercise can then be repeated with either the Rook and/or King on different squares (and the board otherwise cleared), or the Rook replaced by another piece, for example a Bishop or Knight.

Intermediate Exercises

The student is then asked to find another three move capture with the Rook, say Rc1-g1xg6, whereupon that path is also blocked with a fourth pawn. This process continues until *all* possible paths to capture the King *in any number of moves* are blocked. The exercise can then be repeated with either the Rook and/or King on different squares (and the board otherwise cleared), or the Rook replaced by another piece, for example a Bishop or Knight.

Intermediate Exercises

I1. Woolum Chessmazes

I found this type of Chessmaze in the back of Al Woolum's *Chess Tactics Handbook*. In these mazes, like the above exercises, only one piece can move. The idea is to move that piece a specific number of times and capture the opponent's King without making going to any square where it captures an opponent piece <u>or</u> would be attacked by an opposing piece. Unlike the Minimal Path exercise, the path is only followed once and no pieces are added to the board. Usually there is only one way to do this and it is impossible to do it in fewer moves. For example, in the following position Woolum instructs that White is to move the Bishop and capture the black King in 9 moves:
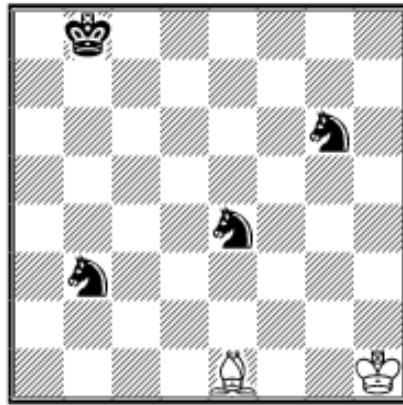
The solution is Bb4-a3-b2-g7-h6-e3-g1-h2xb8.
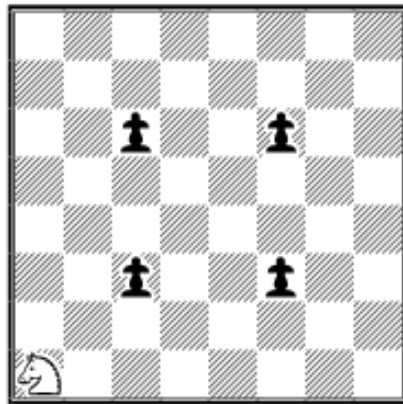
I2. The "Chess IQ" Test

I first saw the Chess IQ Test over 30 years ago in *Chess Life*.

The "Chess IQ" Test

The student must find consecutive Black Knight moves to go, in order, first left to right along the first rank from first from a1 to b1 (e.g. Nf2-a3-b1), then eventually to c1, and one-by-one across the first rank to h1, and then right to left along the second rank to … h2 to g2 and eventually to a2 to a3 to h3, and then up to h4 to a4 …zig-zagging left then right and then back again until reaching all of the squares along the eighth rank (a8 is the final square). *The student must avoid moving to any squares where the black pawns stand as well as the ones they attack.* In other words, b2, d2, e2, g2, c3, f3, b5, d5, e5, g5, c6, and f6 can never be landed upon during the entire exercise – they are neither target squares nor can these be used to get to target squares! The test is timed.

The original article on this test said that once a student has a modicum of board vision, this exercise can be used to test aptitude "independent" of chess knowledge. The student is asked to take the test twice, one trial right after another. The tutor/timer adds a penalty for each illegal move (I think the penalty was 10 seconds). The speed of the first test measures raw aptitude and the gain in

time for the second run through measures learning ability. Supposedly a first attempt taking five minutes or less shows International Master potential, while three minutes or less shows Grandmaster potential(!)

I3. Knight Tours

The idea of the well-known Knight Tour is to start a Knight on one square of the board and then continuously move the Knight, visiting the remaining 63 squares in 63 moves without ever landing on any square twice! IM George Koltanowski made the Knight Tour popular. He performed it blindfold many times during his famous chess lectures. Koltanowski had several popular variations, such as remembering 64 audience member names, one for each square! There are other, easier variations on the theme, of course – you can even make up your own Knight tour conditions and see if you can fulfill them.

Advanced Exercises:
A1. Stoyko Exercise

FM Steve Stoyko suggested to me this very helpful exercise. First the reader should find a rich middlegame position. You can find them in many Kasparov, Shirov, or Speelman games, or in the books *The Magic of Tactics*, *Genius in Chess,* or *How to Think in Chess*. Take out a couple sheets of paper and a pen or pencil.

