

comment (paraphrased) that the ICCA had been good to them and now it was time to reciprocate. I was taken aback by their letter, and as the years have passed, I have never forgotten that unselfish act of generosity. To me, that incident tells more about the man than anything else I could write at this sad time.

In Tony, the computer-chess community has lost one of its best.

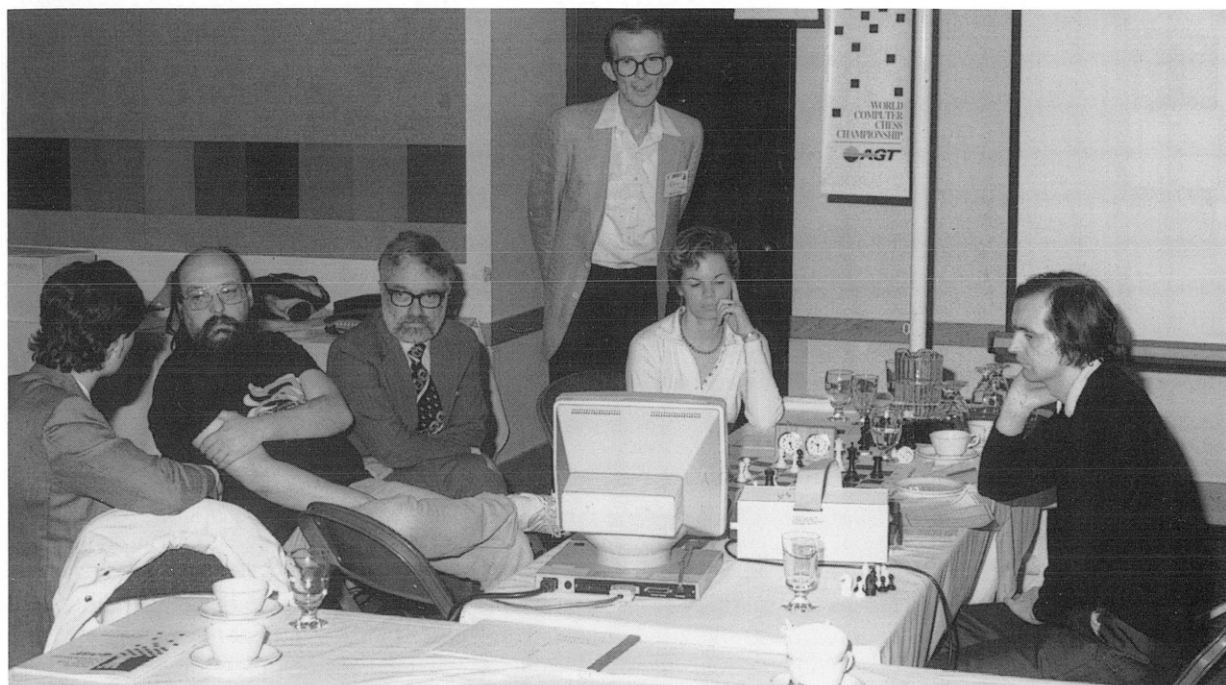


Photo by Jos Uiterwijk

IN RESPECTFUL MEMORY

Tony Scherzer (standing), his wife Linda, and among the others, Ken Thompson, photographed in Edmonton, Alberta, 1989.

THE 1994 ICCA BEST-ANNOTATION AWARD

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The year 1995 is the second year for which the ICCA has made an award available for the program that provides the best annotations to a chess game. In fact, there was only one entry for the award, so all the ICCA had to do was to verify that the program in question did indeed provide annotations to the test game which we submitted to it. The program was entered by Jeff Mallett of Sherrills Ford, North Carolina, and since it met the requirements, it gained the 1994 ICCA Best-Annotation Award.

The following critique will, I hope, provide some useful ideas for programmers who enter the competition in 1995 and subsequent years. (The deadline for this year's entries is 31st December, 1995, see also the announcement on the 1995 ICCA Best-Annotation Award on p. 44 of this Journal.) It is important to remember that the ICCA is looking for the best annotations, which is not always the same thing as the most accurate analysis of variations or the most accurate assessment of positions. But it is clear that it will be difficult to produce good annotations which include accurate analysis if the playing code at the core of the annotating program is not at least of a reasonable calibre.

