

## Using Fractals and Leverage

"Come to the edge of the cliff," he said.

"We're afraid," they said.

"Come to the edge of the cliff," he said.

"We're afraid," they said.

"Come to the edge of the cliff," he said.

They came.

He pushed.

They flew.

Guillaume Appolinaire

### GOALS:

- 1. TO UNDERSTAND AND BE ABLE TO RECOGNIZE AND TRADE THE INITIATING AND RESPONSIVE FRACTAL PATTERNS;**
- 2. TO UNDERSTAND HOW LEVERAGE EITHER SIGNALS A TRADE OR CANCELS A POTENTIAL TRADE.**

Commodity traders and system sellers have a knack for taking any new development and applying it to trading. Most of the time, these developments do not prove to be profitable and become just another passing fad. In the past, markets have gone

through various forms of technical indicators that have either died or lapsed into nonuse because they were not profitable.

The early 1980s produced the \$3,000 black box systems, RSI, stochastics, sentiment indexes, and so on. Then Trade Station and other program developers made back testing and curve fitting a fun project for new traders. Mechanical systems were the rage—popular but not profitable. Along came Market Profile, which snared thousands of otherwise intelligent traders into losing money. They lost because Market Profile uses parametric statistics based on the assumption that the market is random. Parametric statistics are not appropriate to examine nonlinear behavior. Astrology keeps raising its head when new computer programs are sold and then dying back from nonuse. Finding that nothing new seems to work, many traders become attracted to something very old called Candlesticks. Unfortunately, the average trader does not make profits using it.

Chaos and fractals offer a very different outlook. All other approaches are based on traditional Aristotelian philosophy. Chaos and the markets are both “natural” phenomena. Once you thoroughly understand the markets and how they work, you will understand why all the linear systems either don’t work from the beginning or die an early death.

For the past dozen or so years, the Profitunity Trading Group has been conducting intensive research into the theory of chaos and quantum mechanics as applied to trading the markets. With the aid of two PhDs in theoretical math and computer science, and using a mainframe computer, we were able to pinpoint the underlying structure (fractal) of the Elliott wave. We used sophisticated nonlinear feedback calculus programs to extract the exact fractal points in the chart. Next, we sifted through thousands of charts on which the fractals had been located via computer, to see whether there were any consistent pattern formations at the fractals.

We found a pattern that accurately reflects over 98 percent of the fractals found by the computer. This pattern recognition

allows one to trade the fractals without a mainframe computer. We are presently one of very few groups to apply this theory to real-time trading in various markets. Sparing you the theories, concepts, and experiments that led to our discovery of the fractal of the Elliott wave, let's move on to what a fractal looks like and how to trade it.

Market or "behavioral" fractals indicate a significant behavior change. When you decide to exit a losing trade, where you will get out is quite predictable. You will exit a losing trade when the pain of losing one more dollar is more intense than the pain of saying you were wrong in taking the trade. That point is a behavioral fractal. A fractal also occurs when you pick up the phone to tell your broker to place an order. A behavioral fractal occurred whenever you decided to read this book rather than choosing some other activity. A decision to trade is always a behavioral fractal. To trade profitably, we need to recognize the behavioral fractal of masses of traders and understand the impending change in the bias of the market. We can then place orders before or during the early beginnings of a new trend move. We can examine our individual "psychological" fractals on a personal basis, and we can analyze the market's "sociological" fractals from evidence on a bar chart.

## **THE INITIATING FRACTAL PATTERN**

A fractal pattern on a bar chart (of any time span) consists of a minimum of five consecutive bars. Our working definition of this initiating fractal is that the middle bar must have a higher high (or lower low) than the two preceding bars and the two following bars. It may look like any of the examples in Figure 8-1. It is important to note the following restrictions:

1. If a bar's high is parallel to the middle or high (low) bar, it does not count as one of the five bars in the fractal

because it does not have a lower high (higher low) than the middle bar;

2. Two adjacent fractals may share bars.

In Figure 8-1, notice that pattern A shows a pristine fractal where the two preceding and the two following bars have lower highs than the middle bar. This sets up an up fractal, designated by (^). Pattern B is also an up fractal, but the same formation also creates a down fractal (v). This happens because the two preceding bars and the two following bars are "inside" bars. They fulfill the requirement that the middle bar must be

