

Wiley Trading Series

BREAKTHROUGH STRATEGIES

for

PREDICTING ANY MARKET

SECOND EDITION

**Charting Elliott Wave, Lucas, Fibonacci,
Gann, and Time for Profit**

JEFF GREENBLATT

FOREWORD BY DAWN BOLTON-SMITH

WILEY

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ANY MARKET**

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BREAKTHROUGH STRATEGIES FOR PREDICTING ANY MARKET

Charting Elliott Wave, Lucas,
Fibonacci, Gann, and Time for Profit

SECOND EDITION

Jeff Greenblatt

WILEY

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*To my wife, Jeanne, son Josh, and my parents, Henry
and Janet. They've always been there through good
times and bad. This book is also dedicated to the
memory of Beatrice Heffron.*

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FOREWORD

It was indeed a privilege to write the foreword for the first edition of *Breakthrough Strategies for Predicting Any Market* and now an even greater privilege to update it for Jeff's new book. As a long-term subscriber to his free bi-weekly *Fibonacci Newsletter* and his *Fibonacci Forecaster* updates on stocks, commodities, and foreign exchange. I believe these are compelling viewing for his wonderful display of charts and commentary in a format extremely beneficial for traders and investors.

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I can say now I have been a practicing Technical Analyst since 1964 and in that time have experienced three major stock market crashes. There are always lessons to be learned and one has to be a step ahead of the crowd. It is much better to be able to use foresight rather than hindsight, which most economists are not able to do. I therefore feel well qualified to pass judgment on Jeff's latest book.

As a complete novice in 1960 making my first stock market investments when the broker said the market was high, I was soon to find out that I had been buying at the top of a nine-year bull cycle.

In the wake of the 1961 credit squeeze in Australia, the stocks came tumbling down. I realized I had to find out more about markets so I enrolled in the pilot course of the Sydney Stock Exchange at Mosman Evening college only to learn after several years that P/E ratios, earnings, and dividend yields were meaningless if you didn't get the timing right. Our group threw in five shillings each to a subscription to *TRENDEX*, a technical newsletter and studied *Technical Analysis of Stock Trends* by Edwards and Magee, which laid my foundations for the exciting career path I have enjoyed since 1964. I was the first Technical Analyst to be employed by an Australian stockbroker

and the course was set to later move into commodities for the gold top in 1980 and later foreign exchange for the Australian Dollar.

I believe my hands-on experience, including the three major stock market crashes, enables me to pass a sound judgment on the real value of Jeff's methodology and his amazing contribution to Technical Analysis. I gave the first lectures for the Securities Institute course at the Sydney Stock Exchange and over the decades have contributed regular articles in newspapers, newsletters, and futures magazines. Since 1998 I've had a regular bi-monthly column in *Your Trading Edge*.

Without any knowledge of the global financial crisis, I pinpointed the 2007 to 2008 major top in the stock market and 2009 bottom using trend lines and pattern recognition, coupled with experience—the best teacher. I was also a founding member of the Australian Technical Analysts Association.

My mentors over the years included Ian Notley (Mosman Evening College), Dr. Harry D. Schultz, David Fuller, J. Welles Wilder, Dr. Mircea Dologa, Phyllis Kahn (who introduced me to W.D. Gann), and more recently Michael S. Jenkins who made me aware of the importance of timing the cycles and geometry in the markets. My own claim to fame was predicting the 1974 share crash and calling the bottom within 4 points. I was writing for the *Sunday Telegraph Newspaper* at the time and the lead article July 21, 1974 “Stand by for a Crash—Dawn tips a 30's style share slump”. I would hasten to say that the market was setting itself up in October 14, 1973. No fancy indicators, but just good basic charts and pattern recognition.

When I started in the early 1960s there were only three textbooks, and now my bookshelves have run out of space. It is somewhat a daunting task when confronted by the incredible display of books and courses all centered on markets and making money to determine what book is right for you. I firmly believe that Jeff's books fill the gap left by many technical trading systems and are *not* to be left on the bookshelf.

His new book is a remodel of the original where he has enhanced almost every chapter, added chapters on Square of Nine, price and time symmetry, Andrews, and psychology. It is written for the intermediate to advanced trader but leaving a lot of the MACD work in there. He prefers not to use lagging indicators anymore, and the idea of this book is to build a bridge for those who want to wean themselves from lagging indicators and learn to master markets from a pure pattern-recognition view. With the charts, this is a monster book of more than 400 pages.

He uses candlesticks, which he believes tell you more about market behavior than basic line charts. The importance of the 200-day simple moving

average and the 20/50 day used by the big money crowd which is a good place for price action to hold are both explained. The extremely important chapter on Fibonacci price projections leaves the academics and fundamental analysts behind. He discusses how to make high-probability price projections based on the natural tendencies of universal law. He looks at support and resistance levels as well as moving averages, and many times the 50- or 200-day moving averages will be within pennies of one of the Fibonacci retracement points.

Now on psychology—if your mind isn't right, there is no methodology in the world that will work, and the chapter that focuses on the lessons learned by the author from different mentors in the field of psychology and mental toughness are priceless tools, not only in trading but in life.

History has shown us that people starting out in trading to get rich with no formal training think it is all very easy. They learn quickly that it's not and it can be easier to lose money than make it.

Most of the material and charts in this book needs to be studied for hours upon hours. That it is the only way you are going to learn the true nature of how these financial markets really work. But once mastered, you will never look at a chart in the same way. You will have the potential to become very profitable; you will even do better. *Potential* means having the ability to do the right thing at the right time. There is a lot of noise out there, and your biggest enemy besides yourself will be the maddening voice of the crowd. You need to listen to them, yet ignore them at the same time and interpret what they really mean. Edwards and Magee said there are times to “board up the windows.”

When it comes to commodities, absolute fear is usually a top and in the stock market absolute fear is usually a bottom. When the experts tell you stocks are going to the moon, it is time to think about short positions, but you still have to wait for the appropriate signal. Our minds need to be trained to take trades intelligently in psychologically uncomfortable positions. The author's choice of the best work on the psychology of trading is *Trading in the Zone* by Mark Douglas. The other is *New Trading Dimensions* by Bill Williams. Each one teaches you how to get into a “flow” state of mind in order to tune out all distractions, fears, and anxieties and to get into rhythm with your highest potential. This means getting rid of a fair degree of mental garbage. This chapter is one of the finest I have read on the psychological aspects of trading, with explanations of how to deal with some of the problems faced when pulling the trigger. To summarize, we need to know where we came from and where we are going. Trading

is never going to be easy, but it can be simple, and this chapter should mentally equip you to participate.

