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DEDICATIONS

TO THE GREAT ANALYSTS PAST AND PRESENT.

WITHOUT YOUR INPUT THIS WORK WOULD NEVER HAVE BEEN POSSIBLE.

TO THE **WAVE TRADER USERS** WHO HAVE SUPPORTED MY WORK, THIS IS YOUR REWARD.

USE THIS KNOWLEDGE WISELY.

1. THE THEORY BEHIND TIME RELATIONSHIPS IN MARKETS

INTRODUCTION

Since the early days of man, scholars, philosophers, mathematicians and scientists have endeavored to prove that nature and the universe grow in harmony to some natural law of vibration. Sufficient proof exists that all forms of life and matter vibrate to some natural law of harmonics. In modern times such inventions as the telephone, radio and television rely on the vibration of invisible frequencies transmitted though another medium. These vibrations cannot be seen, heard or felt by us yet they are part of our daily lives and we now take them for granted. Modern science indicates that all matter emits vibrations. Vibrations start from the Sun which is believed to control the universe and effect all things. Plants grow in harmony with cycles of the year, crops planted at specific times of the year grow more favorably than those out of harmony with their most favorably cycle. Life itself evolves around cycles of the universe and the planetary aspects. The Moon creates a pattern of rising tides and feeding habits for marine life. Night becomes day and day becomes night, the oceans rise and fall, economic conditions expand and contract, the path of life continues to unfold in some strict relationship with the past.

Since most of the natural occurrences in nature revolve and evolve around cycles and vibrations they can be accurately measured. The principles that apply in all forms of nature also apply to the markets, as these are merely a reflection of human nature and the ingenuity of man himself.

PLANETARY CYCLES

The center of our universe is the Sun. The planets of our universe revolve around the Sun in set cycle periods. These cycle periods are known as a PLANETARY YEAR.

Earth	**365 Days 7 Hours or 1 Year**
Mercury	**87.9 Days or 0.24085 Year**
Venus	**224.7 Days or .61521 Year**
Mars	**687 Days or 1.88089 Years**
Jupiter	**4332.7 Days or 11.862 Years.**
Saturn	**29.45772 Years.**
Uranus	**84.01529 Years.**
Neptune	**164.7883 Years.**

LUNAR PHASES

The Moon Orbits Around The Earth every 29.53 Days And Passes Though Two Major Phases, New Moon and Full Moon.

A new moon occurs when the Moon is in complete darkness (this is when the Moon travels between Earth and the Sun, a Solar eclipse occurs when the New Moon coincides with a Lunar node [crossing of the ecliptic path of the Earth's orbit around the Sun]). The full moon occurs when the moon is at its brightest. This is around the time of it's orbit when it is opposite the Sun.

SEASONAL CYCLES OF AN EARTH YEAR (4 SEASONS)

The annual cycle of the earth takes it through seasonal changes. These changes effect the patterns of human nature as weather changes from warm to cold. Producers can only grow some agricultural crops at certain times of the year. Due to weather inconsistency some years are years of abundance and others are years of shortage. Depend-

ing on the stocks being stored as carry over, prices will rise and fall to form a cyclic pattern. Natural resources are also affected by seasonal demand, production will be more prolific at certain times of the year due to weather conditions, economic conditions and demand by industry. A good example of seasonality is the way the cost of Oil rises during a particularly cold winter.

Seasonal tendencies help to form cyclic patterns in most markets.

