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### THE END OF AN ERA

The man vs. machine contest is an intriguing variant of the human vs. human contest. This holds for Chess, Go, and Arimaa, but even for running and rowing. There have been running competitions between men and horses (for 60 meters) and between humans and cars (in the beginning of the development of cars). Of course, these competitions ended quite soon, and now, we may face the end of a competition between chess players and chess machines.

Although the world's top chess players, Kasparov and Kramnik, have proved in matches that they were able to play on an equal footing with the strongest chess programs, such as DEEP JUNIOR, XD3 FRITZ, and FRITZ BAHRAIN, the next rank has been unable to mimic these performances. This issue reports on HYDRA's crushing victory against the English Grandmaster Michael Adams (5.5 to 0.5) and the mega score by the machines (14.5 to 1.5) in the IndoChess man vs. machine competition. Owing to these results Grandmaster Nunn believes that the end of such contests has been reached. Our ICGA President David Levy is more optimistic and sees a large number of opportunities for future events (see his contribution: What Next?).

These new results give insights into the strength of computer-chess programs today. Obviously, the Indonesian Grandmasters competing in the IndoChess event had no chance against the powerful machines. In contrast to them, Grandmaster Adams is ranked seventh on the World Ranking List. However, the gap between the first two places (for this editorial to be assigned to Kasparov and Kramnik) and the seventh place is large. So, it is difficult to compare the performance by HYDRA with those of DEEP JUNIOR and the FRITZ variants (XD3 and BAHRAIN). All that can be said is that currently five programs may claim to belong to the strongest players in the world, viz. (in alphabetical order) DEEP JUNIOR, FRITZ, HYDRA, SHREDDER, and ZAPPA. The latter program is a new program that won the CCT7 (Computer Chess Tournament 7) in February 2005 with 7.5 out of 9, and achieved a performance rating of some 2750 points.

It is expected that very soon all these programs will play stronger chess than the human World Champion. Once this happens, then the only measure for establishing the strongest chess player is a competition among programs as is organized by the ICGA in a World Computer-Chess Championship (WCCC).

Clearly, the era in which Grandmasters were able to give relevant comments on computer moves is over. Now computer programs will criticize grandmaster moves, recommend other moves, and provide unexpected winning lines. Although the competition between humans and machines may be (almost) over, the scientific investigations are still worthy of being followed. Can we compare different moves played by different computers adequately with each other? It is an old question, but it is nowadays more relevant than before. Fifteen years ago human beings were excellent seconds for helping scientific researchers. Currently, the play by computers is at a higher level than is conceivable by the best human chess players. So, we need to develop new tools and new comparison methods to arrive at reliable results. In this issue Mark Levene and Judit Bar-Ilan describe their first step in this direction. They built their research on the work done by Nick Yazgac in 1989 and used some of the ideas developed by Ingo Althöfer and his collaborators.

Hence, we may conclude that the era of competition between man and machine at chess has almost ended, but most certainly that a new era soon will begin. For the moment the relevant question is, in which direction will progress then develop? For instance, may it happen that we must reconsider our previous computations and predictions on solving the game of chess? As researchers, we are almost exiled to an area above the human playing strength and it is unknown which laws are applicable there. May we expect that new laws are to be developed by clever researchers? Surely, this Journal's task will remain to report on such new developments.

Jaap van den Herik

**Change of residential address**

Please note that as of January 1, 2005 our residential address reads Minderbroedersberg 6a, 6211 LK Maastricht, The Netherlands. All our other coordinates remain unchanged.

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