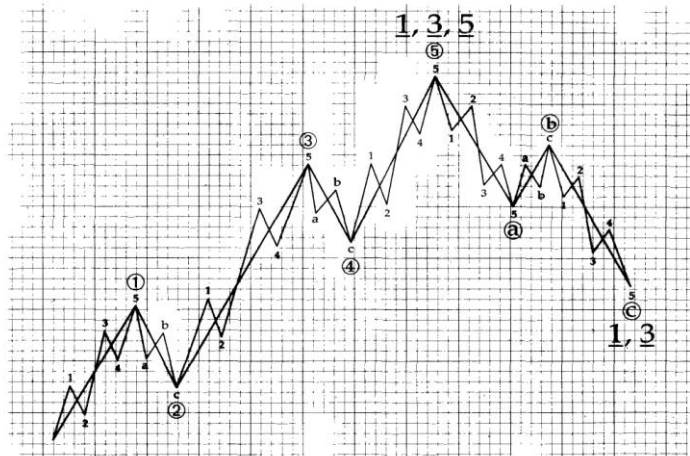


Elliott Wave Principle



Applied to the Foreign Exchange Markets

 The Wave Analyst

Robert Balan

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BBS Financial Publications

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Foreword

The modern foreign exchange markets date from the early seventies and the eventual breakdown of the Bretton Woods and Smithsonian Agreements on fixed parities. As from 1973 the currencies of the major “free” industrialised economies began to float freely against each other. For the rest of that decade the forex markets were in what is best described as their juvenile phase of growth; full of uncertainty and inexperience with varying degrees of liquidity. The markets were dominated out of London and New York whilst the Far-East was a distant third. In general, investors and corporates considered the market to be highly speculative, somewhat illiquid and definitely irrational.

With the arrival of desk-top computing power in the early eighties technical analysis and chartism began to make a significant appearance in the Forex markets. The initial reaction of most seasoned traders then, and even by many now, was one of scepticism. These market were considered to be highly unpredictable. The need was for experienced and proven dealers; the thought of technical models that could rationalize the market price action and regularly predict with any accuracy the future movements could not be taken too seriously. This somewhat egotistical approach was in hindsight made more out of ignorance and perhaps with a touch of arrogance rather than from any real understanding of the markets' dynamic fundamentals.

Over the last eight years much has changed. The forex markets now operate fluidly on a 24 hours a day basis from the Monday morning opening in Wellington, New Zealand, until Friday's evening close in New York.


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More significantly the U.S. stock exchange crash of October 19th, 1987 demonstrated the legitimacy of the forex markets to be considered not only as the largest, but also one of the most liquid and transparent markets. Amongst banks, investment houses, corporates, institutional and private investors there is now an overriding awareness of the need to dynamically manage their currency exposure and that this management has to be on a continual basis. As this awareness has grown, so has the demand for increased research and analysis into the dynamics of currency movements. It was from this development the laws of probability and market psychology began to be applied, it is these parameters that form the basic framework of chartism and technical analysis.

The “touch” of the successful “spot” forex trader is in his ability to rapidly rationalize market movements and in the speed of the implementation of those trading decisions. These stem from the trader's experiences of repeated market patterns and the inbred feeling of having been there before. In reality the trader is individually and independently analysing the market place as to whether a currency is “overbought” or “oversold” (price action), what the potential for a market move is (risk/reward ratio) and the likelihood of such a move (probability). *These are the main foundation blocks of technical analysis.*

Chartism as a part of technical analysis enables a rapid visual analysis of any price action, placing it in perspective of the current market trend. This allows for a relatively easy and early recognition of important trading levels. Most dealers now accept *resistance* and *support* levels

derived from analysing chart patterns, but many do so without appreciating the fundamental concepts behind them. This latter approach is a somewhat fragile one on which to base trading decisions.

Trading decisions using chart patterns and price projections should always be supported by some form of probability analysis on the potential for such a move and also its likely timing. This combination allows for a strong and reliable technical support of trading and investment decisions. It is from this that the decision-maker should then look for the catalyst event that could trigger the movement. The Elliott Wave Principle as with technical analysis in general can not predict economic announcements, but it does recognise with some exactitude the state of the market and the probable price action in response to those statistics or decisions.

The Elliott Wave Principle is exactly that, *a principle*, but it does endeavour to place the overall market move as well as the short-term wave structure into an order. The primary objective is to establish the presence of the most destructive and thereby the most profitable wave formations, be they a 3rd Wave or a C Wave. The application of the Principle is not infallible but when its applied correctly it is overpowering in its market interpretation as well as its success. Above all the Principle accepts implicitly the technical chart patterns used by other systems whether terminal or consolidatory. It is not an alternative, but it places chart formations such as a "Head and Shoulders" structure into a larger order of events and a wider perspective.

Turning to the author, Robert Balan, I have over the last few years seen his concepts take shape, reach a maturity that in the forex market is remarkable. His success rate both in the strategy and the timing of trades have given rise to hundreds of avid readers throughout the trading world to his published daily market commentaries. One either embraces the tools that can underpin trading decisions or ignore them at one's own peril. The



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success of Robert's commentaries clearly demonstrate the respect his analysis commands. Above all, he has the humility to accept a flawed analysis as a fact of life. This book endeavors to show the guidelines and the values that he has developed over the past 12 years in the practical application of the Elliott Wave Principle to the foreign exchange markets. Some of these insights and guidelines are probably unique to Robert's interpretation of the Elliot Wave Principle and offer the fact that principles and theories are not inviolate but will over time be advanced from their original concepts.

Michael Salt.

Acknowledgements

A year prior to the publication of this book in early 1989, I began to seriously think of the possibility of writing a “user friendly” book on the Elliott Wave Principle. Every now and then, Michael Salt, my boss at Lloyds Bank in Geneva would urge me on, as did some friends in the foreign exchange field.

Mike Salt has since then left to become Director of Foreign Exchange at Swiss Bank Corporation in London – but not before making sure that the book’s manuscripts were on to the final draft. Since he was largely responsible for pursuing this project, he deserves part of any success – or blame – that the book may receive. I also decided to get even by asking him to write the Foreword, which he has done.

Some close friends in the forex field also extended a lot of “moral support” when the going became tough. Franklin Sevilla, Tony Garcia, and Don Haines were especially helpful in this regard.

I also received a lot of feedback from readers of my Reuters and Telerate daily commentaries, which made more convincing the suggestion that a “how-to-do-it” manual of wave analysis has a contribution to make. For those fellow Elliotticians, my sincere thanks.

Frankly, the thought of writing this book was intriguing, but I wondered whether I would find the collaborators who would translate the concepts into required illustrations, diagrams and charts. Marco Bernasconi,

the ultimate wizard in desktop-publishing, conducted mouse, Pagemaker and Macintosh in a symphony of text and graphics that rates a standing ovation.

The seed of the idea for this book was sown by Giacomo Ivaldi, my boss at Lloyds Bank, Hong Kong. Giac also contributed valuable editorial advice. Hans Moerkerken, a colleague at Lloyds Bank, Geneva helped in checking for factual errors in the book.

I also wish there were some way to thank the numerous individuals who have played a role in shaping up the ideas that eventually found their way in the book. To those people, my thanks and appreciation.

Robert Balan.

Organization of the book

The book is divided into eight parts. **Part I** is a general introduction to Elliot Wave analysis and the foreign exchange markets. It outlines the difficulties and possibilities inherent in wave analysis. A brief background is provided.

Part II describes the fundamental concepts of Elliott Wave Analysis. The basic patterns, and their more common variations, are provided in easy-to-compare illustrations. Provided too, are the most common pattern combinations found by the author in real-time analysis over the past twelve years.

Part III is devoted entirely to deviations from the normal wave relationships, both in terms of ratio, and in form. Examples of substitution of simple patterns by complex ones are also shown in never-before-published illustrations.

Part IV outlines the most common practical guidelines and other observations that should be of value to anyone who is just starting out on wave analysis. Even veteran wave analysts may find the insights provided in this extensive body of tips and comments useful and informative.

Part V also provides practical tips to the wave analyst who finds the going rough - especially when he or she is stuck with multiple scenarios and has trouble defining the options available.

Part VI outlines a typical Elliott Wave Trading Plan from the initial stages of the traditional five-wave sequence, through its final corrective stages, illustrating various optimal trading strategies.

Part VII provides real examples of trading situations written by the author. Daily comments have been assembled into case studies which can be applied for future events.

Part VIII concludes with some insights into the future of wave analysis, including the study of chaos and disorder, the application of fractals and recursive patterns, and other recent works on non-linear dynamics.

Part I

Introduction

Can anyone parlay a \$10,000 capital into \$1,000,000 in a year? In five years? If so, how do you do it and what are the risks involved?

In the foreign exchange markets, where the value of the world's currencies are constantly fluctuating, there are currency movements frequent enough, wide enough and often enough to permit this, and more. Such exceptional results are not impossible. Methods and techniques presented within this manual, properly utilized, put an average yield of 5 to 10 per cent per month well within the realm of possibility. Compounding profits at this rate would yield \$1,000,000 on \$10,000 capital in little more than 4 years.

While these claims may seem excessive to the reader, they are not impossible. However, they do imply the capability to do very regular trades that have corresponding high rate of success. The basis of that capability to recognize trading opportunities, together with the essential techniques to win, are the main elements addressed by this manual through the use of the Elliott Wave Principle.

The forex markets attract many different types of "players": those with corporate needs to satisfy or to hedge, banks and investment houses performing the role of market-makers, and institutional and private investors as well as speculators. The currency markets, as a consequence of their enormous size and liquidity, now provide 24-hour trading capability. This world-wide feature of the currency markets offers a host of opportunities

that are of a constantly changing nature. Substantial sums of money can be made –or lost– literally in a day. These large enough movements and negligible transaction costs combine to allow very short-term trades, transactions that are initiated and consummated in as short as 24 hours. If taken as often as opportunity arises, these shortened trades can add up to an enormous profit potential. This is a fact that is of prime importance to those who can recognize those opportunities and who possess the techniques needed to succeed.

The key to any lasting and successful trading strategy lies in the ability to “time” trades, both in entering into and exiting from the market place, a situation which precludes the traditional “fundamental” method of analysis. Given a timing capability, a whole new concept of profit maximization becomes possible: improved timing permits shortened trades, which in turn allows the principle of compounding to take effect.

Assuming an accuracy in transaction timing, one will always generate more profits from regular short-term trades rather than from infrequent long-term ones. The impact of frequency and length of trading interval on profitability rests largely on two phenomena that holds true in the forex market. One is the wave-like nature of forex movements and the opportunities it presents. The other is profit compounding. After each successful trade, more funds are available for investment than before. The nature of compound interest law is such that capital growth is overwhelmingly dependent upon the frequency of compounding that takes place. In essence, how short the trade intervals are.

It can be seen immediately that the spigot of this cornucopia is labelled *Timing*. Over many years of experience, I have still to see a method that has consistently beaten the Elliot Wave Principle for its accuracy in the timing of market turns, which it does sometimes with mind-boggling accuracy. When forex movements are tracked in hourly and in 10 minute “snap

shots”, the wave analyst is figuratively on top of the market, with a panoramic view of the unfolding battle between the forces of supply and demand. With that kind of perspective, the analyst is sensitive to the most subtle change in market dominance by any of these forces.

A personal experience will illustrate this point. I still remember with some satisfaction an event in early June 1986; the dollar was surging in the Forex markets after the “G-5” initiated collapse of the Dollar had reached the Japanese’s initial threshold of pain. It was almost lunchtime in Europe; the 10-minute chart for the dollar/mark was going nowhere in a seemingly random manner. Two weeks before, the dollar had survived a downward test of the 2.15 lows, followed by a rally of more than 15 pfennigs amidst mounting speculation that the worst for the buck was now over. To wave analysts, however, the rally was the ultimate phase in a consolidation pattern known in Elliot Wave terms as a “flat correction”. This was to be the last hurrah for the dollar – a massive trap for the dollar bulls when the pattern terminated and the buck resumed its underlying bearish trend.

I was paying particularly close attention to the market patterns because earlier I had stated in my daily commentary pages on the Reuters network (LBGB/LBGC) that we were expecting the resolution of the large “flat” pattern at anytime during the next 24 hours. In anticipation, I had left half of the screen space vacant with the promise that we would inform readers when we saw evidence that the rally was over. I was ready to break off the watch to go to lunch when suddenly, the 10 minute pattern resolved into a “horizontal triangle” a very reliable indicator that precedes the final phase of an existing movement. I watched in fascination as the final “thrust” accelerated to the upside. It was the signal we had been waiting for, a conclusive evidence that the 3-month consolidation phase was over. It was time to turn into a dollar bear once again. I hurried to type a take-profit-and-reverse call over the Reuter’s network. Barely 20-minutes later, just 5 points shy of the theoretical turning point at 2.3430, the dollar began to


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nosedive. An hour later, it was down two pfennigs; it was 16 pfennigs lower ten days later.

A fluke? A coincidence? Or was it a “self-fulfilling” prophecy?

It was mainly to prove that a performance such as this one was not a fluke, not a coincidence, and definitely not a self-fulfilling prophecy that this manual on how to use the Elliott wave principle was written.

This manual does not aim to explain the rationale for the Elliott Wave Theory, nor teach its basics. Several excellent books* on wave principle fundamentals have been written by highly acclaimed authors, so I do not intend to cover this well-beaten turf again. The main purpose of this manual is to show how to use the principles laid down by Ralph N. Elliott in the early 1930's. To my knowledge, there is no book written as yet on how to use these principles on a real-time basis. I hope this manual fills this obvious need.

In going through the trade recommendations in Part VII, I have attempted to take the reader through the deductive reasoning process. I have also described the drama that accompanies every success or failure; the reader will be there to share an insight as we weigh which of the probable patterns will be likely to occur. We will puzzle over a price activity that momentarily does not make sense. And I hope I have done descriptive justice to the burst of joy when a move performs as predicted, and to the philosophical resignation when something goes wrong. For even with the knowledge that no one is infallible, the acceptance of a flawed analysis is

* I especially recommend the *Elliott Wave Principle* (New Classics Library, 1978) written by A.J. Frost and Robert Prechter Jr., which is a “classic” and considered to be the “bible of the wave principle”. Also recommended is *The Major Works of R.N. Elliott*, edited by Robert Prechter Jr.; another must is *The Elliott Wave Principle Applied to the London Stock Market* authored by Robert Beckman.

perhaps the most difficult lesson to learn in Elliott Wave Principle.

In my own opinion the biggest obstacle to successful trading is in the failure even to recognize and accept that mistakes will be made, that losses are a fact of life and as such must be accommodated. The analyst or trader who does not accept this, or for that matter does not make provisions for errors, is headed for disaster. Errors are an unavoidable part of Elliott Wave analysis due to its all-encompassing nature. It is not the occurrence of these errors, but their significance, which makes the difference between success and failure in trading the forex markets. Analysts who are stubborn and fail to apply money management techniques may make a lot of money at times, but when they are wrong, they give it all back, and then some.

That is where the real utility of the wave principle lies. The nature of pattern analysis provides for a built-in method for cutting losses short, or allowing profits to run, while also providing ways to enter into and exit from the markets at extremes in price. Even at times when successful forecasting eludes the trader, wave analysis has proven useful in giving a perspective of the market movement. Even if one's forecast is off the mark, the exercise is helpful in providing a framework against which to judge later market action. When the market strays from the forecast significantly, it is time to re-evaluate.

The "best of both worlds", that is what the wave principle promises in terms of profit build-up and risk control. Used properly, the Elliott Wave can provide the analyst with a quantitative and a qualitative measurement of the risk involved in any specific trade in its corresponding time horizon.

The forex markets are so extremely volatile so that for any trading method to survive for long, it must be able to precisely measure profit objectives against expectable losses; at the same time, the method must also be able to define the time parameters within which the trades have to take place. This is a tall order, but the patient reader will soon find that the



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Elliott Wave Principle can perform this multi-faceted task admirably.

The question asked by some people who saw the preliminary book materials was this: “If such fantastic results can be gained in the foreign exchange market, why isn’t everyone doing it?”.

There are several reasons for this, but a few stand out. These can be categorised as: *effort*, *knowledge*, and *psychological barriers*. Any goal this worthwhile requires effort – lots of it. One of the complaints levelled against the wave principle is its “complexity”. “Too many exceptions to the rules”, says a top-notch analyst who openly admitted to Barron’s magazine that “it (wave principle) has defeated him”. This observation was pooh-poohed by a young acquaintance who claimed that “wave analysis can be done by anyone who can count from one to eight”, in allusion to the total number of waves in a bull-bear cycle. The truth probably lies in the middle of these two extremes.

The Elliot Wave Principle has only three rules and less than two dozen guidelines as its framework. To make it work, the analyst has to see to it that none of the rules are violated; the ensuing analysis should be in accord with as many of the guidelines as possible. Charts should be kept and labelled or “counted” periodically. An analogy is likened to learning to ride a bicycle; you can read about it, but the only way to learn is to actually getting on the machine and try to keep from falling flat on your face. The message: you will only learn by actually doing it.

In addition, most foreign exchange players – amateur and professional – do not have the kind of analytical background or the inclination needed to shear through rumor, opinion, and myth to get at the basis of how the forex market unfolds. And finally, even with knowledge in hand, many market players, especially amateur individuals, lack training in the emotion-logic balance required for success. And this could be the most difficult barrier. Too often for comfort, I – even with the benefit of long and

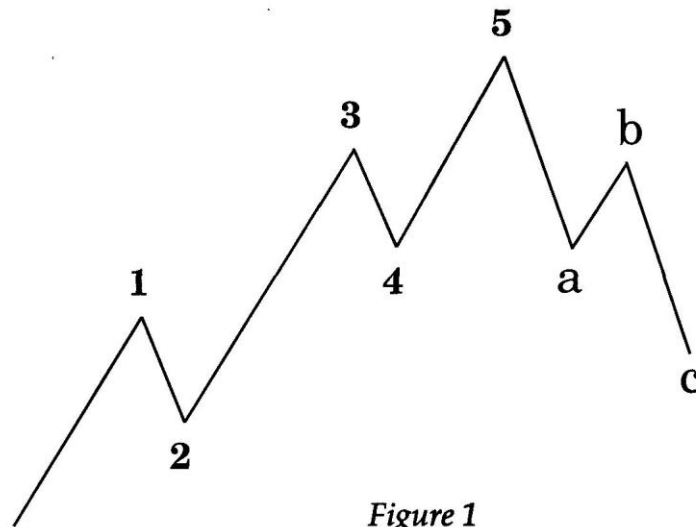
deliberate training to be objective – still succumb to the disease called “opinionitis”. I sometimes have difficulty in believing what I see in the wave patterns, especially in the face of seemingly contrary “fundamental” situations.

Nevertheless, all these obstacles can be overcome. One purpose of this manual is to provide the framework for understanding why the forex market does what it does. Hopefully, my endeavours with the wave principle will encourage the reader to do his or her own research with 10–minute and hourly fluctuations of the forex market until he or she too will discover the intricate beauty of the universal laws codified by R.N. Elliott in 1934. It will not be an easy road. Learning to ride the forex “waves” can be likened to a Hawaiian surfer. The bigger the wave he tackles, the more chances of a “wipe out”. But the occasional water dunk is the price one has to pay to be a master of the sport. Pursuing the analogy, the more often one goes out to sea to meet the “monsters”, the more one learns how to “read” the characteristics of each incoming wave.

For no book, not even the most detailed and most descriptively vivid, can help the analyst who does not help himself. The methods mentioned here in this manual are yours only if you care to apply yourself with sufficient intensity. There is a lot of truth in the adage that “the worst enemy of the trader is himself”. In applying the wave principle, no less than rigorous observance of rules and guidelines is required. Sloppy thinking will be swiftly penalized where it hurts most : in the pocket. For people looking for short-cuts to success, this manual will be a disappointment. But for those who are willing to spend time and effort to learn, a new dimension to your trading practices will open up to you.

Part II

The fundamental concepts



- Figure 1*
- 1) A major movement unfolds according to a pattern of five waves, after which the entire sequence is “corrected” by a pattern of three waves going in the opposite direction (as in *Fig. 1* above).
 - 2) The “numbered phases”, formerly called “cardinal waves” by R. N. Elliott, are now known as “impulse waves”, a term popularised by R. R. Prechter and A. J. Frost. The “lettered phases” are now known as the “corrective waves” or sometimes as simply “threes”.

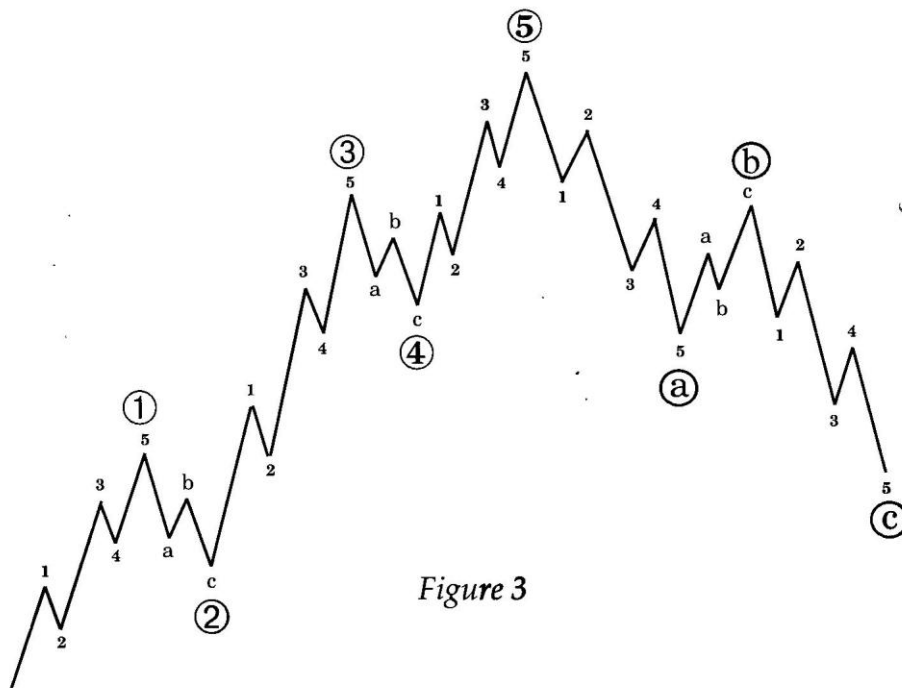


Figure 3

- 6) The basic rhythm of “fives” corrected by “threes”, as well as the various rules and guidelines of the Principle remain constant regardless of the time unit used as reference. Patterns in hourly charts are “counted” in the same way as weekly or yearly charts.
- 7) The time scale of wave patterns is less important than the “form” of the patterns themselves. Waves may be stretched or compressed but the underlying forms remain constant.

8) There are 3 rules which are considered “unbreakable”:

- i) Wave 2 will not retrace past the starting point of Wave 1. If the impulse waves are going up, wave 2 cannot go below the origin of wave 1 (refer to *Fig.4*). If the impulse sequence is going down, wave 2 cannot exceed the peak from whence wave 1 originated.
- ii) Wave 3 can not be the shortest of the “impulse waves” (refer to *Fig. 5*). Wave 3 is not necessarily the longest, but it is almost always the longest.
- iii) In an upward sequence, Wave 4 cannot overlap the peak of Wave 1. In a downward sequence, Wave 4 can not rally above the bottom of Wave 1. If any of these combinations is violated, the particular sequence is not impulsive in nature (refer *Fig. 6*).

Figures 4, 5 and 6 illustrate the “wave counts” disallowed by the Principle.

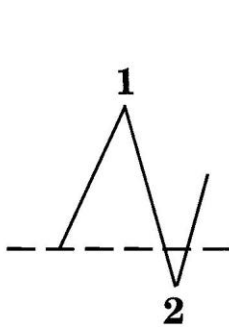


Figure 4

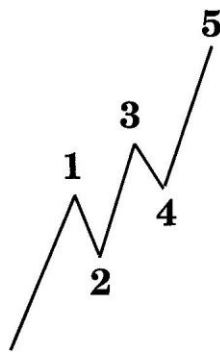


Figure 5

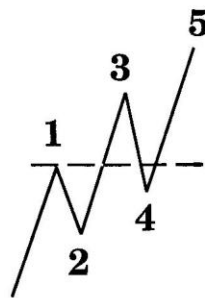
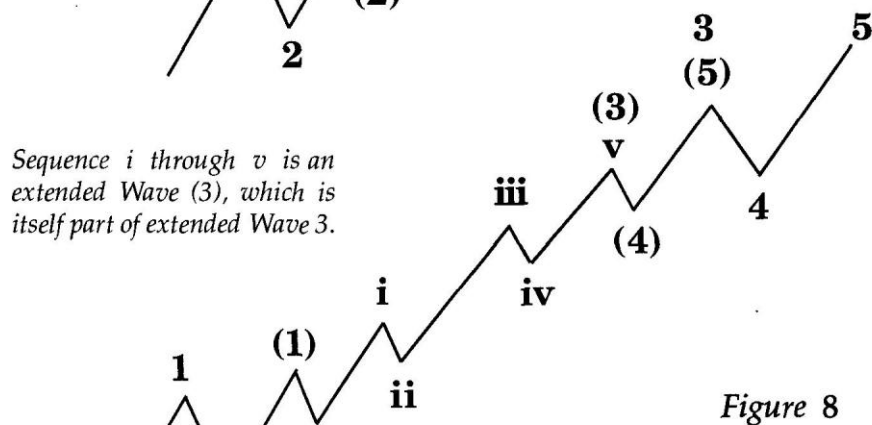
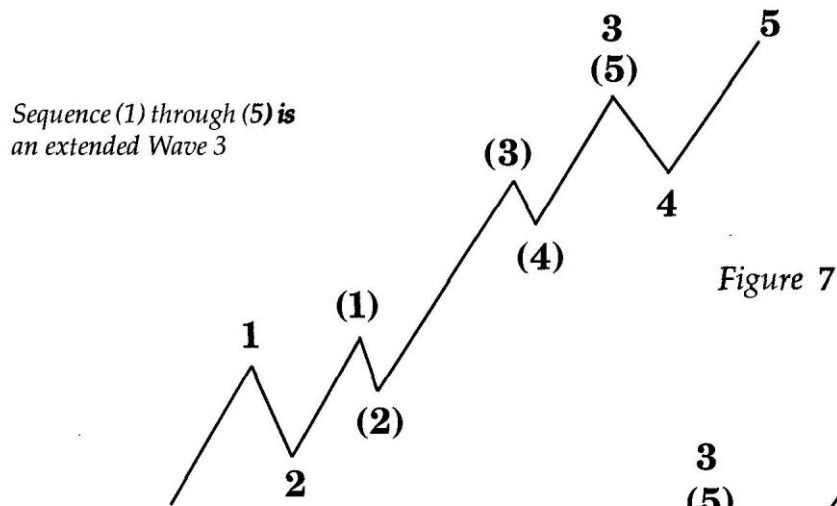


Figure 6

Impulse waves

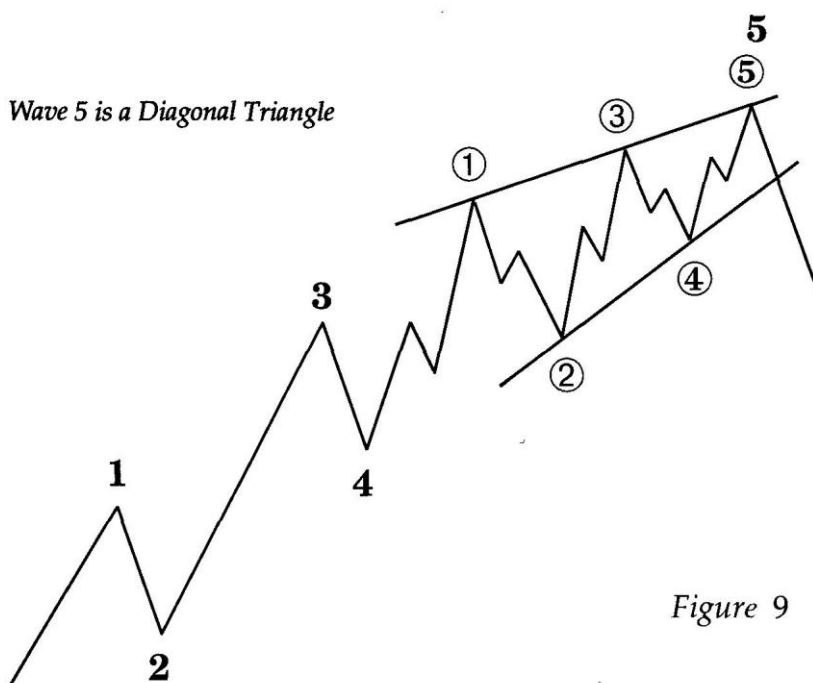
- 1) A variation known as an *extension* may appear in one of the impulse waves. Extensions are exaggerated or elongated movements that are totally out of scale when compared to the other impulse waves. Expect extensions to occur in only one of the impulse waves (either the 1st, 3rd or 5th). Most extensions occur in the 3rd wave. Extensions may also occur in the extending wave itself.



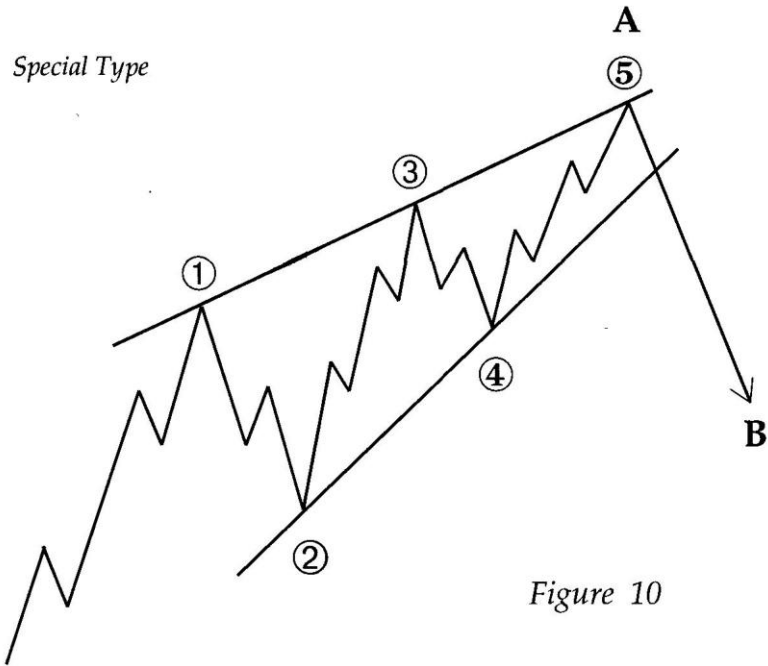
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- 2) Another variation in impulse waves is the *diagonal triangle*, a wedge-like pattern formed by two converging lines, in its usual form. These patterns occur in fifth wave positions, usually after the preceding third wave has moved extensively in a short time. Usually, the sub-waves in the wedge subdivide into “threes” rather than “fives”. Overlaps between the terminals of waves 1 and 4 are also frequent, although not obligatory. This is the only known exception to Elliott’s “non-overlap” rule between waves 1 and 4. An example is provided in *Figure 9*.