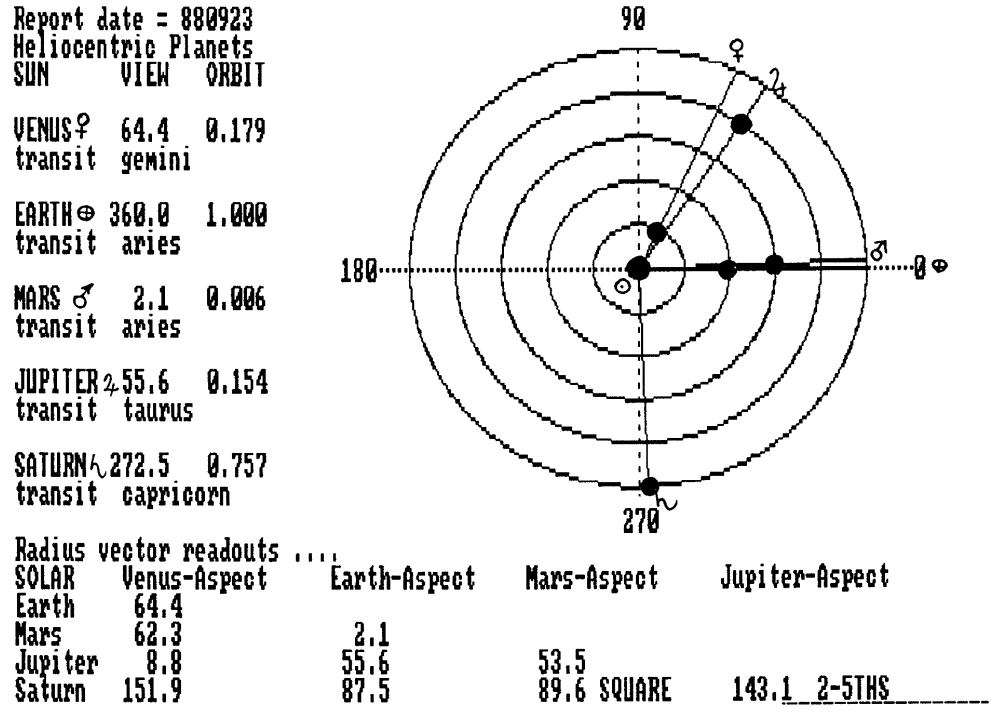


FIG 1.1 ILLUSTRATES THE ORBITAL PATHS OF VENUS, EARTH, MARS, JUPITER AND SATURN AS THEY PROGRESS THROUGH THEIR PLANETARY YEARS.

Each planet moves faster or slower in relationship to its wheel, regular cycles of relationships in position to each other often develop for a time. These cycles have been used by man to predict future changes in years past, sometimes a psychological reason develops as to the importance of planetary positions. On its own this could be reason enough for changes in market conditions.

ASTROLOGICAL CYCLES

The astrological year begins at the MARCH 21st EQUINOX. This is when the Sun crosses the EQUATOR into the Northern hemisphere.

This time is known as 0 degrees when dividing the year into a 360 degree circle. This is the time of the Sun entering the house of ARIES.

There are 12 signs of the Zodiac and each 30 degree progression through the circle of one year takes us into another star sign of the Zodiac.

SIGNS OF THE ZODIAC	POSITION IN DEGREES
ARIES	**21st MARCH** O-360 degrees **CARDINAL sign of FIRE**
TAURUS	21st APRIL 30 degrees FIXED sign of EARTH
GEMINI	21st MAY 60 degrees COMMON sign of AIR
CANCER	**21st JUNE** 90 degrees **CARDINAL sign of WATER**
LEO	21st JULY 120 degrees FIXED sign of FIRE
VIRGO	21st AUGUST 150 degrees COMMON sign of EARTH
LIBRA	**21st SEPTEMBER** 180 degrees **CARDINAL sign of AIR**
SCORPIO	21st OCTOBER 210 degrees FIXED sign of WATER
SAGITTARIUS	21st NOVEMBER 240 degrees COMMON sign of FIRE
CAPRICORN	**21st DECEMBER** 270 degrees **CARDINAL sign of EARTH**
AQUARIUS	21st JANUARY 300 degrees FIXED sign of AIR
PISCES	21st FEBRUARY 330 degrees COMMON sign of WATER

The cardinal points (90 DEGREE INTERSECTIONS) of the astrological year have a major significance when we come to analyze the past turning points in markets. From a cyclic viewpoint we should remember these dates as they can often have a profound effect on human nature and human behavior for reasons beyond normal comprehension.

MOST IMPORTANT SEASONAL DATES OF THE YEAR

The 90 degree annual astrological dates are strong times for change, their significance is greatly enhanced when other planetary cycles such as full or new moons, planetary conjunctions or oppositions coincide with their anniversaries.

21st March EQUINOX when the Sun crosses the equator into the Northern Hemisphere, day and night have an equal length this the 0 degrees CARDINAL point of the year.

21st September EQUINOX when the Sun crosses the equator into the Southern Hemisphere, day and night have an equal length this is the 180 degree CARDINAL point in a year.

21st June SOLSTICE when the Sun reaches its highest position in the sky over the Northern hemisphere. This is the longest day and also 90 degrees a CARDINAL point in the year.

21st December SOLSTICE when the Sun reaches its lowest position in the sky over the Northern hemisphere. This is the shortest day and also 270 degrees a CARDINAL point in the year.

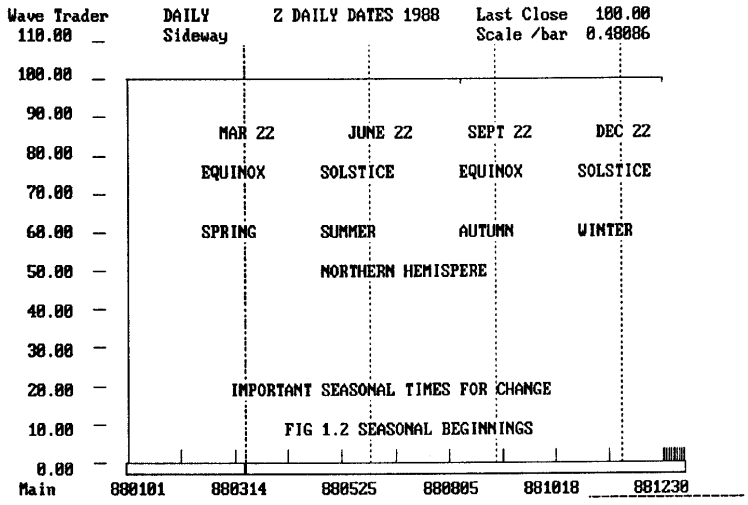


FIG 1.2 ILLUSTRATES NATURAL SEASONAL TIMES FOR CHANGE.

