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A CHANGE TO AESTHETICS

Sport, Science, and Art are three areas that are different, overlapping here and there, and still autonomous and idiosyncratic. Let me give a brief characterization of the three areas. Sportspeople like to win, scientists like to unravel intricacies, and artists like to create beauty. In our ICGA world we feel at home in a scientific environment. There we investigate our game problems as deeply as possible, we build our programs, publish on them, and compete with them. We do so in world championship tournaments and in Computer Olympiads. So far, we had only one big goal (Ingo Althöfer, p. 215): “to make computers play games as strong as possible!” At the end of 2010 we may state that we have succeeded to a large extent to build such programs. Among the results we see programs that play well, but not create play that we view as beautiful. We see programs that demolish beautiful studies and programs that design exercises for a Nurikabe opponent (see pp. 236-237) which are too hard to crack within a reasonable time.

Obviously, we are now at a turning point. This issue of the Journal is describing a change of attitude. So far, we as scientists lived in our own world. Now and then, we went to the world of competition, but recently we discovered the importance of beauty and aesthetics in our research. A front runner in this respect is Azlan Iqbal. He published his PhD thesis in 2008 on a discrete computational aesthetics model. His aim then was to find the basic criteria according to which we can decide whether a chess problem, a study, or a game is beautiful or not. The 2008 approach had limited success. In this issue of the Journal (pp. 202-212), Iqbal introduces the probability distribution of human ratings as a new criterion. The stochastic approach is unexpectedly adequate and able to rank mate-in-3 combinations according to their beauty as perceived by human experts. The technique also enabled him to find *beautiful* game endings (mate in 3) in huge game databases. New ideas are abundant and future work is possible in many directions.

Three enthusiastic researchers - Eric Bleicher, Guy Haworth, and Harold van der Heijden - intend to pick up on the ideas on aesthetics and to follow such new research directions. They contribute to this theme by a note “Data-Mining Chess Databases” (pp. 212-214), in which they show three cooked chess studies and their

“aesthetics” repair. In passing, they mention that they found 3,068 cooked positions (of which roughly half were not previously marked as cooked). Their main contribution is not in establishing so many studies as cooked studies, but in describing new data-mining and repair processes. The authors use many programs for further analysis, data-visualisation, and web-publication. Many discoveries have been uncovered, despite the work having just started.

As soon as we deviate from the idea of building the strongest program ever, there is another option next to investigating aesthetics for the game involved, namely combining *the design of a new game with a flavour of aesthetics*. We note here that the advancement in science plays a part. Up to 2008, the focus was on computer-aided game invention, but since the PhD thesis by Cameron Browne (2008), this is done fully automatically. And what happened? New results led immediately to new questions. It turned out to be an easy task to create 1389 new games by repeated recombination, mutation, and selection. However, which game was the best one? The most challenging one? The most beautiful one? Could we rank them aesthetically? Cameron identified 17 criteria. From them Ingo Althöfer discusses *Drama* and the game of Yavaeth in his informative review.

With these three example contributions in which aesthetics play a key role, it is time to make up our mind. From the reports in the September issue of the *ICGA Journal*, we have already seen that the Kanazawa events offered many beautiful things. With respect to our topic “a change to aesthetics”, we would like to draw our readers’ attention to the shift of emphasis from *solving* a Nurikabe problem to *composing* a Nurikabe problem (pp. 236-237). Currently, the challenge is to compose a difficult problem, but soon it will be to compose a difficult and beautiful one.

According to the Heritage Illustrated Dictionary of the English Language aesthetics is a branch of philosophy that studies theories of the beautiful and of the fine arts. Here, beauty can be seen as the basic principle from which all other principles are derived. This implies that we have to reconsider our fundamental framework of games and game programs with respect to the principles used so far. Usually, art and artists are held to be free of any obligations or responsibilities other than that of striving for beauty. This is fully different for scientists. From now on, they should look to the left (competition) and to the right (aesthetics) and then try to find their own way. I wish them much success and look forward to receiving contributions with all three elements involved.

Jaap van den Herik

Change of email addresses

The University Authorities in Tilburg have chosen for internationalization of the University. So, our name is now Tilburg University. As a consequence our email addresses are changed too. Moreover, we change to the ‘edu’ group.

Starting January 1, 2011 we are reachable via
 h.j.vdnherik@tilburguniversity.edu; j.w.hellemons@tilburguniversity.edu; a.plaat@tilburguniversity.edu

The address journal@icga.org remains as it is.

We hope our readers can find us in the future, too, and wish all of you a prosperous 2011.

Jaap van den Herik
 Editor

The credits of the photographs in this issue are to: B-N. Chen, T. Tillemans, Y. Tsuruoka, S-J. Yen, I-C. Wu, and T. Tillemans.

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