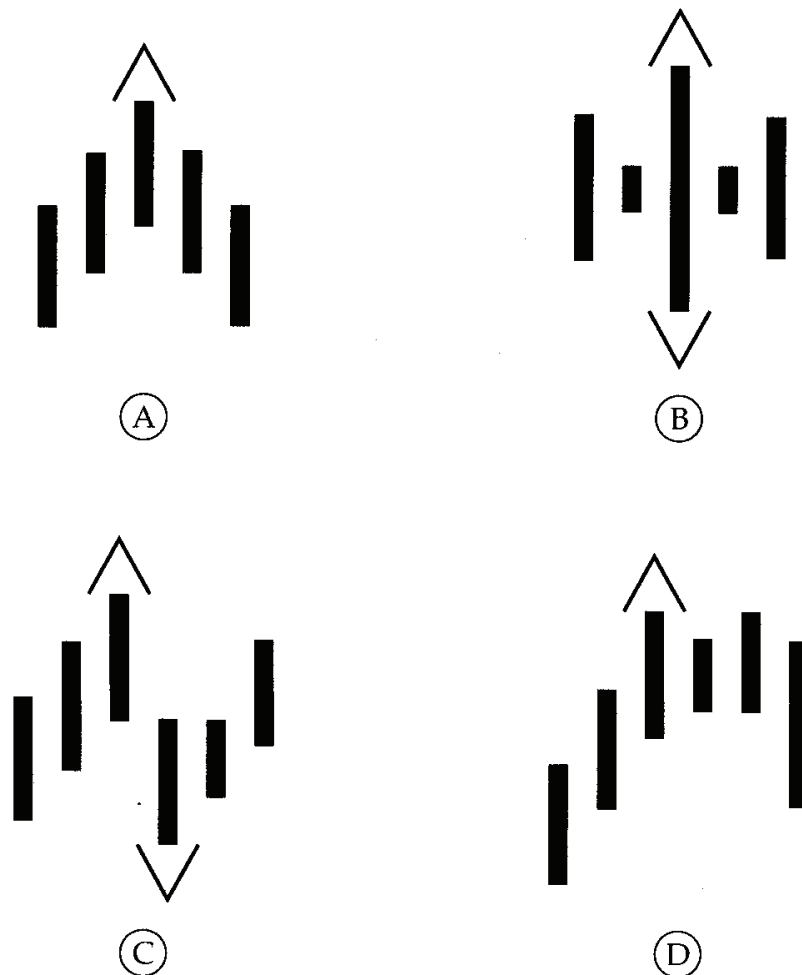


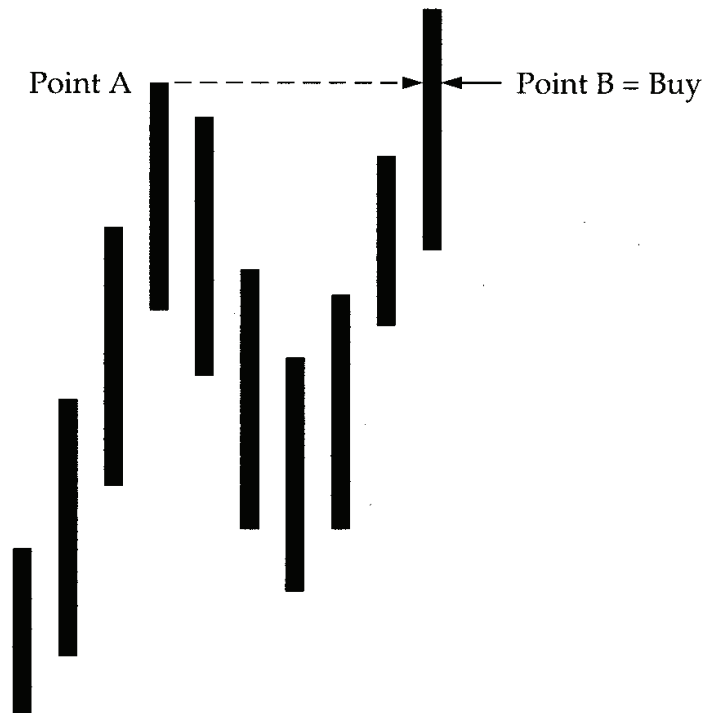
Figure 8-1 Examples of initiating fractals.

the highest or lowest of the minimum five-bar sequence. Pattern C shows another formation that creates both an up fractal and a down fractal. As shown, these fractals may “share” bars. Pattern D requires six bars to form an up fractal because the fifth bar has a high equal to the previous high. Remember the working definition:

A fractal must have two preceding and two following bars with lower highs (higher lows, on a down move).

In an up fractal, we are interested only in the bar’s high. In a down fractal, we are interested only in the bar’s low.

When the market is making a bullish upward move, puts in a top, and then starts back down with two bars that have lower highs, that market has made a fractal decision. (See Figure 8–2.) It has gone up to point A and, for whatever reasons, has



**Figure 8–2** Fractal buy signal.

turned back down. Should the market again move up and then go beyond (higher) the price at point A, the pattern indicates that the market has changed its mind and decided to recant its earlier decision to stop at point A. One tick above point A then becomes a breakout buy.

Any five-bar sequence in which the middle bar is higher (or lower) than the two preceding and two following bars forms a fractal, and once a fractal is formed it will remain a fractal. During the lifetime of this fractal, it may play several roles. It can, from time to time, be a *fractal start*, a *fractal signal*, or a *fractal stop*. The role it currently is playing depends on where it is located in the sequence of the market's up-and-down movement.

### Definitions

Before going further, we must define these various roles that a fractal can play:

*Fractal start* is any fractal that is followed by a fractal in the opposite direction (see Figure 8-3).

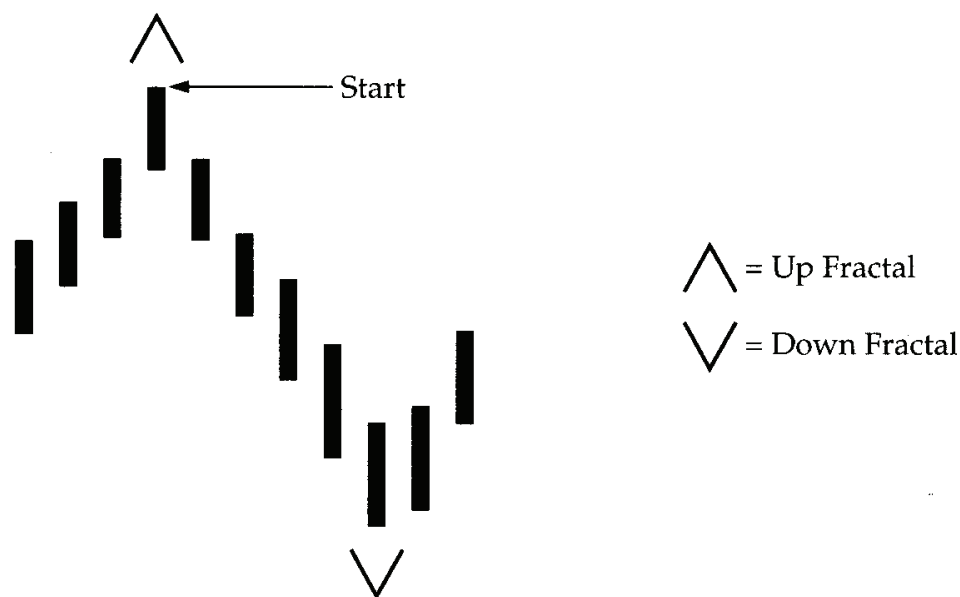


Figure 8-3 Fractal start.

