The Go Ranking System of Robert Ryder

Franco Pratesi

In the last issue we have seen that the system of the European Official Ratings, as adopted by the EGF, uses handicap-stone ranking together with Elo interval ratings. From a practical point of view, the system has the extraordinary merit of having found an acknowledgement at an international level, for all of Europe. Something similar had occurred more than thirty years ago in the USA, with a different version of the Elo system. However, using Elo ratings adapted to stone-handicap ranks unavoidably leads to compromise, and to confusion, because the corresponding intervals are not linearly correlated – contrary to current assumptions. (In the last issue we saw that a logarithmic function better fits existing data.)

A first problem is at once encountered in defining playing strength, the basis of any ranking. If we define it according to winning probability, as common in any game and sport, we should strictly hold on the Elo procedure and its own ranks. In so far as we instead keep the old Go tradition of stone handicaps, we are using a unit of measurement for playing strength which varies, being larger for stronger players and increasingly smaller for weaker ones.

Nevertheless, fact is that stone handicaps are almost everywhere used for ranking Go players, even where a numerical rating has been assigned to each player – usually the rating intervals are forced to fit the existing ranks. The result is more or less arbitrary and requires an agreement among players for accepting ratings. In principle, we might even adopt an independent rating system, where any player has his individual rating number, without care for any associated rank.

The need felt by Go players seems however to be for a suitable sectioning within the traditional ranks, which might be simply by two as in the ‘European’ scale, or ten, or one hundred (seemingly the most frequent case), or any other value agreed upon.

Of course, it will be better if any division within the traditional ranks has a physical meaning, in addition to a numerical form.

In the direction mentioned, particularly interesting appear to be Go ranking systems where actual game scores can be used for distinguishing player strength. Taking points of game scores as units of measurement, we can measure playing strength with a resolution about ten times greater than using handicap stones; moreover, other properties and relations may be highlighted.

In Go tournaments, winning by one stone generally has the same effect as winning by three hundred, but the actual scores in points may be analysed and correlated to player strength. Practical problems will be found in most actual games, showing either 'wrong' scores, because the losing player made trick moves in an effort to save his game, or no point score at all, due to a resignation.

However, we can imagine a situation in which everybody plays correctly, records the score, never resigns – and maybe game scores are submitted to a suitable statistical analysis. In any case, ranking systems have been suggested, which allow game scores to be both predicted and taken into account. Let us review a few cases, in chronological order.

After having dealt with the situation in this new Millennium, including the present European Official Ratings, we have now to come back to Robert Ryder (1915-1994) and his proposal of 1960. By profession, Robert Ryder worked for many years as a researcher at the renowned Bell Labs, with fundamental contributions to radar, transistor and other advanced technologies. Ryder was a strong American player, reportedly the first player outside Asia (and not of Asian provenance) to receive a 5 dan rank from the Nihon Ki-in. He was for several years an officer of the AGA, first Secretary, then President, and for some years also – what here may be his most relevant office – in charge of the ratings.

The AGA ratings used in the second half of the 1960s consisted of an Elo system with 1 dan at 3001-3100 and 100 point intervals between subsequent ranks – thus, 5 kyu at 2501-2600, 5d at 3401-3500, and so on. The AGA system was modified in the following years but we can disregard the detail because in examining the recent European Official Ratings we have already discussed the critical points of any mixed system of this kind. Let us instead examine a ranking system proposed by the same Robert Ryder as early as October 1960. The original draft of three typewritten pages has been kept in the AGA library and listed in the AGA bibliography by Craig Hutchinson. Stimulated by the title, *System for Rating Players of the Game of Go*, I asked him for a photocopy.

Here, ranking follows traditional dan and kyu grades, with numerical values associated. In particular, rating numbers increase by ten for each of the traditional kyu-dan ranks; they apparently begin with 0 set at 20 kyu, and increase up to 190-200 at 1k, 200-210 at id, and so on. This might hardly be worth mentioning, were it not for an additional property of these rating numbers – they are linked to game scores, either recorded or expected.

Games for rating purposes must be distinguished as handicap or even games, even if both can eventually be inserted together in the computation, each with its specific rule. For every game a 'par' is defined as the strength a player should have to make a draw. Only Black can use handicap games for rating purposes and par is White's rating plus five points for first move less 10 multiplied by each handicap stone. In even games par for Black is White's rating less five points (komi); par for White is Black's rating plus five points.

Threshold conditions are set on the use of actual scores, so that results greater than 20 points – and games resigned – are scored 20, the upper limit considered. The same limit value is kept in varying the rating: any game cannot increase the rating of the winner or decrease the rating of the loser by more than 20. On the other hand, a lower zero limit also exists – in no case can the rating of a player be reduced by the result of a game which he wins, or increased if he loses.

The average score of ten games provides the rating. After ten further games a new average gives the updated rating, but this can be done for any number of additional games, always assigning a weight of ten games to previous rating for averaging purposes.

We must be aware that in this case – different from major systems – we have examined an isolated proposal; in particular, I do not know of any real application of this system. Supposedly, it soon became outdated with the success of Elo systems, adapted to Go from Chess applications. Even the fact that Ryder became Secretary, President and charged of the AGA ratings could not change matters. We might forget about it entirely, as soon as we find an earlier system that associates to traditional ranks a rating number directly linked to game scores. The basic idea of relating game scores to playing strength – introduced by Ryder, to my knowledge, in a pioneering way – did however find some supporters later on, as we will hopefully see in the next issue.