The final chapter ties together some of the highest probability setups so you can start using this wonderful methodology right away. This is where the author congratulates you if you are still with him because the book is not an easy read and is not supposed to be. The dozens of charts are meant to be studied over and over until you get it. To make money, you must develop from being an average trader and this book will take your knowledge of charts from mediocre to great. The whole point of this book is to demonstrate a different way of looking at charts. News events somehow manifest themselves at precisely the correct point in time on a price chart. Jeff reports that he can no longer look at a price chart without keeping track of the bars, and his goal is to take you to this level of market precision.

Everything you need on a technical basis has been covered and the new language will enable you to wait for better setups. By drawing your extension lines and keeping track of the bars, you will come to anticipate turns and not take action until the candles confirm you various price and time clusters. When they do—*pull the trigger!* You will learn to trust the chart and the methodology and have the courage of your convictions to stick with the trade. Over time you are going to have lots of fun! The author knows—all this happened to him.

The goal of this book is to give you a full and complete understanding of how financial markets work. Whether you are an Elliottician, moving average trend follower, volume studies practitioner, or believe in any discipline, you are only dealing with “what to do”. This book will teach you “when to do it.”

In short, you now have in your hands an incredible pattern-recognition system, perhaps the *best* on the planet! Mastering financial markets takes quite a bit of time and energy during and after trading hours. Jeff studies the cycles on the indexes every single day to know what is going on. As repeatedly stressed in this work, you will need to study these charts and your own charts constantly in order to find the right setups. It takes dedication and work, but if you put in the effort, you will find that this book will make you a better and more profitable trader, because you will be fluent in the language of the market. On my previous prediction, there is little doubt that Jeff’s achievements will most surely take him to the Hall of Fame as one of the true Market Masters of the twenty-first century. This volume deserves a place on the bookshelves of every trader and investors.

Dawn Bolton-Smith

PREFACE

The inspiration for the first edition of this book came about in 2005 and 2006. As you remember it was a bull market nobody anticipated and lots of people attempted to get short and you can't really blame them. Many of them got their real initiation into financial markets after the Internet bubble popped. All they really knew was being a bear.

Many of the people who embraced methodologies like Elliott and Fibonacci were very bearish. It worked for a couple of years and then it stopped working. Many had no idea why. Truth be told, one of the reasons seasoned traders are able to capitalize on opportunities is because they've seen prior bull and bear markets and know how to react at specific times in history. A trader won't be really seasoned until they've been through at least two complete bull and bear cycles. Traders tend to be influenced by what they've experienced. Many traders who were around in the middle of the last decade were influenced by the Internet bubble, where everyone made money but few kept it. Others were influenced by the bear and expected it to continue. Once it turned around in 2003, they were ill equipped to deal with a new bull market. The psychology of bear markets suggests traders, policy makers, and the mass crowd psychology overall will be scarred by the experience.

Compounding the problem were traders at the intermediate level who still used lagging indicators like stochastic and MACD. The problem was that the MACD divergences persisted for a long time. As you will see, many of them extended for weeks and even months. In those days many people shorted those divergences and lost a lot of money.

In the first edition, I addressed the issue by introducing the time element in technical analysis. For some people—there was an element of the trading community that was well versed in the time element of technical analysis—this was nothing new. However, there was and still is a bigger segment of the trading community that doesn't embrace the time element of technical analysis. This is known as the random walk crowd who believes that one must be invested at all times in order to capture the big moves in the markets. If there are 10 really big days a year, they claim it's impossible to time them so one must be in the market at all times. Random walk people believe *everything* that happens in the market is random.

That's not true because if nothing else, if you read the first edition you would have learned how time windows work and been able to recognize the October 2007 top which came in at 262 weeks. For months leading up to that window I told whoever would listen that an important pivot was coming up that autumn. I said it could have the potential to be the most important market turn of the decade. I was wrong. It turned out to be the most important pivot of our *generation*. The 2007 turn was the lead-in to the financial crisis and the timing of it was anything but random. In fact the two most important events of the crisis—the Lehman Brothers bankruptcy and TARP vote—both came 233 trading days off the respective tops in the Dow and NASDAQ. I've never seen anything like it.

Unfortunately, even one cycle later there were still those who didn't learn the lesson from the bull years of 2002 to 2007. As late as 2011, Euro bears (at least in the equity side) were looking for the European crisis to replicate the Lehman disaster of 2008. It never happened and here I'll show you why in terms of the pattern calculations and the psychology. If you haven't been through two bull and bear markets, I hope you'll gain valuable information from my experience.

Getting back to 2007, if you learned how to recognize an important turn and got out of the market in time, the first edition served you well. However, since the first edition came out I noticed that not all turns materialized on a Fibonacci or golden spiral time window. I wanted to know why. My study and research led me to Gann, who was probably the greatest stock market mind of the first half of the twentieth century. The fact that Gann existed and people still think markets act randomly is a dynamic I don't understand. But Gann didn't make life easy on himself or anyone else.

Imagine you purchased his expensive course back in the day. What he did was essentially come to your house and drop a 5,000-piece jigsaw puzzle on your dining room table and left leaving you to figure it out. He

wanted you to do your due diligence. It would take people years to figure out what he was talking about if they ever did. Through Gann's work, I figured out how to make our time windows more effective. That's the biggest and most important breakthrough in this new edition. I've presented it in a way that shouldn't take you years to figure out. I've boiled down the most important concepts that will get you up and running in a relatively short period of time. But it depends on you. You'll still have to study the charts. But at least you'll know what to look for.

Most of the chapters have been remodeled and enhanced. I've added chapters on Gann and Andrews, which I believe is an excellent GPS system to navigate tough-to-follow patterns. We've covered the financial crisis so you can understand what happened. It may just help you spot the next one if it ever happens. There are strategies here to capitalize on the numerous opportunities you will be afforded by financial markets. I've also greatly enhanced our discussion on market psychology and sentiment because I believe it's more important than the fundamentals.

The idea of this book is to be true to the original vision and brand of the first edition but build a bridge to the more advanced concepts that open you up to greater opportunity. While each chapter builds on the prior, feel free to skip ahead. If you are an intermediate-level trader and you have only worked with a MACD, I urge you to use the more advanced concepts in the Gann chapters side by side and see the difference for yourself. If you are more curious about the Gann timing principles, feel free to skip ahead. The idea is to understand the bigger picture of the market and then scale down to your individual trading opportunities.