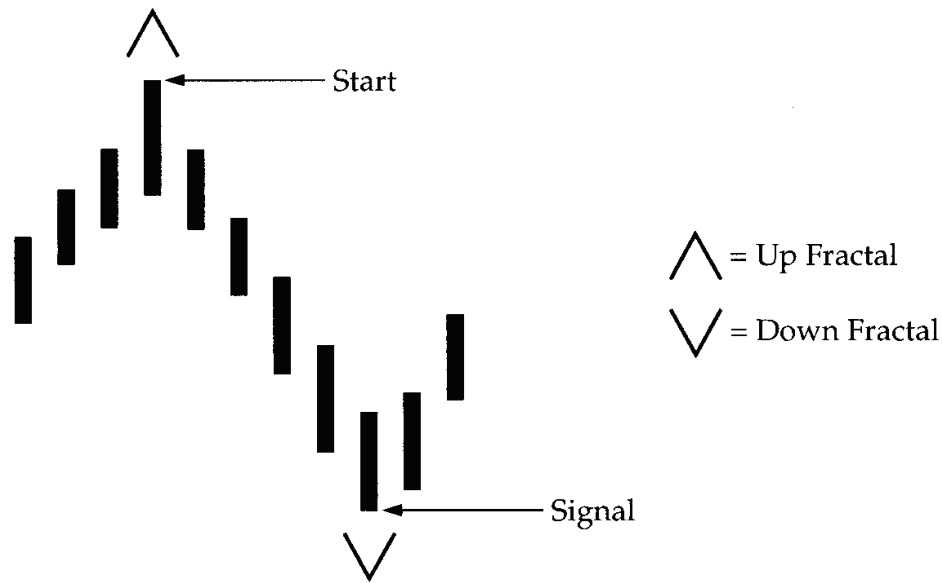


Figure 8-4 Fractal signal.

*Fractal signal* is any fractal that follows a fractal in the opposite direction (see Figure 8-4).

Whenever an up fractal, for example, is followed by a down fractal, what happens in between is always an Elliott wave of one degree or another. Notice that a fractal start and a fractal signal are always generated at the same time.

*Fractal stop* is the most distant fractal peak of the last two fractals in the opposite direction. Usually, but not always, this will be two fractals back in the opposite direction. Figure 8-5 shows both cases.

## LEVERAGE

Now we are ready to examine the concept of “leverage.” First, think of a number-one wood, the golf club you use for maximum distance. What makes it possible to drive the golf ball hundreds of yards down the fairway? A combination of strength, coordination, and the leverage of the golf club (Figure

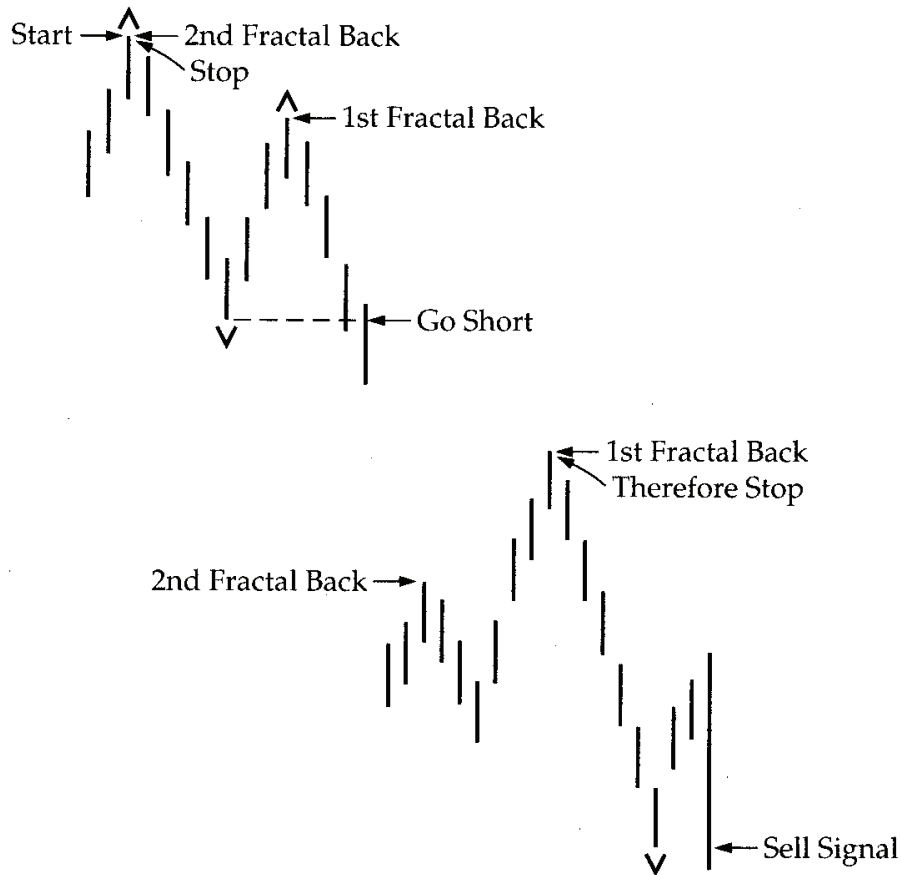


Figure 8-5 Fractal stop.

8-6). Pretend for a moment that you are in a crazy golf tournament. The rules are different here: every time you drive the ball, the caddy saws 6 inches off the handle of your driver. After a few holes, your score will go up because you are giving up leverage every time you make a drive.

Let's apply the same principle to the market. Whenever you have a fractal start and a fractal signal, you have leverage (see Figure 8-7). If the market comes back toward the fractal start, you lose a bit of leverage. If the market comes all the way back to the topmost (bottommost) bar of the start *plus one tick*, you have lost all your leverage and the buy or sell signal is immediately canceled.