Diagonal triangles are also found in C wave positions during the “lettered phase” or corrective waves. As in wedges found in 5th wave positions, these formations indicate the termination of the movement one degree higher.



A special type of diagonal triangle observed by Robert R. Prechter in 1986 has sub-waves composed of five waves instead of the usual "threes". This type is usually found only in A wave positions and is followed only by B waves. See *Figure 10*. In a rare case in the forex market, this type is found as a B wave of a large irregular pattern. See deviations III – 9.



A rare pattern is the expanding-type of a diagonal triangle. It is a mirror image of the "converging type" in all respects. This pattern was never mentioned by Elliott; Prechter and Frost did not provide for this variation in the latest edition of their book "Elliott Wave Principle", 1987. See *Figure 11*.

Expanding Type

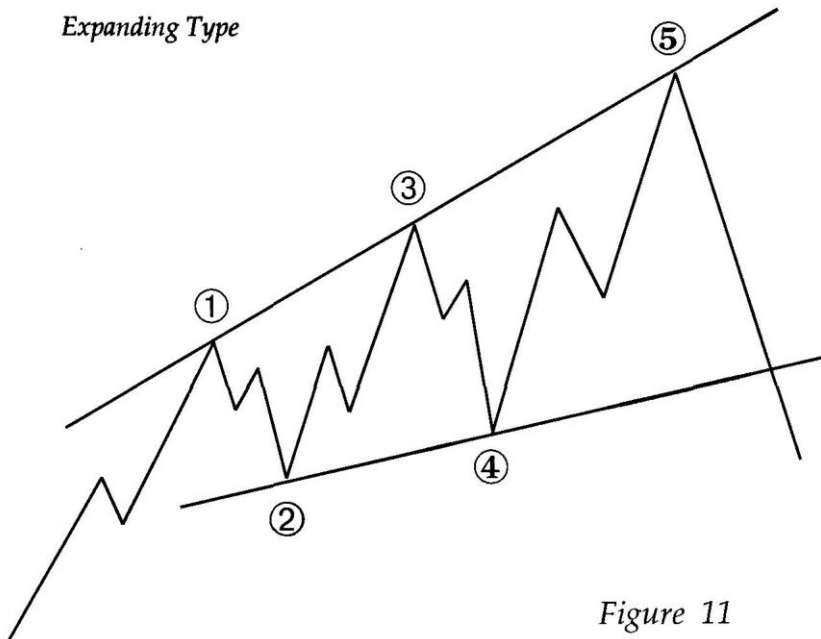


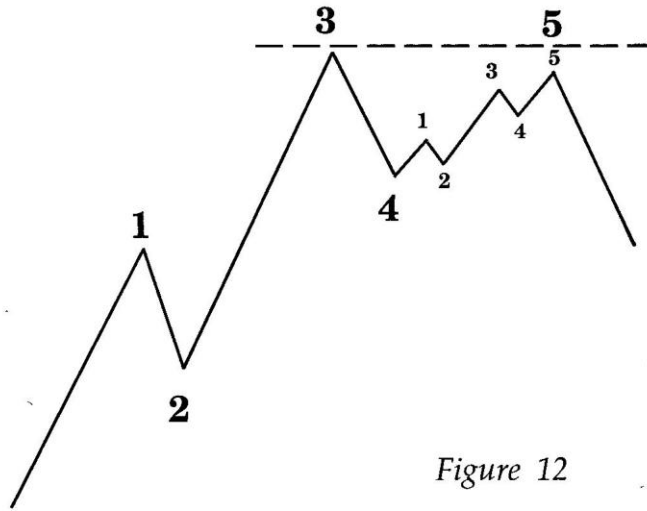
Figure 11

Experience has shown that the 5th leg of the converging type diagonal triangle tends to overshoot or undershoot the upper trendline. On rare occasions, the 5th leg will fail to exceed the extremity of the 3rd leg in a “failure”. The 5th leg of the expanding type, however, must exceed the extremity of the 3rd leg to qualify as such.

- 3) A fifth wave sometimes fails to exceed the terminus of the preceding 3rd wave. This inability is called, somewhat uninspiredly, a "failure". This pattern can be verified by noting that the internal waves of the "failed fifth" conform to all the three rules governing impulse waves.

A *failure* is a reversal pattern, and gives rise to what is known in classical charting theory as "double tops" or "double bottoms". This pattern is fairly rare in daily or weekly price action but is quite common in hourly charts.

A fifth wave "failure"



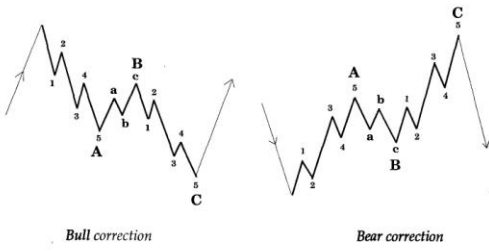
Corrective waves

- 1) Movements against the trend are called “corrective waves” or simply “corrections”. Sometimes, they are referred to as “consolidations” or “lettered phase”.
- 2) Identifying and fitting corrections into particular patterns in advance is very difficult. This is because corrective patterns have more variations than impulse waves. At times a corrective pattern becomes apparent only in retrospect; that is; when they are completed and behind us.
- 3) The complexity of corrective waves can increase or decrease without warning, so the extent or depth of corrections are less predictable than impulse waves.
- 4) There are several basic forms as well as derivatives from **these basic forms**. They are:
 - i) Basic forms: zigzags, flats, irregulars and triangles
 - ii) Complex corrective forms: double-threes and triple threes

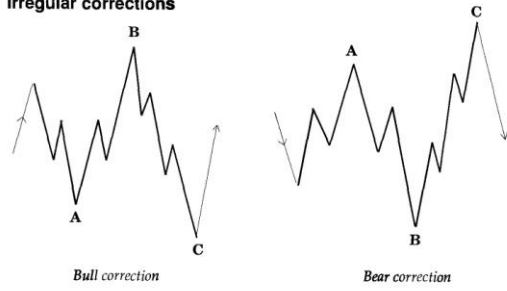
The complex corrective forms are further subdivided into four categories, namely: zigzag complex, flat complex and irregular complex.

Basic corrective forms

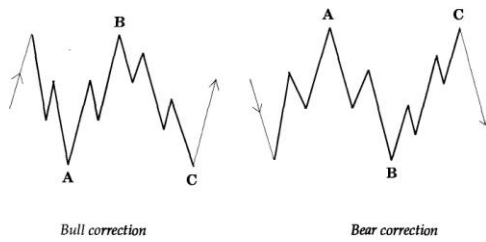
Zigzag corrections



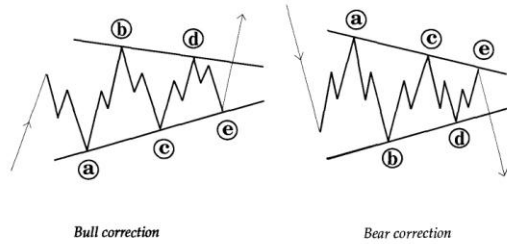
Irregular corrections



Flat corrections

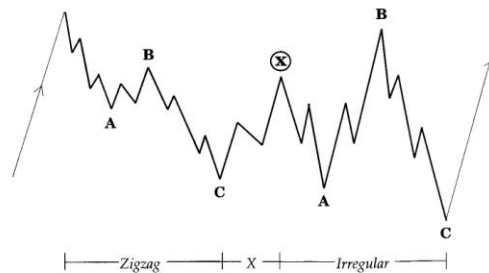
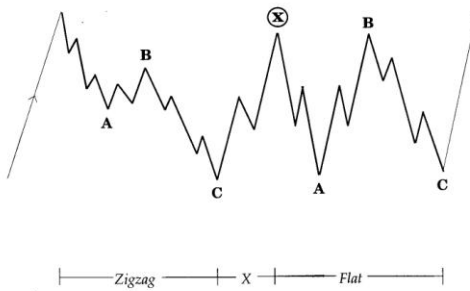
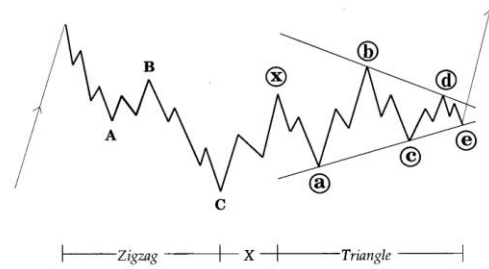
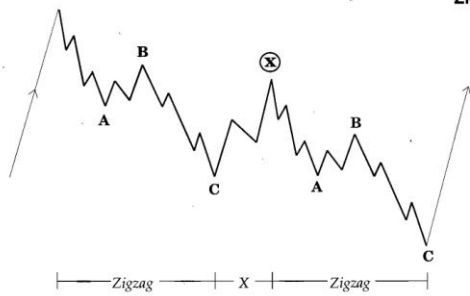


Triangle corrections



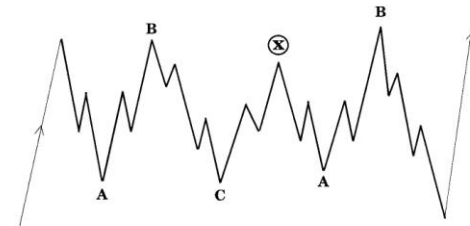
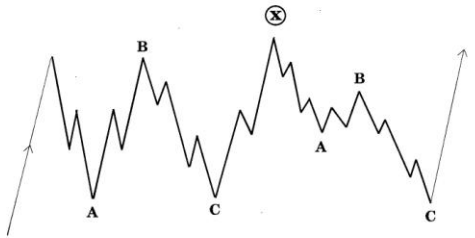
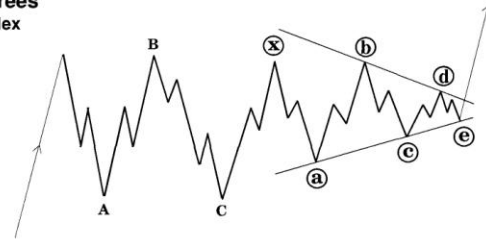
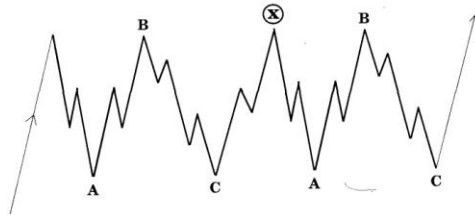
Complex corrective forms

Double-Threes Zigzag complex



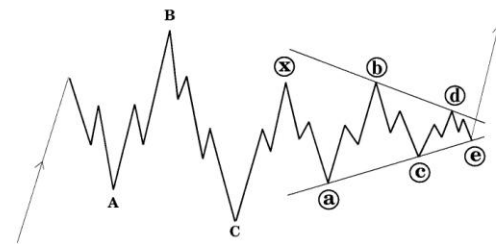
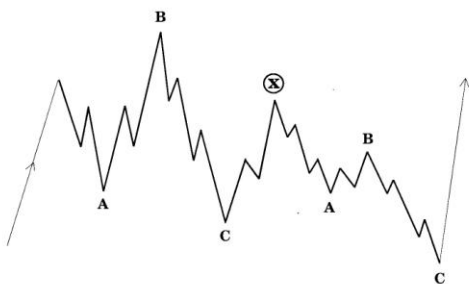
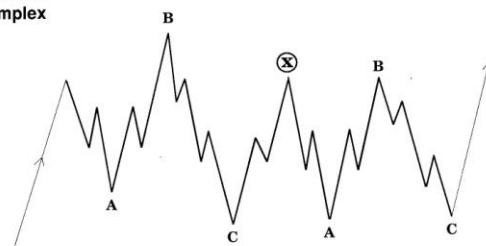
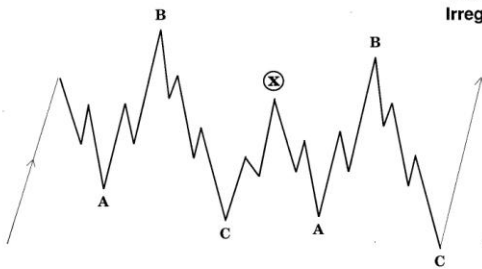
Complex corrective forms

**Double-Threes
Flat complex**



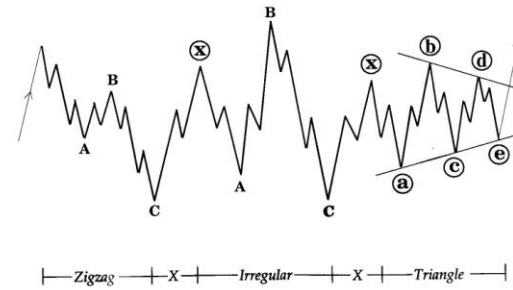
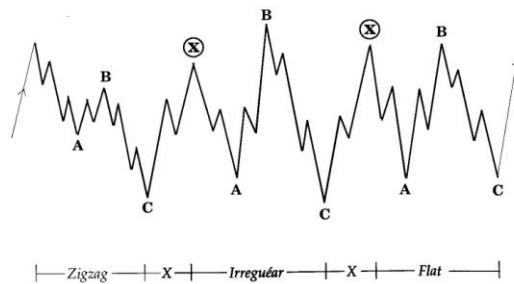
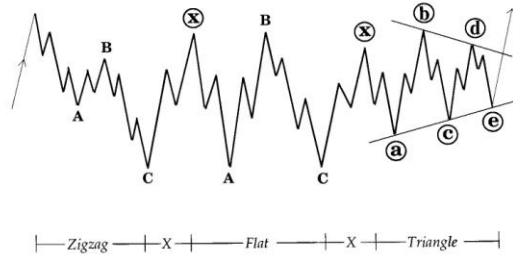
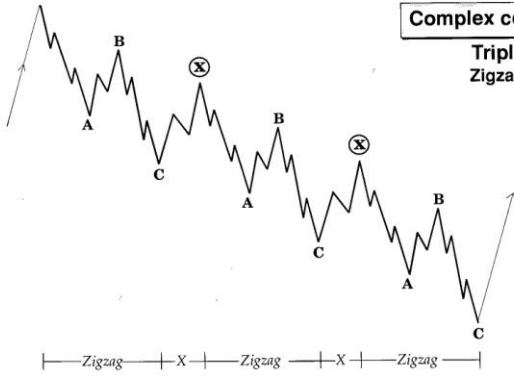
Complex corrective forms

**Double-Threes
Irregular complex**



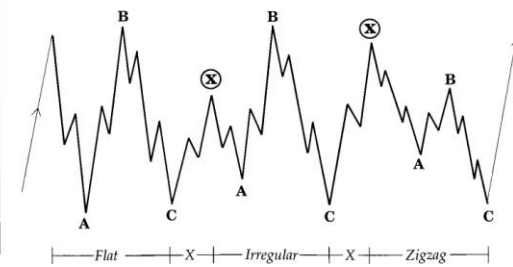
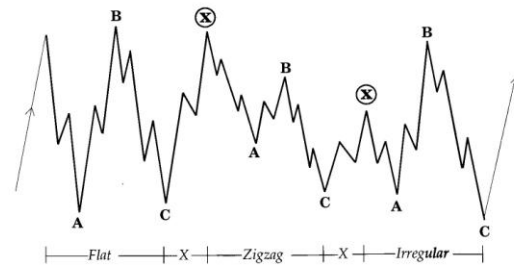
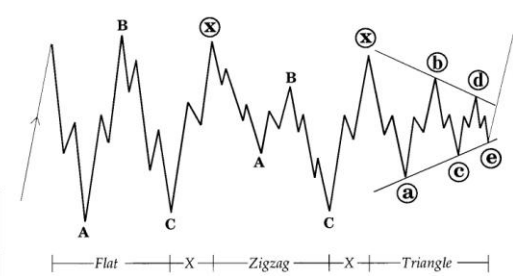
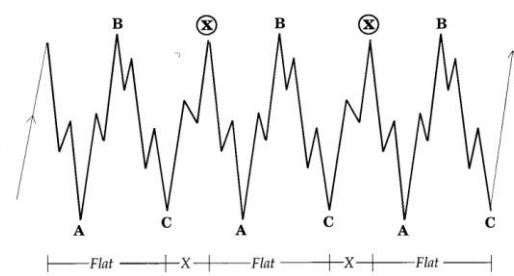
Complex corrective forms

**Triple-Threes
Zigzag complex**



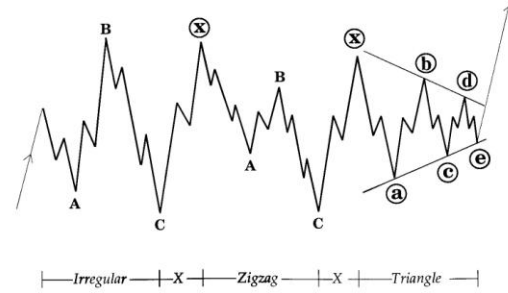
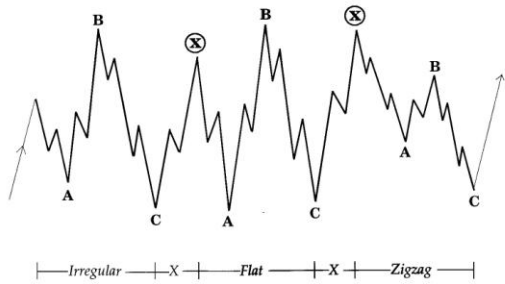
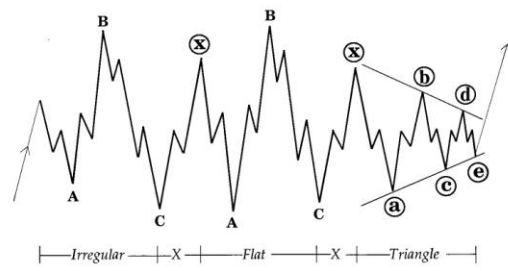
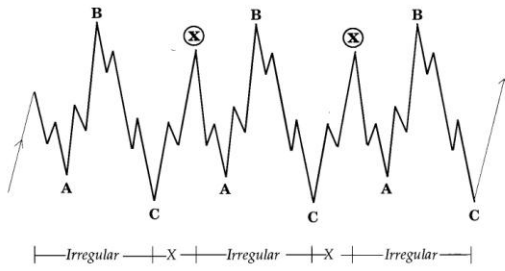
Complex corrective forms

**Triple-Threes
Flat complex**



Complex corrective forms

**Triple-Threes
Irregular complex**



Fibonacci Ratios

- 1) The Fibonacci numbers are: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, etc.
- 2) Adding any two adjacent numbers will yield the next number in the sequence. Example: $3 + 5 = 8$; $5 + 8 = 13$; $8 + 13 = 21$; $13 + 21 = 35$, etc.
- 3) After the first four digits, dividing a Fibonacci number by the number immediately preceding it will produce the ratio 1.618. Example: $34 \div 21 = 1.618$. Furthermore, dividing that same Fibonacci number by the one immediately following it will yield the ratio 0.618. Example: $34 \div 55 = 0.618$.
- 4) The inverse of the ratio 1.618 is 0.618; likewise, the inverse of the ratio 0.618 is 1.618. Example: $1 \div 0.618 = 1.618$, and $1 \div 1.618 = 0.618$.
- 5) Dividing any Fibonacci number by the number which precedes it two places in the sequence will turn up the ratio of 2.618. And, dividing that same number by the number which succeeds it two places in the sequence results in the ratio of 0.382. Example: $55 \div 144 = 0.382$.
- 6) The inverse of the ratio 2.618 is 0.382, while the inverse of the ratio 0.382 is 2.618. Example: $1 \div 2.618 = 0.382$; $1 \div 0.382 = 2.618$.
- 7) Dividing any Fibonacci number by the number which precedes it three places in the sequence will provide the ratio 4.236. Example: $144 \div 34 = 4.236$. And, dividing that same number by the number which succeeds it three places in the sequence will yield the ratio 0.236. Example: $144 \div 610 = 0.236$.

- 8) The inverse of the ratio 4.236 is 0.236, while the inverse of the ratio 0.236 is 4.236. Example: $1 \div 4.236 = 0.236$; $1 \div 0.236 = 4.236$.
- 9) The ratio 1 (equality) is an expression of the comparison between the first two numbers in the Fibonacci sequence; thus $1 \div 1 = 1$. The ratio 0.5 comes as expression between the second and the third number in the sequence; therefore $1 \div 2 = 0.5$.
- 10) The Fibonacci numbers, by themselves, do not have any utility in forecasting the extent of market movements in terms of price and time. The key elements are the ratios between the numbers in the sequence. Elliott considers these ratios to be the primary determinant of the extent of price and time movements in any market.
- 11) The most common and most reliable Fibonacci relationships can be found between alternate waves, rather than adjacent waves. For example, the length of Wave 3 in a five wave sequence would be influenced by the length of Wave 1, rather than by the length of Wave 2.
- 12) Fibonacci targets usually show up as important levels of support or resistance even if they are subsequently penetrated.
- 13) An important adjunct to the Elliott Wave Principle is the recognition that Fibonacci ratios are the primary determinant of the extent of price movements in the market. Elliott's Wave Principle provides the form and the framework, while the Fibonacci ratios provide the tool for measuring the potential for any price movement, including the probable time *windows* for terminations of these movements. This is a very powerful combination.

Part III

Deviations

Deviations from the norm seem to be the rule rather than the exception in wave analysis. Difficulty in this aspect arises from two sources:

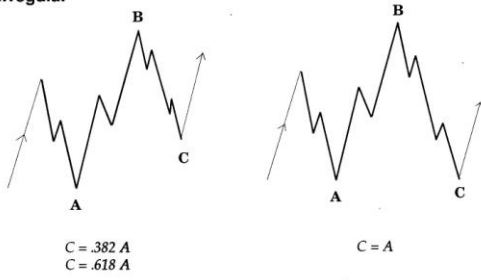
- 1) Deviation from the mathematical ratios of parts of the **pattern**. Examples of this type will be seen on pages III - 1 and III - 2.
- 2) Substitution of the simple type of correction patterns by one **or more** of the complex types.

As the reader will see from the preceding examples, the degree of difficulty in forecasting the termination of a correction pattern increases proportionately as the number of basic patterns join together. To make matters even more difficult, any one of the basic "corrective" patterns can incorporate the form of more complex figures, such as the irregular, flat or triangle in its own corrective wave. The following examples will illustrate this point:

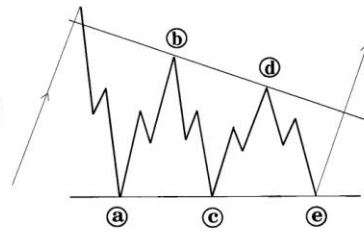


Deviations from mathematical ratios

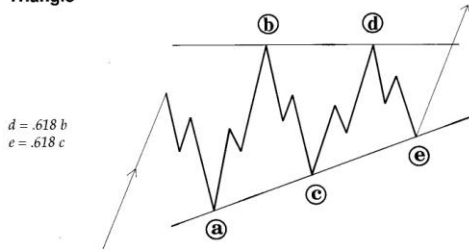
Irregular



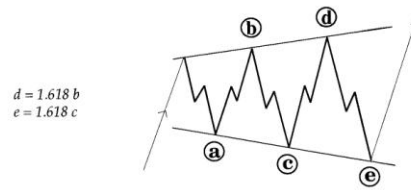
$d = .618 b$
 $e = .618 c$



Triangle



Expanding triangle

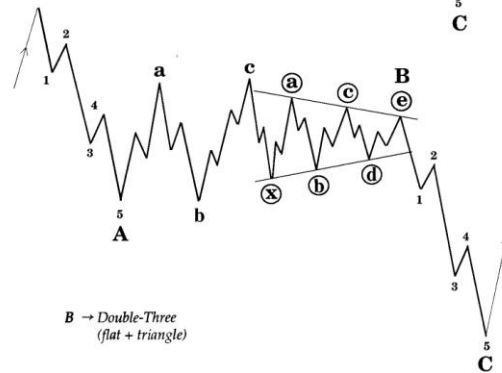
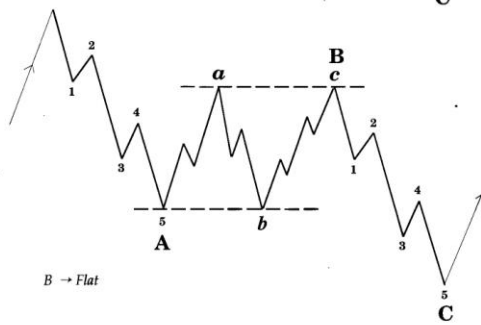
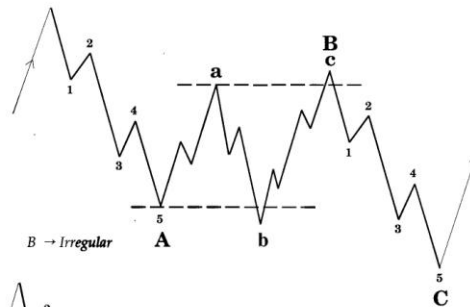
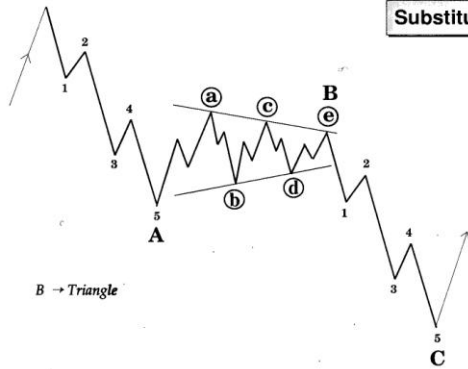


The Wave Analyst

Deviations III - 2

Substitution of Patterns

Zigzags

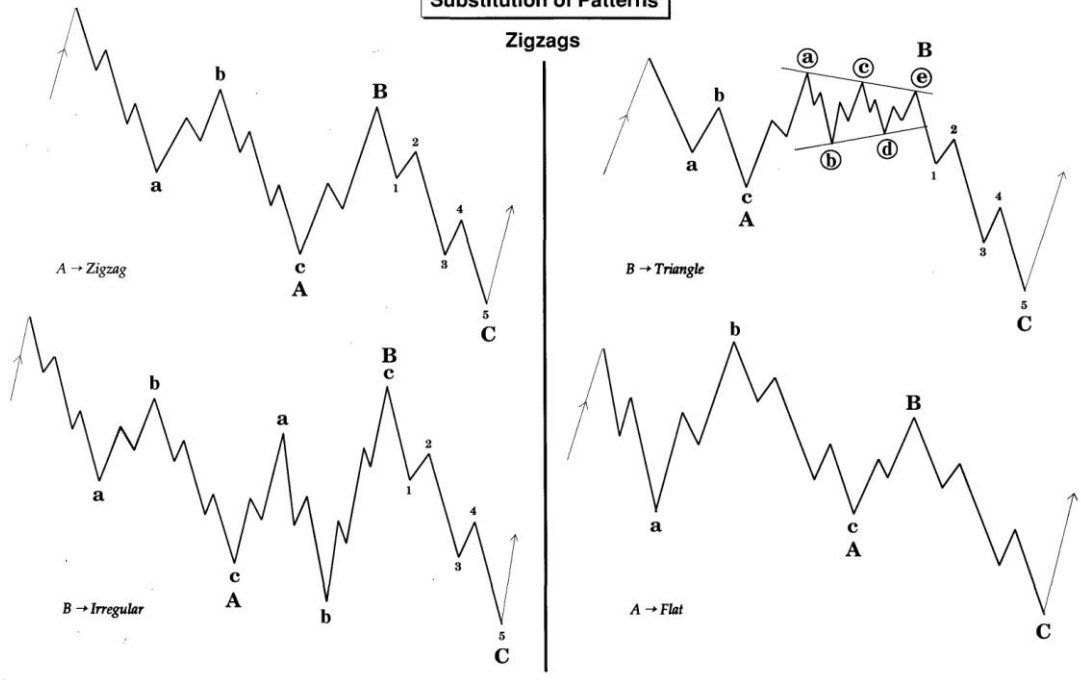


The Wave Analyst

Deviations III - 3

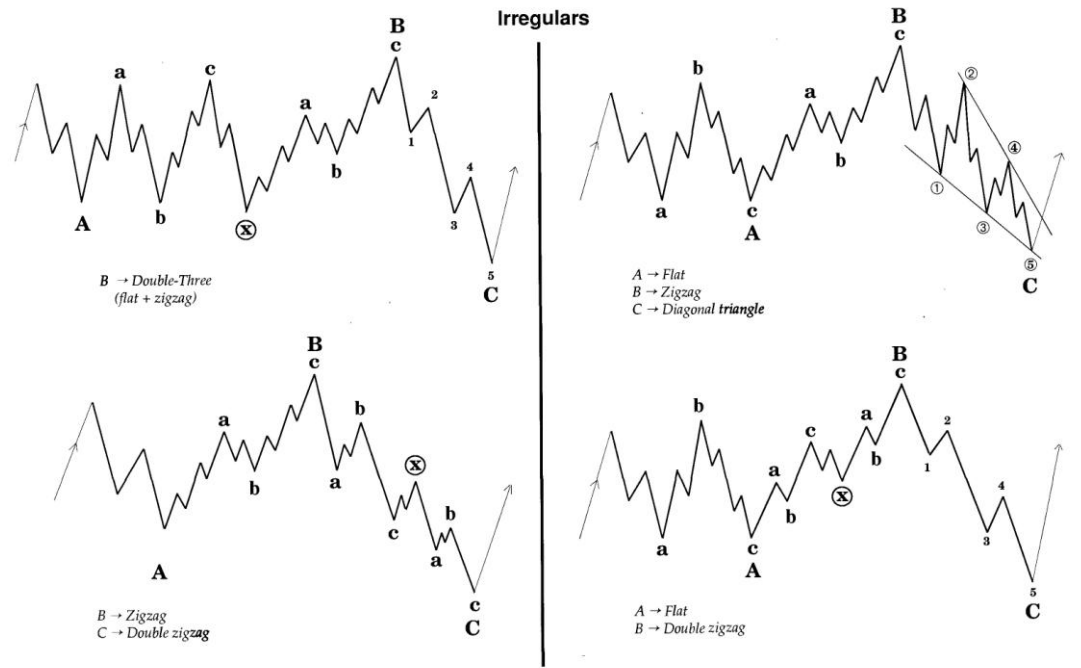
Substitution of Patterns

Zigzags



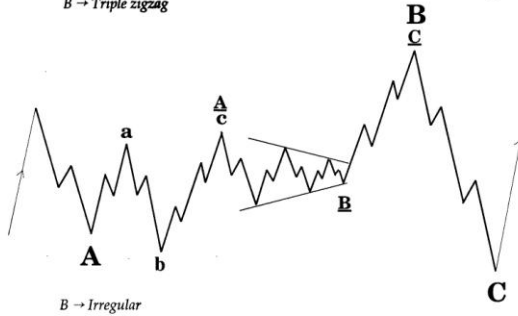
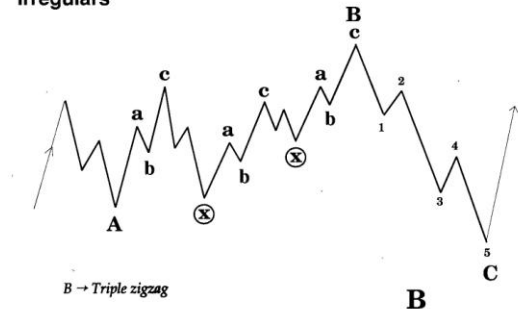
Substitution of Patterns