SUMMARY ON IMPORTANT TIMES THAT COULD SIGNAL A CHANGE

Astrological times of the year between the 20th and 22nd of each month when Earth passes into another star sign, these are possible times for a change. If these times coincide with other planetary phenomena they have a stronger significance for change. The impact of major lunar phases (new or full moon) occurring at these times appears to strengthen the possibilities. A Solar eclipse or Lunar eclipse would seem even more important to monitor. The March equinox always seems to signal a turn in some market each year.

It is not really important to know the reason why these dates or planetary configurations are significant for a change, only to be aware of their influence on human nature and that group of traders who believe in the importance of these times for new beginnings.

If a market is susceptible to the likely possibility of a change in trend it is more probable to occur at these times. We must recognize this possibility and seize the opportunity to trade should it be available.

As we progress it will be seen that we do not require anything but a basic knowledge of astrology. The main way we track these time relationships is by their very repetition.

REPETITION OF THESE IMPORTANT TIMES WILL HOLD A MATHEMATICAL RELATIONSHIP TO THE PAST, DUE TO THE CYCLIC NATURE OF THE MARKETS. BY CONSTANTLY MONITORING CYCLES AND IMPORTANT ASTROLOGICAL DATES WE CAN ALWAYS BE AWARE OF IMPORTANT TIMES THAT GIVE US ADVANCE WARNINGS FOR AN IMPENDING CHANGE IN TREND IN THE MARKETS THAT WE FOLLOW.

Research of the past will show how consistently the astrological time periods through the year mark major turning points in most markets. These times may only be a coincidence but from a technical level they are very important to watch.

Some of the many tools I use for monitoring future markets and researching the past are these natural times of the annual cycle.

By graphically illustrating the earthly progressions in degrees on a circle of one year below a price chart, one can quickly judge the effectiveness of these time periods.

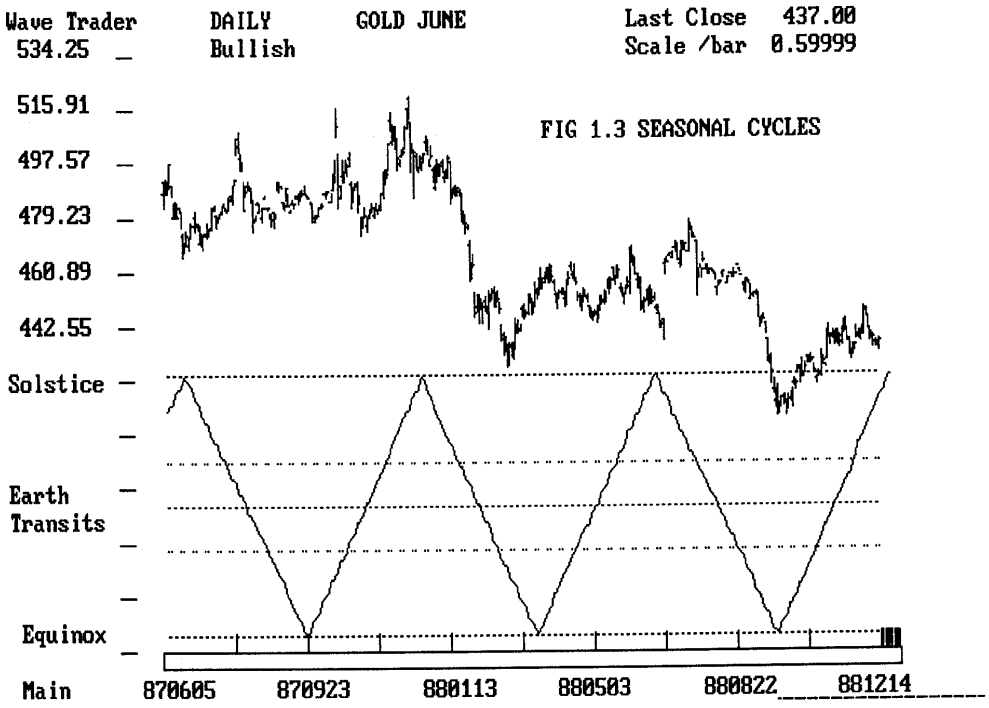


FIG 1.3 SEASONAL CYCLES

FIG 1.3 ILLUSTRATES THE CYCLES FROM EQUINOX TO EQUINOX. THE CENTER DASH LINE INDICATES THE 45 DEGREE MID POINTS BETWEEN EQUINOX AND SOLSTICE. STAR SIGN PROGRESSIONS ARE SIGNALED AT THE 1/3 LEVEL BARS AS THE RANGE OF EACH OSCILLATION IS 90 DEGREES.

SINCE THE VELOCITY OF EARTH IN ITS ORBIT AROUND THE SUN VARIES IT IS NECESSARY TO PLOT EACH DAY TO FIND THE ACTUAL LOCATION IN THE ORBIT.