Markets are as challenging now as they've ever been. Our vision here is to give you a toolbox big enough that you have one more tool than the market has problems.

■ Audience

Traders lose money for many reasons. One of the big ones is they don't recognize important turns. Not even huge hedge funds are immune. Institutions and retail traders give back huge gains. To the retail trader, it could be in the thousands while the hedge fund gives back hundreds of millions. Every market has at least one or two important turns in a year and this book greatly closes the gap so that shouldn't happen. To those of you who've wondered about the mysteries of Gann, it shouldn't take years to apply—your learning

curve will be shortened by months or even years. Those who really want to can understand the link between how the media portrays market sentiment and how it applies to where we are in the current trend. Bull markets climb a wall of worry but slide down a slope of hope. Everyone knows that but you'll learn how to interpret headlines to understand where the market is in its progression. Ultimately, those of you who want to understand how the bigger picture (the macro) works with your opportunities (the micro) will find cutting-edge ideas.

■ What's New to This Edition

We've included chapters on Gann, Andrews, median channels, and market sentiment/psychology. We've found Andrews' work to be an excellent GPS system in order to understand how trends evolve. There are instances where it's hard to even understand what the trend might be without putting a median channel on the price chart. We've included Gann range and time square as Gann himself considered this to be his "most important discovery." We've found it greatly closes the gap in our understanding of market timing since the first edition. It won't take years to learn and you'll find yourself applying these principles in a relatively short period of time.

Understanding a price chart is tough enough, but some make it more difficult as they don't consider the price action to be a representation of human emotion. We'll examine market psychology so you can better marry the current sequence of the pattern to the headlines to understand where we are in the near term as well as the long term. Greater market timing skills will open up a world of opportunity as well as save you money by allowing you to better recognize important turns.

■ Overview of the Web Site Contents

If you're interested in learning more about some of the market movements discussed in the book, you can go to the book's companion web site at www.wiley.com/go/greenblatt2e (password wiley13) and download PDF versions of six of my *Short Term Update* newsletters.

The newsletters cover the various financial markets using the methodology in this book. If there is one constant in all financial markets, it is change. However, markets always work the same way. They are like snowflakes, very similar but never exactly alike. You'll get a chance to look over my

shoulder and see how we analyze markets as they evolve. The newsletters we've picked show how we identify market turns as they evolve. You'll see how a news event like the fiscal cliff negotiations clustered with the Gann calculations to end the late 2012 correction. You'll also see how the world may have been expecting a rally based on the Osama Bin Laden news yet the markets had something else in mind. The turn in May 2011 was so important that most everything that was going up turned down and what was going down (U.S. Dollar) reversed into a major rally. News events are one thing, but markets won't turn for real unless the underlying structure of financial markets has price and time lined up.

You can also go to www.lucaswaveinternational.com for more information on Lucas Wave International.

ACKNOWLEDGMENTS

Nature abhors a vacuum. Anything worthwhile happens only due to the efforts of others. In my case, I would like to thank the following people for their efforts along the way.

First of all, a special mention goes to Evan Greenberg. Several years back, as a caller I challenged him on 1510 KFNN in Phoenix, Arizona. As opposed to getting mad, he invited me on his show for a full hour to talk about technical analysis. He's a great guy. That day, KFNN host Sinclair Noe gave me some of the best advice I've ever received in my life. He told me if there was something I wanted to do, I should just start doing it. I started my *Fibonacci Forecaster* newsletter that day. Sinclair has had me on his show many times since then and deserves credit for giving new blood a chance.

In the early days people like Gary Kaltbaum, Mark Leibovit, and Sean Balog offered encouragement that kept me going. Later on it was Yelnick who included me in his excellent blog. The fact that he thought enough of my work to compare it to the better-known Elliotticians in the field helped get it to a broader and international audience. At one point, the timing work you are about to learn as a market leading indicator foretold a time window for an important rally that could end on a specific date. When the market did turn on that date my email box was flooded with inquiries from all over the world, mostly the United States and Australia. I had no idea why until I found out it was Yelnick putting out the good word. You can still find him at www.Yelnick.tyepad.com.

One of the people who responded that day was Dawn Bolton-Smith from *Your Trading Edge* magazine in Australia. I never heard of this magazine but readers started emailing me to say that Dawn was saying nice things

about my work in her column. I soon found out that *Your Trading Edge* was a cutting-edge trading magazine on the other side of the world. Dawn has one of the greatest stock market minds in the world and she is an incredible person. I'd also like to thank Aimee Sargent for giving me my first writing assignment at *YTE* and special mention to Chelsea Reid for following through after Aimee left the magazine to pursue other career opportunities. But it was always Dawn who kept it together.

I'd also like to thank Dickson Yap at *The Trader's Journal* magazine, based in Singapore, for inviting me to write for his magazine and highlighting my work as their lead article in November 2006. Being in that magazine helped give my work an added flair.

Sometimes one has to become recognized as an expert from afar in order to get any recognition at home. After my initial exposure in Australia, it was *Futures* magazine that showed interest in my Lucas work. A special thanks goes out to Dan Collins and Ginger Szala for having enough confidence to publish my work in the September 2006 issue and I've working with them ever since.

My work is only as good as the information and data. Our early charts come courtesy of Prophet charts. Special thanks to Tim Knight, who was a great early help. He also has an excellent blog you should check out at www.slopeofhope.com.

We were also helped by Julie Craig at Esignal for the charts in the Forex chapter. Special thanks to Marty Mchale for helping on the original PowerPoint presentations for *New Tactics In Technical Analysis* as well as encouragement from Dru Johnson who kept me on track through the early process.

Since then I've developed friendships with Genesis Financial Technologies and Glen Larson in particular. He has stuck by me since the original edition came out and quite frankly this book likely doesn't come about without his continuing support. I would also like to thank Danielle Bourbeau and Kevin Riordan now of Capital Trading Group for their support.

Later on, I was introduced by Ross Beck to Market Analyst from Australia. I believe they have the best Gann software in the world. I always appreciate the support of Mathew Verdouw, Matthew Humphries, and Darren Hawkins.

Of course, a special thank you goes out to Jody Costa for adopting the first edition of this book at Marketplace Books. John Probst, John Boyer, and Chris Myers were instrumental in making the first edition not only a reality but a success as well.