Irregulars



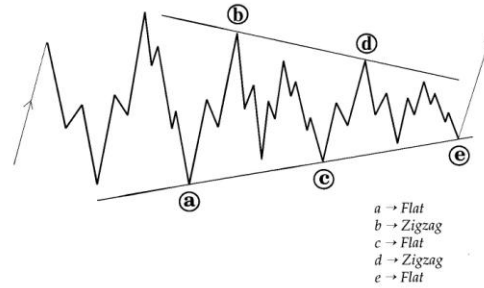
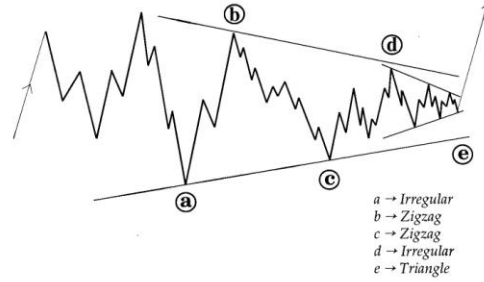
Substitution of Patterns

Irregulars



The Wave Analyst

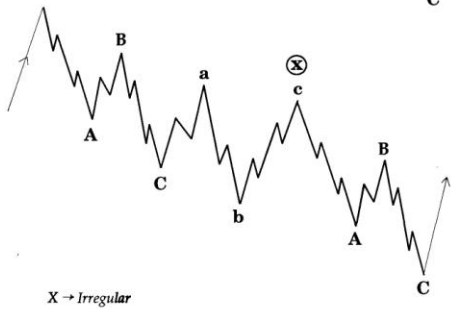
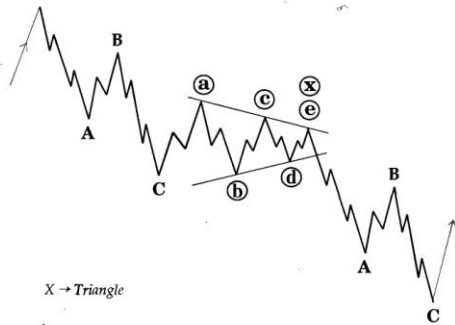
Triangles



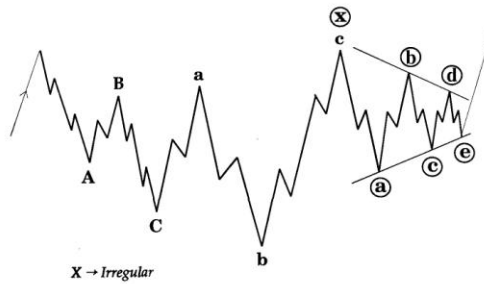
Deviations III - 6

Substitution of Patterns

Double-Threes



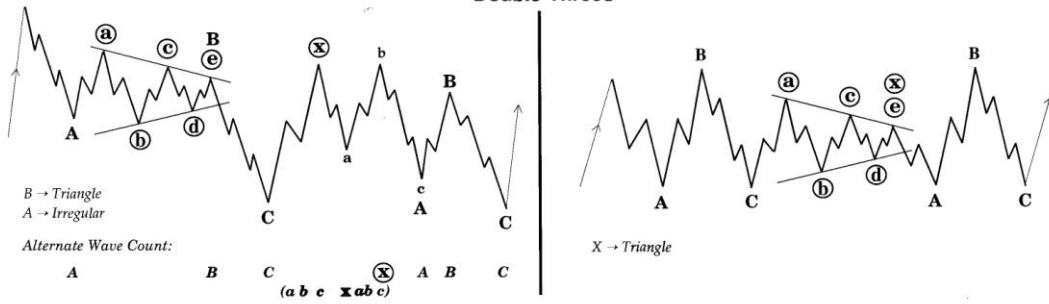
The Wave Analyst



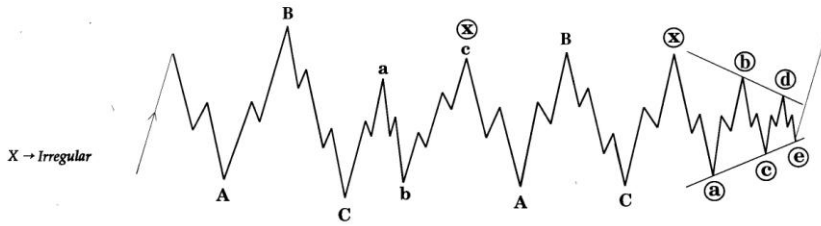
Deviations III - 7

Substitution of Patterns

Double-Threes

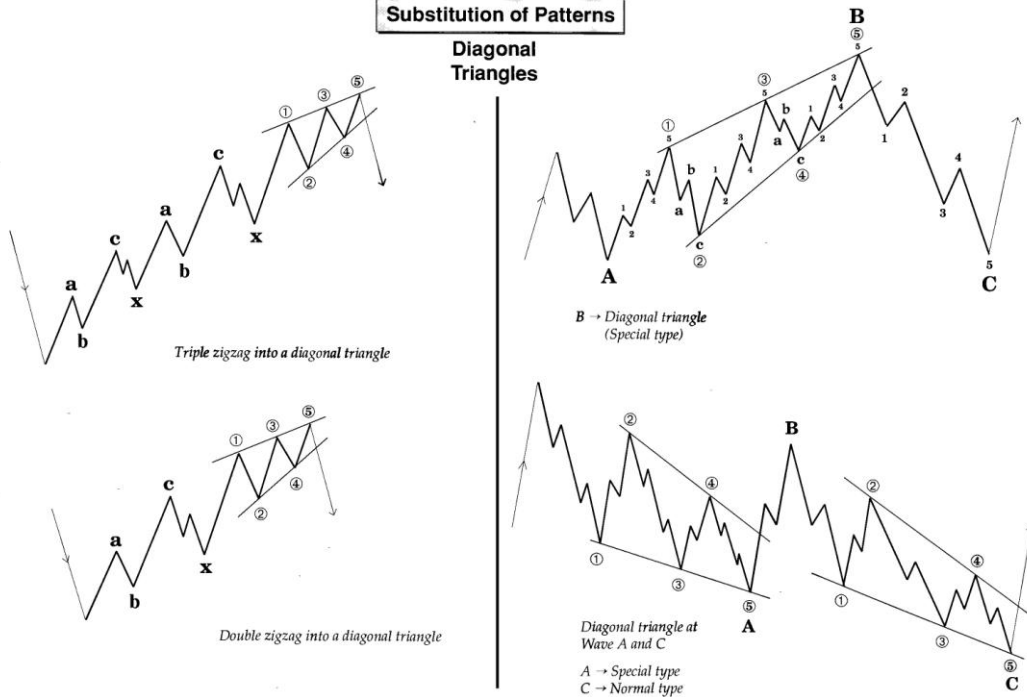


Triple-Three



Substitution of Patterns

Diagonal Triangles



Part IV

Guidelines and other observations

The basic rules of wave theory are simple enough; what makes the application of these rules daunting to the beginner is the added complexity of various guidelines that are supposed to be there to make life easier for the wave analyst in the first place.

In subsequent pages we have attempted to categorize guidelines and observations under several headings. Some of these observations were taken from Elliott's writings, but most of them are products of the author's own experiences with wave analysis.

It must be remembered that many of the relationships between waves, especially those reflecting the aspect of Fibonacci ratios, are mere tendencies – not permanent relationships cast in concrete. A tendency may be more prominent than another during the author's market experience, but there is no law that says these relationships cannot change. What is common now may become rare when the market undergoes a major cyclical change.

The best way to benefit from these guidelines and various observations is to adopt a critical attitude. Until the evidence is in, a tendency should be treated as just that, a tendency.

Some of the most common tendencies are provided in subsequent pages. The subjects are classified into several categories; some of them are provided under more than one heading to give an easier cross-reference.



Time

- 1) There are no time constraints on market patterns. Waves belonging to the same degree may spend a disproportionate length of time tracing out to their completion, with total disregard for the “right look” or “right size”.
- 2) In terms of time spent in completing a pattern, corrective waves are more closely related to each other than to the impulse waves.
- 3) Turning points in the forex markets are easier to recognise as they occur, if projections of time and price movement fall into the same area, and are supported by the completion of an acceptable wave pattern.
- 4) However, Fibonacci time multiples are insufficiently reliable for use in forecasting the peaks and troughs of certain movements. Turning points do occur often enough at Fibonacci time targets to be beyond coincidence. But miscues also occur sufficiently enough so as to diminish the value of Fibonacci related time targets.
- 5) In any five wave sequence, only 30 to 35 % of the time is spent on impulse waves. The rest of the time is spent on corrections.

Impulse Waves

First Waves

- 1) In so far as the aspect of momentum durability or “staying power” is concerned, 1st waves have nothing to prove. It is only 3rd and 5th waves that have momentum standards to meet. Therefore, the most effective way to use rate-of-change indicators with wave analysis is to downgrade momentum readings until a suspected “3rd of a 3rd” phenomenon is seen. If the indicators do not confirm the wave analysis by then, look for other likely patterns.

However if Wave 1 kicks-off to the accompaniment of a prominent divergence between your indicator and price activity, the trend has probably changed; your wave analysis is almost certainly correct.

Third Waves

- 1) The ending point of the 3rd wave is the most difficult to forecast among the three impulse waves. Since the 3rd wave can be shorter than the 1st wave, but rarely so, predicting its terminus is a veritable trap to the unwary analyst. If it is not shorter than Wave 1, Wave 3 maybe equal to, or 1.618 times the length of Wave 1. In the case of extensions Wave 3 can even be 2.618 or 4.168 the length of Wave 1.
- 2) One of the most effective ways to recognise a 3rd wave in a five way sequence is by its slope. It is almost always steeper than the 1st; experience shows that it is often represented by an almost vertical line. By its nature a 3rd wave is the most destructive of all impulse waves and should not hug a trendline drawn between the origin of Wave 1 and the end of Wave 2.



- 3) The thrust of 3rd waves can be so powerful that they are often mistaken for 5th wave “blow-offs” or “sell-offs”. Compounding the situation is the fact that 5th wave “blow-offs” or “sell-offs” are not all that rare in the forex markets. The only possible indicator that can make the distinction is volume. If the thrust occurs in record or heavy volume, it is likely to be a 3rd wave, possibly extended. If the vertical move is accompanied by a relatively lesser volume (especially if compared to the previous impulse move), then it is likely to be a 5th wave “blow-off” or “sell-off”.
- 4) The general public, which normally resists the idea of a trend reversal, usually changes its mind during the 3rd wave. In this phase, investors find new reasons to buy in the case of bull markets, or sell in the event of declines. Since by then the economic background begins to improve or deteriorate, as the case may be, fundamental reasons pile upon technical considerations to make 3rd waves as powerful as they are. This makes it imperative for an analyst to recognise the onset of 3rd waves (before the fact) as they offer immensely profitable trading opportunities.
- 5) Third waves are not always longer than 1st waves. However, they are almost always more powerful technically (i.e., higher volume and stronger momentum).
- 6) The highest volume will usually occur in the “3rd wave of a 3rd wave”.
- 7) Once a 3rd wave exceeds the length of Wave 1, project its length as 1.618 times the length of Wave 1. If Wave 3 extends, the next objectives are 2.618 or even 4.618 times the length of Wave 1 (3.618 is not a Fibonacci ratio).

Fifth Waves

- 1) Terminal points for the 4th and 5th waves are easier to predict or to recognise as they occur. The extent of the 4th wave may be derived as a Fibonacci ratio to the extent of Wave 3. The length of the 5th wave may likewise be obtained as a Fibonacci ratio of the price travel from the origin of the 1st wave through to the end of the 3rd wave. The typical relationship in a five wave sequence is this: Wave 5 is 0.382 or 0.618 times as long as the price travel from Wave 1 through to the terminus of Wave 3. Very often, Wave 5 is also 1.618 times as long as Wave 1. These relationships assume that Waves 1 and 3 are not extended.
- 2) During 5th waves, a deterioration of the momentum picture becomes evident. Most divergences between the direction of momentum indicators and the price activity are seen during 5th waves.
- 3) As explained in **Third Waves**, section 1, 5th waves are usually related by a Fibonacci ratio to the price travelled from the origin of Wave 1 through to the end of Wave 3. When the 5th wave development stops short of the Fibonacci related targets, often times the B Wave (of an irregular pattern) of the ensuing 4th wave of a higher degree will score new "highs" or "lows", usually where the 5th wave should have ideally "topped" or "bottomed" out.
- 4) Fifth waves reflect the element of bullishness or bearishness which has been building up continuously over the preceding four waves. This awareness shows-up first among the market professionals who are closely involved with the market on a daily basis. The general private investor, as usual, comes last.

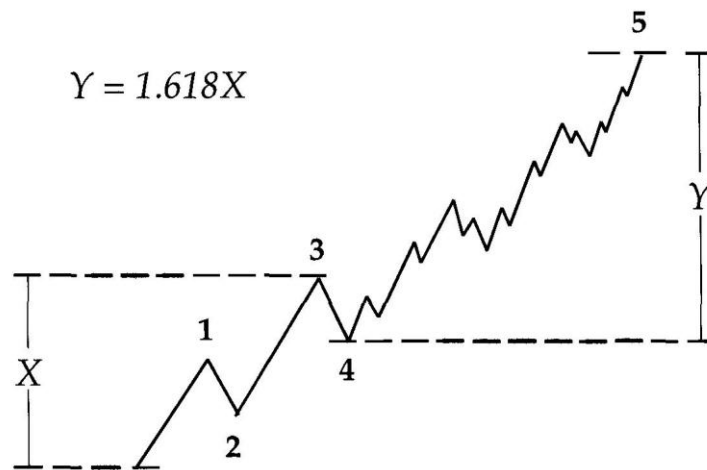
Extensions

- 1) In any five wave sequence, expect only one of the impulse waves (either the 1st, 2nd or the 5th) to be extended.
- 2) If the 3rd wave is extended, Wave 1 and Wave 5 will tend to be equal in terms of length of price travel, or equal in the length of time taken by the movement from the point of origin to the terminus.
- 3) In the event of an extension, the middle of the "3rd wave of the 3rd wave" usually marks the centre of the entire 3rd wave movement.
- 4) Awesome as extensions maybe, it is one of the least understood phenomena under the Wave Principle. A succession of first and second waves of lesser and lesser degree generally mimic terminal patterns, so the ensuing resumption of the trend usually catches the unwary analyst by surprise.

R.N. Elliot did not lay down any method to tell in advance whether a wave is extended or not. But based on market experience, a series of overlapping waves at a point in the wave structure where horizontal triangles or diagonal triangles are not expected, usually turn out to be an extension.

- 5) In the forex markets, about 60% of extensions occur in 3rd waves. Extended 5th waves happen for 35% of the instances and the remaining 5% in extended 1st waves.
- 6) When the extended wave in a sequence of five waves is the 1st, expect the subsequent correction to target the area of the 2nd wave, instead of the usual 4th wave. This is especially true if the 5th Wave in the sequence is smaller by far compared to the 3rd wave.

- 7) Corrections tend to be milder within extensions. The usual retracement percentage of the preceding wave is 23.6%; corrections rarely exceed 38.2%.
- 8) Expect a high probability of a 3rd wave being extended when the 2nd wave retraces less than 50% of the 1st wave. This tendency increases if the 2nd wave traces a "flat" or "irregular" pattern.
- 9) If the 5th wave extends in any five wave sequence, in about 80% of cases this five wave sequence is Wave 3 in a larger formation.
- 10) When Wave 5 is extended, its length is very often 1.618 times the entire price travelled from origin of Wave 1 to the peak of Wave 3. See diagram below:



- 11) Waves within an extension may **be bigger in scale than the preceding** waves of larger degree.

Principle of Alternation

- 1) The Principle of Alternation, despite the appellation, is just that, a valuable guideline, but not an unbreakable, rule under the Wave Principle. Market experience shows that the principle holds true for 90% of the time between waves 2 and 4 in a five wave sequence.
- 2) The principle as expounded by R. N. Elliott, requires alternating occurrence of simple and complex corrective patterns in Wave 2 and Wave 4. A simple, deep correction (zigzags, double zigzags) in Wave 2 should give rise to a complex, sideways correction (flats, irregulars, triangles, double or triple threes) in Wave 4.
- 3) In my experience in the forex market however, the Principle of Alternation holds true more on the *extent* rather than the *pattern* of corrections. For instance, if Wave 2 has retraced 61.8 percent or more of Wave 1, then Wave 4 would very likely retrace 38.2 percent or less of Wave 3. If Wave 2 has retraced 38.2 percent of Wave 1, then Wave 4 would correct 23.6 or 50 percent of Wave 3. The alternation of patterns may take place, but significant exceptions may be observed from time to time. The more consistent alternation process occurs in the extent or depth of corrections rather than in its patterns or forms.
- 4) This principle also requires us to look for different formations in *double* or *triple-threes*. In a double-three, the most common pattern is a *flat* and a *zigzag*. If a *triangle* occurs, it is almost always the last pattern in the correction phase. Two successive flats implies a third pattern, usually a triangle. A triple-three may be composed of three flats or irregular patterns.
- 5) In a triangle, the principle entrusts us to look for different patterns between the adjacent and integral legs. Leg A will not be the same as leg B; B will not be the same as C, etc.

Corrective waves and retracements

- 1) Methods used to predict the extent of corrective waves under the Elliot Wave Principle can vary, but the underlying approach involves the application of the Fibonacci ratios 0.236, 0.382, 0.5 and 0.618 to the length of the preceeding impulse wave.
- 2) There are two ways to deal with a market consolidation of a larger degree. One is to watch every price "tick", trying to read in it any glimmer of confirmation as to the course of the market. The other is to step back, decide on a strategy, and then let the market consolidate for as long as it takes. For analysts, the first approach is unavoidable. But for the investor the second would be more appropriate. Follow the maxim – if in doubt, stay out.
- 3) Corrections tend to bring prices back to the area of the previous 4th wave of one lesser degree, and usually to just beyond the extremity of that 4th wave.
- 4) Elliot enumerated eight types of corrective patterns, and then observed that they may double or triple in extended sideways consolidations.
- 5) The *double-three* pattern is the trickiest corrective pattern within the Wave Principle. It is the single most common cause of a flawed forecast and ill-timed expectations. Double-threes are infrequent occurrences in the larger degree, but are quite common in the hourly and 10-minute charts.
- 6) If the correction starts with a complex, sideways pattern (a flat, irregular or a triangle), the damage to the prevailing impulsive trend is usually limited to 38.2% retracement, or exceptionally to 50%. This is generally true, even if the correction is a 2nd wave.

- 7) A retracement that fails to go beyond 38.2% of the preceding movement indicates a pent-up, underlying strength. Similarly, a consolidation that takes some time to finish is a prelude to explosive action once the corrective pattern terminates.
- 8) Fifty percent retracements are common in five wave sequences, but do not occur as frequently as 61.8% corrections. However, 50% retracements are very common in the internal waves of bear market rallies, i.e. within a B Wave of a "zigzag" correction.
- 9) The termination of a zigzag pattern does not guarantee that the correction is over since the retracement forms can take up complex patterns. Still, the analyst should stick with the simplest completed pattern in accordance with the Principle of Parsimony (Occam's Razor). R.N. Elliot also stated that the simplest pattern is likely to be the correct explanation most of the time. Elliot was never able to define precise rules for anticipating the more time-consuming corrective patterns.
- 10) In double zigzagging patterns the second zigzag should terminate substantially below the bottom of the first (in a bull market). Conversely, the second zigzag should end well above the peak of the first in a declining market.
- 11) At the start of a turn-around from a major decline, pessimism is usually more pronounced at 2nd wave bottoms than at the actual lowest point from whence the 1st wave originated. Traders generally look at the "rally" (i.e., Wave 1) as another opportunity to sell on. The converse is true at the peak of a bull market. The 1st wave sell-off is often touted as another opportunity to buy cheaply, the second wave

countertrend rally is viewed as the beginning of a new rally to new peaks. Fundamentally, the market appears bleakest at the bottom of 2nd waves in a bull market, while the economic situation appears the brightest at the 2nd wave peak of a major market decline.

- 12) The Wave Principle does not provide a way to forecast where a 2nd wave should end. It should not be overly difficult to recognise the terminus as it is occurring. But even the usually reliable Fibonacci ratios are of no help in predicting the ending point in advance. All that Elliot can offer is projection of probable stopping points. That is why the trading of 2nd waves should be avoided.
- 13) It is more common for 2nd waves to be simple (a zigzag or double-zigzag) and 4th waves to be complex (flat, irregular, triangles, double-threes or triple-threes, etc.).
- 14) Wave 2 normally retraces deeper than Wave 4. Wave 2 tends to retrace 61.8% or more of Wave 1. Failing this, the next most common retracement is 50%.
- 15) The most typical retracement for Wave 4 is 38.2% of the length of Wave 3.
- 16) If a 5th Wave failure occurs, the ensuing retracement will likely target the maximum potential of the corrective pattern.
- 17) When a five-wave sequence falls short of an ideal Fibonacci objective, the ensuing correction will usually exceed its target by an amount equal to the deficiency of the 5th Wave.

Channels and trendlines

- 1) An Elliot Wave trend channel is constructed by first drawing a line connecting the terminal points of Waves 1 and 3. A parallel trendline is then drawn from the end of Wave 2. This trendline, in conjunction with a pertinent Fibonacci ratio, should provide insights as to the point in time window where the 4th wave correction should end. Given the timing reference, the analyst should be able to deduce what pattern is likely to occur in the 4th wave.

If the 4th wave ends above or below the trendline (as in the case 95 percent of the time), a new line is drawn from the end of Wave 2 through the terminal point of Wave 4. A parallel trendline is then drawn from Wave 3. The specific purpose is to determine the probable ending point of Wave 5. As before, using Fibonacci derived objectives, the analyst may project the time frame where the Wave 5 is likely to peak. If the slope of the projection derived by this method has the same degree of steepness as Wave 1, then the Fibonacci targets are almost certainly correct.

- 2) The trendlines are drawn through the orthodox terminal points. It may happen that a portion of the price activity may lie outside the channel drawn this way, especially in Waves 1 and 3. This is of no consequence in the Elliot Wave channelling method.
- 3) Occasionally, terminal points of 4th waves will breach the trendline parallel to the line drawn from Wave 1 through Wave 3. Usually, the 5th wave will commence immediately after the breach.
- 4) It is also generally true that if a trendline break occurs in the 4th wave (usually as a result of a triangle), then the ensuing 5th wave will also break the opposite trendline of the channel in a "throw-over". The scale of the "throw-over" is generally the same as that of the 4th wave trendline break.

- 5) A normal 5th wave should be able to reach the channel objective. Failure to attain this objective is a significant sign of the potential strength of the subsequent retracement.
- 6) R.N. Elliot once observed that a market which hugs the inner trendline (the lower one in the case of bull markets; the upper line in bear markets) makes for dramatic moves once the 3rd wave pulls away from that trendline and starts heading for the opposite channel line.
- 7) A channel that tapers into a “wedge” shape is a sign that the movement is about to end.

Determining targets and objectives

- 1) Attempting to determine a price objective in advance is useful in several ways. If a reversal occurs at that level, and the wave is valid, then the projection is most probably correct.
- 2) One sure sign that the end of a major trend is approaching, is what I call the “multiplier effect”. This is the sudden raising (in a bull market) or lowering (in a bear market) of the speculative objectives of the prevailing trend, usually by several degrees from the current price. The primary victim of this surge in confidence is very often the small private investor. The ordinary investor is usually “sucked in” near or at the end of the major trend. By the time he is aware of the market move, all the professional traders have been and gone. This is often the catalyst for a rapid turn-around.
- 3) When various independent methods project a specific and more-or-less identical price area, the objective is very likely to be obtained.

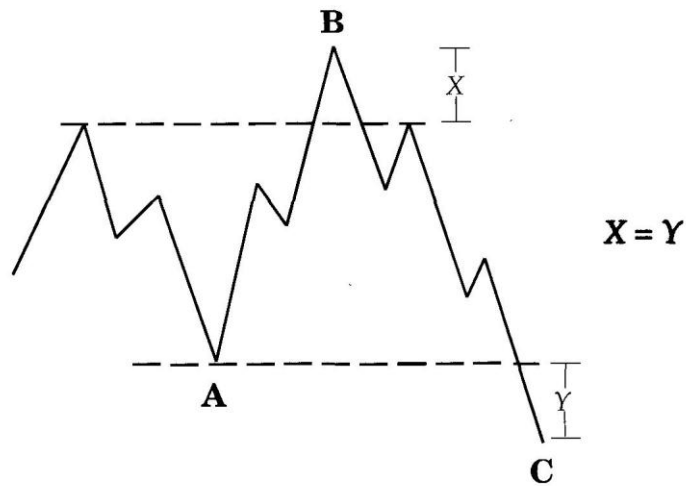


Flat corrections

- 1) If the corrective wave begins with a flat, the worst case is a .618 retracement of the previous wave, even if the correction is a second wave.
- 2) In a flat correction, the end of Wave C will tend to be higher than the terminus of Wave A. A Wave C “failure” is quite common in flat corrections that may be found in forex market movements.
- 3) If Wave A in a flat correction failed to retrace 38.2 percent of the adjacent impulse wave, Wave C is likely to be a “failure”. Given the above situation, if Wave C has retraced at least 23.6 percent of Wave A and has already completed a five-wave sequence, it is likely that Wave C will be shorter than Wave A.
- 4) If a pattern starts with a 3-wave structure, and subsequent market action rules out a *double zigzag*, then the correction will very likely trace out a flat or an irregular formation.
- 5) A flat formation is considered as a *complex* correction; and so are irregulars, triangles, double threes and triple threes.

Irregular corrections

- 1) It is extremely common for C waves in irregular flat corrections to be 1.618 times as long as A waves (Irregular corrections are very common in forex markets, especially in the 10-minute and hourly charts).
- 2) Wave B in an irregular correction is frequently 1.382 times the length of Wave A. If Wave B is 1.618 times as long as Wave A or more, then tendency is for Wave C to end at the same level as Wave A.



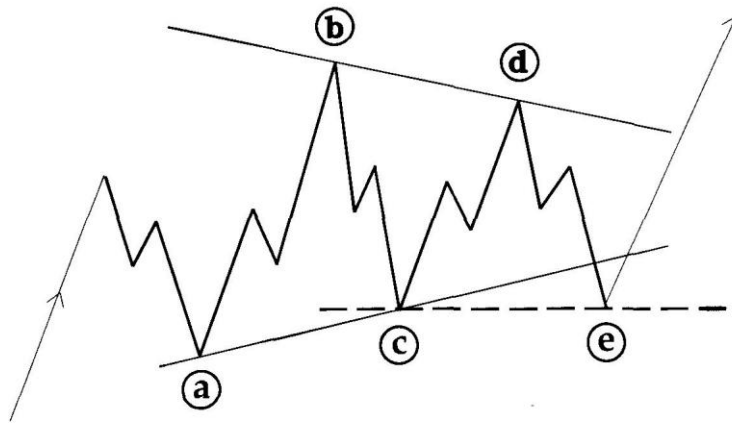
- 3) Wave C of an irregular correction is commonly 1.618 times as long as Wave A. On rare occasions, Wave C may be 2.618 times as long, but only if Wave B has been more than 1.618 times as long as Wave A.
- 4) It is also fairly common for the distance between the impulse wave's peak and top of wave B to be equal to the distance between the end of Wave A and the bottom of Wave C. Barring equality, the relationship between the appendages is likely to be a Fibonacci ratio.
- 5) The normal retracement of an irregular correction is 38.2 percent from the orthodox end of the adjacent impulse wave.
- 6) In a bull market irregular correction, the bottom of Wave A is almost always higher than the bottom of Wave C. The converse is true in a bear market irregular correction.
- 7) If the pattern starts with a 3-wave structure, and subsequent market development rules out a *double zigzag*, then the correction will very likely trace out a flat or irregular formation.

- 8) An irregular is considered a *complex* correction; and so are flats, triangles, double threes and triple threes.
- 9) The concept of *orthodox tops* and *orthodox bottoms* must be well understood to be able to accept the proposition that bull and bear markets do not necessarily end at the extremities of price movements. Briefly, an upwards five-wave sequence ends at the conjunction of the fifth waves of several degrees (the so-called “fifth wave of the fifth wave”).

Usually, this conjunction marks the extremity in price. But if the ensuing correction of the entire five-wave sequence takes the form of an irregular pattern, then by definition, the peak of the irregular correction (Wave B) will exceed the orthodox top. The converse is true for any five-wave sequence going downwards.