VELOCITY REACHES A PEAK AROUND THE 5TH JANUARY EACH YEAR AS EARTH REACHES ITS CLOSEST DISTANCE TO THE SUN. JULY 5TH, THEREABOUTS, IS WHEN EARTH IS FURTHEREST FROM THE SUN AND TRAVELING AT ITS SLOWEST.

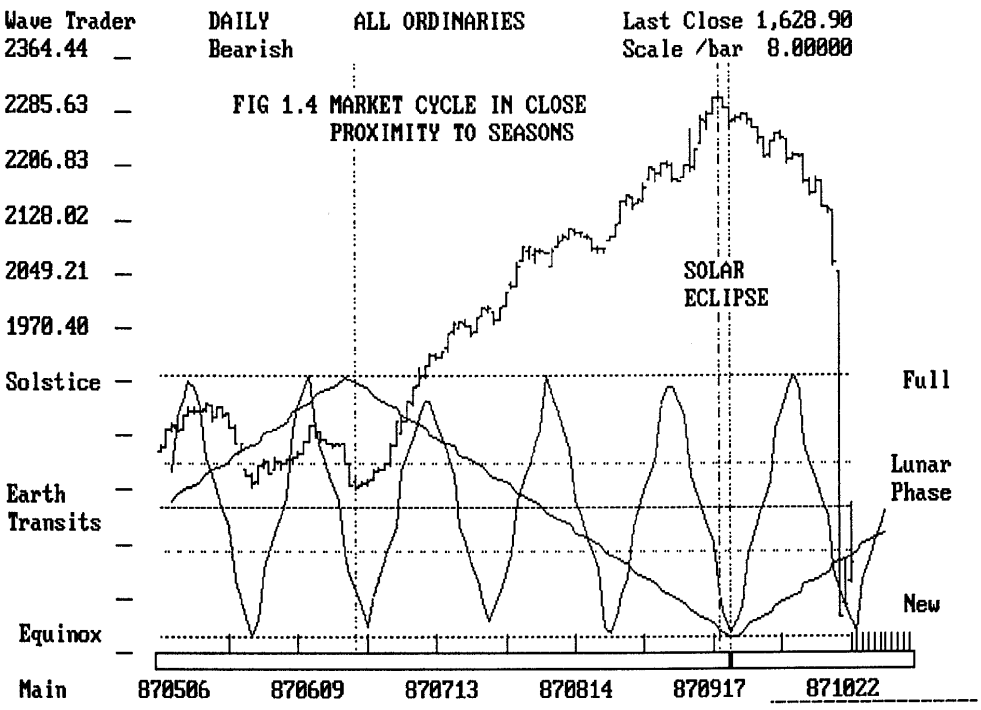


FIG 1.4 ILLUSTRATES IMPORTANT SEASONAL TIME CYCLES AND HOW I MONITOR THEM. IF I HAD MORE THAN TWO SIGNALS COMING TOGETHER AT THE SAME TIME I WOULD PLACE GREATER EMPHASIS ON THAT SIGNAL. GENERALLY I WILL PLOT THESE IN ADVANCE AND PENCIL THE DATES IN MY DAIRY. A FULL OR NEW MOON OCCURRING ON AN EQUINOX IS A PARTICULARLY STRONG SIGNAL. A LUNAR OR SOLAR ECLIPSE OCCURRING AT THE SAME TIME ADDS EVEN MORE STRENGTH. A SOLAR ECLIPSE DATE IS ONE OF THE MOST IMPORTANT CYCLE POINTS TO MONITOR AS SOLAR ECLIPSES FALL IN REGULAR CYCLES ON THE SQUARE OF 89.

The reason that the lunar oscillator fails to peak sometimes is due to a new or full moon falling over a non trading day.