This new edition never would have materialized without my clients and readers and I believe I learn as much from them as they do from me.

The biggest thanks of all goes to my family. My father has been supportive all these years. My mother was always encouraging; unfortunately, she passed away years ago. My mother-in-law, Beatrice Heffron, always offered kind words of encouragement. Bea was living in a nursing home and her health took a turn for the worse the same week I signed the original contract. The nurses at the home told us Bea stopped eating and if that didn't change she wouldn't last another week. Immediately we went to the home and shared the news. She lit up and started eating again, which amazed those taking care of her. She was very happy to learn this project would become a reality and committed to hanging on until it was released. She didn't quite make it but hung around long enough to see my name included in the distinguished roster of speakers at the 2007 Traders Library Hall of Fame Awards in Washington, DC. My wife, Jeanne, and my son, Josh, have gone beyond the call of duty, and my wife truly is my better half.

I'd also like to thank Kevin Commins and Meg Freeborn at Wiley for making me feel comfortable as well making this project happen at my new publishing home at Wiley.

I'm very grateful for the numerous miracles in my life. One of which is this new edition which I believe is really God's work. God works in mysterious ways and He provided this opportunity at Wiley. Any success that comes from this endeavor is truly from the grace of God and the Holy Spirit.

Underlying Structure of Markets

Welcome to twenty-first century technical analysis! In this work we are going to shatter myths, gore sacred cows, and finally build a better mousetrap. For the past several hundred years, technicians have relied heavily on price and volume studies as the most important factors on a price chart. Don't get me wrong, these are very important. However they do not give us a complete picture. Time studies are the least understood, yet are a critically important element in technical analysis. For this new edition we are going to include some of the work of W.D. Gann and his most important discovery. So let me say that, while we are in twenty-first century technical analysis, the roots lie in work done 80 to 100 years ago that was ignored by the majority of the trading community. Even today on the three most important media outlets that give us wall-to-wall coverage of markets, the time element is still ignored.

The first edition of this book was released several months before this pattern completed. As early as April 2007 we had been telling our regular readers at the time that a very important pivot was coming in October, as seen in Figure 1.1. The essence of the book was to teach people how to recognize patterns such as this. Had anyone recognized and understood the significance of this market turn they could have taken appropriate action to protect themselves. We revisit this Dow episode later in the book as well because I told



FIGURE 1.1 Dow Bull Market 2002 to 2007

people the turn coming in October 2007 could be the most important in that entire decade. I was only partially right. The peak of 2007 turned out to be the most important turn in our generation. It ended a five-year bull market, setting the table for the worst financial crisis since the Great Depression. The timing principles in this book will teach you how to recognize events such as these. One of the most historic was the eye of the storm created by that 262-week high. As we see, the Dow topped on October 11 and 12 in 2007. Exactly 233 trading days later in Figure 1.2, was the Lehman Brothers bankruptcy,

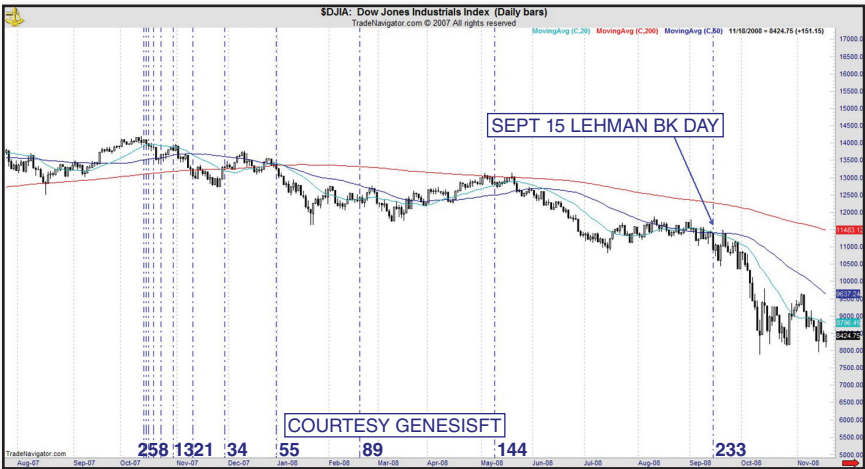


FIGURE 1.2 Lehman Event

which for all practical purposes was the initial acceleration point to the 2008 crash. As it turned out, the NDX/NASDAQ topped out on October 31, 2007, roughly three weeks later.

Roughly three weeks after that was the TARP vote in Figure 1.3, which was 233 trading days off the NASDAQ top. It may have been the first time in history that a crash materialized at exactly 233 days off one peak and went into overdrive 233 days off the other peak. If this is really the case it's because of the unique properties of the 2007 top. Most people don't know this, but this is the kind of symmetry we are going to teach you how to recognize, along with the opportunities they represent. Also they will help you recognize when an event like this is not materializing. This information was not only valuable to the trading and investing community but the average person who saw his 401(k) decimated as well. If this doesn't prove the validity of precise market timing windows, nothing ever will.

Traders comprehend targets based on price and volume very well. However most people have very little idea of the real reason why a trend changes. Do you ever wonder why a chart will hit a certain price target and linger for days until finally one day it drops? Why did it drop on this day as opposed to that day? This area has always been one of the biggest problems for traders. The first edition made a serious attempt to close that gap. This edition takes it a step further. We start here with the symmetry from the greatest crisis in our lifetime and find the market left clues. Hopefully you will continue with an open mind so you can have a greater understanding of why price action



FIGURE 1.3 TARP Event

behaves the way it does. It is a wonderful world of possibilities. But there has to be a basis for understanding patterns.

There are different methods of technical analysis. Dating back to the 1920s and 1930s, Richard W. Schabacker wrote several books that were based on Dow theory. He hypothesized successfully that certain patterns that showed up in the major averages were also relevant to individual stocks as well. His brother-in-law Robert D. Edwards continued his work. Many in our generation are familiar with the technical work of Edwards and his partner John Magee (Magee ix-xv). Together, they are considered the fathers of modern technical analysis. As we know, technical analysis is a snapshot of market participants' collective behavior. Since we are dealing with human emotions, these patterns of collective behavior are repeated over and over. They can be recognized and then utilized to anticipate future moves in the markets. These patterns can be further broken down into naturally recurring sets of waves and calculations.

