vi) 12...Kc8?[-12] 13 Rh7
   (Ka5/Ra2/h1/h3/h4/h6[+12])
   vii) 17...Kb8?[-5] 18 Sd7+
        (Rb2[+7]) etc.
   viii) Against ...Qg3+. Two
         lengthening duals: 18 Kc6[+2]
         Qe8+, and 18 Kd5[+8], to which
         the best response is Kb8 19 Kc6
         Qe8+ 20 Kb6 Qg8 and we are back
         at move 12, though Black may also
         play 18...Qe8[+6].
   ix) 19...Kb8[-12] 20 Sd7+
      (Rb4/g4[+4]) Kc8 21 Rc4+ Kb7
      22 Rb4+ Kc6 23 Rb6+ Kd5 24
      Sf6+. But after White’s next Black
      is forced to play ...Kb8 after all.
   x) Or 21...Kb7[-1], Ka7/a8?[+2]
      reaching the same positions a move
      or two sooner.
   xi) 23...Kc6[+2] 24 Sb8+ and 25
      Sc6+ explains why wR must be on
      the 3rd or 4th rank. We already
      saw 23...Kc6?[-2] 24 Rb6+.
   xii) Kb8[+5] 8 Sd7+

THE KASPAROV-WORLD GAME
Guy Hayworth and Peter Karrer

Kasparov-World, initiated by
Microsoft and also sponsored by
First USA, was a novel correspon-
dence game played on the World
Wide Web at one ply per day. The
World Team was led by moderator
Danny King and four, talented
young coaches: GM Etiennne Bacrot
(France, 16), FM Florin Felecan
(USA, 19), Irina Krush (USA, 15)
and WIM Elisabeth Pähtz
(Germany, 14). They each indepen-
dently nominated a move and the
World Team made its choice by
democratic vote.

This was the first time that any
group had attempted to form on the
Web and then solve shared
problems against fixed, short-term
deadlines. The author first became
involved in his role as a Web con-
sultant, observing the dynamics and
effectiveness of the group. These
are fully described, together with
observations on the technology
contribution, in Marko et al.

To move swiftly to the endgame,
suffice it to say that the World
Team far exceeded initial expecta-
tions and reached move 51 and
4000.12 position K7 which is now
a computer target. Black is fighting
for a draw, and without the Black
Pawns has a draw. This had been
foreseen for three weeks, during
which time the World Team had
requested an 8000.00 endgame
table (EGT). To everyone’s
surprise, two EGIs were created
within days, independently drawn
up to the Distance-to-Conversion
(DTC) and Mate (DTM) metrics
respectively (Nalimov et al). Elkies
and Stiller provided information to
confirm that the two new EGIs
agreed with Stiller’s EGT. World
Team thoughts turned to EGIs for
5000.01 and 4000.11.
Serious analysts in the World Team, including FIDE World Champion Khalifman, had carried the vote thus far. However, the analysts' 51...Ka1 and 52...Kc1 lost out to 51...b5 and 52...Kb2, seriously increasing Black's difficulties. The game continued to 4000.11 positions K2 and K3.

At this point, the technology that had empowered suddenly depowered, a familiar risk in life today. Krush's essential recommendation of 58...Qf5, was delayed by e-mail glitches and then not displayed to the voters by Microsoft. They saw only one coach for 58...Qf5 against two for 58...Qe4 which duly won. The World Team bulletin board already knew this was a loss and the rest is history.

To general consternation, Microsoft refused to rerun the vote, the media ran the story and the World Team soon resigned.

Post-hoc analysis proceeded by hand and by computer. Peter Karrer (2000), in a feat of programming, which the first author salutes, produced subset-EGTs for KQQKQP= and KQPKQP=, the 'n' denoting a variant of chess with promotion option P=Q only. Karrer (2000) shows that only 0.09% of KQQKQP(d2) positions change value if P=S is allowed as well as P=Q. One might conjecture that the % is much less with the P on d3, d4... Practical players, if not theorists, will accept information this close to perfection.

Peter's Distance to Mate (DTM) KQPKQP= lines are given here.
with that caveat and in that spirit. Below, we list and annotate:

a) the game as played,
b) an M-optimal line (minimaxing DTM) after Black's resignation,
c) a 58...Qf5 line, which Ken Regan believes, from Kasparov's immediate post-game analysis, was the most likely continuation, and
d) the 'endgame that got away':
fitting, M-optimal but imaginary.

58...Qf5 still leads to a well deserved but much deeper win: 

4000.10 arrives on move 84, not move 68. Kasparov described this game as "phenomenal ... the most complex in chess history."