The game chosen as this year's test was the 20th game of the 1990 World Championship match between

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Kasparov (White) and Karpov. This game starts with a positional opening variation, the Closed Ruy Lopez (Spanish Game), then changes character as White develops a kingside attack and launches into a tactical blitzkrieg.

Readers should remember that this is the first program we have seen which, in addition to principal continuations and position assessments, provides verbal comments on what it thinks is happening in the game. From this perspective it is a big step forwards despite the many deficiencies pointed out below.

1. Many of the program's comments dwell on factors relating to Pawns, for example: "This capture leaves Black with a weak Pawn on the half-open c-file." Such comments are definitely worthwhile when they represent the most important aspect of the move but the current version of the program also provides such comments in situations where there are far more significant happenings in the game. For example, after Kasparov's brilliant 34 Qxh6+!!, which sacrifices his Queen, the program comments "This strong capture gives White a passed Pawn on the g-file and a passed Pawn on the h-file." – Perfectly correct, but insignificant in comparison with the material mayhem which ensues. And it would not be difficult for the program to specify "A temporary queen sacrifice which forces mate or the win of material."
2. The program comments as though it has no idea at all of the essence of what is happening in the game. White builds up a kingside attack and it is this attack which decides the game. The program presumably has a king-attack and/or king-safety feature, so it ought to comment when this particular feature makes a significant contribution to the position value.
3. Because it does not understand what is really happening in the game (a consequence of the weakness of the playing code and not a criticism of the annotations) most of the program's assessments, including most of its "?" and "!" symbols, are wrong. There are very many "?" (bad move) symbols throughout the annotations, which suggests that the program's evaluation function is not providing accurate scores. The obvious way to use a "?" symbol is where a player makes a move whose backed-up score is more than delta below that of the best move it could have played (the value of delta should, in my view, be at least one-third of a Pawn, probably more). To give some examples where the program's assessments are wrong: the move 27. Nf5 is a good move, but the program appends "??" (blunder). And one move earlier White's 26. Nxh6, which is described by Keene in his book on the match as "A brilliant coup", should have "!!" (excellent or brilliant move) instead of the program's "?".
4. When should the program append a "!" symbol? To some extent this is a matter of taste. My own view is that it should be used for a move which, while having a backed-up score (from a certain iteration) which is at least epsilon below the score for the best move found from the same iteration, also has the best backed-up score for a subsequent iteration. Consider a move which appears to be bad (relative to other moves possible in the root position) when searched to depths of up to (say) 9 ply but which is seen to win material without compensation when searched to 11 ply – such a move deserves a "!", and if the move is a temporary sacrifice (i.e., shallow searches show the loss of material) then perhaps it deserves a "!!".
5. When should the symbols "!" (interesting move) be used? The answer depends on how one defines "interesting". Convention dictates that a move which is "interesting" does not result in a significant gain or loss in score within the player's search horizon. Furthermore, such moves usually sacrifice evaluation points in respect of one parameter (usually material) in order to extract sufficient or almost sufficient compensation in respect of a different parameter (such as king attack). The converse symbol pair "?!" (dubious move) might be appropriate when the sacrificed evaluation points from one parameter represent too big a loss when compared to the gained evaluation points in a different parameter.
6. In some places Mallett's program is quite perceptive. It suggests 24. Qh5 as an improvement on 24. Rg3 – DEEP THOUGHT made the same suggestion at the time (though with a different follow-up idea). And when Kasparov played 37. Bxg6, the program preferred 37. Rxg6 which was also praised in Keene's book. [GM Arthur Bisguier gave 28. ... Bc8 as 28. ... Bc8?, suggesting 28. ... g6 instead [Chess Life, 1991, p. 289]. The computer's annotations give 28. ... Bc8?? and also recommend 28. ... g6. The same Chess Life article gave only one board diagram for the whole game, immediately before 34. Qxh6+. This is exactly the place where the computer chose to insert its first diagram!]