The basic structure of financial markets lies in a catalogue of repeatable patterns uncovered by Ralph Nelson Elliott and refined over the years by other well-known Elliotticians including Robert Prechter Jr. The Wave Principle represents a good pattern-recognition system. These waves are like snowflakes. No two patterns are ever alike, but they all have repeatable tendencies. Inside these waves are universal calculations that are measured in terms of both price and time. These measurements are driven by Fibonacci relationships. Much of the research on the time element is derived from the work of W. D. Gann, who should be considered the founding father of modern time studies. From Gann, modern Fibonacci analysts have done an excellent job of simplifying the methodology so traders can practically use it as an everyday discipline. When you combine Elliott and Gann, you have the capability of taking subjectivity out of Elliott, which is the method's main criticism. But they are rarely used together.

The Elliott methodology relies heavily on the Fibonacci relationships to the point where one really can't use one without the other. Since the Wave Principle relies on Fibonacci calculations it would make sense that those who use Fibonacci retracements would recognize patterns in terms of Elliott Waves. The first edition of this book incorporated the time principle into the Fibonacci/Elliott ways of thinking as well as traditional technical analysis. This edition introduces the concept of price and time squaring, Gann's most important discovery. In this edition we are leaving much of the first edition's Elliott/Fibonacci work here as many of you are more familiar with it, but taking it one step further and introducing enough Gann you can use now

and it won't take years to figure out. The first edition reintroduced the Lucas series of mathematics. French mathematician Edouard Lucas (1842–1891) discovered this series, which is a derivative of the Fibonacci sequence. Lucas was the guy who gave the Fibonacci sequence its name. It is mentioned briefly in other books. It is here where this series is presented in great detail. The author is certainly not the first to present Lucas to the financial community. However, it has a greater influence on many financial charts in all degrees of trend than many realize, as we will show you, and has been greatly misunderstood and greatly understated. Lucas does not supersede Fibonacci, it complements it. According to the research presented here, you will see how often it does. The purpose of using the time dimension is to gain a very important tool in the pattern-recognition game.

A pilot wouldn't think to ever take off in a plane that was not equipped with instruments that could fly or land it in bad visibility. As challenging as financial markets are, using technical analysis as a pattern-recognition system without the time dimension is like attempting to land a plane in zero visibility.

Before going on instruments we need to navigate in good weather. Basic navigation of financial markets begins with an understanding of the Wave Principle as one underlying structure of all financial markets. The Wave Principle gives the trader a good start at pattern recognition. Those of you trained in the Edwards and Magee school of technical analysis can compare and contrast the two methodologies. This book uses the Wave Principle only as a guide because it is fairly complex and not totally reliable in real time. It's a guide because of the subjectivity of the waves. What we'll cover here in contrast to what is presented in pure orthodox Elliott books is the ability to use the Wave Principle as a GPS. We don't want to totally rely on the waves as iron trading rules for entry and exit.

When we look at the waves we can have an idea of where we are in a trend. We can also have an idea if we are in the main trend or in a move that technically corrects that trend. Sometimes a correction is so large in relation to the main trend that we really don't know if the larger trend has changed. This is one of the black holes in the Wave Principle that this book intends to clear up.

There are two basic patterns of waves. The first are known as impulse waves, which is the prevailing larger-degree trend. The other is known as corrective waves, which move counter to the main trend. Each has their own distinctive set of characteristics. In this chapter I will only cover the basics as a review of materials you may have read elsewhere. Later on, I will

show you how to recognize an impulse or corrective wave by exclusively understanding the number sequences in all of these waves.

■ Impulse Waves

Impulse waves have their own unique characteristics. The larger prevailing trend is considered to be an impulse wave and you can recognize them as they move in a five-wave sequence. They can also move in a 9- or 13-wave pattern. There are only three iron laws of impulse waves according to Prechter (30).

1. Wave three is never the shortest wave.
2. Wave two never retraces more than 99 percent of wave one.
3. Wave four does not overlap the territory of wave one.

Let's clear up some of the confusion surrounding these rules. From my experience in dealing with the Elliott community over the past few years, some think the third wave is always the largest wave. This is simply not the case. Generally speaking, the tendency is for wave three to be the largest wave, but the rule is it can't be the shortest wave. If you are counting waves and the middle wave is the smallest, something else is going on. That particular wave might be an extension of the first wave, but it isn't a third wave.

The other controversy surrounds fourth waves. According to some in the Elliott community, they do not allow for any overlap of the first and fourth waves, but I've seen many instances of where the fourth wave touches, grazes, or slightly overlaps wave one. I think you need to apply common sense to the situation. If you have a fourth wave that makes an obvious violation into first-wave territory, it isn't a fourth wave. If you've had a first wave, a retracement second wave, a third that makes a decent advance, and then you have a pull-back that grazes first-wave territory before turning up, I think you can make a case for it being a fourth wave.

Another characteristic of impulse waves is the Rule of Alternation. This is not an iron law but rather a guideline. The Rule of Alternation suggests that if the second wave retracement takes the form of a sharp, the fourth wave is likely to be a flat correction. Other ways this rule manifests itself is when the first wave is the largest wave, the fifth wave will be the smallest. In a larger move, if one set of five waves has the third wave as the extension, the next round will either have the first or fifth wave as the extended wave (Prechter 61).

Extensions are another important characteristic of impulse waves. This means that of waves one, three, or five, one will be considerably larger than the other two. Extensions are hard to count while they are in progress, and the exact count is not readily apparent until late in the move. The time cycles clear up much of the confusion and allow the trader or analyst a better road-map to determine where we are in the bigger scheme of things more easily.

There is a set of common relationships in an impulse sequence that is Fibonacci based. The most common tendency is for the third wave to be the extended wave and many times it will measure 1.618 or 2.618 times the length of wave one as measured from the bottom of wave two (Prechter 125-138). In lower probability cases, the third wave may even measure 4.23 times the length of wave one.

When the third wave is the extended wave, the tendency is for waves one and five to have a 0.618/1.618 relationship to each other. In rare cases, the fifth wave can be a 2.618 extension of wave one. Recently, we had a situation in the XAU where wave five was a 2.618 extension of wave one and wave three was not the shortest wave.

When a fifth wave extends, the most common relationship is it measures 1.618 times the length of waves one through three, with wave one being the smallest wave. When wave one extends, it will usually measure 1.618 times the length of waves three through five, with wave five being the smallest wave.

In rare cases we can have a double extension where waves three and five are both twin 4.23 extensions of the first wave.

