## BRIDGE, PROBABILITY AND INFORMATION

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## THE 7775 DIVISION OF SIDES

When dummy comes down, declarer will be disappointed to find they are playing within an 8666 division of sides, whereas the defenders, if they only knew, have entered what I term Pessimist's Paradise. First, they have avoided declaring in a misfit where there is no possibility of ruffs in the short-trump hand. Second, almost any passive lead from a three-card suit will find partner with length in that suit. Declarer may take some comfort in the fact that the defenders won't be able to set up a cross-ruffing defense. Here are the five most common distributions of 7775 sides.

| I | II | III | IV | V |
| :---: | :---: | :---: | :---: | :---: |
| $4-3$ | $5-2$ | $4-3$ | $5-2$ | $5-2$ |
| $4-3$ | $3-4$ | $4-3$ | $4-3$ | $4-3$ |
| $3-4$ | $3-4$ | $4-3$ | $2-5$ | $3-4$ |
| $2-3$ | $2-3$ | $1-4$ | $2-3$ | $1-4$ |


| Combinations $C$ | $0.6 C$ | $0.5 C$ | $0.36 C$ | $0.3 C$ |  |
| :--- | :--- | :---: | :---: | :--- | :--- |
| Possibilities | 6 | 6 | 2 | 12 | 12 |
| Totals | (C) 6 | 3.6 | 1.0 | 4.3 | 3.6 |

The total number of combinations available for a given condition is the product of the combinations for the splits shown multiplied by the possible variations within that general type. Thus, Condition I allows for three possible 3-4 splits and either a $2-3$ or a $3-2$ split in the short suit. The opening leader may have a $4-4-3-2$ shape or a $4-3-3-3$ shape.

With these combinations there is only a $26 \%$ chance that one or the other defender holds a singleton. Condition V represents the most attractive shape with which to enter the bidding, and without this as a live possibility the odds are 93 to 7 against the defenders obtaining an early ruff. That is the much needed good news for declarer, who with an 8-6-6-6 division will need to develop tricks from his shorter suits. The happiest distribution for declarer is 5-4-3-1 opposite $1-4-3-5$, a good situation for playing in a $4-4$ trump fit with complementary singletons. Good bidding practices allow for the discovery of such a good fit, even in clubs.