The idea is to write everything you can possibly visualize from the position, like you were playing the game without a clock and you had to see and record everything before you move. Write down *every* line that you look at (no matter how bad!), along with that line's evaluation. This should fill up several sheets of paper and take 45 minutes up to 2+ hours! If you chose a sufficiently complex positions dozens of variations should be considered. Consider lines to as much depth as you think is significant.

You can show your judgment of the evaluation (who stands better and by how much – you don't always have to say why) with any number of methods:

- A) Traditional: =, ±, ∞, …
- B) Computer - In pawns; negative means Black is better: +0.3, -1.2, …
- C) English: White is a little better, Black has compensation for his lost pawn, etc.

When you are done, take your analysis to a good instructor, player, or software program. Look at each line to see how well you visualized the position (any retained images, illegal moves, etc.?), and also compare your logic (was that move really forced?) and your evaluation.

In general the Stoyko exercise, if done properly, should help you practice and evaluate the following skills:

- A) Analysis
- B) Visualization
- C) Evaluation

Steve claimed that each time he did this exercise he gained about 100 rating points!

Someone asked me the following question about the evaluation aspect of the Stoyko exercise:

"I don't understand your point: 'The key is the amateur's evaluation of every line... you will have your instructor (or Fritz or whatever) compare your evaluation of every line, resulting in a really good evaluation test.' How is it a 'really good evaluation test' to analyze a single position from a Kasparov or Shirov type game for an hour or so?

"I can see how it's a good calculation/visualization exercise - totally agreed. I've done it in the past for this benefit and I'd do it again. But I'm just not understanding the evaluation benefit?!"

Answer: Your question is very good (If you misunderstand that purpose of the exercise, that would help explain my observation as to why so many players are missing out on using this valuable resource!).

Most players are very poor at even-material evaluation. Therefore they make bad moves because, assuming they evaluate potential outcomes of various candidate moves, they choose a move that is not best because they erroneously think the resultant position(s) from their chosen move are better.
The second (non-analysis) aspect of the Stoyko exercise is to evaluate *every* line that you examine in the tree - that could be dozens or even possibly hundreds of lines for one position since the Stoyko position has unlimited time. By comparing your evaluations of these hundreds of lines with your instructors' evaluation, you learn to improve one of the most critical skills you have - what is good and what is bad and why and how much. It also helps you identify the all-too-common quiescence errors where weak players stop their line too soon and therefore mis-evaluate because they did not look to see what might happen with further checks, captures, and threats.

This capability is so important and its failure so critical that you would think everyone would want to work on it, especially since the amount of work is an hour or two, plus additional time for going over it with someone (or even at worst via computer evaluation).

A2. PV Exercise

Play a slow practice game with a friend. It could be over-the-board or on-line, but you must record the game manually. Each time you move, in addition to recording the move and the time left (the former is required by rule and the latter is recommended practice), also write down your Principal Variation (PV; the most expected line of play for both sides) along with your evaluation of the position after the PV. Just record your opponent's move as you normally would. The test will be more instructive if both players do the exercise, but that is certainly not necessary - if just you do it, it should still be instructive.

For example, suppose you are White. Then your notes might look something like:

White	Black
17. Nc4 (64 min) Be7 Nxb6 axb6 =	Bd6
18. Nxb6 (62) axb6 Rac1 +=	axb6
19. Rfc1 (59) Rac8 Bxe5 fxe5 Qh4 +=	h6
20. Bxe5 (57) fxe5 Qh4 +/-	fxe5
21. Qh4 (55) g6 Qxh6 Bf8 Qh4+-	Rac8

etc.

Starting on the line with "17", in order left to right is the move number, White's move, time remaining, PV (usually showing an extra 2-8 ply but not necessary needed or shown on book moves, recaptures, etc.), evaluation after the PV, and Black's move.

After the game you can compare your PV's with your opponent's expectations at the same points and also see how your evaluations and PV's compare with his, and later a software program's or a strong player's.

Note: the reason you can't do this exercise as part of a rated, over-the-board game is that taking analysis notes is illegal!

The PV exercise is an excellent way to ensure that you play Real Chess on every move, considering all of your opponent's upcoming checks, captures, and threats, a prerequisite for becoming a good player. In addition, your evaluation skills should improve because you will be comparing many evaluations with those of a strong player or software program.

In summary, most strong players got their excellent board vison from playing lots of slow games with strong opposition, but this is not the only way to develop this special chess site. Depending upon your current ability, doing the appropriate exercises may help you shorter the process!

Dan welcomes readers' questions; he is a full-time instructor on the ICC as Phillytutor.

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