THEORY IN PRACTICE /Edward O. Thorp

Auguist 8)

Readers are always brushing up on betting systems or questioning current handicapping methods. A few gamers have written to me regarding my book Beat the Dealer and my column. Below are some of these letters.

Question: I was reading my copy of Beat the Dealer and I noticed that you had developed a system for winning at roulette. You also mentioned a method for beating Nevada baccarat. In what publications do the details of your roulette system and any new baccarat systems appear? As a student of mathematics, I find your systems quite interesting.

KA

Answer: The roulette system was discussed in the following issues of Gambling Times: January/February 1979, March 1979, April 1979, May 1979, July 1979, August 1979, October 1979, May 1980 and September 1980.

Some years ago, a side bet existed on the baccarat tables in Nevada. I developed a successful system for the side bet, which was subsequently removed from the tables. You can read about the system in the article "A Favorable Side Bet in Nevada Baccarat" (Journal of the American Statistical Association, June 1966, page 313.) After some friends and I consistently won at the side bet, it was taken off by the casino.

I have shown that none of the bets currently available in Nevada baccarat, or in various baccarat/ Chemin de Fer games played around the world, can be consistently beaten by card counting methods. The basic idea for approving this is developed in my paper, "The Fundamental Theorem of Card Counting with Applications to Trente-et-Quarante and Bac-

carat." This writing appeared in the International Journal of Game Theory, 1973, page 109.

Q: I would like to point out an apparent error in table 3.6 on page 32 of Beat the Dealer (Vintage paperback edition). That table assumes a standard deviation of \$5 from the expected win of \$.1 for 100 hands of basic. While it is true that 5 is the correct value for the number of successes in 100 trials with p of ½, this figure is incorrect for the standard deviation in net gain.

Advanced counting systems are profitable; but if you are a beginner in blackjack, learn a basic system first preferably one of the point count systems and become fluent in it.

For example, it you win 55 hands, the dealer must have lost 45. The result would be a net gain of 10 (not 5) dollars. The standard deviation for net gain is therefore \$10, and the intervals in table 3.6 should be twice the stated width.

The remarks on page 33 concerning 770 hands dealt by Baldwin, et. al. are then incorrect also. Using the value of standard deviation of \$10 for 100 hands, the chance of losing \$56 or more in 770 hands becomes 2.07%, not .01%, as stated in the text. Right?

MHM

A: You are correct. I did make an error in table 3.6. The correction is the one that you described. Several readers have brought this to my attention, but my attempts to get my publisher to correct the error have been unsuccessful.

Q: In a previous issue of Gambling Times, you discussed the Hi-Opt System. Which system or author do you endorse and why?

Please excuse me if this appears an ignorant question: I am very new to blackjack, and I am having problems with conflicting opinions. In particular, Lawrence Revere's "Advanced" system vs Lance Humble's Hi-Opt system. Can you please shed some light on the subject?

SGH

A: The subject of comparing and evaluating the many available black-jack counting systems is complicated and time-consuming. However, Arnold Snyder has recently produced a book called *The Black-jack Formula* which helps you do just that.

He has a simple, approximate formula that is surprisingly accurate. It allows you to consider factors like rule variations, number of players at the table, number of decks in use and how far down the deck is being dealt. In each situation you can decide whether it is worth playing. The formula will help you determine how much you are likely to win if you are a good player; and you can get an idea of which card counting system to use.

Snyder has also written a simplified, updated book called Blackjack for Profit. This is a guidebook for card counters, and I find it very helpful in comparing blackjack games. He lists a dozen or so systems, all of which are almost equally good and among the best available.

My personal preference, among the various card counting systems, is to choose one in which the cards get a plus, minus, or zero value as they fall. The point count system



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421 E. Carson, Suite 6 Las Vegas, Nevada 89101 Please Include Phone Number presented in the 1966 edition of Beat the Dealer is one such system: the small cards, 2, 3, 4, 5 and 6 have a value of +1. The big cards, 10 and ace, are -1, and 7s, 8s and 9s get the value of zero.

Once you master this, a variation that I particularly like is to call 3, 4, 5 and 6 small, 10s large, and count aces as zero for strategy purposes. But keep a side count of aces so that you can include them for betting purposes. If you are a beginner in blackjack, this is too complicated. First learn a basic system, preferably one of the point count systems, and become fluent in it. Then you will be better able to choose the sophisticated system that suits your taste.



ED: Also refer to Stanley Roberts' column in the January, February, and March 1981 issues of Gambling Times. Mr. Roberts writes about the various card counting systems available. He explains the "Why, How and Which" for gamers who are looking for a system that they will feel comfortable using.