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BOTVINNIK IN DELFT

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To chess, Mikhail Botvinnik is exceptional in having held the world championship for the longest time recorded after the establishment of modern rules of competition by FIDE. To computer chess, he is no less exceptional: commencing his research after his loss of the world title (1963), he rejected the then current approaches, essentially brute-force, and pursued his own method, viz. programming a master's insights into a computer.

Exceptionality has a knack of breeding controversy. Botvinnik's first book (Botvinnik, 1968) on the subject was hailed as seminal, his follow-up (Botvinnik, 1982) was scathingly rejected by no less an expert than Hans Berliner (1985).

Still and all, Delft University of Technology felt honoured in inviting Dr. Botvinnik for a lecture in which he was to expose his current thinking to the Western world. We record the main points he made with the help of an interpreter who, however able (Ms. Deken is an active chess-player herself), was occasionally corrected on a fine point of chess jargon. The third of May saw Botvinnik holding forth to a large audience. For a start, he pointed out that chess theory could not be said to have existence before Steinitz's day: he was the first to translate intuitive notions into well-defined strategies.

Meanwhile, computer-chess researchers had been feverishly active. Shannon had classified the strategies open to them. His type-A strategy was brutest of all, investigate all moves to any given number of plies. His type-B strategy confined investigation to plausible moves to a depth depending on the quiescence of the outcome.

Shannon left the possibility, 'another type of strategy', which Botvinnik and others latched onto, as being more strategic than either A or B and more in accordance with what chess masters intuit.

More briefly, Botvinnik stated himself to be an adherent of the chess-planning school, relying on a centralized and centralistic control of the board. He insisted on drawing a parallel (obvious to him) between optimizing a chess position and optimizing the use of electricity-generating equipment for a region of the Soviet Union. In either case, the objectives, he stated, are clear: In chess, there is assertive (aggressive) behaviour, its defensive negation and negating the defense. In electric power-plant control there is assertive production, its negating consumption and, correspondingly, factors counteracting the latter.

