THE UNCERTAINTY PRINCIPLE

Published in American Turf Monthly , October 1994

How often has this happened? The race set up perfectly for your horse but it just didn't fire. Or, just the opposite, your pick was live and ready but just didn't get the trip it needed to win. Surprisingly enough, you may have been a victim of....Heisenberg's Uncertainty Principle.

The Principle of Uncertainty has become the cornerstone of modern quantum mechanics. It was developed by the physicist, Werner Heisenberg in 1927. It declared that a 'moving body' could never have both its position **and** linear momentum identified at the same time. For the faithful trying to catch 'the double' at Belmont, the decree didn't seem to have much of an impact. For the high-minded professors of physics, however, it was 'scary as hell'. It implied that you could never be totally sure of anything! If you knew where something was, you couldn't tell how fast it's going, and vice versa. What's more, the principle predicted that 'by observing something, you change it' . The Uncertainty Principle has become part of our present view of the nature of physical reality. Heisenberg, himself, wrote volumes on the philosophical implications.

Given this capsule of scientific lore, let's move back into the noble pursuit of handicapping. There are really only two basic methods we use to predict the outcomes of horse races:

1) We try to determine who's the best by establishing: who's the

fastest, the classiest, the best bred, the best looking, the best this, this best that. The process is comparative and totally dependent upon the systems we set up. (speed figure, class ratings, etc.)

2) We try to determine who stands to benefit from the way in which the race figures to be run. This approach assumes that racehorses have different, and quite often, conflicting pace requirements for success. We search for particular race scenarios that have the highest likelihood of occurring (i.e. a 'Lone F" vs. a speed duel).

In the first approach, we are scrutinizing over the individual merits and frailties of each participant. This is the "micro-view' of a race. The information is geared to inform us of 'how good (fast)' each individual will be.

In the second perspective, the race is viewed on a "macro-scale", commencing with post positions and preceding through a series of concurrent pace profiles. The whole is seen as being greater than the sum of the parts. Races are viewed as the recombination of previous encounters. Each participant is plotted. Positive and negative 'juxtapositions' of the characters are identified. Emphasis is on 'where' each runner is at given points in the contest. The question is then asked, "Who has the tactical edge (Who is the 'trip' horse)?"

The fact is, every time we look at a race, we either tackle it, first, as a set of parts and then as a whole. Alternatively, we may go into the analysis process with preconceived attitudes regarding the race as a whole (i.e. 'it's a speed favoring track' or 'favorites never win') that precedes any consideration of the participants.

But what is lost, and what is gained?

There is the obvious bias that can occur with the powerful effect of "first impressions", whether it be from the "macro" (position) or the "micro" (speed) approach. Errors of this kind can create the two previously described types of unfavorable race outcomes ('trip horse doesn't fire' & 'live horse gets bad trip').

The Uncertainty Principle also stated that by observing one's position, you will change its speed (and vice versa). This can be likened to a form of 'self-awareness'. If the prior form of the participants is well established, it stands that strategies will be altered for those runners whose styles figure to prove unsuccessful given the situation at hand. What Heisenberg was really trying to say is that "trainers and jockeys read the Racing Form too, and to be aware of that".

It's more than just ironic that Heisenberg found that the highest degree of accuracy in following a 'moving body' was knowing 'a little bit' about **both** its speed and position, rather than 'a lot' about just one. It's really quite similar in the horse game.

Winning: it's about being in the right place at the right time. But don't think Werner Heisenberg had that market cornered. The former Nobel Prize winner decided to remain in Germany during the Third Reich where he became the director of the Kaiser Wilhelm Institute. There, he headed Germany's unsuccessful nuclear weapons project.