7. An example of the program's lack of understanding of what was happening in the game is its comment on Karpov's 29th move. The program argues that 29. ... Kg8 would have been a mistake because of a continuation which draws by repetition. This implies that Black is playing to win in this position, whereas Black is struggling in vain to save the game. Similarly, the comment "A faster road to victory ..." is hardly appropriate in respect of Black's 28th move. One could point to many similar instances in these annotations.
8. There are some variations where the program says something such as "... which recovers a Bishop and a Pawn for a Rook" (White's 31st move). This is simply another (but inferior) way of saying that the variation in question loses a Rook for a Bishop and Pawn. In other words, the program's phraseology here suggests, by using the word "recovers", that a bad variation is actually a good one.
9. After Karpov's 13. ... exd4 the program comments: "This capture leaves Black with a weak Pawn on the half-open c-file." This is true, but a better way to express this point would be to say, for example: "This capture half-opens the c-file on which Black has a weak Pawn." – it is not a move which *puts* a Pawn on a file where the Pawn is weak, it is a move which *weakens* Black along the file where the Pawn already stands.

SUMMARY: Although I have offered a number of criticisms of these annotations, they are all problems which, I feel certain, can be eradicated easily and quickly. The program's incorrect assessments of position demonstrates the obvious – that in order to provide good-quality analysis (as opposed to "annotation"), it is necessary to have a strong playing program at the core of the annotator (and this program is not strong). But our competition is to find the best annotator and I have no doubt that Mallett's effort deserves the prize because it represents a significant advance on last year's winner.

The output file, reproduced below, was generated from a run conducted by Tony Marsland on a PowerMac, using less than 243 minutes as the time control (an average of 3 minutes per ply). In fact the program only used just over 180 minutes.

White: Kasparov, Black: Karpov
20th match game 1990

1. e2e4 e7e5 2. g1f3 b8c6 3. f1b5 a7a6 4. b5a4 g8f6 5. e1g1 f8e7 6. f1e1 b7b5 7. a4b3 d7d6 8. c2c3 e8g8
 9. h2h3 c8b7 10. d2d4 f8e8 11. b1d2 e7f8 12. a2a4 h7h6 13. b3c2 e5d4 14. c3d4 c6b4 15. c2b1 c7c5 16.
 d4d5 f6d7 17. a1a3 f7f5 18. a3e3 d7f6 19. f3h2 g8h8 20. b2b3 b5a4 21. b3a4 c5c4 22. c1b2 f5e4 23. d2e4
 f6d5 24. e3g3 e8e6 25. h2g4 d8e8 26. g4h6 c4c3 27. h6f5 c3b2 28. d1g4 b7c8 29. g4h4 e6h6 30. f5h6 g7h6
 31. g1h2 e8e5 32. e4g5 e5f6 33. e1e8 c8f5 34. h4h6 f6h6 35. g5f7 h8h7 36. b1f5 h6g6 37. f5g6 h7g7 38.
 e8a8 f8e7 39. a8b8 a6a5 40. g6e4 g7f7 41. e4d5 Black resigns

e4 e5 Nf3 Nc6 Bb5 a6 Ba4
 Black and White settle in for a Ruy Lopez.

Nf6 0-0 Be7 Re1 b5 Bb3
 White threatens 8. Bd5 Bb7 9. Nxe5 Nxd5 10. exd5 Nxe5 11. Rxe5 O-O +/-

d6 c3 0-0 h3 Bb7 d4 Re8 Nbd2 Bf8 a4 h6
 A better idea for Black is 12. ... Na5 13. axb5 axb5 14. Ba2 exd4 15. Nxd4 c6 =

Bc2?!
 A better idea for White is 13. axb5 axb5 14. Rxa8 Qxa8 15. d5 Ne7 16. Qe2 Qa6 +/-

exd4 cxd4
 This capture leaves Black with a weak Pawn on the half-open c-file.

Nb4 Bb1 c5 d5 Nd7 Ra3 f5 Rae3
 This move gives White doubled Rooks on the e-file.

Nf6?

Better is 18. ... fxe4 19. Rxe4 Be7 20. Qe2 Nxd5 21. axb5 axb5 22. Qxb5 etc. =/+

Nh2?