Horizontal triangles

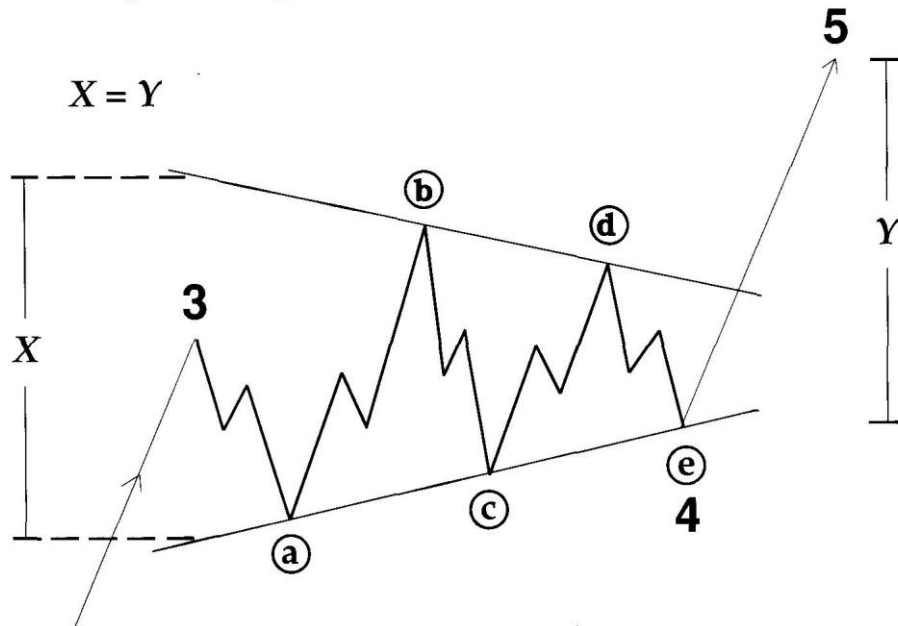
- 1) The triangle is one of the most reliable forms under the Wave Principle. Its appearance is practically a guarantee that the prevailing trend will continue. A triangle is a holding pattern which separates two waves in the same direction (Waves A and C, or Waves 3 and 5). So therefore by inference, the “thrust” from the triangle is the last movement in the prevailing trend.
- 2) It is normal for *e* waves of triangles (the last leg) to exceed the triangle boundary line in a “false breakout”. However, E waves never exceed the extreme point hit on Wave C. See diagram on following page.
- 3) Apexes of horizontal triangles usually provide significant support to any decline after a major upthrust. This comes as a consequence of triangles being located in the 4th Wave position in any five-wave



sequence. Conversely, a triangle's apex provides major resistance to any rally after a major decline.

- 4) Alternative waves within symmetrical horizontal triangles are usually related by a ratio of .618 (i.e., $C = .618A$; $D = .618B$; $E = .618C$). For expanding triangles, the alternate waves are frequently related to the ratio of 1.618.
- 5) The principle of alternation within a triangle warns us to expect that no adjacent waves will be similar in form.
- 6) When the triangle comprises the entire correction (rather than only a part of a multiple *three*), it may occur only as 4th waves or a B waves. But if the triangle occurs as part of a double-three or a triple-three, the entire correction can be situated even in the 2nd wave position.
- 7) If a horizontal triangle occurs as part of a multiple *three* pattern, it can occur only as the last formation, or as an intervening X wave between basic forms.

- 8) Corollary to the above, if the first corrective pattern to evolve is a horizontal triangle, then one can rule out further development into a double- or triple-three.
- 9) The *thrust* that follows the termination of a triangle in the 4th wave position will generally be of the same length as the widest part of the triangle. See diagram below:



- 10) However, the potential of a *thrust* from a triangle that is merely part of a double-three or triple-three is not determined by the triangle width. It is dependent on the dimensions of the entire multiple-three formation in which the triangle is a part. The longer and wider it is, the more extensive the subsequent thrust.
- 11) The extent of the *thrust* from a triangle in the B Wave position is projected differently. By implication, a triangle occurring as a countermove can only appear in the B Wave position of a zigzag.

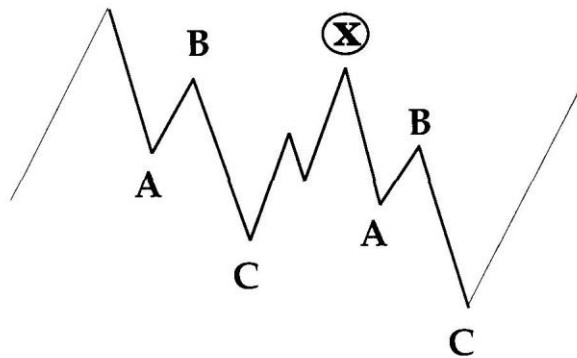
Therefore, the subsequent thrust from the triangle (the C Wave) is likely to be equal to the length of the A Wave. (see also Zigags in this chapter).

- 12) If the first leg of the triangle (Wave A) is no longer in time scale then one should normally expect from the dimensions of the preceding sequence, expect the last leg (Wave E) to be relatively smaller in scale than Wave A.

Zigzags and double zigzags

- 1) Zigzags and double zigzags, often referred to as *deep corrections* tend to retrace 61.8 percent or more of the immediately preceding impulse wave, especially when the deep correction is at the 2nd wave position. If the deep correction occurs as a 4th wave, the retracement is usually 50 percent, or rarely 38.2 percent.
- 2) In the forex market the usual relationship in a zigzag correction is for Wave C to be 1.618 times as long as Wave A. The second most common relationship is for Wave C to be equal to Wave A.
- 3) Wave B in a zigzag normally retraces 38.2 percent of the preceding Wave A. Fifty percent retracement occurs less often, while 61.8 percent retracements are rare.
- 4) In double zigzag formations, the second zigzag usually finishes significantly lower or higher than the termination of the first, as in the case of bull and bear markets, respectively.

- 5) In a double zigzag, the X wave can take any shape: a zigzag, a triangle, a flat, or even a double three.
- 6) X waves in a double zigzag often reach **the same level as the preceding B wave**. See following diagram:



- 7) There is no reliable way to predict the occurrence of double-zigzags. However, if the first zigzag has retraced less than 50 percent of the preceding impulse wave, and as long as a suspected X Wave has not retraced more than 61.8 percent of the first ABC sequence (see diagram above), there is high probability of a double zigzag occurring.

Diagonal triangles

- 1) A diagonal triangle is a wedge-shaped formation which is always positioned at the termination of the larger move (i.e., a 5th Wave or a C Wave).
- 2) As a 5th wave, the diagonal triangle usually exceeds the end of the 3rd wave. But if the diagonal pattern fails to surpass Wave 3, expect a quick and sharp reversal.
- 3) A sharp reversal following a diagonal triangle usually takes the shape of a zigzag or double zigzag. The reversal normally retraces back to where the diagonal triangle began (terminus of Wave 4).
- 4) There is a strong tendency for the entire diagonal triangle to be 1.618 times as long as Wave 1.
- 5) Within diagonal triangles, Wave 3 is usually 0.618 times as long as Wave 1.
- 6) Do not expect the 5th Wave of a diagonal triangle to terminate exactly at the objective trendline. It is likely to overshoot or to fail to reach the target trendline.
- 7) When a diagonal triangle is in the 5th wave or Wave C position, as it most commonly is, its internal waves are composed of *threes*. But when it is located in a Wave A position, its impulse waves are *fives*.
- 8) Eighty percent of diagonal triangles occur as the 5th wave of the 3rd wave of a larger degree. This can be inferred from the observation that diagonal triangles occur when the preceding move in the same wave degree has moved too much too soon.

Substitution of Patterns

- 1) A five wave sequence in a C wave may be substituted by a diagonal triangle. In some rare cases however, a deep correction, like a double or even triple zigzag, may replace the five-wave sequence. The occurrence of patterns other than diagonal triangles in C waves was not discussed by Elliott, but observations of the phenomenon in the forex market has been frequent enough to warrant an exception to general tenets of wave analysis.

- 2) In a double three or triple three, horizontal triangles generally occur as the last form in the pattern. However, horizontal triangles can also occur as X waves, effectively connecting two or more simple forms into a single complex formation.

Part V

Practical Guidance

Success in using wave analysis is not merely a question of applying rules, anymore than, say, science or mathematics. It does not merely make the most combinations possible according to certain fixed laws or rules. The combinations so obtained would be so exceedingly numerous, cumbersome and practically useless. The true work of the analyst consists in choosing among these combinations so as to eliminate those of limited value, or rather to avoid the trouble of making them. The rules that must guide the choice are extremely fine and delicate. It is almost impossible to state them precisely; they must be felt rather than formulated.

The French astronomer, physicist, mathematician cum-philosopher, Jules Henri Poincaré who lived at the turn of the century, wrote in his “Foundation of Science” about determining which hypothesis or which facts to examine in situations which “admit an infinity of others”.

Poincaré suggested that the selection is made by what he called the “subliminal self”, an entity that can be likened to “pre-intellectual awareness”. The subliminal self, Poincaré said, looks at a large number of solutions to a problem, but only the interesting ones break into the domain of consciousness. Mathematical solutions are selected by the subliminal self on the basis of “mathematical beauty”, of the harmony of numbers and forms, of geometric elegance. “This is a true aesthetic feeling which all mathematicians know”, Poincaré said, “but of which the profane are so



ignorant as often to be tempted to smile". It is this harmony and beauty that is the centre of it all. This is no romantic beauty that Poincaré was talking about. He meant "classic" beauty, that comes from the harmonious order of the parts, and which a pure intelligence can grasp.

It is this sense of beauty which should make an analyst choose the facts that contribute the most to this harmony. Usually, the facts by themselves do not suggest much, or are worth much. It is when the facts merge with the matrix of the wave structure that harmony, and therefore success, is achieved.

Poincaré suggested some rules in classifying facts leading to a mathematical hypothesis. With slight modifications, we can use his guidelines in determining the hierarchy of facts that should lead to a proper "count" of the wave structure.

The more general a fact, the more relevant it is. Those which serve many times are better than those which have little chance of recurring. So we ask: which facts are likely to appear? The simple facts. How to recognise them? Choose those that seem simple. Either this simplicity is real, or the complex elements are indistinguishable. If it is real, we are likely to meet this simple fact again, either alone, or as an element in a more complex fact. But start with the simple ones. Occam's razor is a compelling argument for simplicity

The principle of Parsimony, otherwise known as Occam's Razor, holds that when tossing around explanations for a natural phenomenon you should opt for the simplest theory that fits the facts. As the fourteenth-century philosopher William of Occam puts it: "Non sunt multiplicanda entia preter necessitatem" (Entities should not be multiplied beyond necessity). Failure to heed Occam is generally an invitation to trouble.

Its proper to begin with the regular facts, but after a wave count is established, the facts in conformity with it becomes blasé because they no longer teach anything new. Then its the exception that becomes important. So we seek not resemblances, but differences. And we choose the most accentuated differences not only because they are the most striking, but also because they are the most instructive.

The next thing to do is to look for cases in which this wave count has the greatest chances of failing: assume either a very large movement in price or a very large movement in time. Almost always, we find that in these extreme projections our wave counts are overturned. These “upsets” are important; they enable the analyst to see better the little change that may happen near his point of reference. What we are trying to do here is less the ascertainment of likenesses and differences but rather the recognition of likenesses hidden under apparent divergences.

If we focus on each individual rule or tenet in Elliot Wave analysis the collective rules and tenets seem to be discordant at first. But looking more closely, we will see in general that they resemble each other: different so as to matter, but alike in form, and similar as to the order of their parts. This makes wave analysis confusing at times. But as soon as one understands that the apparent complexity emanates from the multiplicity of possibilities because there are too few rules, then the task of looking at likenesses (similarities) becomes less daunting and can even become enjoyable.

Unsuccessful use of Elliot Wave Analysis does not always stem from failure to apply its rules and tenets precisely. In many cases where there is no significant progress, the analyst's sense of values and attitudes are more to blame than anything else. The most common contributors to failure are a) lack of persistence and intellectual honesty, b) inflexibility, c) too big an ego, d) anxiety, e) boredom, and f) impatience.


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A) Lack of persistence and intellectual honesty

An aspiring wave analyst needs a kind of “stubbornness” that is engendered by intellectual honesty. There can be no short-cuts in wave analysis. A recitation of a plausible scene in wave analysis will illustrate the point.

You are analysing a chart and a wave pattern appears which you can not classify. You “gloss” over it and continue with your wave count your mind is already racing ahead to what should evolve, so it takes a little time to realise that this unclassified minor annoyance of a “non-regular” pattern is not just irritating and minor. It has stopped you from proceeding any further. You are now completely stuck. You can no longer arrive at a sound wave count.

This is not a rare scenario in wave analysis. This is perhaps the most common problem of all. For the analyst this is the worst of all moments.

Reasoning out is no good to you now. You do not need any one to tell you what is wrong. Its obvious what is wrong. What you need is a hypothesis, how to classify the recalcitrant wave pattern. This is the zero moment of rationality. It is normal at this point to feel like tearing up the chart into little pieces. You think about it, and the more you think about it, the more you are inclined to throw this book into the dustbin and forget about the whole concept. It is outrageous how an unclassified “squiggle” in a chart can totally defeat your “perfect” count. However, the reality is that the market is not conforming to that count. So the “squiggle” must have a value, therefore the count is wrong.

The moral of the story is obvious. Be intellectually honest; the unclassified wave pattern is a problem, so treat it as such. Do not "gloss" over it. Resolve the situation because it will surely resurface later on to stymie your efforts.

If one finds oneself in this situation, obviously the solution is to find the relevant fact or set of facts that will enable you to put a label on the wave pattern.

According to the “doctrine of objectivity” we should keep our mind as a blank tablet which nature will fill for us, and then reason disinterestedly from the facts we observe. Clearly, this is easier said than done. As Poincare would have said, there is an infinite number of facts about the wave pattern, and the right ones do not necessarily dance up and introduce themselves. The right facts, the ones we really need are not only passive, they are elusive. You have to be searching for them, otherwise the true pattern will not unfold and the count will remain lost.

One of the key requirements of a good wave analyst is this ability to patiently select the relevant facts from the irrelevant ones, and to quickly recognise those errors as and when they occur.

The difference between a good wave analyst and a bad one is precisely this ability to select the good facts from the bad ones on the basis of a “feeling of harmony”. In wave analysis the application of pure logic is insufficient. You have to have a sense of “correctness”, a feeling for what is right. That is what will pull you through. This is a capability borne out of experience, persistence and intellectual honesty.

Despite rigorous efforts to be honest, one will still hit an Elliott dead-end occasionally. When this happens, it is better to consider the event as not so much a situation to be feared, but rather a moment to be cultivated. This is a situation where the entire problem-solving process goes beyond the mind-logic plane. As stated before, the solution to a problem often appears unimportant at first, even undesirable. Passage of time usually allows the solution to assume its true importance. Your mind, given enough time, will naturally and freely move towards a solution. This kind of


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understanding or “feeling” is only acquired from practical experience; it can not be developed inside the lecture room where the concepts are only imported rather than “discovered”.

B) Inability to be flexible

A rigid set of values often leads to the inability to assess what one sees. If your values are too rigid, it becomes very difficult to learn to accept new facts. This often shows up as pre-mature diagnosis, when you are sure you know what the eventual outcome will be. When this does not happen, a revision is required, and, given the normally volatile forex cash markets, reassessment. You will have to search for new clues, but before you can find them you have to clear your head of “old” opinions. If you are not flexible, you may fail to see the real answer even when it is staring you right in the face.

If you get caught in this trap, you have to slow down - you’re going to have to slow down anyway whether you want to or not - but do so deliberately and go over ground that you have been over before. This is to see if the things that you thought were important really were so, and to just stare at the chart. Just live with it for a while. Watch it the way you watch a line while fishing. Before long you’ll get a nibble; a new fact will come along. It may not be the fact that you are looking for but before long you may find that the nibbles you are getting are more interesting than the original purpose of classifying a recalcitrant wave pattern. When that happens you have arrived. You are no longer just a technical analyst. You are a wave analyst.

C) Too big an ego

If you have a high evaluation of yourself, then your ability to recognize new facts is weakened. Your ego isolates you from reality. When the facts show that you just goofed, you're not likely to admit it. When false information makes you look good, you're likely to believe it. On any wave analysis, ego comes in for rough treatment. You're always being fooled; you're always making mistakes. An analyst who has a big ego to defend is at a terrific disadvantage.

If you know enough analysts to think of them as a group, and your observation is the same as mine, I think you'll agree that analysts tend to be rather modest and quiet. There are exceptions, but generally if they are not modest and quiet at first, the work seems to make them that way. As well as skeptical. Attentive, but skeptical and not egotistical. There is no way to "judge" your way into looking good on analysis, certainly not in the long term.

If modesty does not come easily or naturally to you, one way out of this trap is to fake the attitude of modesty anyway. There could be certain soothing if twisted mental benefits. If you deliberately assume a mediocrity, then your ego is boosted when the subsequent events prove the analysis as being correct. In this way you can keep going motivated by the success until you overreach yourself again.

I was going to say that the market analysis does not respond to your personality, but it does. Its just that the personality it responds to is your real personality, the one that genuinely feels and reasons and acts, rather than any false, blown-up personality images your ego may conjure. These false images are deflated so rapidly and completely by the market that you're bound to be very discouraged very soon if you derived your staying power from ego rather than from a desire to excel.



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D) Anxiety

When you are so sure that you will do everything wrong, the tendency is to feel like doing nothing at all. Often, this rather than laziness, is the real reason you find it hard to get started. Anxiety which results from over motivation can lead to all kinds of excuses stemming from excessive fussiness. You will relabel those wave counts that do not need relabelling, and chase after multiple alternate counts. You will jump to wild conclusions and build all kinds of rationale into the analysis. These errors, when made, will tend to confirm your original underestimation of yourself. This will lead to further errors and into a self-stoking cycle.

The best way to break this cycle is to work out the anxieties on the charts. Read everything you can on wave analysis. The more you read the greater the confidence you build into your analysis.

When beginning an analysis, prepare as many chart copies as you can, label the waves in coloured pens in as many ways as possible, then arrange them in proper sequence. You will discover that as you organise and re-organise the sequence again and again more and more ideas come to you. The time spent this way is much more productive than time spent staring at a blank chart.

You can reduce your anxiety by recognising the fact that all analysts have gone through the same learning curve and have all made errors. It is a painful learning curve, but just as I and countless others have survived, you, too will rise above your initial difficulties. A piece of iron is hardened by application of heat and repeated hammer blows. The making of a wave analyst follows pretty well the same procedure; in the end, all of us have to pay our dues in terms of bruised egos and lowered expectations. However, new and hardened resolve is enough compensation for this.

One thing to do when working with charts, as in many other tasks, is to cultivate "the peace of mind" which according to Poincare "does not separate one's self from one's surrounding". When that is done successfully, then most other things will follow naturally. Peace of mind produces right thoughts. Right thoughts produce right actions, and right actions produce work which will be a material reflection for others to see.

E) Boredom

This is the opposite to anxiety and is commonly associated with ego problems. Boredom means that you are not seeing things freshly, and your analysis is vulnerable. When this occurs there is a need to focus your mind elsewhere for a time being other than at the chart, preferably on other supporting work such as momentum analysis, etc.

When you are bored, stop. Do something else and call it a day. If you do not stop then you will become susceptible to making a big mistake. Boredom plus a *big* mistake can lead to major losses. The best remedy for me has been coffee and sleep, or preoccupation with other aspects of technical analysis.

There are, as with all professions, boring tasks that, however, must be done and for the wave analyst the worst is in making a current analysis fit the main scenario all the way to the beginning of a sequence. If the daily pattern happens to be part of a sequence stretching back several months it becomes easy to become distracted. Sometimes, it seems such a waste of time. But back-tracking is essential to the understanding of the current pattern.

Boredom is usually a signal that the analyst is taking things for granted. On the first sign of boredom, go through what you have done



before, at least twice. This is a small price to pay, knowing that the penalties for sloth will sooner or later be great.

F) Impatience

This is almost similar to, but not quite the same as boredom. Impatience almost always stems from one cause: an under-estimation of the amount of time the analysis will take. This is particularly true when market action has settled into a lazy sideways consolidation. You can never be certain what kind of pattern will turn up.

Impatience is the first reaction against a setback, and can soon turn into anger and frustration if one is not careful.

It is best handled by allowing an indefinite time for the task, or by doubling the allotted time when circumstances force time planning. It can also be prevented by scaling down the scope of what one wants to accomplish. Overall goals must be scaled down in importance, whilst immediate goals must be scaled up.

Part VI

A Typical Elliott Wave Trading Plan

*There's a price for too much arrogance,
a price for too much greed;
And in complacent ignorance,
we've sown the whirlwind seed.*

Don Simpson, from the song "Serpent's Reach"

Errors in trading occur due to a variety of reasons, but the most common causes of trading disasters can be traced to three *cardinal sins*, namely *arrogance, greed, and ignorance*.

The sin of arrogance is less frequently seen nowadays; increased volatility in the forex markets has taken its toll. Traders who presumed to possess the *inside track* on market movements, and speculators who tried to will the market to go their way before it is ready, did not survive this far. There are not enough of the cocky traders left to make a mark on the casualty chart.

On the other hand, the incidence of the sin of greed waxes and wanes **like** an epidemic with the rise and fall of prices in the currency markets.


The Wave Analyst

There is no way to smooth the swings except by changing the way people think. And *that* is an even more difficult proposition than eliminating greed in the marketplace.

The sin of ignorance is the most pervasive of the lot. With the amount of money being shifted around at the slightest perception of impending market change, its not unreasonable to presume that players involved in this *zero-sum* game actually understand the mechanics of price change. But the moans of victims who were zero-summed in their trading accounts at some point in the game is actually on the rise. So one is tempted to say that ignorance of market mechanics is endemic in the market place.

This last *sin* is one that nobody needs to suffer from. Even if the causes of price change are not yet fully understood (nobody knows exactly why people decide to buy or sell en masse at a point in time), it is enough to know what *does not* cause prices to fluctuate. For instance, the laws of cause and effect in the science of physics do not apply in the largely psychological phenomenon of price change. In another, price movements are not wholly random in all degrees of possible intervals between price changes; the October 1987 stock market crash drove this painful lesson home.

If a tool is workable, it is not of over riding importance to know exactly the *why's* and *wherefore's* as long as the basic truth behind it is understood. This is especially true of the Elliott Wave Principle. It suffices to know that the Principle is based on the proposition that the market is comprised of people, and that people will never change. They will react to similar situation in the same manner over and over again.

The Elliott Wave Principle, to my knowledge, was the first to explicitly recognize that market mechanics do not cause changes in market direction; only changes in psychology do. What R.N. Elliott has done is to establish normative behavior patterns from which specific rules can be declared; and from these rules broad guidelines and description of tendencies can be inferred. Specific market action can then be derived from these inferences.

Given the highly serialized structure of the model, a study of Elliott Wave Principle will train one to assess the probability and frequency of a future event. Situations which are deemed *impossible* under the various rules and guidelines are eliminated from consideration, thereby limiting the possible eventualities the trader has to cope with. Robert R. Prechter once likened the knowledge of the Elliott Wave Principle to the possession of a road map. With it, one can make a few deductions that will identify the most likely path that a bus will take (even if one has not made the trip before), thus eliminating 99 percent of other possible routes across unpaved lands.

It should immediately become obvious that the use of Elliott Wave Principle is not a mechanical approach to the market place. It is an approach in which *probability* rapidly becomes the catchword; it is a method in which the terms *prediction* and *forecasting* become irrelevant, even unwelcomed. One soon learns to replace these terms with the word *anticipate*.

Any analysis derived by application of its principles will always imply a forecast or prediction. Don't let the *implied* turn into *explicit*. While the Wave Principle is probably the most effective forecasting tool available, do not use it to forecast or to predict. Use it only to establish targets with high probability of achievement, or to establish alternative courses if subsequent market action nullifies the original objectives.



The Wave Analyst

This may disappoint those who are looking for rigid, absolute answers to the forex markets' questions. But it is a fact of life that most predictions and forecasts are destined to fail; it is simply impossible to pinpoint the confluence of specific time and price elements at any part of a market movement. The best way to use the wave principle is to accept this fact. Provide for the occurrence of errors of judgement, then subsequently deal with the alternatives to produce winning strategies. There are no *guarantees* in the forex market, there are only *maybes*.

If one is to derive maximum benefit from this method, one has to learn to accept it for what it is, a tool to provide the input necessary to quantify the degree of risk or degree of reward in the current market structure. It is not a magical philosopher's stone; it does not turn base ideas into gold.

To a certain degree, this quantification process – lets call it “money management” – is more important than the analysis part of the tandem. To use an old analogy, analysis is the door to fabulous riches, while money management is the key that opens that door.

The first requirement of money management is a trading plan -a written, well-analyzed, step-by-step process, not a set of vague intentions kept in your head. This plan must not only provide for entering trades; it must also provide contingency for taking losses and accepting profits.

Put it this way. A trading plan without a system of cutting losses short and maximizing profit potential is like boarding a car without brakes and gearshift. You will certainly be able to depart, but it is doubtful if you will arrive at your destination. The worst, of course, is not having a trading plan at all. Its like boarding a car without a steering wheel. It is doubtful if

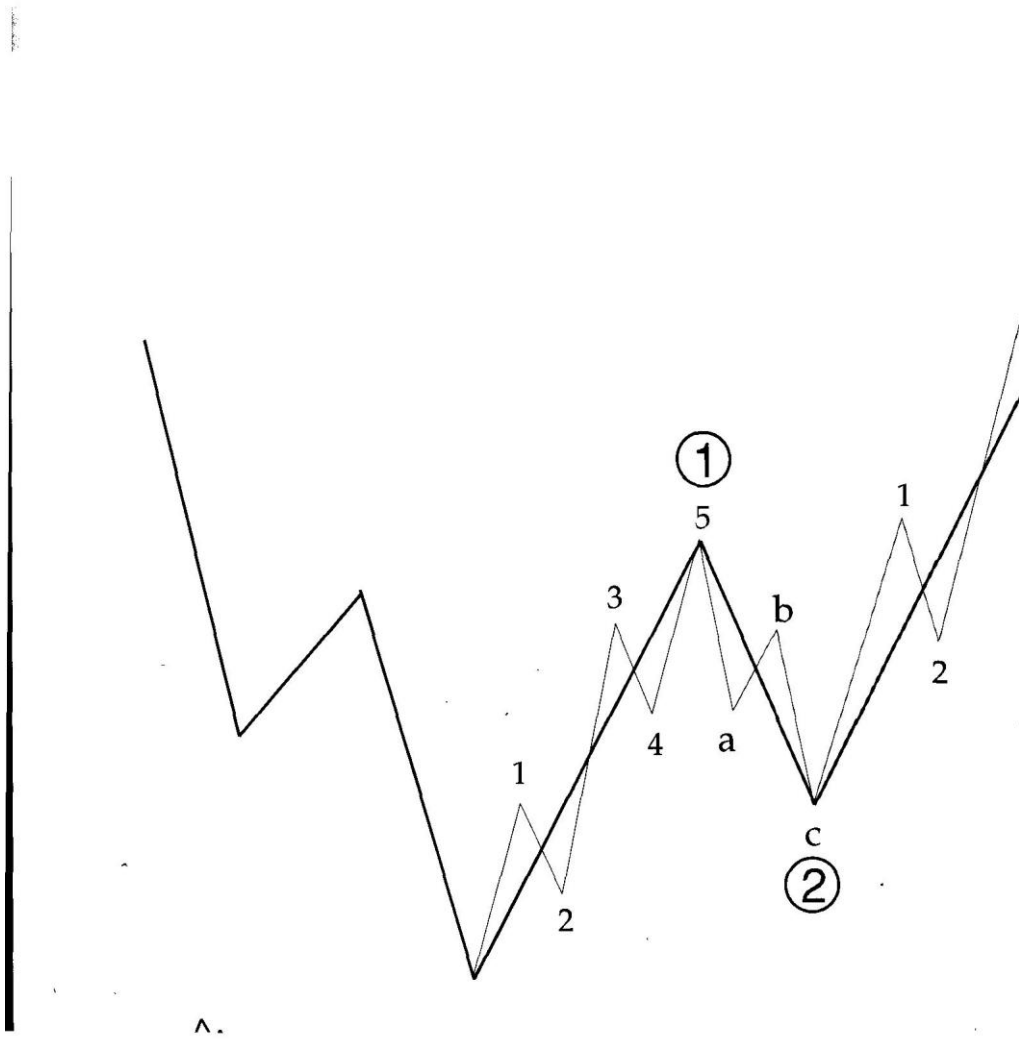
you can even depart; it is certain that you will never arrive.

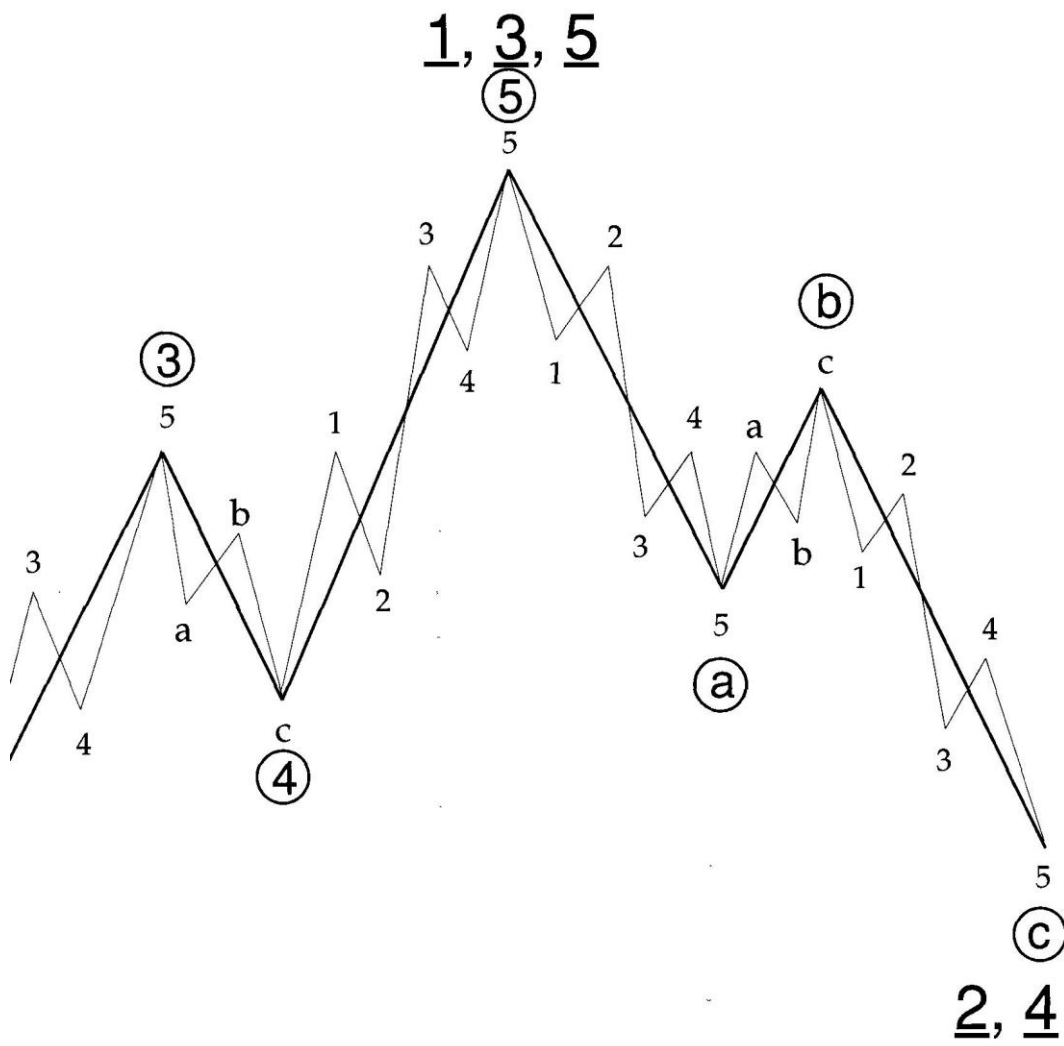
In drawing up a trading plan, its spirit should be what Robert Beckman once said: “We are not trying to beat the market. We are trying to join it.” There are subtle implications in Beckman's plea. The objective should be less in being “right” but more in being “successful”. In other words, do not aim at getting a correct “forecast” for ego-boosting reasons. Rather, aim at making money on the trade, even when the forecast was wrong.