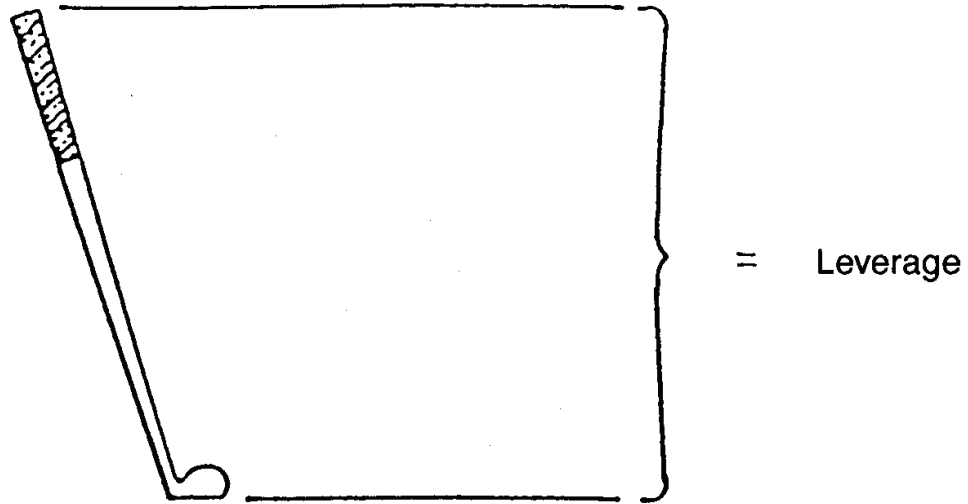


Figure 8-6 An example of leverage.

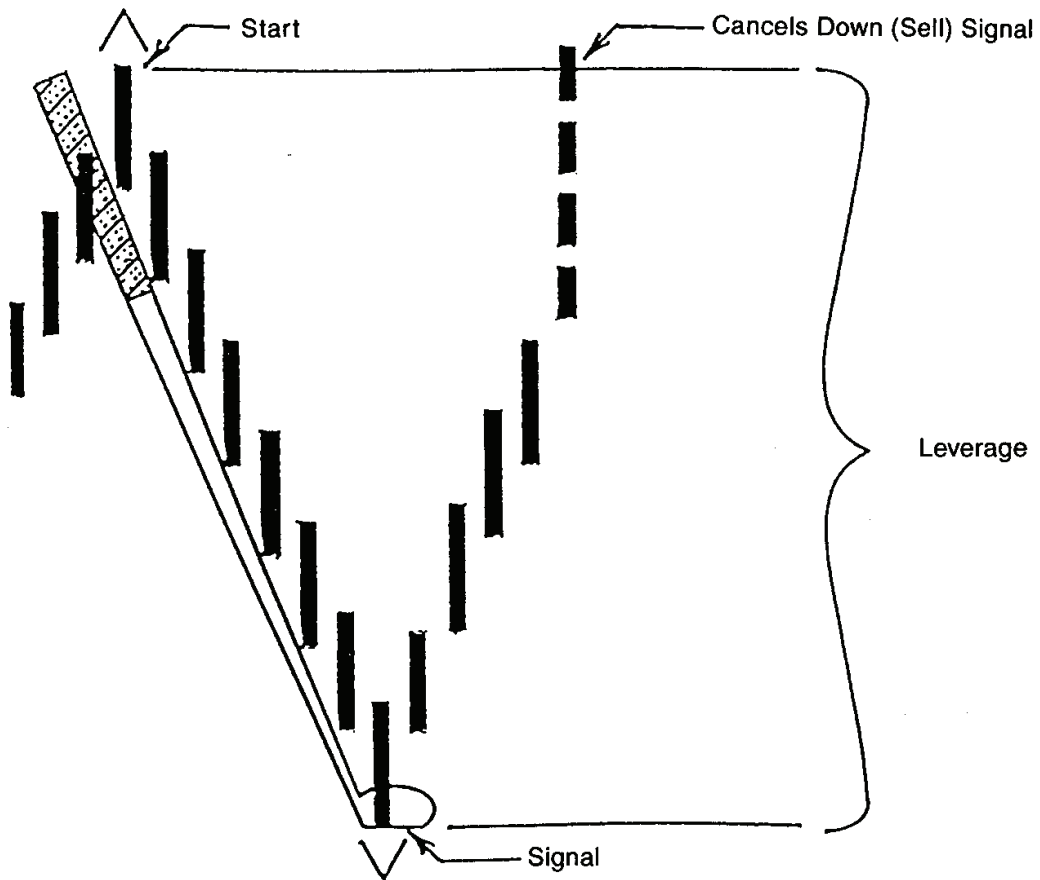


Figure 8-7 Leverage in the market.

## **TAKING ACTION**

Trading the fractal is an easy way to make sure you are trading in the direction of the market momentum. When any market makes a directional move, it builds up momentum. This momentum is like a rolling ball that continues to roll until it meets resistance that has more power than the momentum of the ball. The initiating fractal tells traders which way the market river is flowing. It virtually guarantees being included in any significant trend move.

Remember that we are looking for a specific fractal formation that consists of two adjacent fractals in opposite directions. This sets up a fractal start and a fractal signal. If the fractal signal is triggered, we go in that direction. A fractal stop generally occurs two fractals back in the opposite direction, or if a buy/sell signal is created in the opposite direction. In the first case, we would have a stop. In the second case, we would have a stop-and-reverse signal.

If you determine you are in a trend run, you will maximize your profits by using the regular trailing stop (two fractals back in the opposite direction). If you determine you are in a bracketed market, you may choose to exit or stop and reverse on a thumb signal, described in the next section.

## **LOOKING INSIDE THE FRACTAL**

Trading the fractals will guarantee that you will never be left out of any significant trend. This offers tremendous benefit because most of your trading profits will be made in trending markets. Trading only the initiating fractal can be consistently profitable. The downside, however, is that most traders give back a portion of their profits in bracketed or range-bound markets. We can improve on our profitability by going inside the fractal to get a better trade location. That also permits an earlier entry into any new trend.

