The truth of the matter is that charting is very subjective. Chart reading is an art. (Possibly the word "skill" would be more to the point.) Chart patterns are seldom so clear that even experienced chartists always agree on their interpretation. There is always an element of doubt and disagreement. As this book demonstrates, there are many different approaches to technical analysis that often disagree with one another.

Even if most technicians did agree on a market forecast, they would not all necessarily enter the market at the same time and in the same way. Some would try to anticipate the chart signal and enter the market early. Others would buy the "breakout" from a given pattern or indicator. Still others would wait for the pullback after the breakout before taking action. Some traders are aggressive; others are conservative. Some use stops to enter the market, while others like to use market orders or resting limit orders. Some are trading for the long pull, while others are day trading. Therefore, the possibility of all technicians acting at the same time and in the same way is actually quite remote.

Even if the self-fulfilling prophecy were of major concern, it would probably be "self-correcting" in nature. In other words, traders would rely heavily on charts until their concerted actions started to affect or distort the markets. Once traders realized this was happening, they would either stop using the charts or adjust their trading tactics. For example, they would either try to act before the crowd or wait longer for greater confirmation. So, even if the self-fulfilling prophecy did become a problem over the near term, it would tend to correct itself.

It must be kept in mind that bull and bear markets only occur and are maintained when they are justified by the law of supply and demand. Technicians could not possibly cause a major market move just by the sheer power of their buying and selling. If this were the case, technicians would all become wealthy very quickly.

Of much more concern than the chartists is the tremendous growth in the use of computerized technical trading systems in the futures market. These systems are mainly trend-following in nature, which means that they are all programmed to identify and trade major trends. With the growth in professionally man-

aged money in the futures industry, and the proliferation of multimillion-dollar public and private funds, most of which are using these technical systems, tremendous concentrations of money are chasing only a handful of existing trends. Because the universe of futures markets is still quite small, the potential for these systems distorting short term price action is growing. However, even in cases where distortions do occur, they are generally short term in nature and do not cause major moves.

Here again, even the problem of concentrated sums of money using technical systems is probably self-correcting. If all of the systems started doing the same thing at the same time, traders would make adjustments by making their systems either more or less sensitive.

The self-fulfilling prophecy is generally listed as a criticism of charting. It might be more appropriate to label it as a compliment. After all, for any forecasting technique to become so popular that it begins to influence events, it would have to be pretty good. We can only speculate as to why this concern is seldom raised regarding the use of fundamental analysis.

Can the Past Be Used to Predict the Future?

Another question often raised concerns the validity of using past price data to predict the future. It is surprising how often critics of the technical approach bring up this point because every known method of forecasting, from weather predicting to fundamental analysis, is based completely on the study of past data. What other kind of data is there to work with?

The field of statistics makes a distinction between *descriptive statistics* and *inductive statistics*. *Descriptive statistics* refers to the graphical presentation of data, such as the price data on a standard bar chart. *Inductive statistics* refers to generalizations, predictions, or extrapolations that are inferred from that data. Therefore, the price chart itself comes under the heading of the descriptive, while the analysis technicians perform on that price data falls into the realm of the inductive.

As one statistical text puts it, "The first step in forecasting the business or economic future consists, thus, of gathering obser-

vations from the past." (Freund and Williams) Chart analysis is just another form of *time series analysis,* based on a study of the past, which is exactly what is done in all forms of time series analysis. The only type of data anyone has to go on is past data. We can only estimate the future by projecting past experiences into that future.

So it seems that the use of past price data to predict the future in technical analysis is grounded in sound statistical concepts. If anyone were to seriously question this aspect of technical forecasting, he or she would have to also question the validity of every other form of forecasting based on historical data, which includes all economic and fundamental analysis.

RANDOM WALK THEORY

The *Random Walk Theory,* developed and nurtured in the academic community, claims that price changes are "serially independent" and that price history is not a reliable indicator of future price direction. In a nutshell, price movement is random and unpredictable. The theory is based on the *efficient market hypothesis,* which holds that prices fluctuate randomly about their intrinsic value. It also holds that the best market strategy to follow would be a simple "buy and hold" strategy as opposed to any attempt to "beat the market."

While there seems little doubt that a certain amount of randomness or "noise" does exist in all markets, it's just unrealistic to believe that *all* price movement is random. This may be one of those areas where empirical observation and practical experience prove more useful than sophisticated statistical techniques, which seem capable of proving anything the user has in mind or incapable of disproving anything. It might be useful to keep in mind that randomness can only be defined in the negative sense of an inability to uncover systematic patterns in price action. The fact that many academics have not been able to discover the presence of these patterns does not prove that they do not exist.

The academic debate as to whether markets trend is of little interest to the average market analyst or trader who is forced

to deal in the real world where market trends are clearly visible. If the reader has any doubts on this point, a casual glance through any chart book (randomly selected) will demonstrate the presence of trends in a very graphic way. How do the "random walkers" explain the persistence of these trends if prices are serially independent, meaning that what happened yesterday, or last week, has no bearing on what may happen today or tomorrow? How do they explain the profitable "real life" track records of many trend-following systems?

How, for example, would a buy and hold strategy fare in the commodity futures markets where timing is so crucial? Would those long positions be held during bear markets? How would traders even know the difference between bull and bear markets if prices are unpredictable and don't trend? In fact, how could a bear market even exist in the first place because that would imply a trend? (See Figure 1.3.)

Figure 1.3 *A "random walker" would have a tough time convincing a holder of gold bullion that there's no real trend on this chart.*

It seems doubtful that statistical evidence will ever totally prove or disprove the Random Walk Theory. However, the idea that markets are random is totally rejected by the technical community. If the markets were truly random, no forecasting technique would work. Far from disproving the validity of the technical approach, the *efficient market hypothesis* is very close to the technical premise that *markets discount everything*. The academics, however, feel that because markets quickly discount all information, there's no way to take advantage of that information. The basis of technical forecasting, already touched upon, is that important market information is discounted in the market price long before it becomes known. Without meaning to, the academics have very eloquently stated the need for closely monitoring price action and the futility of trying to profit from fundamental information, at least over the short term.

Finally, it seems only fair to observe that any process appears random and unpredictable to those who do not understand the rules under which that process operates. An electrocardiogram printout, for example, might appear like a lot of random noise to a layperson. But to a trained medical person, all those little blips make a lot of sense and are certainly not random. The working of the markets may appear random to those who have not taken the time to study the rules of market behavior. *The illusion of randomness gradually disappears as the skill in chart reading improves*. Hopefully, that is exactly what will happen as the reader progresses through the various sections of this book.

There may even be hope for the academic world. A number of leading American universities have begun to explore Behavioral Finance which maintains that human psychology and securities pricing are intertwined. That, of course, is the primary basis of technical analysis.