There is no contradiction involved here, from the standpoint of Elliott analysis. Most of the time, the probability of likely occurrence are so evenly distributed that favoring one scenario over others becomes a matter of preference. It is only at certain times in the market development that reliable, precise projections can be made. At most times, it is only possible to assess that being long is preferable to being short, or vice versa. With meticulous planning, that information is usually enough to succeed in the market place.

Very Short Term Wave Scheme

— *tick-by-tick Price Chart*
— *10-minute Price Chart*

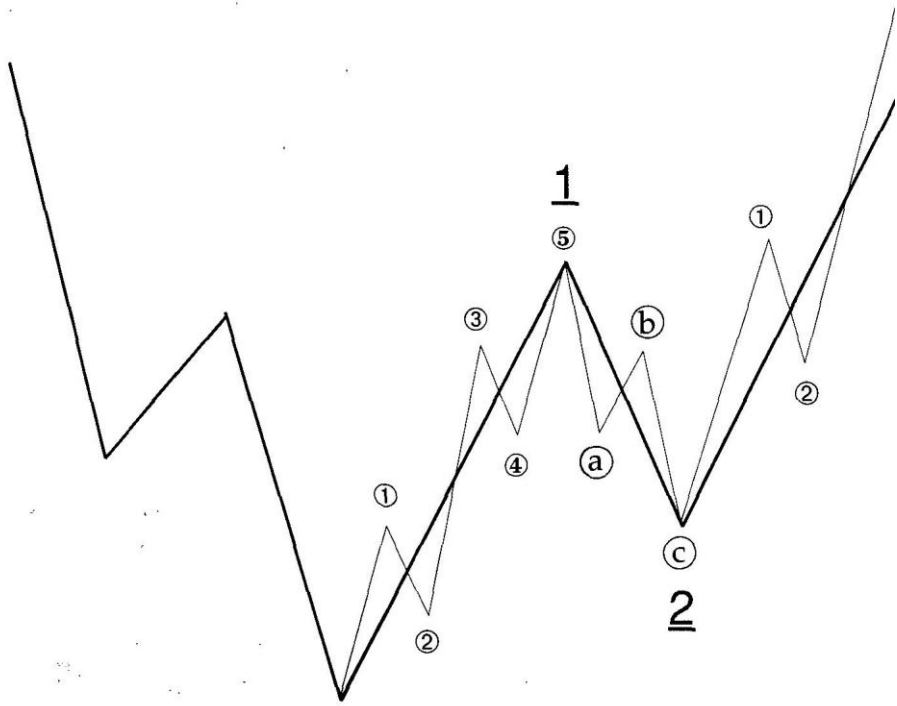


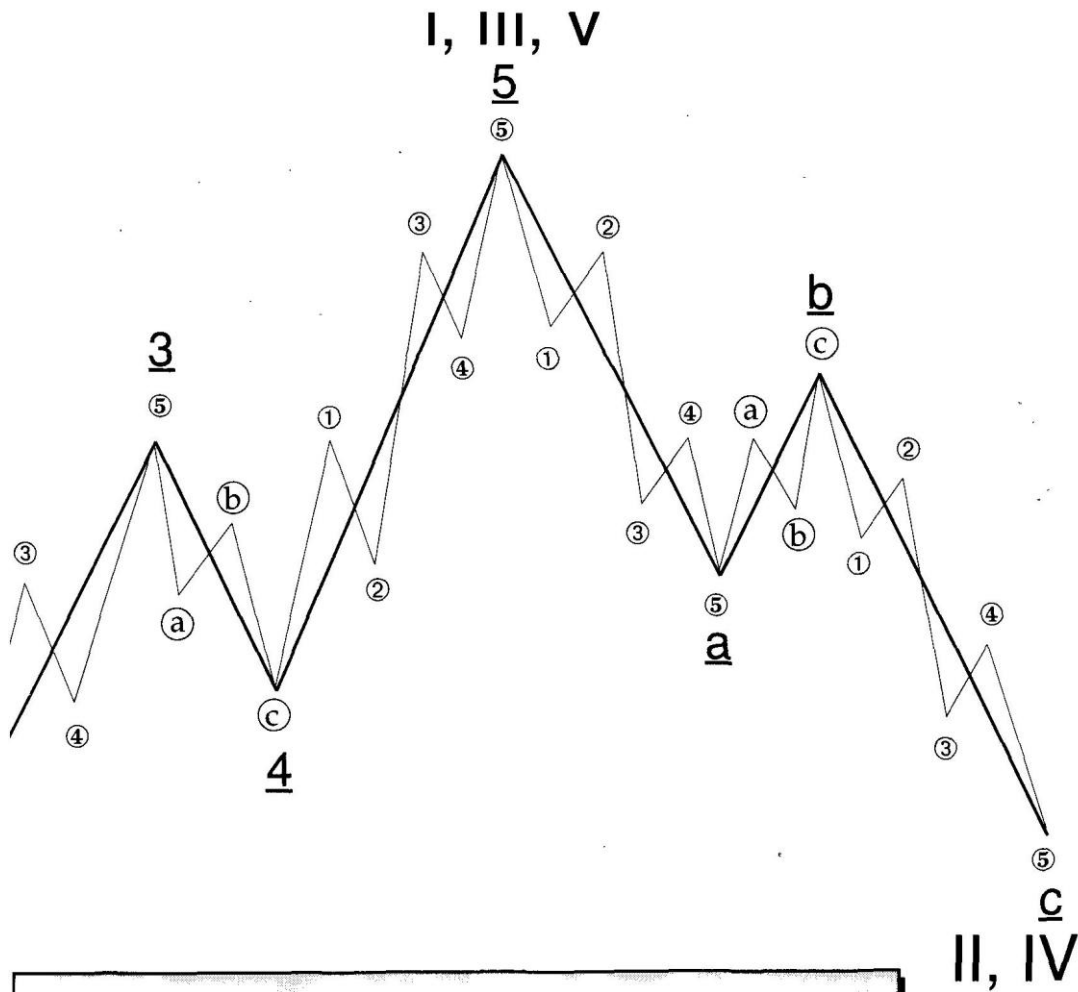


Trade Technique:	Market Scalper
Typical trade time-frame:	5 minutes to 1 hour
Technical support:	Real-time tick-by-tick momentum analysis is essential

Short Term Wave Scheme

— 10-minute Price Chart
— Hourly Price Chart



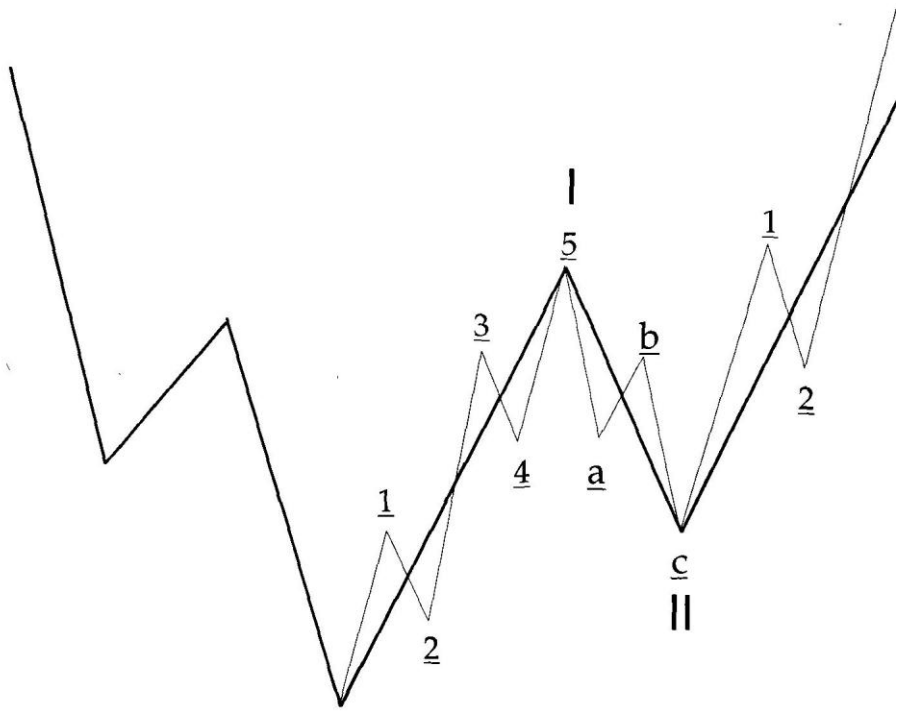


Trade Technique:	Positions taken to capture minimum of 1 % price movements
Typical trade time-frame:	1 - 3 days
Technical support:	Tick-by-tick and 10 minute momentum analysis for timing of trade initiation and termination. Hourly and daily momentum analysis for decision support.

A typical Elliott Wave Trading Plan VI - 4

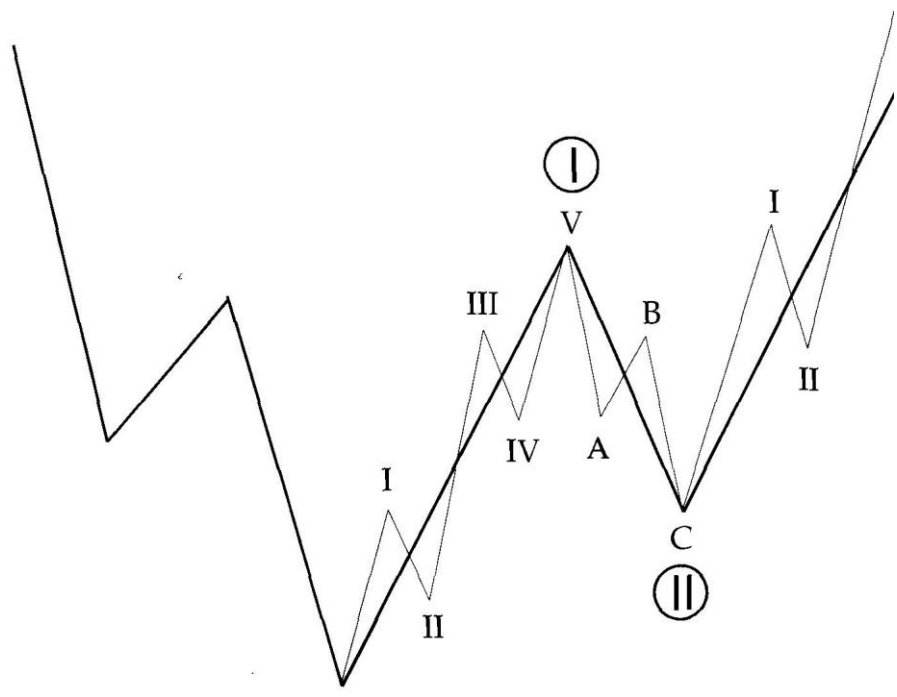
Medium Term Wave Scheme

— Hourly Price Chart
— Daily Price Chart

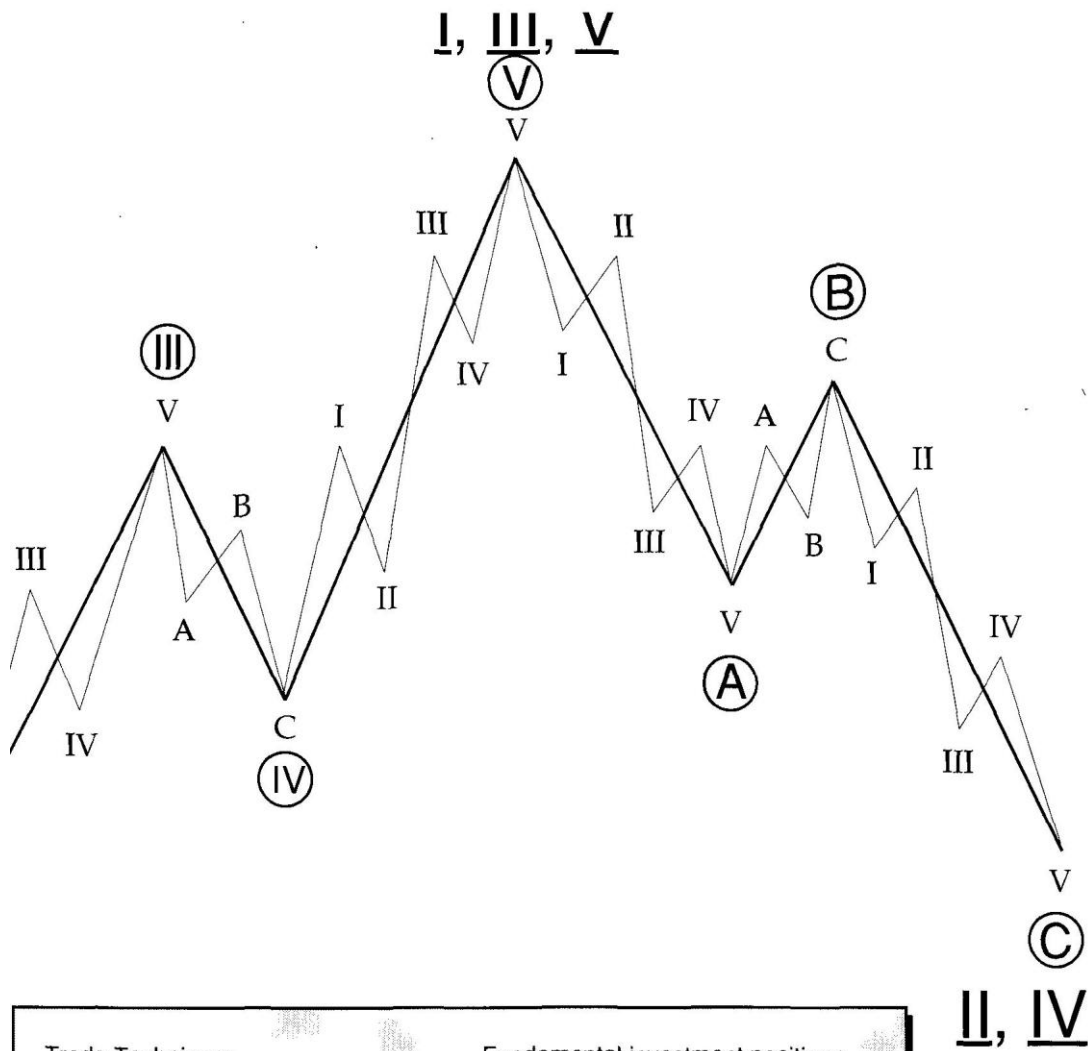


Long Term Wave Scheme

— Daily Price Chart
— Weekly Price Chart



 The Wave Analyst



Trade Technique:	Fundamental investment positions or balance sheet strategies seeking to capture a minimum 10% price movement
Typical trade time-frame:	3 - 6 months or longer
Technical support:	Continued long term momentum analysis.

A typical Elliott Wave Trading Plan VI - 5

Preparations for the Typical Elliott Trading Plan

Ascertain from the preceding wave count that a five-wave sequence is highly probable from Point 0 (see *Trade No. 1*). Preferably, the expected five-wave move should be part of a larger pattern that could be comprised of five waves itself. In this ideal situation, the move from Point 0 to Point T (termination of the five-wave sequence) should compose the 1st Wave of the larger pattern (see Short-Term Trading Plan). However, if a large zigzag or any other deep correction is expected from the wave count, the Trading Plan may be activated. Just make it a point to remember that the potential movements are limited in this case.

Divide your trading capital into 10 equal units, if you are trading on *cash* basis. If you are trading on margin basis, divide your risk capital into 10 equal units, just the same. The intention here is to prevent the trader from risking his entire stake in any one trade. This also ensures that the trader will survive errors in judgement early in the trading exercise, and will have the wherewithall to continue the trading plan.

The nominal value represented by the leveraged capital is irrelevant to the over-all scheme of this money management system. If you are taking market positions on the basis of *trading limits* (as in the case of a bank forex trader), the maximum net exposure recommended in the trading plan should correspond to about two-thirds of your limit.

Finally, this typical Elliott Trading Plan may be used with any of the four wave schemes mentioned, the very-short term, the short-term, the medium-term, and the long-term wave schemes. The tactics won't vary significantly; only the time horizons of the recommended trades will differ. For example, the time of travel from Point 0 to Point T in the Very Short Term



The Wave Analyst

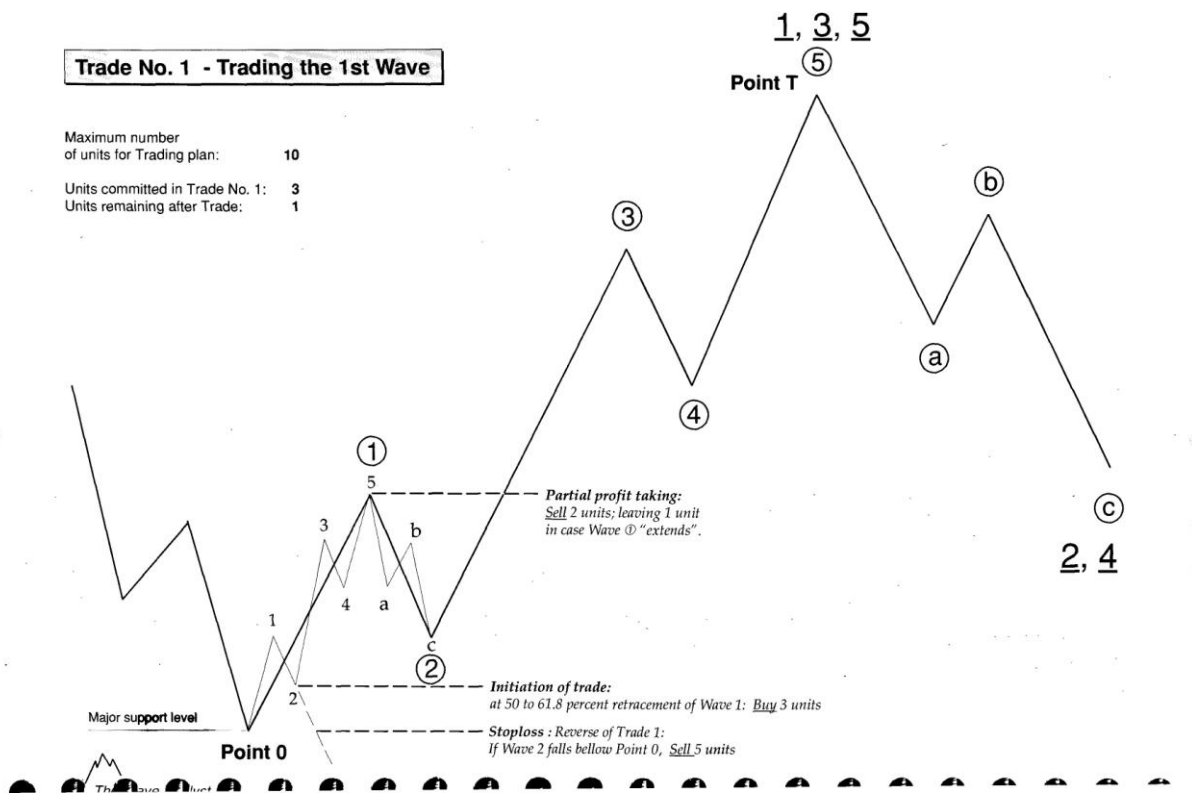
Wave Scheme might be as short as 18 hours. On the other hand, it might take all of 7 or 8 months for the market to travel from Point 0 to Point T on the Long Term Wave Scheme.

The size of the price swings will of course vary from one wave scheme to the next. It can range from 75 to 125 *points* in the tick-by-tick chart to 200 pfennigs in the Long Term USD/DEM chart. Any choice of trading horizon, if a choice is available, will depend largely on the capacity of the trader to take losses. The shorter the wave scheme being followed, the smaller the risk in terms of face value. In percentage terms however, the risk in trading in accordance with the Very Short Term Wave Scheme should equal the risk inherent in the Long Term Scheme.

All of the trades described in the Typical Elliott Trading Plan follow a certain pattern, namely: 1) initiation of trade, 2) setting-up of stop loss levels, 3) case-by-case addition to existing position, 4) provision for partial profit-taking, 5) case-by-case reinstatement of position, and 6) termination of trade.

Trade No. 1 - Trading the 1st Wave

Maximum number of units for Trading plan: 10
 Units committed in Trade No. 1: 3
 Units remaining after Trade: 1



The above chart is a technical analysis diagram showing price movement over time. It features a series of peaks and troughs, with specific points labeled for trade entry and exit. The chart is divided into five waves, with the first wave being the most prominent. The chart is labeled with '1, 3, 5' at the top, 'Point T' at the peak, and '2, 4' at the end of the second wave. The chart is also labeled with 'Major support level' at Point 0, 'Point 0' at the start of the first wave, and 'Point 1', 'Point 2', 'Point 3', 'Point 4', 'Point 5', 'Point a', 'Point b', 'Point c' at various points along the chart.

Trade No. 1

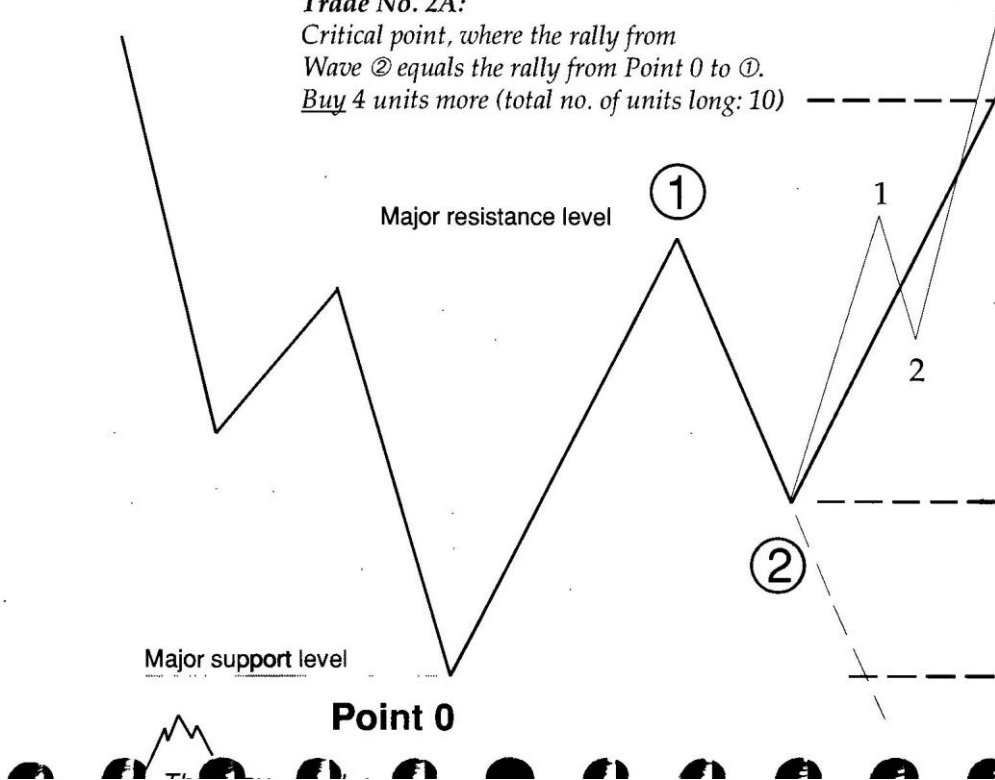
- 1) A sharp rally usually takes off from a pivotal juncture like Point 0. **Upon retracement of 50 to 61.8 percent of that rally, buy 3 units. Place a stoploss-reverse order just a few points below the level of Point 0.**
- 2) The reverse order calls for sale of 5 units but not more. The purpose of the net short position is to try to recover all or enough of the losses from the long trade so as to prevent the capital from being impaired. A bigger stake on the downside is unjustified at this point.
- 3) Remember: your analysis indicated that Point 0 is probably a pivotal point. If the analysis was wrong, it probably erred in identifying Point 0 as the end of Wave 5 in the previous sequence. If a mistake was indeed made, the odds are that Point 0 is an ending point for minor Wave 3 and therefore the rally from Point 0 is part of minor Wave 4. The downside profit potential, namely minor Wave 5, is therefore limited and should be traded as such. In this situation, being net short of 2 units fulfills the expressed objective of the reverse order, which is to recoup losses from Trade No. 1. Turning in a profit from the reverse trade is welcome, but not of overriding importance.
- 4) **When the upmove from Point 0 has completed a five-wave sequence, thereby terminating Wave ① as well, sell 2 units.** Leave one unit long in case a low-probability *extension* occurs at this phase. The probability for a peak of Wave 5 may be calculated by taking the price difference between the peak of Wave 3 and Point 0, then multiplying it by the ratio 0.618 and adding the product to the termination of Wave 4. Lets call this process the *Fifth Measurement Method*. Refer to Part IV for other methods on how to predict ending points for 5th waves.

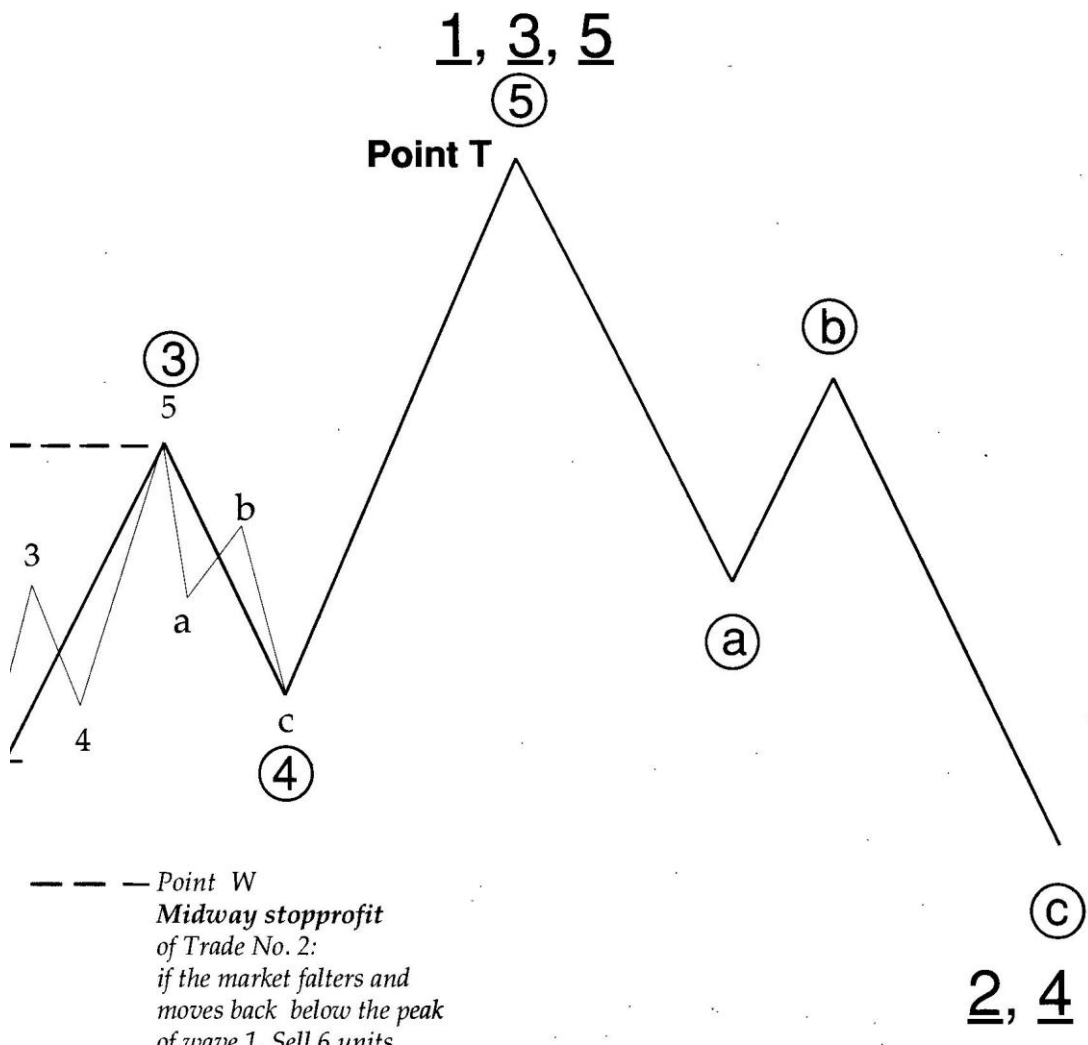
Trade No. 2 - Trading the 3rd Wave

Units from Trade No. 1:	1
Units committed in	
Trade No. 2:	6
Trade No 2A:	10
Units remaining after Trades	3

Partial profit taking: - - - -
Sell 7 units; leaving 3 units
in case Wave ③ "extends"

Trade No. 2A:
 Critical point, where the rally from
 Wave ② equals the rally from Point 0 to ①.
Buy 4 units more (total no. of units long: 10)





--- Point W
Midway stopprofit
of Trade No. 2:
if the market falters and
moves back below the peak
of wave 1, Sell 6 units

— **Trade No. 2:**
At 50 to 61.8 percent **retracement** of Wave ① :Buy 5 units
Total number of **units long** : 6 (5 + 1 unit from Trade No. 1)

— **Initial Stoploss:**
Reverse of Trade 2: Sell 10 units



Trade No. 2

- 1) **When Wave ② has retraced to 61.8 percent of Wave ①, buy 5 units.** The open position is now a total of 6 units long. Since 3rd waves are generally the most powerful phase in any five wave sequence, one can choose to be more aggressive at this point. Another reason for confidence at this time comes from the following observation: a minor five-wave sequence has terminated in the previous upwards pattern. So even if a major expectational error was made in projecting the continuation of the move to Point T, the implication is that there should be at least one more five-wave sequence to the upside emanating from the end of Wave ②. Commit up to 60 percent of your capital in this particular trade.
- 2) **Put in place a stoploss-reverse order at just below the level of Point 0.** If the order is *elected*, sell 10 units. The net short position will be 4 units; even a relatively small movement falling below Point 0 should suffice to recover any loss incurred on Trade No. 2.
- 3) The order to reverse can now have more aggressive intentions relative to the first stoploss order, even if they are situated at the same level. The reasoning goes like this: There was a five-wave sequence from Point 0 to the peak of Wave ①. If it was followed by a drop below Point 0, then it is almost certain that the original analysis was flawed. The upmove from Point 0 to the Wave ① top should be correctly labeled as a C wave of an irregular correction. Therefore what has been labeled as Wave ① peak could actually be the terminus of a larger degree Wave 2. or Wave 4.