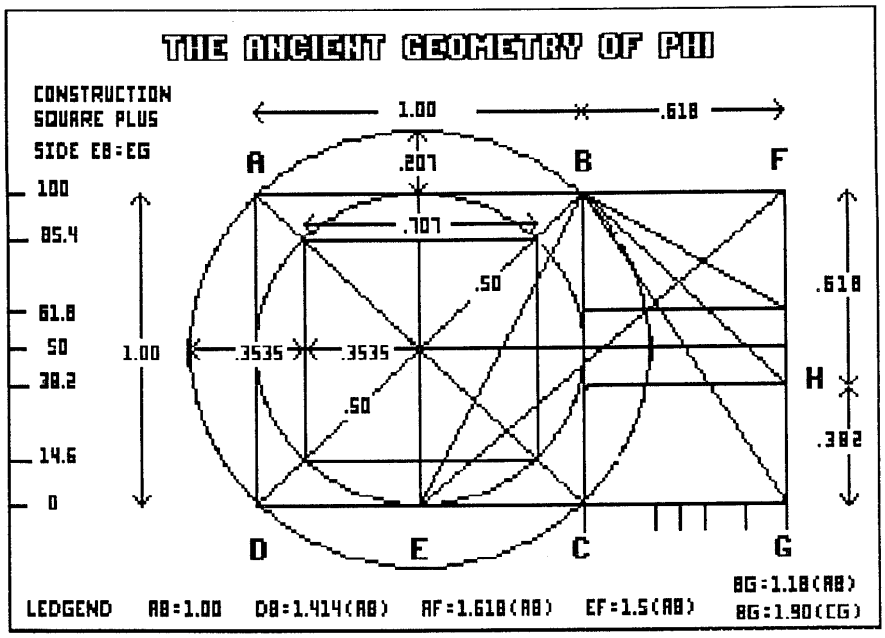
2. THE SCIENCE OF MATHEMATICS

PYTHAGORAS delivered the MATHEMATICAL TRUTHS OF THE LAW OF CYCLES to his spiritual community at Crotona, Italy in the sixth century B.C. All of the cosmos, he taught, is comprehensible through numbers because the material universe is born from their very essence. By knowing the secret of the numbers behind cosmic cycles, the initiate could approach a powerful understanding of the workings of the universe. So vast were the implications of this knowledge that the Pythagoreans kept it in strictest silence.

ANCIENT GEOMETRY

The basic geometric forms are :- SQUARE - CIRCLE - TRIANGLE - RECTANGLE

Sacred mathematical ratios have been enshrined in such works as the Parthenon of Greece and the Great pyramids of Egypt. PHI, PI and the sacred roots of 2 and 5.



A SQUARE

If we use a square as our starting point we can then draw a circle, a triangle and a rectangle and prove that strict relationships exist. These relationships will never vary, they are an exact science.

If a geometric form is square then each side will be equal to the other sides.

When a square is divided by a diagonal line to form two triangular halves the length of the diagonal can be calculated using the Pythagorean theory for right angle triangles.

If the sides of a square are equal to 1 unit then the diagonal of a square will be equal to the square root of 2. The diagonal of a square will be 1.41421 times the value of the side.

The first set of ratios that we see as important once we study a square divided by a diagonal are:-

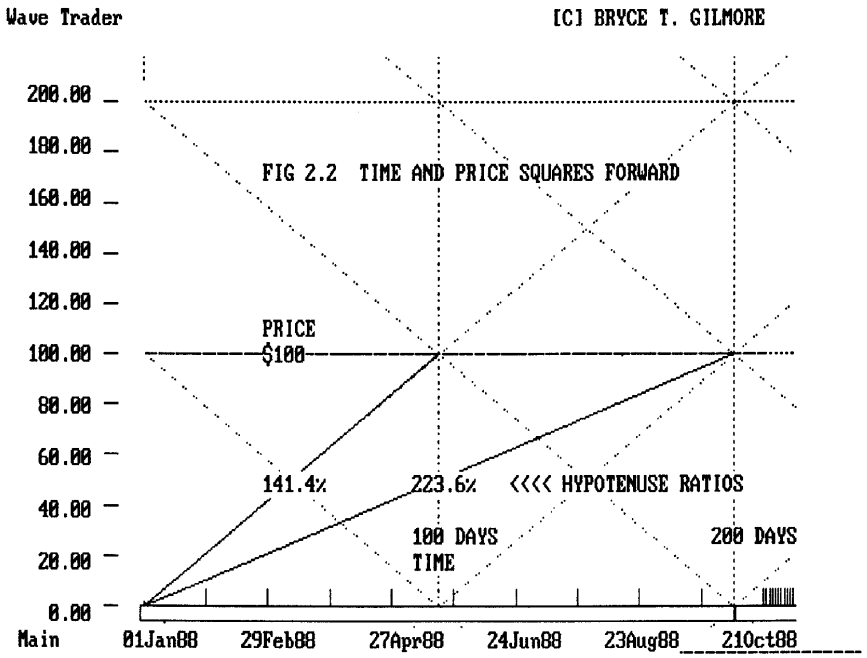


FIG 2.2 TIME AND PRICE SQUARES FORWARD

A CIRCLE

The circumference (distance of the 360 degree arc) is measured using the Greek numerator PI.

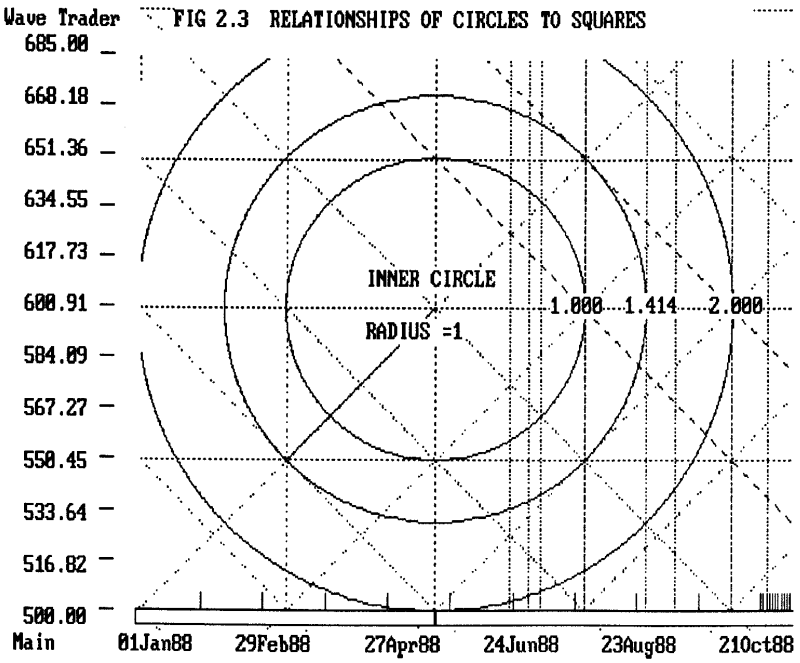
PI is equal to 3.141593 sometimes commonly expressed as 22/7 this number is very close to the same value as Root 2 (1.414) multiplied by Root 5 (2.236) or Root 2 (1.414) plus Root 3 (1.732).