The best way to recognize an extended wave is to observe how the progression begins. Once we get a new trend we'll have a first wave up, a retracement, and another leg up. If the second retracement violates into the territory of the very first wave in the sequence, we know by the iron law of fourth waves, that this can't be a fourth wave. It must be the start of an extension or larger move. How do we know that it is not a corrective move? Watch the volume patterns. At all times we will use other indicators to confirm a wave count. If we are in an uptrend, the down days compared to the up days will be lower volume on average. For instance, if we've been through a long down trend where sentiment became unusually negative, the trend going in the new direction will start to build decent volume days and the pullbacks will be of lighter volume. A lighter volume wave that slightly overlaps a first wave up is likely to be corrective, counter to the new trend and part of an extension going in the new direction. The time dimension will also give us a good clue as to the underlying direction and I'll cover that in a later chapter.

■ Corrective Waves

Corrective waves have their own unique set of characteristics that differentiate them from impulse waves. A wave is corrective when it moves counter to the trend. There are two types of corrective waves. One family consists of sharp corrections and the other family is considered flat corrections. You may consider triangles to be another subset, but technically they are part of the flat family.

Sharp corrections normally fall into a five-three-five pattern of waves. They are labeled differently from impulse waves and use letters as opposed to numbers. An ABC correction will contain five small waves moving counter to the trend, followed by a small sideways or triangle correction, followed by five more waves. The way to recognize these waves is they violate the overlap rule where the fourth wave falls deep into the territory of the first wave. The best way to recognize a sharp correction is they are distinguished by being very choppy. If you don't understand waves at all and have no real plan to do so, the best way to understand corrective moves is by their choppiness or lack of structure. Corrective waves are also characterized by an average lower volume than the prevailing larger-degree trend moving in the other direction. How do you know you are in a correction? Let's say we are in a bear market and begin a bounce. If the up days are on light volume it's bound to fail. It can be as simple as that.

Sharp corrections retrace either 38 percent, 50 percent, 61 percent, 78 percent, or 88.6 percent. In rare cases they will retrace 23 percent. Several years back a study was done by Rich Swannell, an Australian Elliottician. He took millions of retracements in all degrees of trend and found that 60 percent of second wave retracements fell under the bell curve between the 25 to 70 percent retracement level (34-35). This adds to the complexity, since 40 percent of the time we will have some other retracement such as the 14.6 percent or even the 88.6 percent. How one definitively defines a second wave in an impulse or a B wave in a corrective, I'm not sure.

We derive the 88.6 level because it is the square root of the 0.786 retracement level. However, moves will stop short of a full retest right on the 88.6 percent marker. For most common retracement relationships, the following happens. An impulse move in one direction will occur, and when it comes time to retrace, the first leg will retrace 38 percent counter to the trend. This would be an A wave or the first part of an ABC. A small B wave commences, and finally the C wave kicks in to take the entire retracement to the 50, 61, or 78 percent marker.

For instance, the first move counter to the main trend keeps going and re-traces 61 percent. This is a clue the move might not be corrective. Normally, A waves will not move 61 percent counter to the prevailing trend. Odds are something else is going on. What might that be? First legs that move 61 percent going the other way most often are new trends in the opposite direction, but they could also be 100 percent retests which turn out to be double tops (bottoms).

Flat corrections are also known as complex sideways patterns. Their shape is also the three-wave pattern, but it is considered to be broken down into a smaller subset of three-three-five. They are best recognized as moves where all three legs tend to equality. The A wave will move counter to the prevailing trend and likely to retrace 23 to 38 percent, then the B wave will come all the way back to retest the high (low). The C wave will drop down to the level of support (resistance) of the A wave before the prevailing trend continues.

One of the most dangerous patterns in the entire catalogue is known as an irregular or expanded flat pattern. This pattern is very dangerous because it has a low probability, yet it happens often enough to be a problem. While there hasn't been a statistical study done on expanded flats, I've been told by other expert Elliotticians they confirm about 30 percent of the time. Here's what happens: After an impulse wave in the prevailing direction, an A wave will retrace 38 percent of the move then turn back in the direction of the prevailing trend and make a new price extreme. Let's say we have an uptrend in place. The first leg down will retrace approximately 38 percent then turn back up, thus confusing market participants into thinking the prevailing trend is back in place. There is the obvious retest of the old high and when the old high is taken out, participants are induced to go long. They are wrong, as prices don't carry very far. What happens next is almost criminal. After participants take their long positions, a C wave kicks in going the other way. C waves are always the most violent moves in the entire catalogue. The C wave usually measures 1.618 times larger than the A wave that began the pattern. If for instance the A wave measured 10 points and the B wave up which took out the old price extreme takes out the old high by two to three points, what happens is a C wave will now drop 16 points, taking out the old A-wave low. The players who went long either get stopped out or taken to the cleaners. Finally, by the time the C wave measures 1.618 times the original A wave, new players are convinced this is a new trend moving in the opposite direction. They join in on the short side, but they are wrong. The correction is over as prices fail to drop another point. This time it is the

bears who are taken to the cleaners as the correct side of the market is once again the prevailing trend prior to the A wave.

The problem with trading this sort of pattern is you can suspect it, but they only work out about 30 percent of the time. Unfortunately, the only time we can really recognize an expanded flat is when they are complete and in the rearview mirror. Sorry, this isn't a game for children. The good news is we can smoke out these patterns more readily by adopting the methodologies uncovered in this book.

■ Triangles

Triangles appear in the fourth wave of impulse moves and B waves in corrective moves. The implication of triangles is they are the next to last move in a pattern. What makes a triangle so complex as part of a fourth wave is that, by nature, fourth waves are difficult to count. Consider a third wave that is usually the most powerful move in an entire pattern. The third wave generally includes the point of recognition where all participants realize the trend is up. Casual participants such as the general public begin to get interested.

At some point in time, the third wave comes to an end and sentiment becomes one of surprising disappointment. Professionals begin to take profits as they sell to latecomers. However, there are still enough buyers to keep the trend alive. A triangle mostly signifies a tug of war for dominance between bulls and bears. As fourth waves are difficult to count, we don't realize we are in a triangle until at least half the pattern is already developed. Let's say we are in a bull market. As wave three ends and there is a drop, participants erroneously assume a new bear market. The first wave down ends prematurely and participants erroneously think it is an automatic continuation of the prevailing bull trend. However, there will still be another drop and those participants who are less convinced drop off. Overall the battle between bulls and bears continues until the triangle completes.