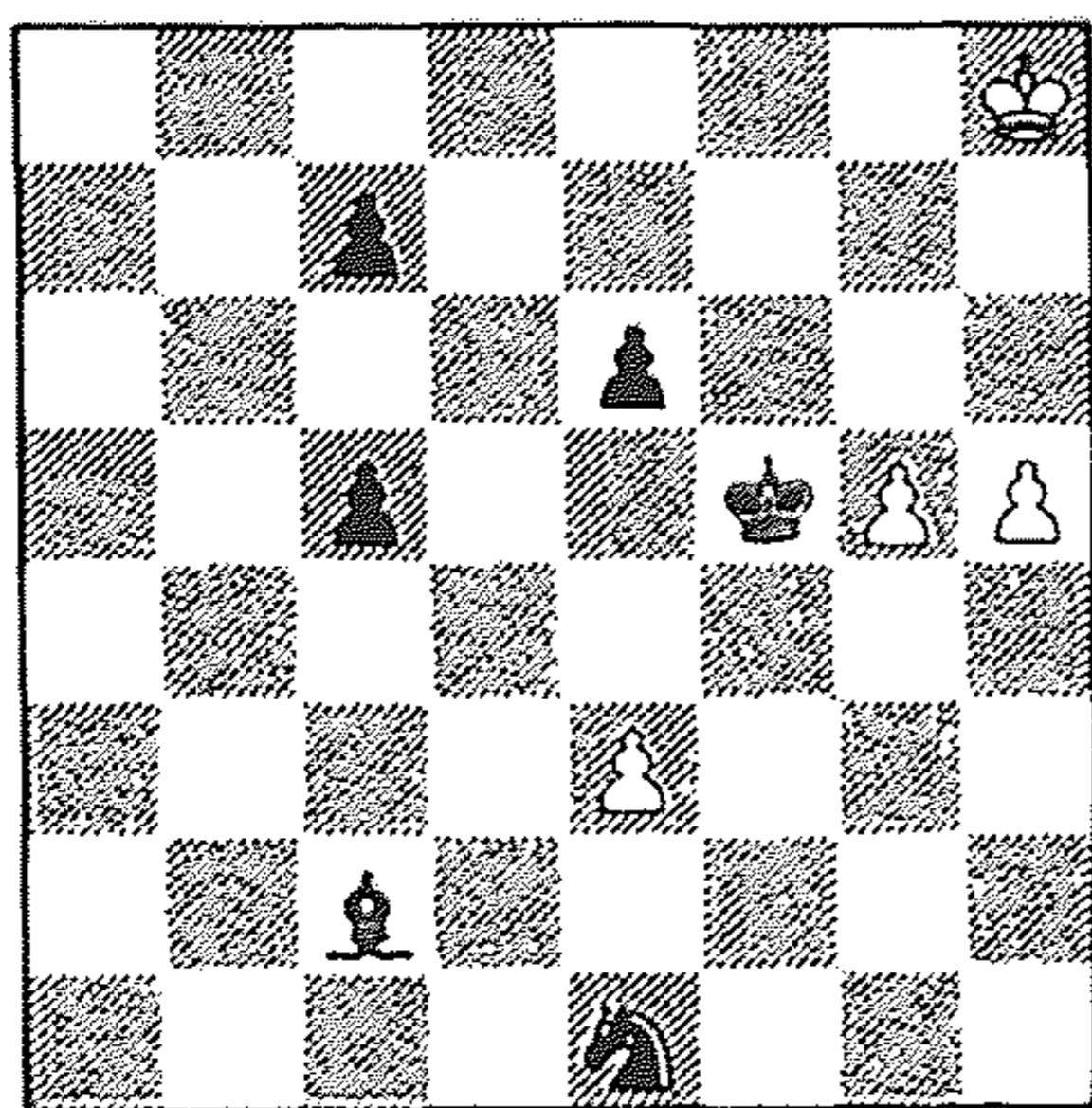
Now, PIONER has been successful in pointing a way to combating Soviet electricity problems: the solution indicated was to stagger consumption, doing away with idle weekends and switching off-shift hours around the country. On the strength of this, it seems that Grand Master Botvinnik has been granted computer time on an IBM 4341 (the Moscow Olympics computer) to pursue his ideas in computer chess, and is still Head of an Institute even though well beyond the statutory age of retirement. The ideas he stressed were those of

his "Computers, Chess and Long-Range Planning" book, which Berliner has characterized as vague and only slightly evolved in the later 1982 edition.

Alltogether, his lecture was as charming as it was forthright: he freely admitted cheating the Central Electricity Generating Board by solving their problems in two months on a year's budget, thus freeing his Institute and its part-time computer for chess problems during most of the year.

In all, it is hard to judge whether one should admire Botvinnik for his humanism and his persistent optimistic views ("When people ask when my program will be finished, I always answer them: 'Shortly'") or whether one should commiserate with him for his lack of facilities and the disputable track he insists on pursuing.

For our readers, we reproduce below a 25-ply study which Botvinnik claims to have had PIONER solve successfully and which he also claims to be far and away beyond any brute-force approach. PIONER presented the following correct line:
 1. g6 Kf6 2. g7 Bh7 3. e4!! Nf3 4. e5+ Nxe5 5. Kxh7 Nf7 6. g8(Q) Ng5+ 7. Qxg5 Kxg5 8. h6 c4 9. Kg7 c3 10. h7 c2 11. h8(Q) cl(Q) 12. Qh6+ Kf5 13. Qxcl.



Study by G. Nadareishvili.
White to move wins.

Botvinnik (1982) admits that PIONER took a long time to find this solution, but he expects that the program running on a Cyber 176 would solve the study in less than 10 minutes. Indeed, a magnificent performance on which Botvinnik (1982, p. 71) himself remarks: "Im Prozess der Prüfung mussten ebenfalls weitere Positionsregeln in das Programm eingeführt werden." The question remains how much global chess knowledge is stored in PIONER and how much 'ad hoc' knowledge.

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