The formula for measuring the circumference of a circle is :-

PI times DIAMETER

The diameter of an outer circle of a square will be 1.41421 times the side of the square. The diameter of an inner circle of a square will be equal to the side of a square.

The inter-relationship between PI, 1, Root 2, Root 3, Root 4 (2), Root 5 and PHI are absolute.



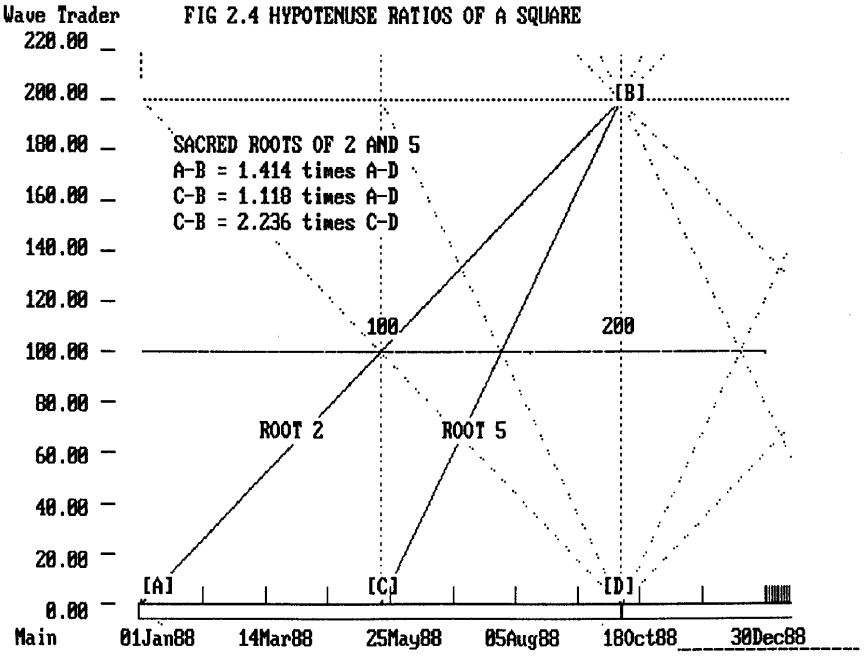
A TRIANGLE

The simplest triangle can be formed by dividing a square in half with a diagonal line from opposing corners. The length of this diagonal can be measured using the Pythagorean theorem. The length of the HYPOTENUSE in any right angle triangle will be equal to the square root of the sum of the squares of the other two sides.

A diagonal of a triangle formed by dividing a square into half will be 1.41421 times the side of the square.

A diagonal triangle formed by dividing a square into quarters will have a value in relationship to half the square root of five or 2.23606

This diagonal of a square with a side equal to 1 is equal to the square root of 1.25 or 1.118034+ When this value is added to half the side of the square (0.5) we can have the base of a Golden rectangle which is the irrational 1.618034 represented by the Greek symbol PHI.



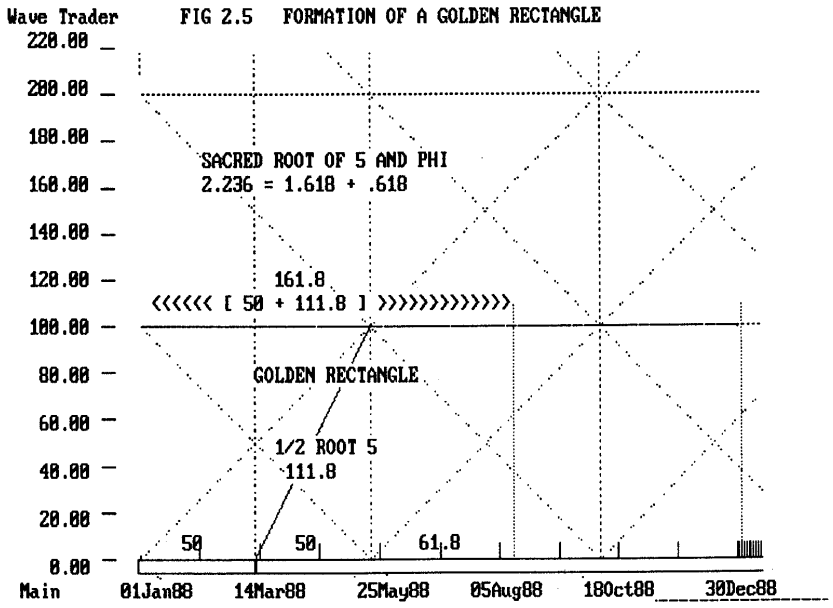
Thus we have a binding relationship of root 2 (1.414), root 5(2.236) and Phi(1.618). Also 2.236 less 1.618 = 0.618