The two most common types of triangles are contracting and expanding. There are a few important guidelines in identifying a valid triangle. In contracting triangles, the five-wave sequence will have at least two waves going in the same direction that have a 1.618/0.618 relationship to each other. That means that either A and C or D and E will have that Fibonacci interwave relationship. The tendency for expanding triangles works the same way, except the waves get bigger as the pattern progresses.

The mistake most Elliotticians make is confusing the triangle with the complex sideways or expanded flat pattern. What happens is the alleged triangle develops most of the way, but blows up near the end. Here are some guidelines to prevent that from happening:

1. Realize the triangle is the next to last move in a pattern. Chances are small you'll see a triangle confirm early in a trend.
2. Always look for those Fibonacci interwave relationships discussed above. If you don't have those relationships, the odds are the triangle is not going to confirm.
3. A triangle has to have the look of a triangle. Elliott as well as Prechter state the most important aspect of any wave count is that the pattern has to have the right look.
4. This one is original to this work. The time bars usually confirm the pattern. This is not an iron rule but rather a strong guideline. Most triangles will finish in the right number of Fibonacci or Lucas time bars.

I have found that triangles will complete in 47, 55, 76, 78, or 89 bars on one of the intraday time frames. As you can see this is a mixture of Lucas and Fibonacci. The time frames followed here are 1, 5, 15, 60 min, and then daily, weekly, monthly, yearly.

Some contracting triangles contain a concept called *Thrust Measurement*. In certain instances when the triangle appears in the fourth-wave position we can measure a perpendicular line from where the A wave begins down to a trend line extended into space as a potential target for the completion of the fifth wave. There are examples of this later in the book but let's say the width of the triangle from the origin to a line drawn perpendicular straight down measures 15 points. Let's say the third wave ends with XYZ stock at 60 and the A wave bottoms at 52 and the triangle finally completes at E wave 55. The mistake many Elliotticians make is to assume the thrust measurement would be the length of the A wave, which is eight points. However, when we back up the lower trend line to the point in time where the A wave started, we find the trend line extends back into space to a point on the chart near 45. Seeing the triangle completed at 55 we can then project a final fifth wave target at 70.

■ Diagonal Triangles

Diagonal triangles are considered to be impulse waves and are the only waves that allow overlap between the first and fourth waves. I think the reason diagonal triangles are considered to be part of the impulse wave family is you

see them so often as fifth waves as part of the larger overall trend. Also, they would not be considered as corrective waves because they are so often the final wave of a pattern. Since there is much overlap they are confused with corrective waves. Eventually, the third wave will sprout above resistance, but as the move gets higher you can determine a wedge shape with converging trend channel lines. The other reason they are confused with corrective waves is each leg is a three-wave pattern and has the look of an A wave.

Most diagonal triangles appear in the ending position but in rare situations they can be seen in the leading first or A-wave position. The difference between the two is the ending pattern is three-three-three-three-three and the leading wedge takes on the shape of a five-three-five-three-five. In the leading position, the wedge pattern has good volume, while in the ending position volume is waning which is indicative of the end of a move.

■ Sentiment

Each particular wave has its own range of emotions. Once a new trend starts, the crowd has been conditioned by the old trend. At the end of a bear market, psychology is such that the masses have been beaten down for years. For those of you who go back to the 1970s, sentiment was so bad that the major brokerage houses were laying off a good percentage of their sales staffs. This is normal behavior in a recession, but in this case reached the point where they were even discouraging newcomers from entering the field. People were so down on stocks that even economists and other industry experts had little hope they would ever take off again. By the end of a bear market, most participants are convinced price action is a bottomless pit that will go on forever. That is how you can recognize a true bottom. Tops are at the other extreme. Recall that by March 2000 everyone was convinced the NASDAQ was going to the moon.

A new bull market starts and is met by doubt and disbelief. Participants are of the opinion the new move up is just a correction, and the larger degree trend will return to set another new price low extreme simply because the prevailing trend has already done so for years (or whatever degree of trend we are considering). Let's go back to the old bull market that ended in 2007 and go through a progression of how each wave did its job. As we know, the old bull market was fueled by a real estate and lending bubble. It's beyond the scope of this book to preach the morality of what happened, but we all know people bought houses they couldn't afford and regulators

allowed it to happen. It was the ultimate smoke and mirrors rally. We can all agree that euphoria ran rampant. Here in Phoenix where I live, in July 2007 real estate agents started seeing the pace of the deals coming in slow down at first, but ultimately come to a grinding halt. The market peaked in October and by that time everyone realized the housing industry was experiencing a slowdown. The topping process that the Elliott community calls the fifth wave did its job with the euphoria and complacency. The prevailing sentiment of the day was the media anticipating a soft landing for the economy. In the first wave of new bear markets it's hard, if not impossible, for market participants to project massive change, not only in the stock market but the economy as well. With such optimistic projections, anyone who steps outside of the box is viewed as insane to buck the crowd. This is why the early phase of a new bear market is met with denial and complacency. By 2008 it became fairly obvious there was going to be no soft landing. Different media outlets released reports that suggested there were to be hundreds of thousands of mortgages that needed to be reset by late 2008. What they meant by that was that the interest-only loans that carried balloon payments needed to be refinanced or they'd blow up. At the same time, Fed Chairman Ben Bernanke told the public that the subprime mess would be contained. This sentiment is representative of early-stage bear markets. This could be the first wave or early third wave.

By the summer of 2008, Mr. Bernanke was invited to speak to the Senate banking committee, where members finally held his feet to the fire. Not only was the subprime mess not contained, but also the economy seemed to be getting worse. This was the point of recognition. At that the SEC placed a ban on naked short selling and for a period of time they banned short sales of banking stocks. Eight weeks later Lehman Brothers collapsed, as did AIG, and the real crisis was on. Over the year, complacency turned into concern, which became panic. Panic became serious fear that the financial system would fail and by the time it ended, the feeling was that the market was going down forever and could never turn up. That was March 6, 2009, and became known as the *Haines Bottom* because the late Mark Haines called the bottom to the day.

By the time historical financial institutions failed, the bear waves had done their job. Bear markets won't end until there is blood in the streets. In terms of Elliott/market sentiment, what is the difference between the third and fifth wave bottom? We are generalizing by categorizing by Elliott standards, but the difference between a late-stage bear and the end is that in any bear, fear levels rise and can keep going for a period of time. However, there

always is a day where fear rises to the point where it feels like the market is going to drop forever and there is no chance of a turn. When that happens, markets are usually at fifth-wave bottoms.