- 4) If the statement in 3) is true, the ensuing drop below the level of Point 0 has a long way to go. The termination of Wave 2 or Wave 4 mentioned above **should be followed by a downmove as damaging as the five-wave rally projected from Point 0 to Point T.** That is why the reverse order for Trade No 2 not only seeks to recoup any losses from the upside trade, but also serve as gambit in a new trading plan oriented downwards.

- 5) If the market moves higher according to expectations, contingency plans to preserve some of the profits have to be in place. **The most critical point at this stage is located at (W), the level where the distance traveled by the rally from Wave ② equals the distance traveled by the upmove from Point 0.** If the market falters near to that level then drops far enough to overlap the peak of Wave 1 (in Wave ③), sell 6 units to square off all positions. Then stand aside. There is nothing more that could be done rationally until the market unfolds further.

- 6) **When the price has exceeded Point (W) by the equivalent of 10 percent of the distance between Point 0 and end of Wave ①, buy 4 more units.** This brings the total number of units long to 10. **Call this Trade No. 2A.** There is now sufficient grounds to expect that Wave ③ will be at least 1.618 times as long as Wave ①. If Wave ③ extends, as is the case 60 percent of the time, it will likely be 2.618 times as long as Wave ①, or even longer. Clearly, it is desirable to be very aggressive at this point. Commit the entire stake of 10 units.

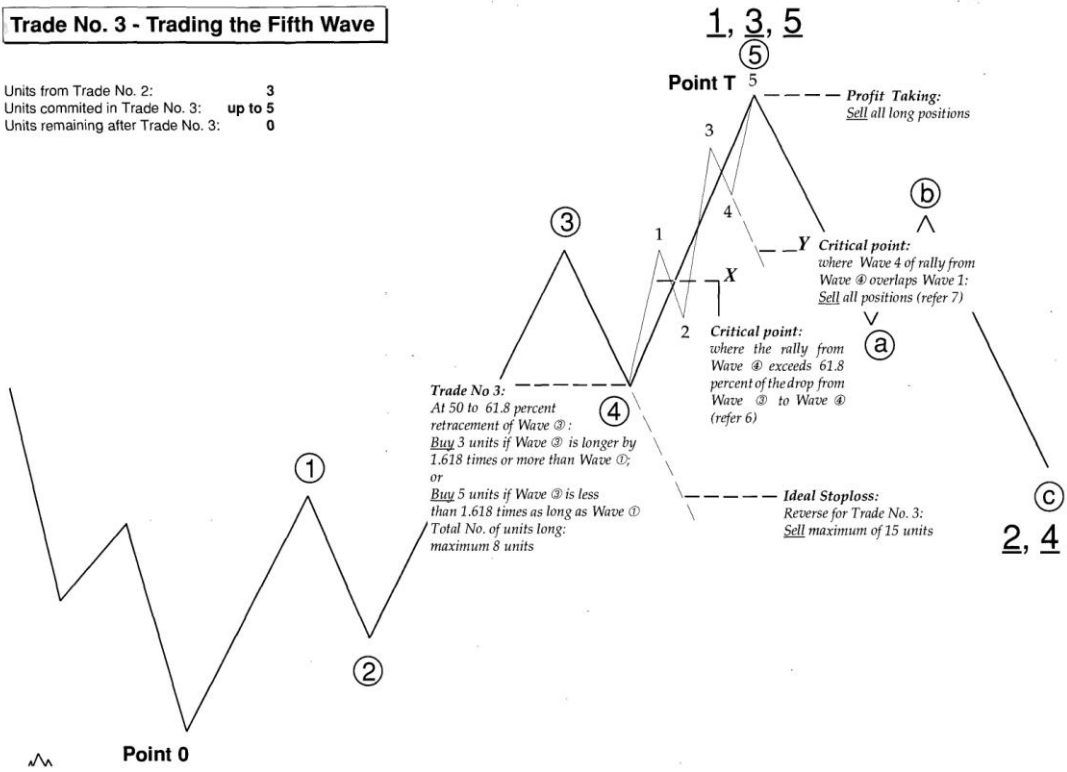
If you placed the stop profit level at the peak of Wave 1 (as suggested above), **the most that can happen is that you will break even** on Trade No. 2 and No 2A if the market drops unexpectedly. The whole trading effort has been geared towards this big moment. All the trades before and after this juncture are mere trading exercises. These two trades are what it is all about.

- 7) When a sequence of five waves take shape from Wave ②, project the probable terminal of Wave ③ by using internal and external wave relationships. Use the *Fifth Measurement Method* to calculate the probable end-point of Wave 5 in Wave ③. Measure also the distance traveled by Wave ①, multiply it by 1.618, then add it to the bottom of Wave ②. The price objective provided by this method should not vary much with the target obtained from the *Fifth Measurement Method*.
- 8) **Sell 7 units at the expected peak of Wave 3** *Fifth measurement method*, leaving 3 units long to take advantage of a high-probability 3rd wave extension that may materialize.

A typical Elliott Wave Trading Plan VI - 9

Trade No. 3 - Trading the Fifth Wave

Units from Trade No. 2: 3
 Units committed in Trade No. 3: **up to 5**
 Units remaining after Trade No. 3: 0



Trade No. 3

- 1) **After Wave ④ has retraced 38.2 to 50 percent of Wave ③**, one of the following steps is recommended:
 - i) Buy 3 units if Wave ③ is 1.618 times as long as, or longer than Wave ① ; or
 - ii) Buy 5 units if Wave ⑤ is less than 1.618 times the length of Wave ①.
- 2) The reasoning for the above steps goes along this line: If Wave ③ was longer than Wave ①, by a ratio of 1.618 or higher, Wave ⑤ is not likely to extend; its development is likely to be normal. Moreover, if Wave ③ had been extraordinarily strong, and had gained ground very quickly, Wave ⑤ has higher chances of turning into a *failure*, which would be the inability to exceed the peak of precursor Wave ③. Therefore, being overly optimistic of the upside potential at this point is not justified.
- 3) If Wave ③ was less than 1.618 times the length of Wave ①, Wave ⑤ has a very high likelihood of being extended. In this case, what is being labeled as Wave ⑤ is actually the middle phase of an extending Wave ③. Being aggressively long at this phase is therefore reasonable, even desirable.
- 4) **The ideal stoploss-reverse order for Trade No. 3 should be placed just below the level of Wave ① peak.** If the decline which is being labeled as Wave ④ drops below the peak of Wave ①, the premise of a five-wave sequence to Point T is wrong. The upmove to Wave ③ should therefore be more appropriately classified as a *zigzag correction*.

Any drop from the peak of this zigzag is therefore part of a large-degree decline which should travel way, way down the chart. The stoploss-reverse strategy can therefore be very aggressive, as the odds for an extensive downward move is very high in this situation. If the stoploss-reverses level is hit, sell up to 15 units, depending on the net long position in Trade No. 3.

- 5) If Wave ③ was extended (i.e., it is at least 1.618 times as long as Wave ①), and Wave ④ has given indications of following a 50 percent retracement or less relative to Wave ③, then a stoploss order may be placed at the level just below the corresponding 61.8 percent retracement of Wave ③.

There is no hard rule being invoked here. This contrived stoploss level will only be effective if the pattern of Wave ④ follows one of the sideways correction patterns (i.e., a flat, an irregular, a triangle, or a double-three). The basis for a limit below the 61.8 percent retracement is the observation that if a correction pattern starts with a sideways pattern, the likely limit of the retracement is 61.8 percent. Also bear in mind the Principle of Alternation with Wave ②.

- 6) **If the drop from the peak of Wave ③ can be established definitely as a *three* (composed of 3 waves) rather than a *five*, point X becomes a critical juncture for any rally to new peaks.** Beyond this point, the probability of further declines diminishes to a negligible degree. **With a 3-wave count from the peak of Wave ③, the only remaining argument for an extensive, large degree decline described in item 4) is for a small irregular correction to be ending at point X** (this argument is technically in error when the larger

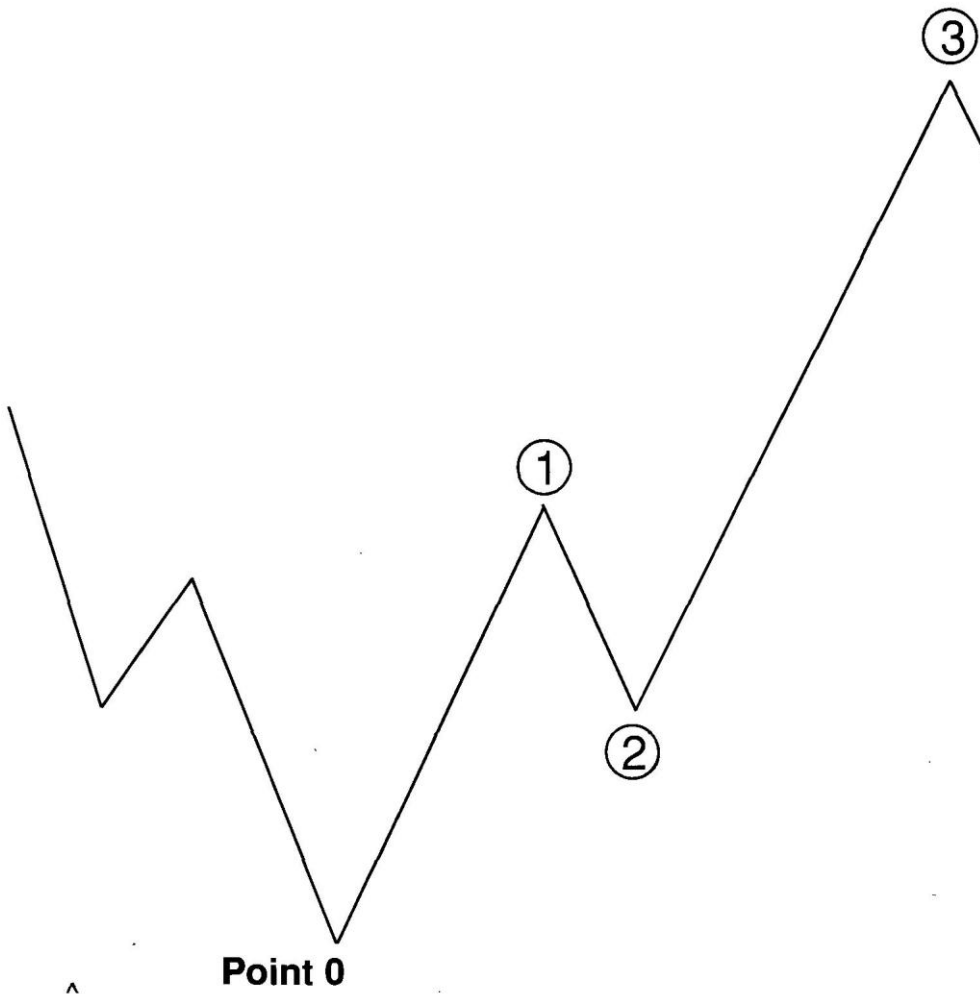
degree wave schemes are being traded). However, if the market rallies above point X, that is to say, higher than 61.8 percent of the drop from Wave ③ peak, then the irregular correction scenario is negated.

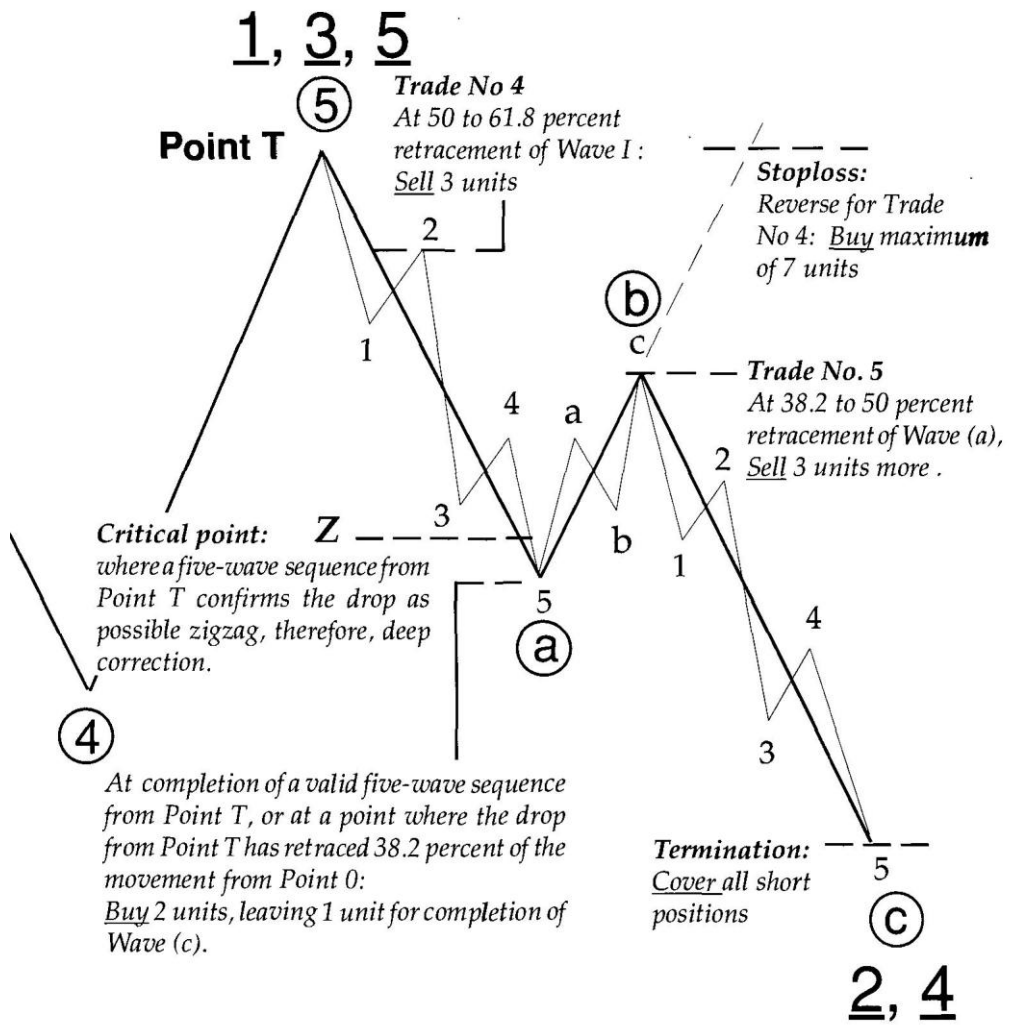
- 7) As in the earlier trades, a plan to preserve some profits should be in place once the market has sufficiently moved upwards. **If the market has gone as high as the peak of Wave 3 of Wave ⑤, but subsequently declined to the level of Point Y, then sell all positions and stand aside.** In this hypothetical example, it is very likely that Wave ④ is not over yet and that the corrective pattern (probably an *irregular*) will probably bring the market below the origin of the adjacent upmove. It is desirable to side step the short duration but generally destructive effect of the correction's resumption.
- 8) As before, once a five-wave sequence has nominally formed, project the probable ending point of Wave ⑤ by internal and external wave relationships. The peak of Wave 5 in Wave ⑤ may be calculated by using the *Fifth Measurement Method*, the peaks of Wave 3 and Wave 4 all in Wave ⑤. The peak of the larger structure Wave ⑤ may be similarly derived by applying the method on the peaks of Wave ③ and Wave ④. The peak of Wave 5 coincides with peak of the larger degree Wave ⑤.
- 9) At this stage, the trader has probably exploited most, if not all, of the potential of the five-wave movement from Point 0. It may be the case that Wave ⑤ will eventually extend. Or what has been described as Wave ⑤ peak may actually be just the mid-way point of a grossly extended Wave ③. But we have no way of knowing this at the peak of Wave ⑤. There is no longer any excuse for keeping the long positions open. The name of the game is *taking profits*; at a certain point *paper profits* have to be turned into hard cash. And this is as a good place as any.

- 10) So, at any of the levels where either Wave 5 or Wave ⑤ are expected to peak, sell all long positions without delay. Stand aside and wait for appropriate conditions to trade the correction of the movement from Point 0 to Point T.

Trades No. 4 and 5 - Trading the Corrective Waves

Units from Trade No. 3:	0
Units committed in Trade No. 4:	-3
Units committed in Trade No. 5:	-4
Units after termination of trade	0





Trades No. 4 and 5

- 1) **When Wave 2 of ① has retraced 50 to 61.8 percent of Wave 1, sell 3 units.** Since the expected decline is a mere correction, although a large one, the profit potential is limited. Tactics are therefore adjusted accordingly.
- 2) Put a stoploss-reverse order just above the level of Point T. If the stop is *elected*, buy a maximum of units. The size of the stake depends on how the length of the previous Wave 3. If Wave 3 was not extended, reverse the position by buying up to a maximum of units.
- 3) **Point Z confirms a five-wave sequence from Point T.** The retracement pattern of ② is likely to be a *deep correction*, probably a zigzag.
- 4) The bottom of Wave 5, and therefore that of Wave ① as well, may be calculated by using the *Fifth Measurement Method*. **At the projected peak, buy 2 units, leaving 1 unit to take advantage of the hypothetical Wave ③ decline.** Alternatively, take some profits at the level where the drop from Point T has retraced 38.2 percent of the upmove from Point 0 to Point T. The rationale is this: If the *count* of the minor waves can not precisely produce a five-wave count (as it often happens in short-term wave schemes), then the probability of a sideways correction (for example, a flat) is too high for comfort. Taking some profits at 38.2 percent retracement level is a very logical action.
- 5) **When Wave ② has retraced 38.2 to 50 percent of Wave ①, sell 3 more units.**
- 6) Move the stoploss (no reverse this time!) to above the 61.8 percent retracement level of Wave ①. If the stoploss is elected cover all short positions and stand aside.



- 7) Finally, when a five-wave sequence from the peak of Wave ⑥ has taken shape, compute for the likely trough of Wave 5 in Wave ③ using the *Fifth Measurement Method*. Project also the target for Wave ③ by assuming equality between the length of Wave ④ and Wave ③. **Cover all short positions at the objective closest to the current market price.**
- 8) Wait for a new sign of a rally to activate the Elliott Wave Trading Program through another cycle.

Notes on trading corrections

There is a maxim popular with wave analysts, which should set the tone for this section: “You make money trading the impulse phases; you lose it trading the corrections.”

There is a lot of truth in this somewhat facetious observation. But are reasons for having your skill in trading corrective waves. The market spends about 70 percent of the time in consolidations, while impulse waves take up the rest. Side-stepping corrections of course mean that the trader will be idle for more than half of the time. There are situations where corrective waves can be extremely profitable, as in second waves, for example. It is normal for second waves to retrace 50 percent or more; full retracement of 100 percent is not unusual.

Trading fourth waves can be very dangerous, however. There is no reliable way to predict where third waves will end. Many a pause suspected of being the onset of a 4th wave correction eventually turn out to be just that -a minor retracement in a roaring 3rd wave extension.

Trade corrective waves if you require, but **proceed with extreme caution.**

Part VII

Case Studies

Applying Elliott Wave Analysis on Very Short Term Patterns

What you have just read is probably more wave analysis material than you would care to know. Reading it was easy. Applying these various rules, tenets and observations on market data, with the expectation of making money on the exercise, is something else.

The easiest way to learn is by looking at examples; wave analysis is no exception. Experience has shown that the principles are best learned by looking at “blow-by-blow” accounts of actual analysis and tactics. The learning process is further facilitated if critique of the performance is provided.

Effort has been made therefore to provide a set of examples that can also serve as “wave count exercises” to the beginner in wave analysis. These were actual recommendations made on the Reuters and Telerate networks during the eight weeks from May 18 to July 10, 1987. This period was primarily chosen on account of the complexity of the market movement during this time. Hopefully, this will help prepare the beginner to the realities of forecasting wave analysis. It should be appreciated that Wave Analysis is an ongoing process of deduction and evaluation, the period in question should only be considered as one complex part of the overall structure.



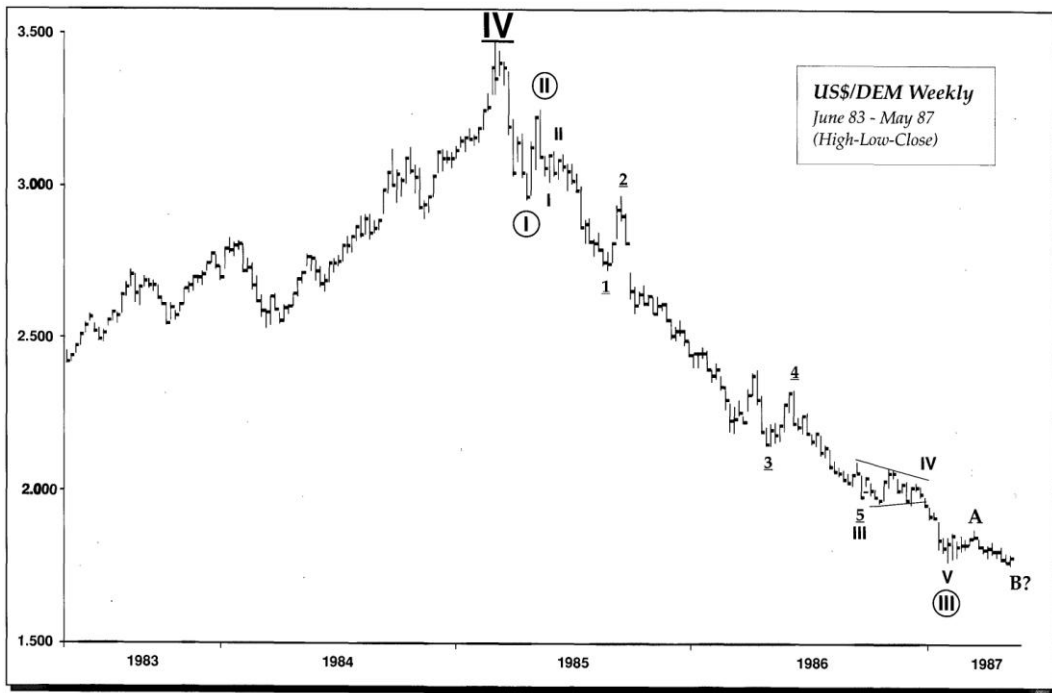
Beyond the textual context of the recommendations, I wanted to show the pitfalls that await the unwary, as well as the occasional rewards that comes the way of the wave analyst from time to time.

The purpose of the short term analysis was to anticipate the terminal point of the B wave of an "irregular" or "flat" pattern from the lows of January 1987. Once the terminal point was identified, the next step was to determine the structure and objective of the ensuing C wave.

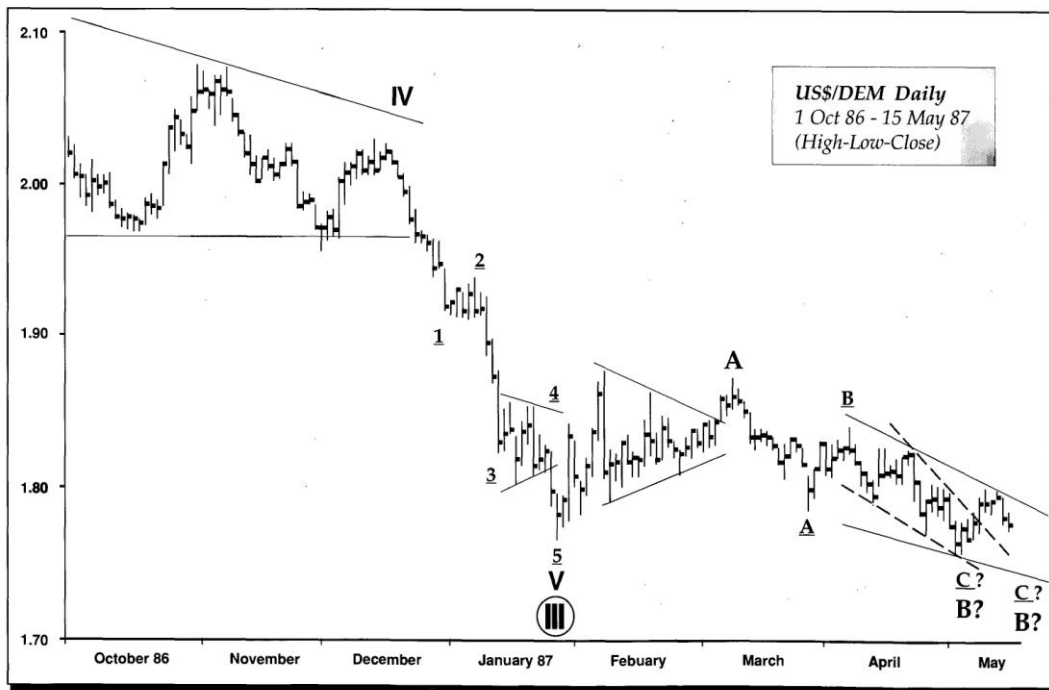
Wave A had conclusively ended in early March at 1.8750 - The B wave objective therefore was somewhere below the 1.7665 origin of wave A. Ideally, the projected point should be 1.382 times the length of wave A if the pattern was an "irregular". This scenario had 1.7250 as an objective. On the other hand, if the pattern was a "flat", the terminal point of B should not go far from the 1.7650 area.

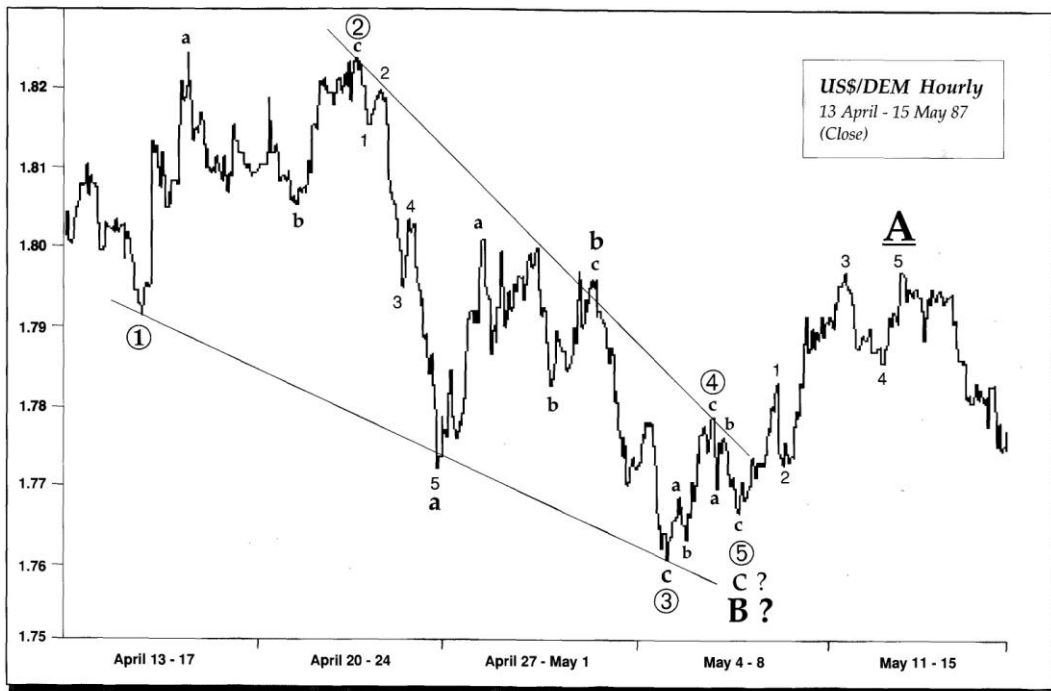
The price action leading to the bottom of wave B was expected to take shape of a downwards diagonal triangle, or wedge. As the commentary started in the week of May 18, 1987, the bottom of wave B may have already been seen at near 1.7650 or, as the favored scenario called for, it may be seen at the lower 1.70's.

The prevailing sentiment at this time was one of extreme pessimism for the US dollar's health. One New York analyst had even proposed that the dollar was about to drop into a "bottomless pit". The Elliott wave outlook was slightly more optimistic. Subsequently to the end of the B wave, a sharp rally to the area of 1.90 was expected to complete an irregular or flat pattern.



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Monday 0745 GMT

I was hoping that action in late Friday would provide some clues on near-term direction, but there was not much to go on. Very short patterns indicate a probable snap-back to the 1.7850-1.79 DEM area but its guesswork after that point. The original scenario of a retrace to 1.8250 has very slim chances after the break of 1.7760 Friday, but I have nothing to replace it with at the moment. We will have to look elsewhere for new directions.

Tuesday 0750 GMT

The dollar is still susceptible to a very short-term tick-up to the 1.7850 area but these higher levels should be used to sell the buck on short-term. The medium-term outlook has not crystallized sufficiently to support an all-out recommendation to bash the dollar, but the short side of the market seems to be less risky at this point. While the scenario of rally to 1.8250 remains viable (it will be until a breakdown of 1.7610) it will take a push through 1.7950 to warrant revising this short term view.