This is an absorbing QP-finale for endgame enthusiasts. They will continue to benefit from the work of the web-enabled teams formed during the game. New 6-man tables and evaluation services are available from Nalimov, Thompson and Wirth as in the references. The author and others are contemplating ancillary projects and data-mining software to help find the finest gems to present in attractive problem and study settings.

Notation:

' unique M-optimal move,
" literally-unqiue value-preserving move;
[...] equi-optimal move(s),
" one of n unlisted equi-optimals,
' value changing move,
-d lost depth of d moves
and {...} commentary.

a) with Krush/Regan annotation.

G. Kasparov - World: The World Wide Web, 21st June - 22nd
October, 1999, ECO B52, 1-0.

1.e4 c5 2.Sf3 d6 3.Bb5+ Bd7
4.Bxd7+ Qxd7 5.e4 Sc6 6.Sc3 Sf6
7.0-0 g6 8.d4 cxd4 9.Sxd4 Bg7
10.Sdxe2 Qe6! 11.Sd5! Qxe4
12.Sc7+ Kh7 13.Sxa8 Qxc4
14.Sb6+ axb6 15.Sc3 Rb8 16.a4!
Se4! 17.Sxe4 Qxe4 18.Qb3 f5!
Rxa4! 22.Rxa4 Qxa4 23.Qxd7
Bxb2 24.Qxg6 Qe4 25.Qf7 Bd4
26.Qb3 f4! 27.Qf7 Be5 28.h4 b5
29.h5 Qc4! 30.Qf5+ Qe6 31.Qxe6+
Kxe6 32.g3 fxg3 33.fxg3 b4!
34.Bf4?! Bxd4+ 35.Kh1! b3 36.g4
Kd5! 37.g5 e6! 38.h6f6! Se7 39.Rd1
e5 40.Be3 Kc4 41.Bxd4 exd4
42.Kg2 h2 43.Kf3 Kc3 44.h7 Sg6
45.Kf4 Ke2 46.Rh1 d3 47.Kf5
b1=Q 48.Rxb1 Kxb1 49.Kxg6 d2
50.h8=Q d1=Q [K/4, 4000.12]
51.Qh7! b5? 52.Kf6+ Kh2?
53.Qh2+ Ka1 54.Qf4 b4?? [losing
in theory and in practice: Qd5 was required!]
55.Qxb4 [K/2, 4000.11]
Qf3+ 56.Kg7! d5 57.Qd4+ Kb1!
58.g6" [K/3] Qe4? [Qf5'] -39
59.Qg1+ Kb2 60.Qf2+ Kc1
[Ka1'] -86 61.Kf6' d4' 62.g7' 1-0.

b) 62.g7? [and now] Qc6++
63.Kg5? Qd5++ 64.Qf5' Qg2++
65.Qc4 Qd5++ 66.Kf4' Qg8'
67.Qg1+ Ke2' 68.Qxd4'

4000.10 68...Qf7++ 69.Kg3'
Qb3+ 70.Kh4 [Kg2] Qg8' 71.Qf6
[Qg4] Kb1' 72.Qg6+ Ka1' 73.Kh3
[Kg3] Ka2 [Kb2] 74.Kh2 [Kg2]
Kb2 75.Qg4 [Kg1'] Qb8+ 76.Qg3'
Qg8' 77.Kg1' Kb1' 78.Qg2' Ka1.
[Kcl] 79.Qf1+ Kb2 80.Qf8+ Qa2
81. g8=Q [Qf2+] [5000] Qb1+
82.Qf1+ Qxf1+ 83.Kxf1 [1000]
Kc3 84.Qc6 Kb2 85.Qc6 Ka1
86.Qb7+ Ka2 87.Kc6 Ka1 [Ka3]
88.Kd3 Ka2= 89.Kc3 Ka1
90.Qb2# 1-0.

e) Ken Regan’s conjectured ‘most likely 58...Qf5 game continuation’:
58...Qf5 59.Kh6 Qg6 60.Qg1+ Kb2 [Ka2, Kc2] 61.Qf2+ Kb1
62.Qd4+ Kc2! 6 62...Ka2
63.Kg5+ Qg7+ 64.Qf6+ Qe3+
65.Qf4+ Qg1+ 66.Kf6 Qb6+
67.Qg7+ 76 Qe6 68.Qf6# 10
seemed dangerous for Black)
63.Kg5 Qe7+ 64.Qf6!! -12 [already on the slippery slope] Qc3+
65.Kg4+[65. Qf4+, 65. Kh5]
Qg1++! 66.Kf5 d4 67.g7+ d3
68.Qc6+ Kd2 69. Qg6+ Qc7
70.Kf4 Kc1!! 71.g8=Qb5+ [no checks and 72. Qg5/Qf6 leaves Bl. with a perpetual check!] 1/2-1/2!