So we've come full circle. We've come from a place of extreme euphoria at the old fifth-wave high of the bull to that end-of-the-world feel at the fifth-wave bottom of the bear.

But what about that new bull market we discussed a few paragraphs back? Yes, it is met by doubt and disbelief. Our generation, which knew only of Internet and real estate bubbles, now bore the scars of a financial system that nearly went off the cliff. Years ago Prechter stated that for the generational bull market to end, people would have to give up their seemingly insatiable appetite for stocks. I always wondered how that could possibly happen. Enter Bernie Madoff. In the latter stages of the bear market, it took the former head of the NASDAQ implementing the biggest Ponzi scheme in the history of Wall Street to bring the place to its knees. In February 2009 I spoke at the New York Traders Expo and one day had lunch at an upscale deli in midtown Manhattan. I was sitting at the counter and they had CNBC playing in the background. As luck would have it, just at that time the Dow was breaking below its Internet bear market low from 2002. For a technician this was a fairly important event. There were two well-dressed businessmen sitting next to me and when I brought the Dow event of breaking below the old low each looked at me and said, "Why do you care? We are not interested in the stock market anymore!" There it was. I was in midtown Manhattan and an island that used to be stock market crazed had finally lost interest. These people were now scarred by the experiences of the financial crisis.

Life goes on and the market did recover. But now nobody talked about soft landings anymore. Day after day the market climbed. Day after day, guests on the business channels were asked if they thought there would be a double-dip recession. This is a classic wall of worry. Thoughts of soft landings were replaced by worries about new recessions. From this complete cycle you can get an idea of where we are in the wave structure based on the prevailing psychology or sentiment.

A first wave also means lots of short covering, as there isn't real buying. There's too much fear. All the bottom turn did was bring relief. Ultimately we get a retracement that has a technical purpose of testing the low. That does not mean it has to go all the way to the exact bottom. The sentiment of second-wave retracements is "Here we go again." You can recognize second- or B-wave retracements by their re-creation of the mood in the final wave of the old trend (Prechter). People do believe that a retest of the bottom is going to

break through. But how can we tell the difference between a move off a bottom and just a bear market rally leg? Participants in a bear market rally believe we are in the early stages of a new bull market. In the early phases of a new bull market, as we just saw, almost nobody believes it is a bull market.

Okay, we've had our retest or technical retracement and participants come to discover the sky isn't falling. When all of the technical requirements for a second or B wave are met in terms of price and time, there is only one way for prices to go and that is to a new extreme in the new direction. In third waves, once we get near resistance or first-wave high sentiment indicators are still mostly negative, as participants believe we are very close to a market top. The truth is we are still much closer to the bottom than we are to the top. In the last great bull market of the 1980s, during much of the early 1980s up to late 1985, participants were convinced we were near a top. It's hard to imagine today, but when the Dow was between 1000 and 2000, people thought that was the ceiling. Since sentiment is negative, the implication is there is plenty of money on the sidelines that hasn't been put to work.

Where does this money come from? Realize that in the early stages of new bull markets the economy has bottomed and confidence starts to come back. There are generally two phases to a new secular market. While lots of people believe the bull market started in 1982, the real bottom was in January 1975, which was before stagflation, Jimmy Carter, 20 percent interest rates, or the Iranian hostage crisis. A new bull market was here, but nobody realized it. After a long period of time without a new market low, prosperity slowly comes back. Bull markets are characterized by a new set of companies with new technologies. As time goes by, people start becoming optimistic about their future prospects and they start investing their earnings. At some point, momentum kicks in and more people finally realize the trend has indeed finally turned. This is usually at the midpoint of third waves and is considered to be the *point of recognition*.

As we know, third waves will extend in some Fibonacci relationship to the first wave. Market conditions, economic factors, demographics, and technology will determine the size and scope of the cycle. A third wave usually extends to 1.618, 2.618, 4.23, or 6.83 times the length of the first wave. In certain instances, the third wave can even be a double 4.23 extension. How else can Dow 2000 in the early 1980s turn into Dow 7000 to 11000 by 1998 to 2000?

By the time we are beyond the point of recognition the easy money crowd starts to get involved. People who have no interest or knowledge of

the markets get interested. When cab drivers make money in stocks, we are getting late in the move. When everyone at the cocktail parties talks about the stock market, it's getting late. By now, sentiment indicators have turned positive and reach bullish extremes. When certain price and time targets are met, the third wave ends. We saw this in 1999 and again in 2006 and 2007.

The prevailing sentiment of fourth waves as discussed previously is one of surprising disappointment (Prechter). Fourth-wave consolidations are very complex. According to Bill Williams, another well-known Elliottician, if you wake up in the morning and have no clue about the wave count, odds are it is a fourth wave. Fourth waves are characterized by many cross currents. There are those who are convinced the bull market is over. Others are attempting to buy the dip. In the end, the pullback is of a lower volume than the third wave up and lacks the conviction of a new trend going the other way. At some point, selling pressure dries up and the fifth wave kicks in.

Fifth waves are characterized as being weaker technically than the third wave, yet sentiment goes to new extremes. Not only are the cab drivers becoming day traders, but even grandmothers are pulling the trigger. Many are total novices involved for the first time. Technically it is a pattern where all divergences develop. The first one is the advance/decline market internals are not as strong as the third wave. Fewer and fewer stocks are participating in the move. There is a divergence as the move powers on, but with lighter volume. During earnings season, stocks are already priced to perfection and if they don't meet inflated expectations they are generally taken out to the woodshed. However, since it's still the fifth wave, prices tend to recover but not with the power and conviction seen in the third wave.

As the market powers even higher despite bearish divergences, weaker volume, or market internals, this convinces everyone that prices will keep going higher. Why? Because the mood becomes a self-fulfilling prophecy. By the end of a fifth wave, proof of the trend is seen as, despite the early signs of trouble, the market keeps going. We get a few lone voices of reason suggesting that trouble lies ahead. In 2007 such voices were Douglas Kass and Peter Schiff. But they are generally ignored and looked upon as foolish. At or beyond the top, anyone who views a market pullback as anything more than an economic soft landing certainly has their sanity questioned. Finally, participants are convinced that prices can only go one way. A day will come where the talking heads on television will announce that nothing is standing in the way of the markets powering even higher. It feels like the market can and will go up forever. That is when the move is likely over. At bear market bottoms, it is just the opposite. People see the market as a bottomless pit.