White should have played 19. exf5 Rxe3 20. Rxe3 Nbx5 21. Re2 Rc8 22. Ne4 =/+

Kh8?

Black should have played 19. ... fxe4 20. Bxe4 Nbx5 21. R3e2 Bc6 22. Bc2 Rxe2 23. Rxe2 -/+ which wins a Pawn.

b3?

Better for White is 20. exf5 Rxe3 21. Rxe3 Nbx5 22. Re1 Qd7 23. a5 Re8 =/+

bx4

This capture leaves Black with an isolated Pawn on the a-file.

bx4

This capture leaves White with an isolated Pawn on the a-file while Black gets a passed Pawn on the c-file.

c4??

Better for Black is 21. ... fxe4 22. Bxe4 Nbx5 23. Bxd5 Bxd5 24. Bb2 Rxe3 25. Rxe3 -/+ which wins a Bishop and a Pawn for a Knight.

Bb2?

White now threatens 23. Bxf6 Qxf6 24. Nxc4 fxe4 25. Nb6 Rad8 26. Bxe4 +/-

Better is 22. Ba3 Nd3 23. Bxd3 cxd3 24. exf5 Rc8 25. Rxd3 Rxe1 26. Qxe1 etc. +/-

fxe4 Nxe4

This capture gives White a claim to the e file too while Black gets a claim to the e file too. White should have considered 23. Bxf6 Qxf6 24. Bxe4 Nxd5 25. Bxd5 Rxe3 26. Bxb7 Rxe1 27. Qxe1 =/+

Nfxd5?

This capture gives Black a passed Pawn on the d file and a weak Pawn on the half-open d file. Better for Black is 23. ... Nbx5 24. Nxf6 Rxe3 25. Rxe3 Nxf6 26. Bxf6 gxf6 etc. =/+

Rg3??

Better for White is 24. Qh5 c3 25. Bxc3 Nxc3 26. Nxc3 Rxe3 27. Rxe3 +/- which wins a Knight and a Pawn for a Bishop.

Re6 Ng4

With the threat of 26. Nd2 Rxe1 27. Qxe1 Qe8 28. Qxe8 Rxe8 29. Nxe6 =/+

Qe8 Nxe6!

This capture leaves Black with an isolated pawn on the g file.

Threatening 27. Nf5 c3 +/- Not 26. Ne3 due to 26. ... Rxe4 27. Bxe4 Qxe4 28. Nxd5 Qxd5 29. Qxd5 Bxd5 -+

c3! Nf5??

Better for White is 27. Rxc3 Nxc3 28. Bxc3 Nd5 29. Nxd6 Rxe1 30. Qxe1 Bxd6 31. Qxe8 Rxe8 -/+ which recovers two Pawns for a Rook.

cx2

This capture gives Black a passed Pawn on the b file and the Bishop pair and an isolated Pawn on the d file. Threatening 28. ... Nf6 29. Rb3 d5 30. Nfg3 Qxa4 31. Rxb2 Qxd1 32. Rxd1 etc. -+

Qg4!! Bc8??

Inaccurate would be 28. ... Qd7 because of 29. Qh5 Kg8 30. Nh6 Rxh6 31. Qxh6 -+ Better is 28. ... g6 29.

Kh2 Qd7 30. Nd4 Re7 31. Qxd7 Rxd7 32. Rxd7 +/-
which gives up a Pawn.

Qh4 Rh6?

Better for Black is 29. ... Kg8 30. Nf6 Nxf6 31. Nh6 Kh8 32. Nf7 Kg8 33. Nh6 =
which gains a Knight.

Nxh6 gxh6!

This capture leaves Black with an isolated Pawn on the h file while White gets a passed Pawn on the f file.
Black now threatens 31. ... Bf5 32. Re2 Bxe4 33. Qxe4 Qxe4 34. Bxe4 +/-

Kh2?

Better is 31. Re2 Qc6 32. Nc3 Ra7 33. Rf3 Kg8 34. Rxb2 =
which wins a Pawn.