The Profitunity Research Group spent three years of research going inside the fractal in an attempt to better understand the internal dynamics involved. We were able to break the code that indicates whether a change in trend is likely to be one that will start a new trend or one that will stay in the previous trading range.

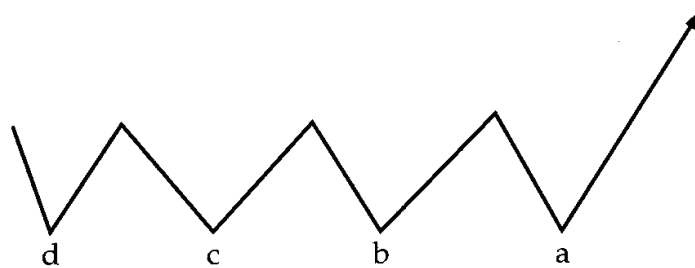
Looking at Figure 8–8, we want to know whether there are any differences between points a and points b, c, and d that could give us trustworthy information telling us to buy before the breakout is obvious to other traders. Points a, b, c, and d are all fractals.

I suggest that you find a rubber band—a learning device for how to trade this technique.

Place the rubber band securely around your *right* thumb to represent the bottom of the thumb bar. It must be the right thumb, even if you are left-handed. Next, bend your ring finger and your little finger on the right hand down so that only your thumb, index finger, and middle finger are still outstretched, as in Figure 8–9.

We call this a “setup” for a possible fractal. To produce the full fractal, we must have two following bars with highs that are lower than the middle-finger high.

To place a thumb trade, you must have the three-bar setup. Each of these three bars must have a higher high *and* a higher low than the previous “finger”/bar (Figure 8–10). Inside bars



**Figure 8–8** Bracketed into a trending market.

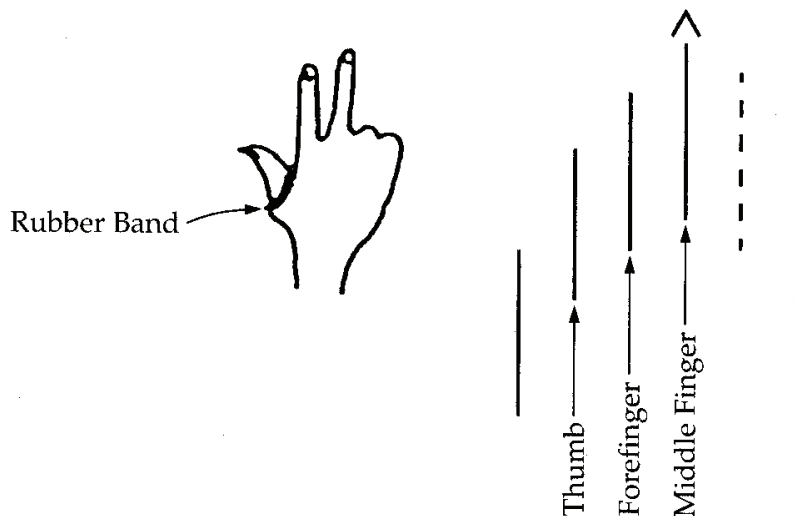


Figure 8-9 Right hand with rubber band.

cannot count as fingers because they do not have both a higher high and a higher low. It may take more than a three-bar sequence to create this setup if you have inside bars. Remember, the only ones you count are those that have higher highs *and* higher lows than the previous finger.

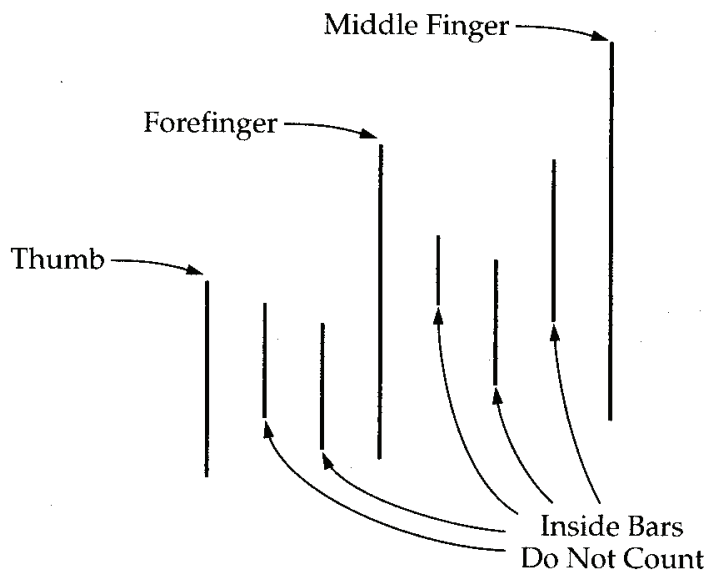


Figure 8-10 Thumb trade "setup."

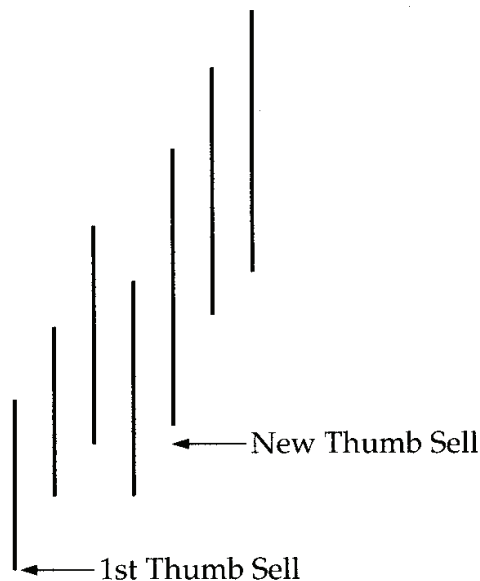
The next criterion is that two of the three fingers/bars must be a squat or a green or any combination of squats and greens. In other words, two of the three bars must have increasing volume compared to the immediately previous bar.

Once you have this setup, you put in an order to sell one tick below the bottom of the thumb bar. What happens next?