A GOLDEN RECTANGLE

A Golden rectangle is a rectangle where the length of the longest side is 1.618034 times the length of the shorter side. A Golden Rectangle is formed from a square and has a direct relationship with a square. To form a Golden rectangle the length of a diagonal line drawn from one corner of a square to the center of one side forming a triangle that divides off one quarter of that square, is added to half the base of the square to form the base of the golden rectangle.

The value 1.618034 is represented by the Greek letter PHI.

The irrational number 1.61803+ or PHI has several remarkable properties. Its square, for example, is equal to itself plus 1.000 (2.61803+), while its reciprocal equals itself less 1.000 (0.61803+).



A GOLDEN TRIANGLE

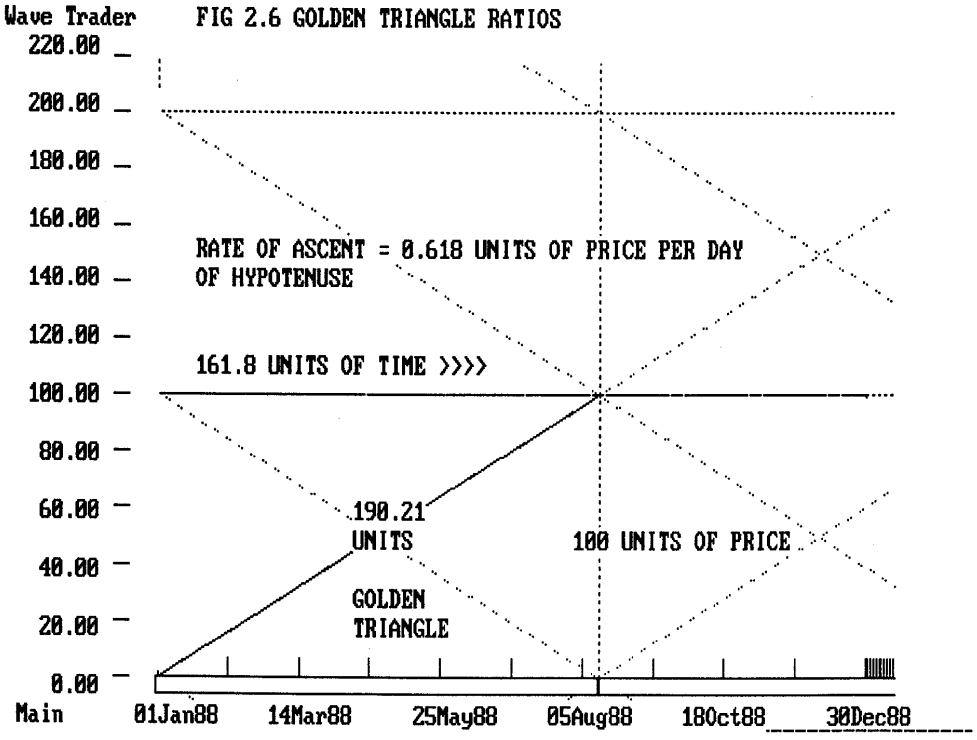
A Golden triangle is formed by drawing a diagonal line to divide a Golden rectangle in half. The length of the base of the triangle is 1.618034 times the height of the triangle.

The diagonal side of the Golden Triangle is 1.902113 times the shortest side.

1.902113 divided by 1.618034 = 1.17557

1.17557 squared = 1.3819

1.382 squared = 1.9099 (is this a close coincidence)



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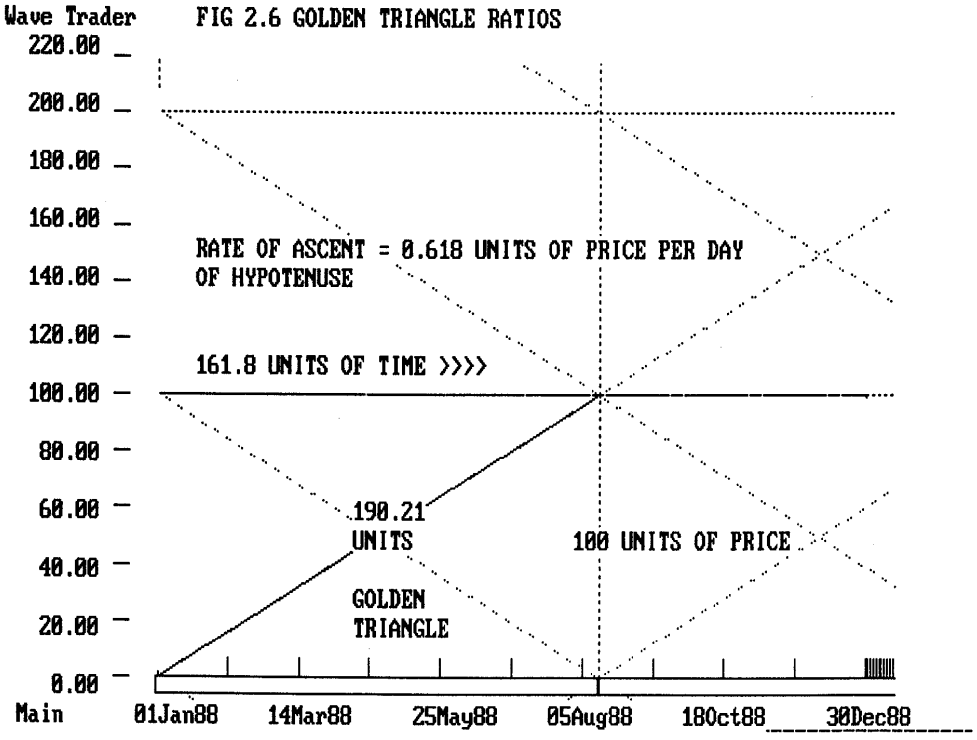