Wednesday 0745 GMT

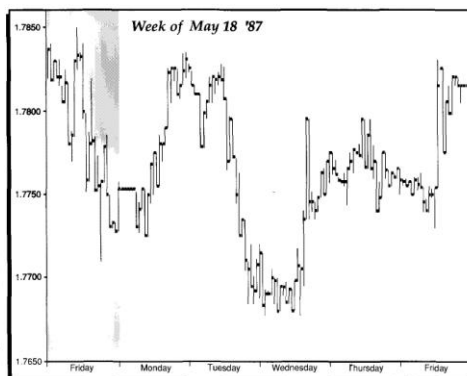
We've got the down move. Lets look at appropriate levels to take short-term profits. A small triangle in the 10-min graphics provides a target of 1.7660-1.7650. That's one. The price travel from 1.8005 May 11 to 1.7710 on May 18 multiplied by 0.618 and then subtracted from the 1.7830 high Tuesday will yield the area of 1.7650. That's two, and that's enough. The current decline may or may not go below 1.7650, but when the dollar gets there, *guerilla traders* should take their profits and wait for other opportunities to take low-risk positions again. The medium term is slowly shaping as a *drift* to the lower 1.70's, so at the moment, we can rule out a *hard landing* for the buck. The usual medium term strategy of sell-and-hold may still work, but on account of the limited downside potential (and horrendous whipsaws) the stomach-churning game of intra- and inter-day trading will probably provide the best returns.

Thursday 0742 GMT

By position takers standards, yesterday's low of 1.7670 was sufficiently close to the target of 1.7650-60, but it was not enough, as the hourly DEM chart will show only a 3-wave sequence from 1.7830. The rally since then from the 1.7670 lows rules out an immediate drop to 1.7650 to complete a 5-wave sequence. In the process, this inability to make a 5-wave sequence influences our outlook for the medium-term. If the market pattern traces out nothing but three-wave forms, then it is not in an *impulse* phase, and we can forget about immediate moves to new lows. This inevitably revives the issue of a possible move up to the 1.8250 area before *drifting* to new lows. What now? We missed the ideal target by just 10 pips on the Dollar/Mark, but I am not happy about it.

Friday 0750 GMT

The narrow range last night proved a boon as it gave us time to evaluate the near-term in depth. My Elliott discourse yesterday was slightly off. I failed to mention that a downmove is still possible even with three-wave patterns if the bigger picture is a *diagonal triangle*, which might be the current form of the Dollar/Mark. This thesis will undergo a crucial test today. Therefore we have no choice but temporarily join the ranks of the breakout artists. The most likely scenario calls for a sharp move to the 1.75-1.7450 area in about 56 hours, but this is confirmed only a breakdown of 1.7670. The joker in the pack, the view of a jackknife to 1.8250, gets a new suit with a break of 1.7850. The real message today is this: Take profits on out overnight cable longs and wait for a break through 1.69 to reinstate. There is a slew of figures coming out today, and while I normally ignore them when the wavecount is well defined, the present situation is so "iffy" that we will *trend follow* just this time.



Monday 0745 GMT

We are at the edge. With Friday's action being of no help. So once again, we look for very short-term trading opportunities in the meantime. We will likely get a break of 1.7850 today, judging from the way hourly patterns have evolved from Friday's vertical rise. This is a warning that the scenario of a *diagonal triangle* is on the verge of being nullified. A further break of 1.79 confirms that our *joker in the pack*, a rise to at least 1.8250, gets a new deal. Tactics: buy Dollars for a possible test of 1.79 in 24 hours. After which we will reassess the situation.

Tuesday 0752 GMT

We haven't breached 1.79 decisively yet, but after a few more hours of consolidation (in the 1.79-1.7850 range) the Dollar will likely push through 1.79 without much difficulty. The final nail in the coffin hasn't been hammered in yet, but it is safe now to bid adieu to the *diagonal triangle* scenario that has threatened to depress the buck to the 1.75 area prior to a sustained rise. Our *joker*, a *wild card* at the outset, is now resuscitated and turns into an *ace*. This view, which I had practically given up early last week, calls for a rally to 1.82-1.83, followed by some nervous selling to test the nerves of the bulls at the 1.78-1.80 area, should usher in a sustained dollar firmness until the first half of 1988. A break of 1.83 will likely provoke a test of the 1.8750 highs, which if broken will obviously test the resolve of long-term dollar bears. Just some food for thought, but don't get any mental indigestion.

Wednesday 0740 GMT

The Dollar rally is very healthy, and performing as per expectations if I may add, but short-termers should be gearing up to take some profits during the trading day. The slight pause in Asia today is part of a minor consolidation process prior to an assault of 1.82-1.83, after which we will reapraise the medium term. So keep those long bucks for a while but take some, if not all, short-term profits at the 1.82-1.83 range and stand aside. We won't recommend going short unless wave patterns indicate a sizable retrace or that the entire upmove is over.


The Wave Analyst



Friday 0745 GMT

The Dollar's dip yesterday stopped at 1.81, a strong evidence that the slide was but a minor 4th wave. Therefore, the 5th and last wave of this minor sequence should make a new high over the next 24 hours. The 10-minute graphics support this contention. The vertical nature of the price movement since Asian opening today is characteristic of *extensions*, so its safe to say that 1.8280 would probably provide but the slightest resistance to this awesome dollar advance. If you took your profits as suggested Wednesday, look for levels to reinstate long bucks, with slight improvement to make the waiting worthwhile. The next trading target is now 1.8375-1.84. If we attain this over the next 24 hours I seriously suggest to reluctant long-term bears to start covering-short positions because it would be such a waste to wait for indication at 1.87 before taking action. Break 1.83 and a test of 1.87 can't be far behind.

The Dollar is doing just fine, so slight corrections like those in the

last few days won't do much damage to the overall trend. Consolidation phases are part of the general pattern and are as necessary to the market's well being as sleep is to yours and mine. But consolidations or *corrections* are the most difficult phases to track, and it is quite easy during corrections to loose the money you have made during the "impulse" phases or that part of the sequence which goes with the general trend. Even novice wave analysts look good during *impulse* phases. But the corrective phases generally make the pros stand out. Newcomers to the wave principle are often put off by the fact that it is not always possible to know precisely where the market is in all degrees of its wave count, especially during the meandering corrective phases. However, because a market is almost always clear in most degrees of the trend, an analyst can usually formulate a winning strategy around what he *does* know, while objectively placing stops to protect against the least likely outcomes.

In most days, we give precise assessments of possible market movements, but in some days it is just impossible. During such days, we provide the various possibilities, their probabilities of occurrence based on our experience, the limits where these scenarios remain valid, and specify whether an opinion is a product of analysis or plain of guess. And then its every man for himself. For a long stretch of time sometimes, a clear and sharp assessment is often impossible (even undesirable) in this arena where *reality* is notoriously vague and where uncertainty often leads to fundamental errors. The most common error is to adopt a *concept*. The one currently in vogue is that *the Dollar can only go down*. And then compounding that error by ignoring anything that contradicts it.

Adopting a concept is the opposite of *having an open mind*. In the former, the analyst sticks to one theme and then proceeds to bolster his case in every imaginable way. In the latter, the analyst is not predisposed to favor any particular movement in a currency, which can be up, down, or sideways. Obviously, *adopting a concept* implies that a conclusion has already been arrived at long before the evidence warrants it, and that the process of sifting for pertinent data is an exercise to support that contention. This *blindness* becomes even more pronounced if a trader happens to be the wrong way, and prevailing trend goes against his position.

Case Studies VII - 4

Monday 0820 GMT

As mentioned Friday, trading objectives at 1.8375-1.84 are levels to take profits, but you may want to hang on for a few hours more to see if New York will boost the buck to 1.8450, if you have steel nerves, that is. Less adventurous short-term traders should play safe, take your money and wait for high probability trades. Eternal bears who are waiting for a drop to sell on may get a chance during the next 24 hours, but I consider the potential to 1.81-1.8150 such slim pickings that I won't recommend it except to the *kamikaze* traders.

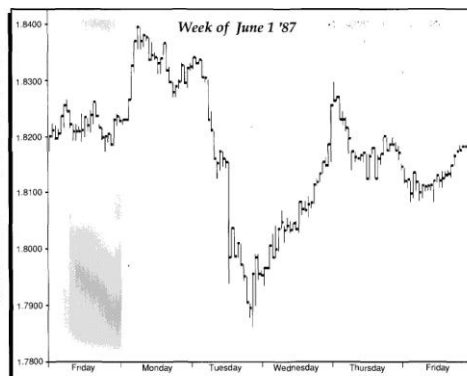
This rally is coming off some of the widest momentum divergences I have seen in years. Experience has shown that when monthly, weekly, and daily rates of change play the same tune, it will take more than a couple of days or couple of weeks for the power to be dissipated. Long term investors should do well to start listening to this new music.

Tuesday 0750 GMT

Traders who heeded the *take your money...* recommendation yesterday ought to feel pleased, but before you ruin the record by going short bucks, consider these: Ending points of 3rd waves are most difficult to pinpoint, and I am not quite sure if the minor 3rd wave is over. Even assuming that the 3rd wave is over, the current decline/consolidation is but a 4th wave, and the following 5th wave should normally make a new peak or at least equal the 3rd, which is to say make a potential *double top* at the 1.84 level. I am not saying that you can't make a little money on *intra-days* selling, but if you do so, be sure to remember that *intra-day* space and not to overstay your dollar shorts.

A simple zigzag, the most likely pattern for the 4th wave according to *rule of alternation* gets steady support at the 1.82-1.8210 area. So unless this retrace pattern develops into a real killer like a *double zigzag* or *triple three* slammer, I am recommending buying short-term trading bucks at the 1.82-1.8210 area for another try with 1.84-1.845. This expected run-up ends the 5-wave sequence.


The Wave Analyst



Wednesday 0750 GMT

The retrace was a real killer, a slammer, a Volker, or all of the above. But the drop did nothing to change the medium-term outlook. It did point out though that my short-term wave count was wrong. A five-wave sequence ended at 1.8405. Short term momentum indicators support the modified view that a 2nd wave base-building process is currently in the making, so we will have to draw short-term trading tactics with this wave count in mind. A rally back to 1.8150 is not an unreasonable assumption since it marks roughly a 50 percent retracement of the killer drop from 1.84. The last phase of this base-building should be a test of the previous 1.7660-1.77 lows. I look for 1.8150 being reached today, and a subsequent decline during the end of the week or early next week.

The buck has found a medium-term bottom at the 1.76 area continues to get support from cycles, momentum and rate-of-change analysis, and that has inevitably influenced my choice

of *preferred scenario*. It proposes that a large C wave composed of five waves is enroute to 1.93 DEM, and that the first of these five waves terminated at 1.8405. The *Volker* drop and subsequent reversal are part of a large 2nd wave that is either *flat* or *irregular*, which means that despite another rally to 1.84 or higher, I still see major buying opportunity to come at the 1.78-1.77 in a week or so. A variation considers the drop to 1.7850 as all of the 2nd wave, making the overnight rally as part of a powerful 3rd wave. This is unlikely, but the power of the reversal is a burr that demands attention. The 3rd view is that a *failed 5th* occurred at 1.83 in Asia, setting up 2nd wave buy levels at 1.77-1.78 soon.

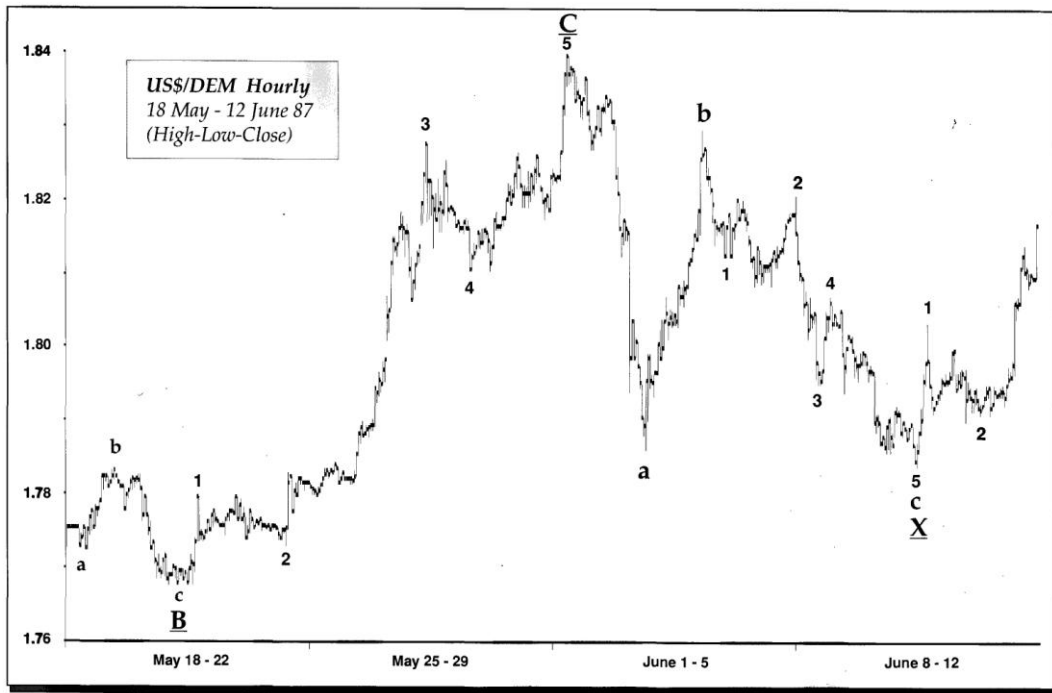
Thursday 0750 GMT

The rally from yesterday was stronger than I expected, spawning a host of possibilities. But in the process, it nullified the specter of the Dollar falling to new lows in the medium-term, an event I have held unlikely in the face of technical evidence and given the political situation. Meanwhile we have probably seen a short-term top at 1.83 DEM in Asia, so the buck will very likely trade lower to at least 1.8075 over the next 24 hours. The Dollar could make a new, marginal top, but I would recommend selling it for a quick downside trade. The short-term possibilities, as assessed by Elliott principles, are too numerous and too contradictory at this point. So aside from this very short-term dollar sales, no other contingent moves are warranted until and unless we reach 1.8075.

Friday 0800 GMT

Our 1.8075 objective has been satisfied, though the Dollar may tick down again to 1.8070 bid within the hour. But the scenario of an *irregular* 2nd wave consolidation got much support by doing exactly what theory says it would. Cover short-term Dollar shorts taken yesterday and initiate purchases, with an objective of 1.85, with a less likely target of 1.84. The retracement from 1.83 took exactly 50 percent, which is typical of small degree B waves. Put stoploss at below 1.80, because if this current slide extends to more than 61.8 percent for the 1.7860-1.83 move, the buck is playing an entirely different ball game. A break of 1.8150 in Europe confirms.

Case Studies VII - 5

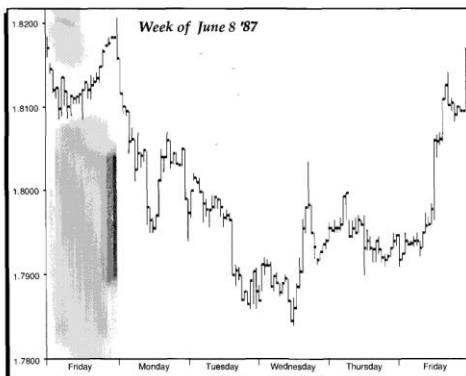


Tuesday 0750 GMT

The rally from 1.8070 was aborted, electing our stop loss at 1.80. No clear cut pattern can be deduced yet from the market action on Friday and Monday, but while we can't say what it is, we can be unequivocal on what it isn't. There's no evidence that the dollar is accelerating on the downside. Drifting, yes, but as part of a basing process normal for 2nd waves. The best wave-count so far is to consider all the action from the 1.8405 peak as part of this 2nd wave consolidation which should terminate in a diagonal triangle apex at the 1.7850 area. But be prepared for this retracement biting deeply into the 1.77 area, if it turns out to be a typical double zigzag. The picture should clear up by tomorrow. Meanwhile, those still long bucks, despite our cautionary stop at 1.80, should endeavor to cover their rear by seeking refuge on the DEM/CHF cross in case I am wrong on the gradual downward drift and the buck tail-spins instead. There will be lots of opportunity to buy medium-term dollars at the 1.78-1.77 area in a few days.

Wednesday 0750 GMT

We have attained the 1.7850 target provided by a triangle thrust, so its buying time again, at least for the short term. I am also recommending to medium-termers to start accumulating Dollars in anticipation of the most powerful part of the rally, the 3rd wave in a sequence of five. The worst scenario now defines the risk as a possible 2nd wave bottom at 1.775, but even that view concedes a prior move to 1.8030, at least. Technical analysis students will find a full discussion of the alternatives below. As our regular readers know, we have been waiting for today's dollar low since last week to issue a major buy recommendation, a target derived by projecting the likely counterpart of the Volker drop after that brief reversal. The 1.7850 objective was further refined yesterday by a triangle in the hourly chart, a double whammy in my vocabulary. Go long bucks, despite how you feel about the fundamentals. This is well-documented. The public, especially the popular press, tends to be most bearish during the 2nd wave of a major rally. In a major bear market, the public psychology during 2nd waves is one of unbridled enthusiasm.



Thursday 0800 GMT

We've had the rally predicted by theory, another addition to the growing pile of evidence of a major turn-around, there is a recurring pattern that seems to be the standard response when the dollar breaks out of a tight consolidation. Those keeping hourly charts will see that pattern on May 20 to 22, which is described in Elliott literature as flat correction. I believe we are seeing the same phenomenon in the USD/DEM now. It implies that the buck will probably struggle to reach the 1.8035 peak or marginally higher levels late on the trading day. Followed by an orderly drift back to the 1.79 area, followed by an explosive rally similar to that one which sired the upmove to 1.84. And if I am right on the major wave-count, the 1.84 ride will look like a water pistol squirt beside the cannonball 3rd of a 3rd explosion that is to come.

Friday 0740 GMT

I am afraid the dollar did exactly as what we expected, which was nothing. Our scenario yesterday has not changed, and we fret and itch with the rest as we wait for trade figures to induce some action. The British election

R.N. Elliott once observed that corrective phases, or "retracements" are often complex and are the most difficult aspect of the wave sequence. A wave analyst can recognize points where the end may be occurring, but the only certainty is that when it does end. It will have traced out one of the eight patterns which are typical of corrections. The most straight forward, and I believe the most likely, pattern being followed by the 2nd wave is a double zigzag, which is quite typical at this juncture. The first zigzag is the Volker drop from 1.8405, with its dramatic reversal doing the job of an X-wave, the link between two juxtaposed simple patterns. The 2nd zigzag may have just terminated at 1.7825 as I write this, culminating in a diagonal triangle or falling wedge which should be obvious to anyone keeping hourly charts. There is no guarantee that this indeed is the 2nd wave bottom. For instance, the double can develop into a triple, but the implications of the wedge assures of a rise to at least 1.8030. The level where that structure began. But that is the essence of the wave principle, which is assessing probabilities. And right now the odds favor a major turn-around.

is the biggest non-event of the year, insofar as the forex market is concerned, and I commiserate with the guys who have to come in at 4 in the morning to watch the sterling rally, or fall. Nothing of that sort happened, no sustained rally. Blame it on the Bank of England and that itself is ominous. Yes, I still believe its the right time to get out of Sterling. There are parallels to the current situation. Most of the Sterling rise from the lower 1.60's to 1.69 was fueled by expectation of Mrs. Thatcher calling for an election. As soon as she did, the pound lost 4 cents. Then the rally from 1.61 was basically in expectation of a conservative victory in the polls. Now that they have it, I wonder how many cents the Sterling will give away this time. This sounds irrational only if you are convinced that forex rates are tied to current events. This isn't saying that Elliotters know what is going to happen next, merely that wave forms don't fit rationally into changes in events.

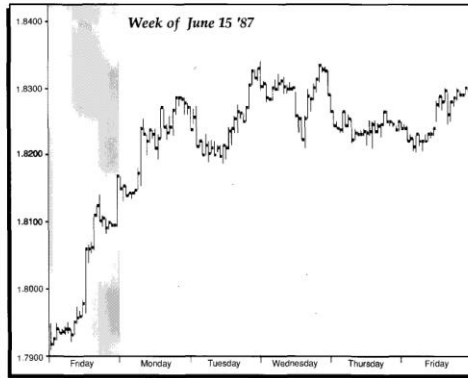
Monday 0800 GMT

This is just the start of a cannonball explosion we mentioned last Thursday. We are not even on the booster-stage 3rd of a 3rd. How to cope with the rally on short-term. Extensions are all over the place, so there is actually no hurry to pinpoint a level at which to take short-term profits. The biggest sin a trader can commit now is to play cute and try to catch the top tick and attempt to reinstate his position a penny lower. Do this and you will miss the boat just when the fun starts. I've heard some people say that surely 1.83 or 1.84 must be a formidable resistance. Sorry, but these folks haven't internalized Elliott yet, and think like typical breakout artists. When this so-called barrier gives way, as it will in due time, watch the gaps in the charts as the breakout artists and the moving average crowd scramble back in.

Here is how we see the dollar over the next 48 hours. Another tick up to 1.83-1.8280 should take place, completing a minor 3rd wave. A fairly sharp retrace should follow, bringing the buck down to 1.8150-1.8050 area. This should be followed by a dollar surge to 1.84, completing a minor 5-wave sequence.

Tuesday 0740 GMT

The buck is now on the 2nd phase of a 3-legged decline which was anticipated at the 1.83 high. Elliott calls this countertrend rally as a B wave in ZigZag. It should end at about 1.8240, and should be followed by a fairly persistent slide to 1.8240-1.8125. Short-termers should reinstate long bucks at that area, probably in late New York or early Asia. The next run should see 1.84 without much difficulty. We look at 1.84 as the end of the 1st wave of the 3rd of C, where typically skepticism still runs rampant on the longevity of the bull move. Medium-termers would be better off side-stepping the correction from the expected 1.84 high by taking profits. Unrepentant bears will probably look at this so-called formidable resistance as one more excuse to sell on. There is no way of predicting how low their selling frenzy will depress the buck. But its a safe bet that it won't be much, probably not more than 50 percent of the run-up from 1.7825 to 1.84. The subsequent explosion, the 3rd wave of the 3rd, will follow with the waning of the selling pressure.



Wednesday 0800 GMT

I must have missed a minor turn, or the dollar executed a low-probability pattern. Whatever it is, the dollar/mark activity does not give a clear intra-day picture at this point, so we look at the sterling pattern for clues. A minor degree five-wave sequence probably ended at 1.6230 in Asia today, or if not, then the cable is susceptible to adjust one more slight dip to 1.6210 area. This should be followed by a recovery to 1.64-1.65 lasting 2 or 3 days. In USD/DEM terms, this translates into a possible test of 1.8350 which completes the five-wave sequence from 1.7825. A less-likely possibility is for the buck to spiral down to 1.8170 area from current levels to complete a minor 4th wave that metamorphosed from zigzag to an irregular. I favor the first scenario, so we should now shift short-term strategy from buying to selling. Short Dollars run the tolerable risk of a final surge to 1.8360, or at worst, 1.84. But a run-up to new highs definitely completes the 1st of the 3rd of C. Setting up a sizable short term decline. Minimum downside target therefore is 1.8170.

Thursday 0800 GMT

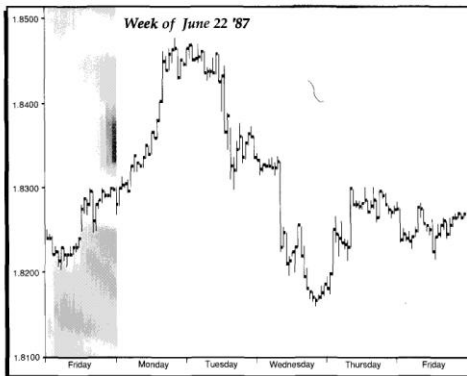
The forex gremlins continue to frustrate our efforts to get an accurate handle on the short-term, but a collage of bits and pieces from our stable of currencies suggest that my call to sell at 1.8305 yesterday might have been premature, if moderately profitable. The current consolidation in the hourly charts suggests a triangle in the making, implying one last gasp to the upside. A final thrust that should complete a minor degree sequence. But this thesis has weak spots. Example, the drop from the 1.8330 top in New York last night looks impulsive, suggesting that the pause at 1.8220-30 area could be a minor 2nd wave preceding a fairly sharp 3rd wave drop below the touted 1.8070 support. Throw in a caveat that a drop below 1.82 renders this forecast of a tick-up to the 1.84-1.8415 area in 24 hours invalid. I hate to say this, but the only intelligent way to trade the market today is breakout trading. The B.O. artists will snicker, but tomorrow is another day. Break through 1.8330 confirms a move to 1.84-1.8415.

Friday 0700 GMT

The triangle concept mentioned yesterday is starting to look absurd in the Dollar/Mark. It will be tough for forecasters today, and one more to my infinite chagrin, am joining the ranks of the breakout artists. There are subtle clues that make me favor the upside very slightly. For instance, the retracement from the 1.8330 peak to the 1.82 area is .236 of the distance traveled by the move from 1.7825 to 1.8330. This Fibonacci ratio of .235 is the smallest and the least common of the ratios operative in the forex market, and usually finds expression as minor 4th waves or as initial stopping points of major retracements. If the current consolidation is part of a sizable 2nd wave correction, as my newest wave count suggests, then the buck should rise to about 1.8275 before coming down in earnest. In the current consolidation is a 4th wave, a lesser possibility, then expect another strong upmove to 1.84 area before the 2nd wave correction can go. From a trading point of view in Europe time therefore, I favor going long, that is, if you point a gun at my head and say trade. Otherwise, I'll wait for new tops or break of 1.8170 to sell.

Monday 0700 GMT

The short-term picture has sufficiently cleared up, with the sterling's triangle finally being resolved in a spectacular manner. The downside thrust has performed the obligatory five-wave sequence in the hourly chart, and is now in the process of base-building preparing for a minor 2nd wave countertrend rally later in the week. The Dollar/Mark gives the same impression, as the double three scenario gains ascendancy over the other possibilities outlined at below. A new peak would be characteristic of double threes. As described, (we are in for a whipsaw action punctuated by false breaks of the 1.82 support and 1.8340 resistance levels). The lesser possibility of a 5th wave run to 1.84 is possible, but unsupported by the wave situation. If this run-up continues to 1.84, the move finishes a five-wave sequence and should be followed by the 2nd wave retracement back to the 1.8170-1.82 area at least. The double three scenario is not perfect. A 23.6 percent retracement is unusual, but not unknown for 2nd waves. But a shallow retrace is harbinging of an explosive continuation of the uptrend. Start buying medium-term bucks at 1.82.



Wednesday 0700 GMT

Our expectation of a largish downside retracement was fulfilled. We are back on track. But calling the short-term move won't be easy. As the 5th-wave scenario to a 1.8530 peak was not realized yesterday, I am not quite sure if the 1.82-1.85 rally was a minor 5th wave. It has the wave count and the feel of a B wave. The difference in the topside target -30 pips- might be slight, but the downside retracement objectives between a B wave top and a 5th wave top vary widely. If a B wave -my preference- then all we need is to see five waves from the 1.85 peak to conclude that the 2nd wave retracement is over, and the 3rd of the 3rd is on the way up. Downside target in this case is 1.8250-1.82. If 1.85 was a 5th wave top, the downside retrace can go down to 1.82 or even as low as 1.8125. But all these arguments point to one thing. The downmove is not quite over, and despite my references of it providing buying opportunity at 1.8350-1.83 area, the most we can expect on the upside is a tickup just below 1.84, if 1.85 was a 5th wave top. Otherwise, the buck slides to 1.8250 then consolidates.

Friday 0700 GMT

We've finished five minor waves in the run from 1.8150 to 1.8300, which was followed by a correction to just below 50 percent of the entire rally. So the dollar is set for another rally which should clarify the short-term direction, once and for all. The situation is this. I believe we are looking at the start of the fabled 3rd of the 3rd. The worst is for the buck to tick down slightly before it takes off like a rocket. The alternative -I assign 5 percent probability- is that the Dollar is still completing a B wave of a large 2nd wave zigzag, a move which should bring the buck to at least 1.8375 before leveling. No ifs, no buts. Short-term and medium-term traders should be long at this point, even if I had the wrong preferred scenario, chances of a rally to at least 1.8375 today is much too great to miss. If the buck goes through 1.84, forget the prognosis of the doom-and-gloomers because the rocket's next stop is 1.90.

Tuesday 0730 GMT

The action last night proved my preferred short-term count wrong with crushing finality. So, if you're up to your neck in the sharks, it might be a good idea to hop in the boat for a while. The new short-term count considers the consolidation from 1.8340 to 1.82 as minor 4th wave, a possibility I fairly dismissed yesterday. This makes the run-up from the 1.82 level a minor 5th wave, completing the so-called 1st wave of the 3rd of C. This minor 5th wave should be composed of 5 waves itself, so we need just one stab to a new peak, say, 1.8530, after which the buck goes into consolidation mode once more. Tracking this 2nd wave of the 3rd of C has proved to be more difficult than usual. The new wave count is not very comfortable. The run-up yesterday does not have the feel of impulse waves. The market's hesitation is palpable, and I am tempted to maintain that it is a B wave in an irregular correction. But then, a tick-up to 1.8530 aside, this view has the same implications as a 2nd wave retracement. It will provide us buying opportunity at the 1.8350-1.83 area to take advantage of the so-called 3rd of the 3rd.

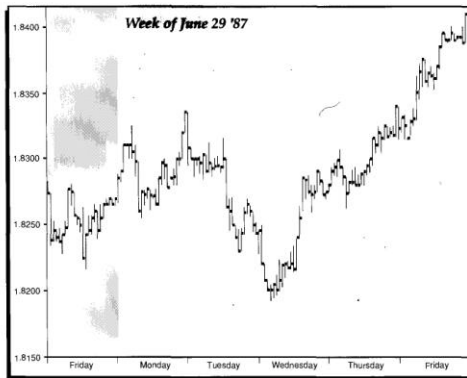


Monday 0700 GMT

So far, so good. The buck did one last downtick last Friday to retrace exactly 61.8% of the move from 1.8150. This is one blow against the zigzag scenario and more support for the contention that the 3rd of the 3rd is underway. The rally from 1.82 out of asia is showing a classic extension signal, which is short rallies followed by shallow corrections, a pattern that can only be labeled with a series of wave ones and wave twos. Conclusion, I don't think we will have any difficulty reaching 1.8375. I also reduce the probability of the zigzag view to 5 percent. The dollar/Yen shows the way, but cable shorts will produce the most spectacular returns for your money. If our scenario of a large and very sharp C wave plunge back to the 1.40-1.45 area is correct, then the pound is just about set for adownside 3rd wave acceleration. Even the cross currency picture of the pound is bleak from wave analysis perspective, and one wonders what economic or political development will take place to trigger that devastation in motion. This flip process I am talking about is similar to the origiastic run from DEM 1.82-1.8490, then a panic drop to 1.8150.