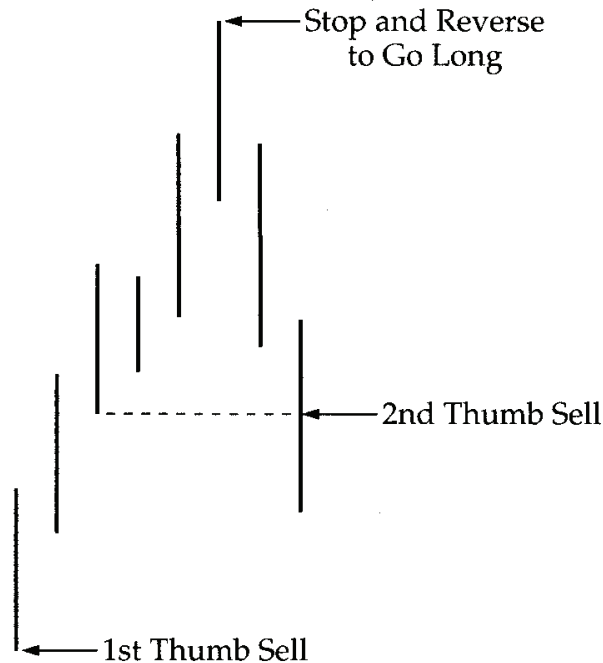
If the market continues to move up and produces a higher thumb sell, you move your sell stop up (Figure 8-11).

If the market moves down and triggers your stop, you immediately place a stop and reverse to go long at the top of the middle finger, which is now a regular initiating up fractal signal. Your risk is from the bottom of the thumb bar (the placement of the rubber band) to the top of the middle finger (Figure 8-12).

This thumb trade technique will get you into the market at a much better trade location in a bracketed market. We call this area the "double duty dollar area" because we get a better trade location and we have less potential risk and more potential profit.



**Figure 8-11** Thumb trades move up with new highs.



**Figure 8-12** Where to place a stop and reverse if a thumb trade is triggered.

Figures 8-13 and 8-14 give a condensed description of the various forms of fractals, air bags (two-bar reversal), and thumb trades.

Figures 8-15 through 8-19 are some examples of trading simple fractals on a short time frame. Note that fractals can work equally well on longer-term time frames.

The chapter concludes with questions that will indicate your present understanding of Level Two, the Advanced Beginner in trading.

## REVIEW QUESTIONS

1. How do you identify a fractal? List the essential characteristics that any fractal must contain.
2. Describe and locate the fractal start.



- *Hump = five-fingered boogie = fractal* (All three of these terms refer to the same formation)
- What happens when a *fractal* in one direction is followed by a *fractal* in the opposite direction is always an Elliott wave of some degree.
- A *fractal* is always a change in behavior. It is displayed as a minimum of five consecutive bars where the high (low) bar has two preceding bars and two following bars whose highs (low) are lower than the highest (lowest) bar.
- One way to trade the *fractal* is: whenever the market exceeds the outside extreme (*high on up fractals and low on down fractals*), “go with” the outside direction/*fractal* point.
- When opposite *fractals* form where neither extreme formation’s bars overlap the other, a *hump (fractal)* signal is created. The first occurring *fractal* is called the *hump start* and the second *fractal* is the *hump signal*.

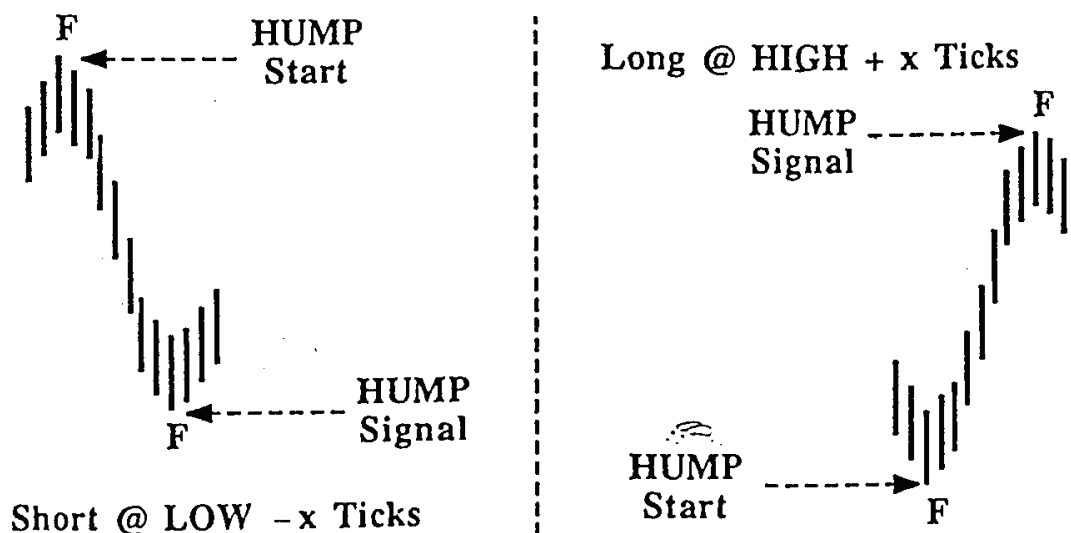


Figure 8-14 Fractal formations and signals.