d) 58. g6!! [and now] Qf5
59.Kh6 Qg6 60.Qg1+ Ka2 [Kb2, Kc2] 61.Qf2+ Kb1 62.Qd4+ Ka2
63.Kg5 Qe7+ 64.Qf6 Qc3+
65.Qf4+ Qg1+ 66.Kf6 Qb6+
67.Kf7 Qb7+ 68.Kc6 Qc8+
69.Kf6 Qd8+ 70.Kf5 Qc8+
71.Kg5 Qc3 72.Qb2+ Ka1
73.Qc2 Kb1 74.Qf2 Qc1+
75.Kg4 Qc3 76.Qf1+ Kb2 [Kc2]
77.Kf5 Qc7 78.Qe2+ Kb1
79.Qd3+ Ka2 80.Qa6+ Kb3
81.Qe6 Ka2 82.Qf7+ Qc2+
83.Kc6 Qc2+ 84.Kd5
[4000.10] Ka3 85.Qa7+ Kb3
86.Qb6+ Ka3 87.Qd6+ Ka4
88.Qd7+ [Qe6+] Ka3 89.g7
Qd1+ 90.Kc6 Qa4+ 91.Kc7
Qa7+ 92.Kd8 Qb8+ 93.Kc7
Qe5+ 94.Kf7 Qf4+ 95.Kg6
Qg3+ 96.Kf6 Qh4+ 97.Kc4
Qg3+ [Qg5+] 98.Kd4 Qg1+
[Qf2+, Qf4+, Qh4+] 99.Kc4+
Qe1+ 100.Kb5 Qb2+ 101.Ka6
Qb3+ [Qe4+] 103.Ka6 [a 14 move K-walk] Qg8 104.Qd4+ Ka2
105.Kb5 Qe8+ 106.Kb4 Qe1+
107.Kc4 Qe2+ 108.Kd5 Qb5+
109.Ke6 Qe8+ 110.Kf6 Qc6+
110.Kf5 Qe8+ 112.Kf4 Qf7+
113.Kg3 [Ke3] Qg6++ 114.Kh3
Ka1 117.Qe1+ [Qd1+] Ka2
118.Qe2+ Kb3 119.Qg4 Qg8
120.Kh3 [Kg3] Ka3 [Kc3]
121.Kg3 Ka2 122.Kg2 [Kf2]
Qd5+ 123.Kg1 Qc5+ [Qg8]
124.Kh1 Qc1+ 125.Qg1 Qh6+
126.Qh2+ Qxh2+ 127.Kxh2
[0000.10] Ka3 128.Qg8=Qb4 [1000]
Kb4 129.Qe8+ Kb3 130.Qc6
Ka2+ 131.Qb7# [and mate on m137] 1-0.

Acknowledgements
The World Team’s endgame play was supported by information from the following, in alphabetical order and with apologies for omissions: Noam Ellkies, Rob Hyatt, Thomas Linecke, Peter Marko, Carter Mobley, Eugene Nalimov, SmartChess Online, John Tamplin and Christoph Wirth. Post-game computation and analysis was by Peter Karrer, Irina Krush and Ken Regan.
References

http://chess.liveonthenet.com/chess/endings/index.shtml (Karrer,
Nalimov, Thompson) EGT evaluations.
http://cm.bell-labs.com/cm/cs/ who/ken/chesseg.html 6-man EGT
maximals, mutual-zugs and statistics.

SIX-MAN ORACLE SURVEY, 1

Guy Haworth

This is a list in GBR order of existing 6-man endgame tables (EGTs)
created by Nalimov (DTM, Distance to Mate) or Thompson (DTC,
Distance to Conversion). An * indicates a past result by Stiller only.
max ww denotes the maximum depth of wtm 1-0 positions in the endgame; max bl denotes the maximum depth of btm 1-0 positions. max ww and max bl are listed for both the DTM and DTC metrics.

Note the counter-intuitive relative values of DTM's max ww and max bl where these are in italics and the GBR code is marked *. It is not always true that bl = ww or ww-1 as for DTC: these figures may not correspond to consecutive positions.

For example, 1100 has DTM max
ww = 6 but {K a1 Q e6 R f7 / K e5 b7} sets DTM max bl = 16: 1...Kxe6 [0100]. The first move converts to a maximal subgame position, always the case where the DTM figures are highlighted here.

References

http://cm.bell-labs.com/cm/cs/ who/ken/chesseg.html 6-man EGTs.