THE VALUE OF TWO POINTS

THE ODDS ARE WITH YOU, MOSTLY

BY GARY HORVATH

What percentage of points is won by the top teams over the course of a tournament, such as the Chicago Charities or the APTA Nationals? Is it 50%? 65%? 80%? 95%?

Most players would answer this question by saying the winning teams captured between 65% and 80% of the points played.

The answer can be found by using the theory of Markovian Chains to calculate point probabilities for games, sets, and matches as they apply to the unique scoring system used in platform tennis. Surprisingly, the answer to the first question in the opening paragraph is 54%. In other words, the team that takes home the trophy wins slightly more than half the points played.

Now consider playing a match against APTA women's champions Ana Brzova and Viktoria Stoklasova. While it is highly unlikely an average club team would ever defeat them in a match that consisted of two-out-of-three sets, the chances

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of beating them are much greater if the "match" is limited to a set, game, or just one point. Specifically, the average club team has a greater chance of defeating Brzova and Stoklasova if they play a one-point match (46%) rather than a two-of-three set match (14%). The moral of the story is that every point is important.

In the post-mortem discussions of their matches, teams often talk about how the outcome of their match could have changed if they had won two or three more points. The table below illustrates why that is the case.

The data in the first column shows that if a team wins 50% of the points, they will win half the games, sets, and matches. If they win half the points, their chances of winning a match are the same as flipping a coin or playing rock-paper-scissors.

THE TEAM THAT TAKES HOME THE TROPHY WINS SLIGHTLY MORE THAN HALF THE POINTS PLAYED.

A look at the fifth column shows what happens when a team wins 54% of the points. These teams will win about 60% of the games, 76% of the sets, and almost 86% of the matches. A few points make a big difference.

If an average set consists of 50 points, two evenly matched teams will each win 25 points (column 1). If one team can find a way to win two additional points they will win 27 points while losing 23 points (column 5). In this example, an additional two points a set can increase a team's chances of winning a match from 50% to 86%. Play every point as if you are playing for gold.

As can be seen in the table, it is virtually impossible for a team to lose a match when a team wins at least 59% of the points. In addition, it is possible to win a match 6-0, 6-0, by winning only two-thirds of the points—i.e., the winning team captures four points each game compared to two points for their opponents.

An understanding of these probabilities can provide motivation for teams at all levels to establish more productive practice and playing sessions, develop their mental toughness, reduce unforced errors, improve their techniques, fitness level, strategy, and goal setting, and become better at meeting their on-court goals. Disciplined teams who focus on each point will find a way to pick up several points each set. ■

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Probability table *(based on Markovian chains)*

SITUATION	PERCENTAGES											
Point	.500	510	520	530	.540	.550	560	570	.580	590	.600	650
Game	500	.525	.550	.575	.599	.623	647	670	.693	.714	.736	830
Set	.500	.571	.640	.705	.763	.815	.859	895	.924	.947	.963	.996
Match	.500	606	.705	.790	.859	910	.946	.969	984	.992	.996	1.000