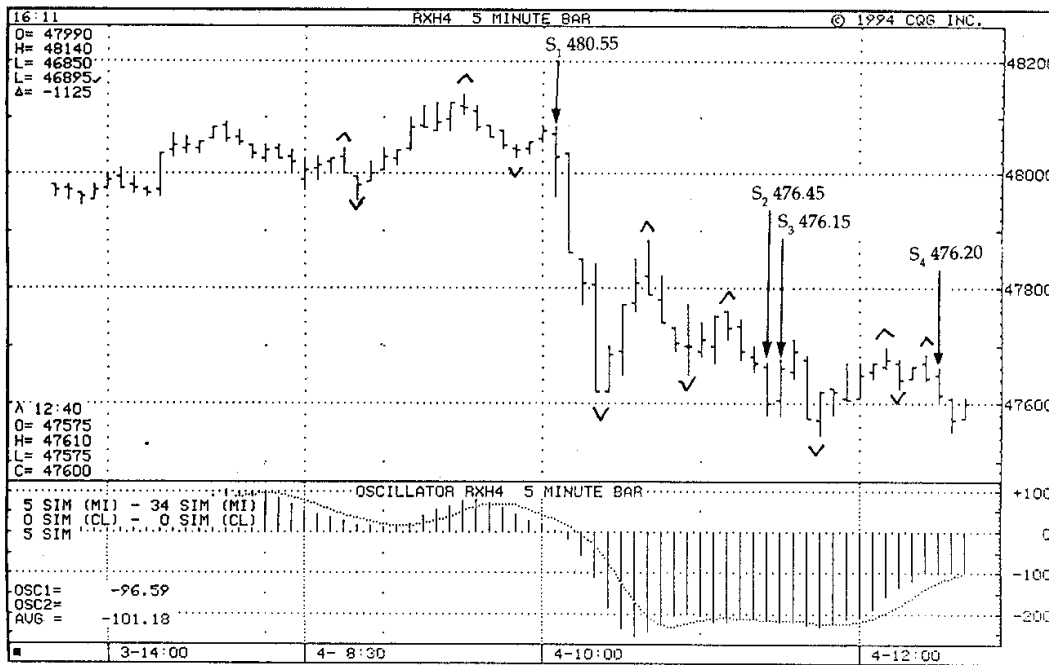


Figure 8-15 Trading simple fractal on 5-minute bars—  
February 4, 1994.

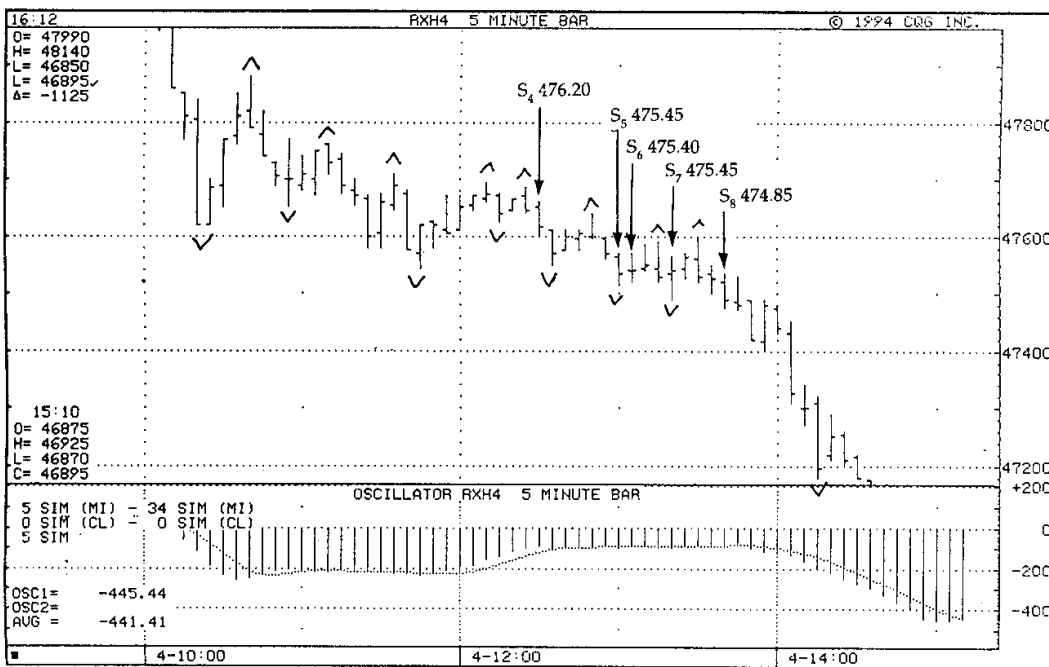


Figure 8-16 Trading simple fractal on 5-minute bars—  
February 4, 1994.

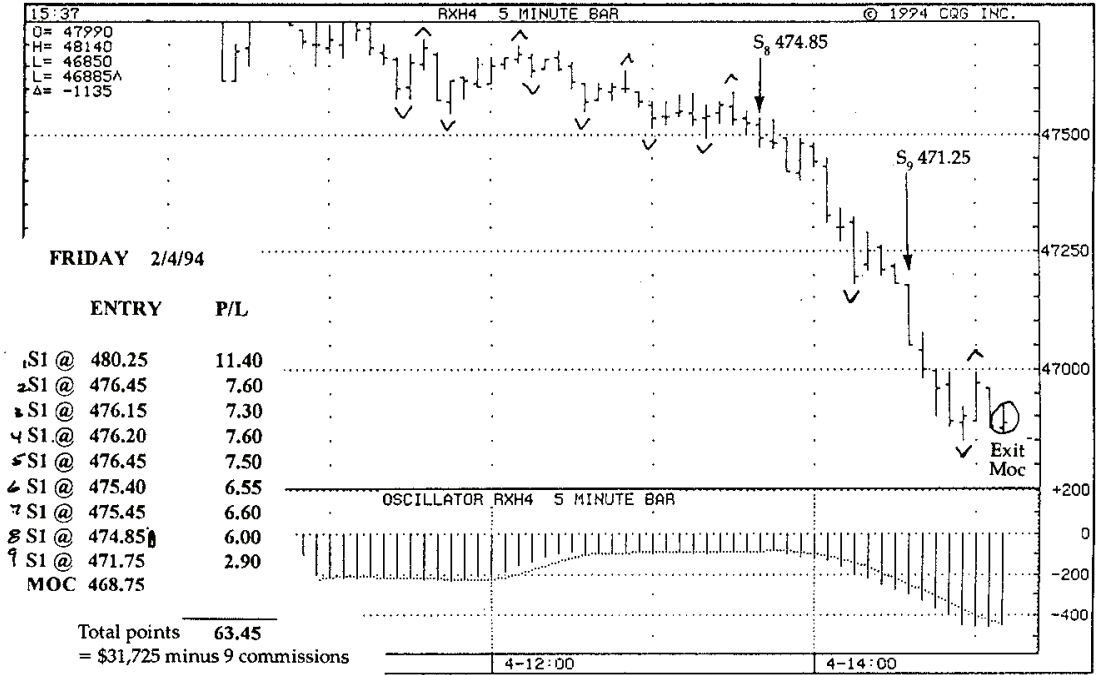


Figure 8-17 Trading simple fractal on 5-minute bars—February 4, 1994.