Qe5

Black now threatens 32. ... Bd7 33. Ng5 Qf6 34. Qh5 Kg7 35. Qg6 winning for Black.

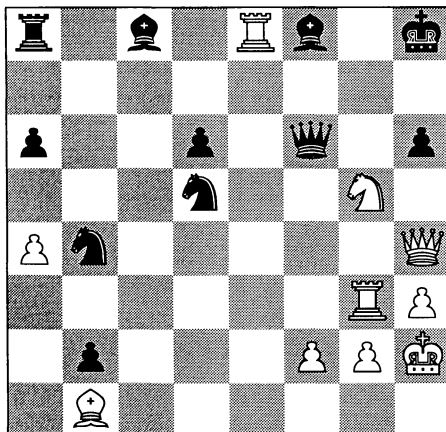
Ng5!

White avoids 32. f4 because of 32. ... Qxf4 33. Qxf4 Nxf4 34. Nxd6 Be6 +/-

Qf6?

Black threatens 33. ... Bf5 34. Qd4 hxg5 35. Qxf6 Nxf6 36. Bxf5 Bh6 +/- Black holds out longer with 32.
... Qxg3 33. Kxg3 Ra7 34. Re8 Kg8 35. Rxc8 hxg5 36. Qxg5 Rg7 +- which recovers a Rook and a Knight
for a Queen, a Bishop and a Pawn.

Re8!



Diagram

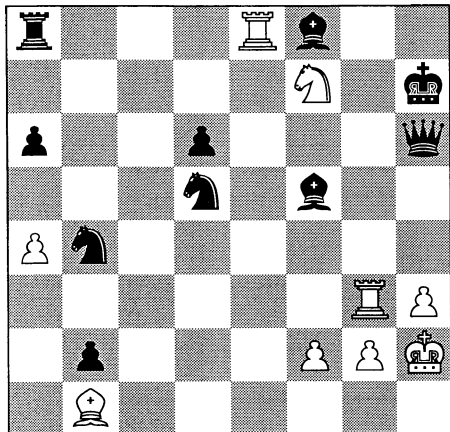
Bf5!! Qxh6!

This strong capture gives White a passed Pawn on the g file and a passed Pawn on the h file.

Qxh6

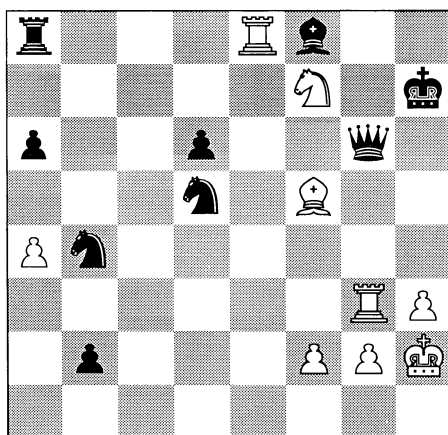
Threatening 35. ... Qf6 36. Rxa8 Bxb1 37. Ne6 Qxe6 38. Rxf8 Kh7 39. Rd8 -+

Nf7 Kh7



Diagram

Bxf5! Qg6



Diagram

Bxg6??

A quicker way to win is 37. Rxg6 b1=Q 38. Bxb1 Nd3 39. Rg5 Nb4 40. Rxa8 etc. +-

Kg7 Rxa8!

With the threat of 39. Bh5 Kf6 40. Rb3 Be7 41. Rxb2 Nf4 42. Bf3 Kxf7 43. Rxb4 +-

Be7?

Black holds out longer with 38. ... Nf4 39. Bh5 Kf6 40. Rb3 Nxh5 41. Rxf8 Ke7 42. Rxb2 Kxf8 43. Nxd6 etc. +-

Rb8 a5!?

Black now threatens 40. ... Nf4 41. Nh8 Nxg6 42. Rxg6 Kh7 43. Re6 Bf6 44. Rxf6 b1=Q 45. Rxd6 +-

Be4?

White can win more easily with 40. Rb7 b1=Q 41. Bxb1 Kxf7 42. Rb3 Ke6 43. Be4 Bf6 +- which recovers a Pawn for a Knight.

Kxf7 Bxd5