Tuesday 0710 GMT

The dollar's flat trajectory over the past 3 days is beginning to make a lot of people itch and fret. To say the least, I haven't got that many calls before asking if I haven't changed my mind, or if the 3rd of 3rd scenario hasn't been invalidated by the non-performance over the past two days, etc.. Truth is, I was *white knuckles* myself but I think the market action still supports the scenario of a much higher Dollar, although we have to bear with the market for some time while it makes up its mind. The short-term picture, the next 48 hours, is somewhat tricky and will depend much on how the buck performs at certain critical levels. Full technical discussion below. If the Dollar rises above 1.8340 during Europe trading, it has better than 70 percent chance of pushing above 1.84. But if the Dollar has fallen below 1.8260 by New York opening, then expect a drop further to 1.82-1.8190, before hitting solid support. But regardless of brief dips testing the low at mid-1.81's, the bullish outlook remains unless or until 1.8150 is breached. This will postpone the rally for a few days as the zigzag concept prevails and entails a prior test of 1.80.



Wednesday 0700 GMT

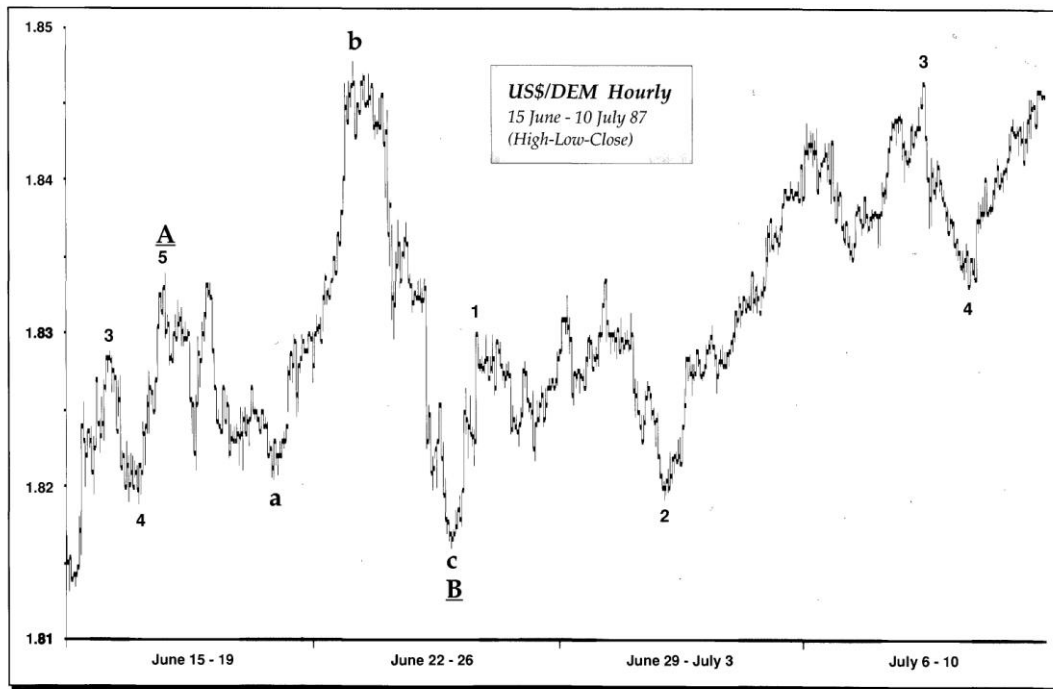
The Dollar is in the process of finalizing a five-wave, C phase of an irregular correction and should encounter solid support at the 1.8190-1.8180 area, in accordance with the scenario drawn up yesterday. While the five-wave decline from 1.8340 opens up the possibility of further losses to 1.80, the web of inter-related fibonacci relationships within the price activity from the 1.8150 recent low makes the 1.80 target unlikely. Full technical discussion below. For day-traders, there is a high-probability long Dollar trade from the 1.8190 area, even if I am wrong on the short-term wave count. The buck should rise to at least 1.8265 in Europe as a consequence of finishing a five wave sequence at 1.8190. If the buck goes through 1.8275 today, the rally will almost certainly continue. For medium-termers, the dip to 1.8190 provides opportunities to buy Dollars, or to add more in case initial buying was done at 1.8150.

Thursday 0730 GMT

We had the rally from 1.8190, just as theory predicted, another boost to the contention that a massive dollar rally is but a few days away. The 1.80 zigzag scenario is only a few hours from being invalidated - a conclusion that is inevitable if the buck rallies above 1.8340 from current levels. Right now, bearish alternatives look a sorry lot, though the 3rd of the 3rd is not necessarily home free at this point. But in wave analysis, one must always go with the most simple, most straightforward wave count, as 90 percent of the time it is the valid one. Right now, our bird still looks like a heron, but it is beginning to walk, waddle and quack like a duck. Almost certainly it is a duck. The rally from 1.8190 completed five minor waves at 1.8310, so the current consolidation is a minor 2nd wave which should find solid support above the 1.8250 level. The drop from 1.8310 to 1.8260 has retraced exactly 38.2 percent of the entire up-move from 1.8190, so expect the minor 3rd wave, hopefully the 3rd wave we have been waiting for, or at least a part of it. So stay long and move stoploss to 1.8180. Add up to your longs at a break of 1.8350. And wait patiently meantime.

Friday 0700 GMT

That's it, the dollar has just confirmed the resumption of the rally by breaking above 1.8340. The breakthrough is not as dramatic as it would normally be, because a very minor five-wave sequence ended at 1.8360 from 1.8260. After a few hours of consolidation, expect the rally to pick up speed. The step-ladder process, which some wave analysts are pointing at as evidence of weakness, is actually a very bullish phenomenon. If you don't object to doing some research, look at the way the Dow-Jones Industrial average painfully inched up from the August 1984 low -doing a series of quick, sharp rallies followed by long and boring consolidation- which was eventually followed by the phenomenal bull rally that had no equal in history. Make no mistake about it -this rally is no flash in the pan. I would get worried if the buck moves up 5 pennings in a day at this stage of wave development. As the adage goes, *what goes up too fast, wouldnt last.*

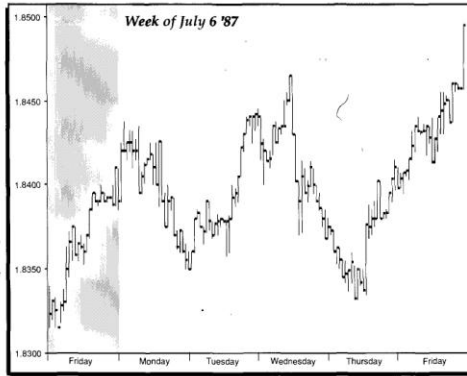


Monday 0700 GMT

The dollar claws its way up inch by inch, but we prefer it that way. We are looking at a phenomenon where waves of small degrees are showing full resolution, instead of being distorted by the effect of waves of larger magnitude. It is a thrilling sight to anyone who has training to appreciate and interpret it the right way. 1.85 DEM is not so formidable anymore, for that matter not even 1.8750. Of course, now that we are close to the so-called 1.85 resistance, the *breakout artists* are crawling out of the woodwork again, advocating caution at current levels and going in only at a break through 1.85. Actually, I should not complain. If enough traders take the *breakout artists* seriously, that should create a gap up situation above 1.85, launching the 3rd of the 3rd phase with some fireworks. Labelling the count at this point is a bit tedious because of potential extensions of extensions. But it is not even necessary to get a precise handle on the count. The wave structure is bullish, time cycles are supportive, and momentum/rate-of-change indicators are far from overbought situations. Stay long.

Tuesday 0730 GMT

The drift to 1.8350 retraced 50 percent of the rally from the 1.8260 minor 2nd wave low, so we can safely assume that a minor 4th wave is over and the buck is enroute to the fifth and last phase of a minor five-wave sequence. This minor 5th wave should at least equal the recent peak at 1.8490, and possibly even make a marginally higher top at 1.8510. If it does, please disregard calls to buy upon a break at 1.85, as the Dollar at that point is susceptible to a sizable downward retracement. Only in the event of an extension do we see the buck going beyond 1.8550 immediately, and the first indication is a break through 1.8530. Tactics for the next 48 hours, keep long bucks until 1.85 or thereabouts. Take profit, and reverse with a downside target of 1.8375 and a stoploss level at 1.8550. The downside is not attractive and goes against the main trend. You are probably better off staying out while waiting for cheap Dollars again. Needles to say, medium-termers should stay long bucks. The market is drawing closer to a point where an upside break will settle the bull-bear issue once and for all. At this stage of wave development, don't trade the corrections, as you might miss out.



Wednesday 0700 GMT

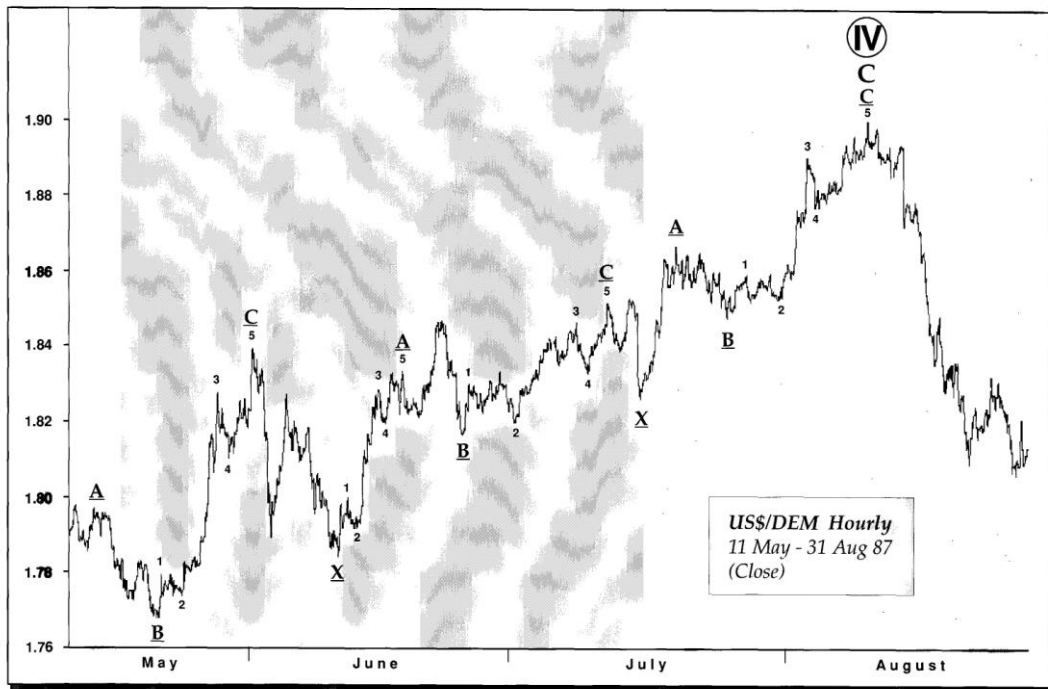
The dollar is still playing by the book, so there is no reason to change yesterday's prognosis. Price action from the 1.8350 minor low has refined the upside target at a minimum of 1.8450 and optimum of 1.8510. Maximum target is undefinable because if the buck goes on an extension mode at this point, the quantized move will end anywhere between 1.87 and 1.90. But we assign a low probability to an extension occurring at this time, so we will draw up tactics based on a pivot at the 1.85 area. The only thing that is keeping me from discarding the possibility is the peculiar pattern of the Sterling from the 1.5870 level, which is quite similar to the small triangle with apex at 1.63. The resolution of this small triangle caused the Pound to drop 5 cents. The triangle-like pattern from 1.5870 is much bigger, so there is more room for potential trouble for the pound here. This triangle - if it is one - overlaps with the 1.6060-1.67 consolidation, which is a definite negative. The only way it can maintain its integrity as a triangle, in an overlap, is for it to be part of a wedge from the 1.69 top - which raises more disturbing questions. Lets leave it at that, but watch out for it.

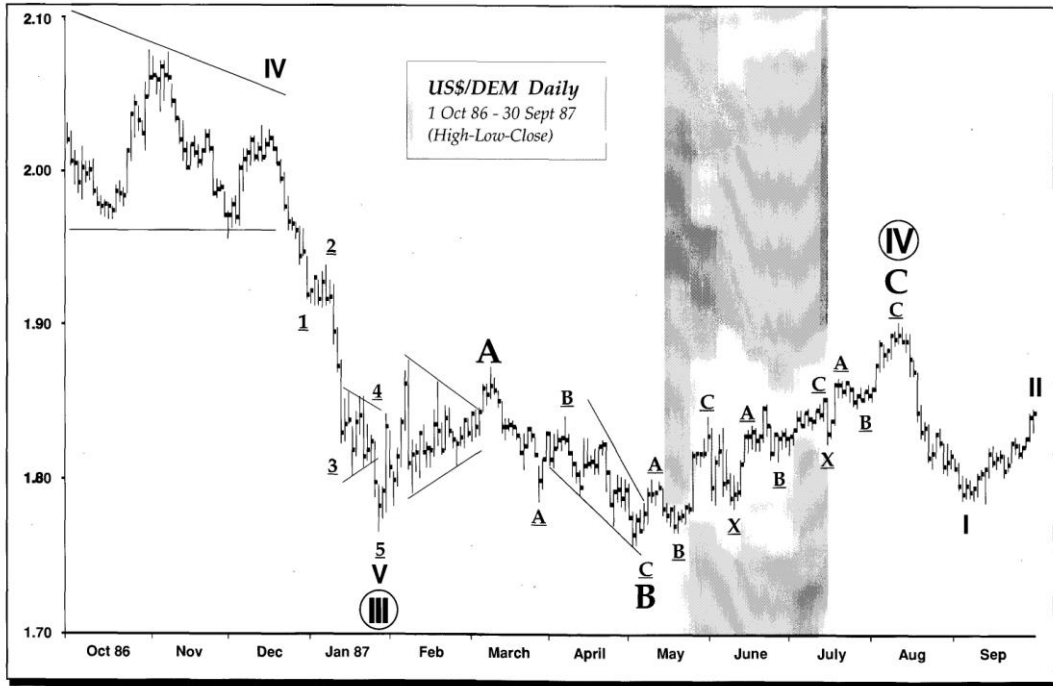
Thursday 0700 GMT

So we had the final move to 1.8475 - unfortunately missing the minimum target by 5 points - which was followed by a dramatic sell-off. Lets take the Dollar drop yesterday in proper perspective. It stopped at 1.8350 in early Europe, exactly where the previous minor 4th wave of smaller degree ended, a typical support area for corrective moves such as this one. The pattern of the slide is a *zigzag*, which alternates nicely with the *irregular* pattern of the 1.83-1.919 correction. The drop from the 1.8475 minor top should not go below 1.83 to preserve our scenario of a decisive upside break of 1.85 next week. Otherwise, an alternate scenario of further losses to 1.81 gains ascendancy. Assuming the worst short-term picture, the Dollar should move back to about 1.8420 before moving down in earnest, with an eventual objective of 1.8150. Tactic for the day, wait for a move above 1.84 to initiate short-bucks, with a stop at 1.8480. Reverse at any break of 1.85, expecting at least 1.8550. The conditions we are looking for to conduct a *spectacular* breakout are still absent, so it is desirable to look for alternatives.

Friday 0700 GMT

The tactics I proposed yesterday which says *wait for a move above 1.84 to initiate short bucks...* was not well thought out, and was unduly influenced by the worst-case scenario. It doesn't mean one couldn't make money out of it but it is risky in the light of our basic premise that there will be a decisive upside break of 1.85 next week. We need one more rally, probably to marginal peaks, to complete a five-wave sequence from the June 24 - 1.8150 low. This final rally should be composed of 5 waves itself, and the first might be ending at the 1.8450 area in Europe today. Short term traders who have gone short will probably find opportunities to cover at the 1.84 area later in the day, but its clear that short bucks is the more dangerous proposition today. Lets take a look at the medium-term. The preferred scenario of a medium-term rally to 1.90-1.95 is still intact. But it is having *structural* problems. The alternate scenario of a wedge-like C wave calls for more whipsaw consolidation between 1.8550 and 1.83. The thing to remember is that a break of 1.8150 anytime aborts all of the above and is very bearish.





Conclusion

"I know that most men, including those at ease with problems of the greatest complexity, can seldom accept even the simplest and most obvious truth, if it be such as would oblige them to admit the falsity of conclusion which they have delighted in explaining to colleagues, which they have proudly taught to others, and which they have woven, thread by thread, into the fabric of their lives."

Leo Tolstoy

One of the most exciting developments in science in recent years has been the discovery of innovative techniques for unravelling the structure of "disorder". This is the irregular side of nature, the discontinuous and erratic side – chaos – which has always baffled science. Chaos has posed problems that have defied established ways of doing things; it can be said that classical science stops where chaos begins.

This new understanding of the "law of disorder" has been dubbed the "theory of chaos" or "non-linear dynamics". It is a fast growing interdisciplinary exploration of complex systems ranging from the weather to economics, and from the beating of the human heart to the clustering of cars in the highways. When scientists speak of chaos, they mean erratic behavior that appears to be random but is not. Recent discoveries are challenging conventional approaches to random-seeming phenomena.



The essence of this new approach to chaos is a search for underlying patterns of a kind that have been discovered in a variety of seemingly random systems. Scientists studying chemical reactions, wildlife projections, and electronic circuits have found that these systems can produce streams of data that will rise and fall as erratically as the stock and forex markets, indicating that they may be governed by the rule of “chaos”.

Recent findings indicate that even in the most seemingly chaotic processes, there is always a fine geometrical structure; there is order masquerading as randomness. No matter what the chaotic phenomenon is, the behavior obeys the same newly discovered laws. Chaos has been found to be ubiquitous, stable and the factual representation of reality. The neat solutions of classical science's “deterministic probability” championed by Laplace and a long line of science *personae*, has so long dominated the way we look at nature that only a few still remember that orderly, linear systems were the aberrations. Only a few still understand that the core of nature is non-linear.

Recent advances in understanding chaos promise to modify that long neglect. “The heart of chaos is mathematically accessible. Chaos now presages the future as none will gainsay. But to accept the future, one must renounce much of the past”; thus declared Robert Mays, a biologist - chaologist in the September 1980 issue of Nature magazine. The implication is clear: It is now a time for a paradigm shift, a transformation in our way of thinking of and looking at the world.

One of the first areas of endeavor that will benefit from this new science is economic forecasting. The field has made recent headways, but with the “globalization” of monetary flows, the parameters are starting to become unwieldy. Economic forecasting, to put it mildly, is in big trouble.

Starting from the 1970's, economic forecasting has begun to resemble the manner by which meteorologists predict the weather. Sets of theoretical but arbitrary mathematical equations – models – attempt to approximate the mechanics of weather or the economy by turning out measurements of “initial conditions” into projections of future trends. There are unavoidable simplifications during the process; modellers hope that these distortions are kept to a minimum. Otherwise, the model is fine-tuned until the desirable quantities are winnowed out of the system.

The principle was: given an approximate measurement of a system's “initial conditions”, and given an understanding of the applicable natural or mathematical laws, one can always calculate the approximate behavior of the system. But there's a catch to it. Recent discoveries in chaos theory have brought out the fallacies of these linear suppositions into the open.

In any set of equations describing a dynamical system, it is assumed that in accordance with linear cause-and-effect, large changes in parameters can cause large changes in a system. Similarly, small changes cause only small quantitative adjustments. Recent findings in the study of chaos proved that wrong. Tiny differences in input could quickly become overwhelming differences in output – a phenomenon given the name “sensitive dependence on initial conditions” (SDIC). In weather forecasting, meteorologists talk about the so-called “Butterfly Effect” – the counter-intuitive concept that a butterfly stirring the air in the Amazon jungle today can have a material effect on the weather in California next month.

Edward Lorenz, a weather forecaster who lives in Southern California, discovered the Butterfly Effect in 1961 after making a slight error in typing out the initial set of conditions in a computer simulation of the world's weather. After this day, Lorenz concluded that long-range weather forecasting, in its present form, must be doomed.* And that fear holds true, too, for any long-term economic forecasting.


The Wave Analyst

The Butterfly Effect is the culprit. In weather, as well as economics forecasting, certain assumptions are taken at the starting point. Care is taken that the data is as precise as instruments or statistical sampling can provide. But there is always a compromise, one so small that modellers usually forget that it is there: measurements can never be perfect or exact. Inevitably, errors and uncertainties multiply, working their way upwards through a chain of amplifications and replications rendering the result practically meaningless. After the globalization of monetary flows, economic modellers were similarly confronted with vastly increased number of “conditions” to track. And as the number of conditions increased, the interaction – together with potential for error – increased exponentially. That is why economic modelling can be so maddeningly frustrating.

The Lorenzian effect of “sensitive dependence on initial conditions” cuts a wide swath across our everyday life. Someone gets stuck in the traffic on the way to the airport; he misses his plane, which eventually crashes. There are less dramatic examples, but the picture remains the same: small perturbations in our daily life's trajectory can have large consequences.

In economics, as in life, it is also true that chain of events can, at crisis points, magnify small changes out of proportion to their face value. The best recent example is the series of small purchases in an obscure New York stock market futures index at the darkest hour of the crash of October 1987. It has been largely credited for halting the wide-spread panic; it may have saved the world markets from a more calamitous fate. This sensitive dependence may have been the cause of the crash in the first place. The initial drop caused a computer program to issue a sell order, which triggered another, which set off the next...

* *“CHAOS - Making a New Science”*, James Gleick, 1988, Penguin Group, London

Most people assume that crisis points like this one are few and far in between in dynamic processes. But chaos study showed that such points are everywhere. In systems like the economy or the weather, “sensitive dependence on initial conditions” was an inescapable consequence of the way small patterns intertwine with, indeed even determine, the course of the large ones.

The New York Times described it as the “financial equivalent of water flowing uphill”. At the height of the October 1987 panic, prices of futures contracts and their underlying equity baskets were seen moving in precisely the wrong direction, as the computer-controlled relationships broke down in the face of rapid swings. The wildness offered a vivid example of how large-scale behavior are shaped from the microscopic details of trading. As stock prices began to plummet, the turmoil had no bearing to the grand trends of budget deficits, interest rates, or governmental policy. At that time, “sensitive dependence on initial conditions” was the sole determinant of the fortune – or misfortune – of millions of shareholders.

In economics, as well as in genetics and fluid dynamics, hypotheses that account for the fluctuations in a system are divided into two camps. One camp argues that phenomena must be regulated by some deterministic mechanism. In other words, linear cause-and-effect accounts for most of the behavior. The other group insists that processes are naturally erratic; movements are therefore caused by largely unpredictable environmental factors. Whatever deterministic “tendency” – if present at all – will therefore be cancelled out by random fluctuations. The choice was either: (1) deterministic mathematics produced steady behavior, or (2) random external noise produce random behavior. Chaos cuts across the heart of the debate. It has been shown that what looked like random behavior can be produced by simple deterministic models. And what looked like erratic behavior actually had an exquisite structure; yet any part of it can be indistinguishable from “noise”.


The Wave Analyst

One example of that “exquisite structure” is what has become known as “fractals”, which means “self-similar”. Self-similarity is symmetry across various scales. The term was coined by Benoit Mandelbrot in his book “Fractals: Form, Chance, and Dimension” published in 1978. Recursive process operates across various dimensions in fractals; certain patterns are present inside patterns. The recursion does not only produce similar details at finer and finer scale; it also produces detail with certain constant measurements and diffractions within certain patterns. If transformation is part of the process, transformation is repeated at smaller and smaller scales.

In the next few years, “fractals” are bound to become the catchword in economic forecasting. It is the phenomena that will eventually provide a key to understanding non-linear dynamics, and perhaps subsequently open the door to real understanding of the dynamics of the economies of the world.

Fractals are the basis of Elliott Wave Theory. The concept of recursive patterns across finer and finer scales in the stock market was proposed by Ralph N. Elliott in 1930's, antedating the formal study of non-linear dynamics. His discovery that patterns made by taking very short-term “snapshots ” of stock prices in, say, once every hour, are similar to patterns formed by snapshots of once a week, or once every month; or for that matter, once a year. Elliott also hypothesized that the variation in the amplitude of price fluctuations and the timing of peaks and bottoms of these swings follow certain patterns. He was almost certainly correct; latest advances in chaos study tend to confirm these behaviors.

One of the most suggestive findings so far was brought about by the collaboration of Mandelbrot with Hendrick Houthakker, an economics professor at Harvard. James Gleick relates in his book how Houthakker had tried to fit eight years of cotton prices to the Gaussian bell-shaped curve. This curve represents the standard normal distribution of random processes.

The point is that when things vary, they try to stay near an average point and they manage to scatter around the average in a reasonably smooth way. But Houthakker was having no success; there was something strange about the chart. There were too many large jumps. Most price changes were small of course, but the ratio of small changes to large was not as high as he had expected. The distribution did not fall off quickly enough. The bell curve had too long a tail. The cotton chart did not pass the random test.

Mandelbrot was invited to Harvard by Houthakker to give a talk about distribution of large and small incomes in an economy. When he arrived, he was startled to see his findings already charted on the older man's blackboard. Houthakker explained that those were cotton prices; he also related his inability to fit the data to the bell-shaped curve. Mandelbrot instantly made a connection between Houthakker's chart with his income distribution data and other silhouettes from surprisingly disparate places. It confirmed his idea that other laws, with different behavior, could govern random stochastic phenomena.

Economists have little to go on when analyzing stock, commodity or foreign exchange data. But that does not mean that they do not have a fundamental viewpoint about price changes. One was the belief that small transient changes had nothing in common with large, long-term changes. The small-scale ups and downs during a day's trading are just random "noise" – unpredictable and uninteresting. But long-term changes are a different matter altogether. Broad swings of prices over months or years are determined by deep macro-economic forces, trends of wars, or recessions. To economists, these are forces that should give way to understanding, and therefore, predictability.

That dichotomy had no place in the findings of Mandelbrot. Instead of separating tiny changes from the big ones, his scheme bound them together. He was looking for patterns not at one scale or another, but across


The Wave Analyst

every scale. There was symmetry involved – not a symmetry of left and right or top to bottom – but rather a symmetry of large scales being similarly shaped as small ones. A particular price change was random and unpredictable from the previous, but the sequence of changes was independent of scale: curves for daily price changes and monthly price changes matched perfectly.

The next frontier in economic forecasting will be deciphering the patterns which govern the *amplitude* of fluctuations in market data. Surprisingly, the instrument that may help yield these secrets is the pendulum, or its electronic analogues. Pendulum dynamics covers such a wide area that a large part of the research in chaos is now devoted to this field.

Take a simple pendulum. In its simple oscillations, intuition tells us that no matter where the swing might start, the motion will eventually settle down to a regular back and forth pattern – the pendulum coming to the same height everytime. That can happen. Yet, the motion in reality can also turn erratic: first high, then low, never settling down to a steady state and never exactly repeating a pattern of swings that came before.

These counter-intuitive results are being encountered more and more by scientists as they peer into the prism of simple chaotic models. For instance, take the oscillations in a certain economic data, which can be reproduced by a particular non-linear model. One wonders what will happen if the system receives a sudden jolt – a perturbation of a kind that might correspond to, say, massive selling of dollars by central banks in the foreign exchange market.

Intuition suggests that the system will change in the desired direction. But in actuality, chaos researchers found that huge oscillations are likely to begin. Even if the longer trend turned solidly downwards, the path to the new equilibrium would be interrupted by surprising movements against the trend.

In fact, such oscillations have been seen in the forex market in recent years. In this example, the central banks got the desired results, but only after an uncomfortable time lag that saw the market movement going against them initially. Yet a trader, seeing a short-term rise in the dollar after the selling effort, would assume that the intervention has failed. This unpredictable behavior has not been fully understood yet, but it seems to come mainly from a non-linear twist in the flow of energy in and out of the system.

Unpredictable, however, does not necessarily mean random. Market constructs based on pattern analysis, like the Elliott Wave Theory, have had these past few years success in anticipating and coping with such puzzling market phenomenon. Crude it may be at this stage of development, wave analysis provides a framework upon which to assess the probabilities of possible consequent market action after such perturbations. In the markets subsequent quest for equilibrium – a process now known to be far from being straight forward – the path traced enroute to a stable state is largely unpredictable. But the fact that the eventual shape of the path to stability will conform to one of Elliott's patterns, is almost certainly beyond doubt. That knowledge alone is sometimes enough in formulating strategies that will effectively handle uncertainties engendered by such perturbations.

As scientists learn more about non-linear dynamics, chaos has become not just a theory but also a method; it has become not just a canon of beliefs but also a way of doing science. Which brings us back to Leo Tolstoy. Acquisition of knowledge has no constraints, except those imposed by man on his imagination and curiosity. To profit from this new science, one must be willing to suspend disbelief until it has been given the benefit of the doubt. The history of science is marked by twists and reversals, reminiscent of the oscillations predicted by the logistic difference equation in chaos theory.



The Wave Analyst

At this stage, there is more than even chance that a non-linear view of reality would supplant the concept of “deterministic probability” that has so long dominated the way we think about our economic affairs. Let us prepare for this eventuality. Let it not be said, to paraphrase Tolstoy, that we can not accept the simplest and most obvious truth, just because it obliges us to admit the falsity of our current suppositions. In the end, we have nothing to lose but mental excess baggage that should belong to the rubbish bin of history.

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THE AUTHOR

Robert Balan has become accepted as one of the most widely followed market analysts of the forex cash markets in recent years. With backgrounds in engineering and business, he began applying the Elliott Wave Principle to the stock market in 1977, later on, combining the wave concept with proprietary computer technical models. From the early 1980's Mr. Balan began providing fund management and advisory services in various markets, including commodity and interest rate futures, precious metals, and finally foreign exchange, where he has since specialized. While based in the Philippines, he wrote a daily forex and stock market analysis for the region's business newspapers. In early 1985 he joined as a consultant to the treasury and forex department of Lloyds Bank in Hong Kong. He was soon after transferred to Lloyds Bank Plc., Geneva as Vice President in charge of technical analysis, where he published daily commentaries through Reuters pages LBGB to LBGF, and Telerate pages 3450 to 3452. As of May 1989, Mr. Balan joined Swiss Bank Corporation in London as chief technical analyst of the financial markets research unit within the treasury and capital markets trading room. His daily commentaries and market analyses appear on Reuter pages SBLL to SBLQ.


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