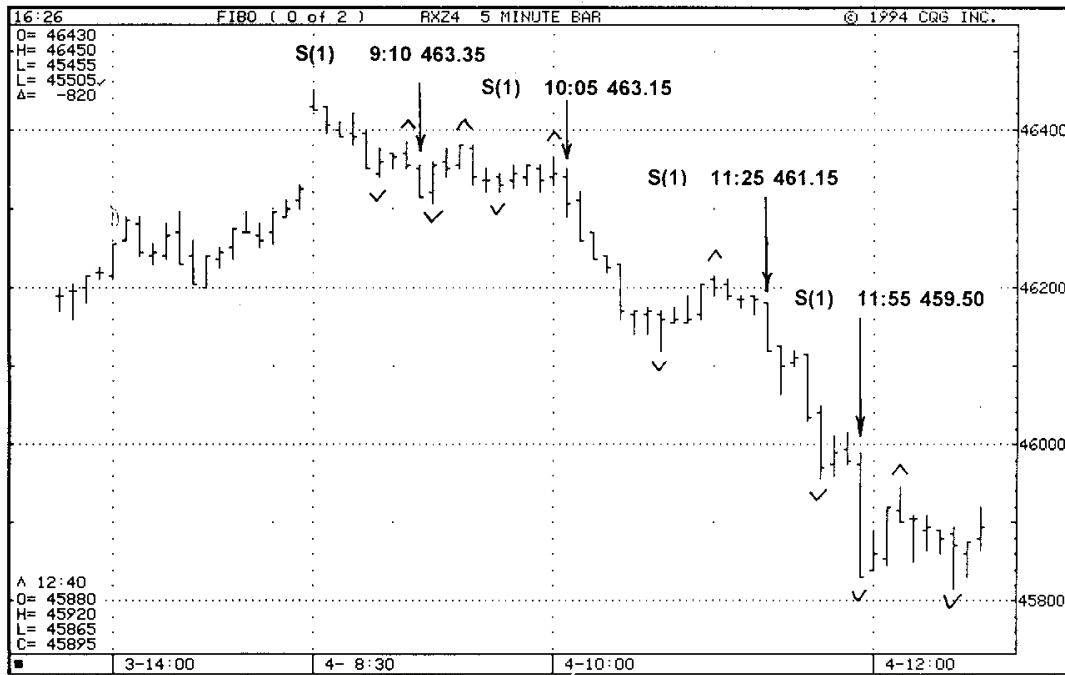


Figure 8-18 Trading simple fractal on 5-minute bars—October 4, 1994.

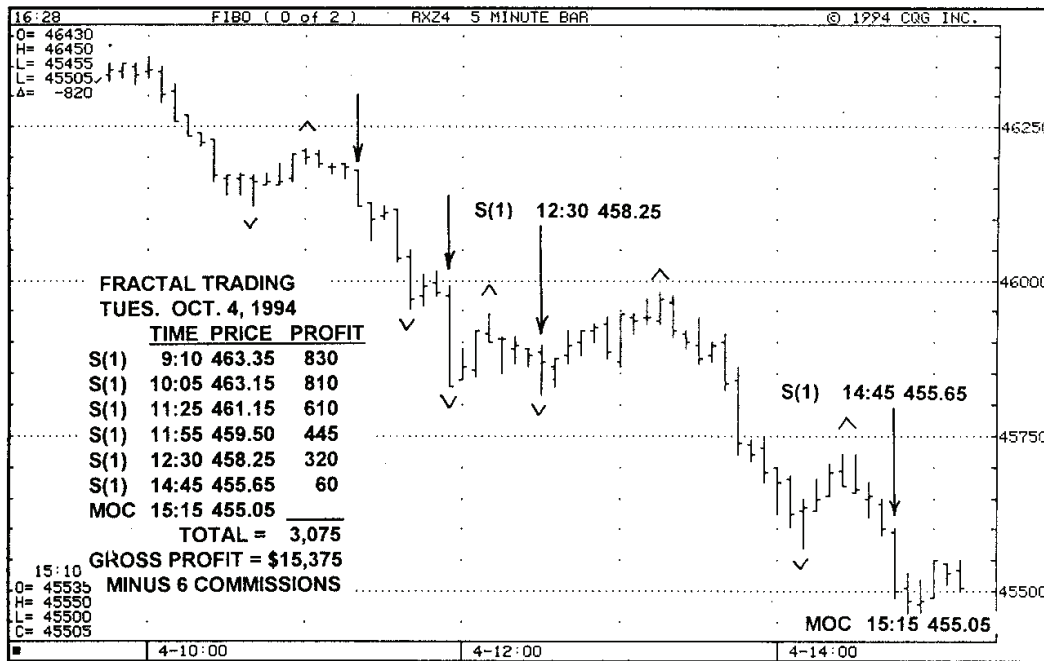


Figure 8-19 Trading simple fractal on 5-minute bars—  
October 4, 1994.

3. Describe and locate the fractal signal.
4. Describe and locate the fractal stop.
5. When do you call a broker to put in a fractal trade?
6. What is the purpose of the responsive fractal (thumb trade)?
7. Describe how the thumb trade must be more “pristine” than a regular fractal.
8. What is the primary purpose of trading the thumb trade?
9. Describe the different exit strategies when trading in a trend move versus trading in a bracketed (range-bound) market.