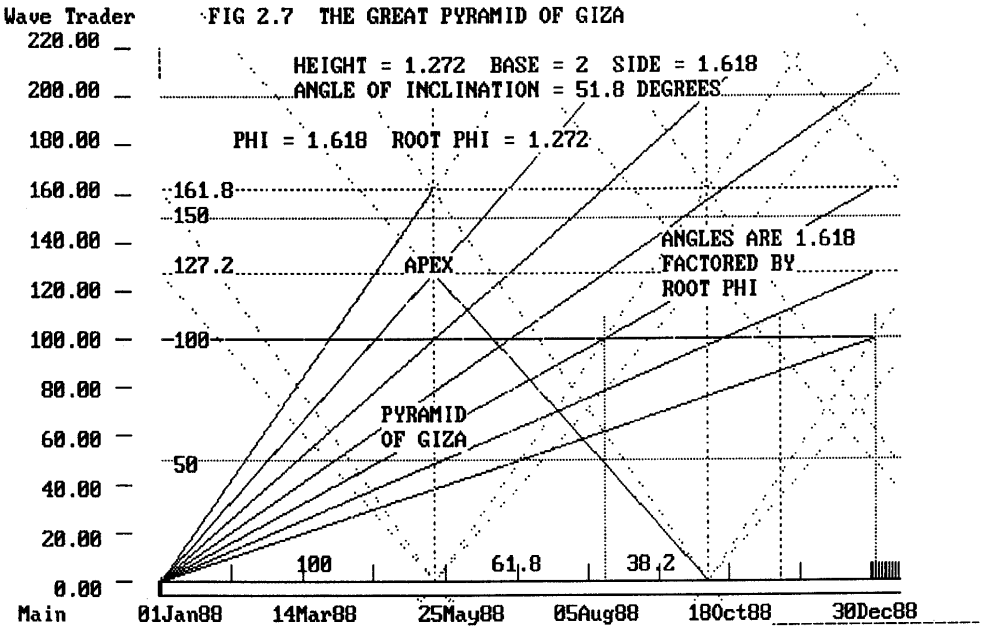
THE GREAT PYRAMID OF GIZA

The Great Pyramid of GIZA has encoded in its structure all of the ancient ratios of PHI and PI. Its design is a monument to the science of mathematics. For anyone interested I would recommend a book by Peter Lemesurier "THE GREAT PYRAMID DECODED".

Figure 2.7 illustrates the ratios of height to base HEIGHT = 127.2 BASE = 200 DIAGONAL SIDE = 161.8

THE ANGLE OF INCLINATION IS 51 degrees 51 minutes. 14 seconds. If you had a circle with a circumference of 1.618034 and you were to remove an arc of 51-51-14 you would end up with an arc of (360 - 51.854) / 360 x 1.618034 or 1.384 (1.618 less .234).

51 degrees 51 minutes is in decimal format 51.8 - A right angle is 90 degrees if you take 51.8 from 90 you get 38.2 (0.618*0.618).



FIBONACCI NUMBER SERIES

For those not familiar with the Fibonacci series, the series begins at 1 and generates new numbers in the series with an increase in value of approximately 61.8% It would not commonly be known how Leonardo Fibonacci arrived at his famous series, but it would be fair to assume that it was as a result of his observations of the Great Pyramids of Egypt.

Leonardo Fibonacci, was reputed to be the greatest mathematician of the middle ages. His published works include LIBER ABACI year 1202, PRACTICA GEOMETRIAE year 1220 and LIBER QUADRATORUM.

The famous series takes on the sequence 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144 and so on into infinity. As the numbers advance they become closer in ratio to PHI the Greek symbol for the ancient ratio of 1.618034

As an example the number 144 is 1.618034 times the value of 89.

To further understand the importance of PHI in mathematics one needs to study the geometric formation of a logarithmic spiral derived from the Golden Rectangle.

I would like to offer the following explanation on how Fibonacci derived this famous series.

If we take the Golden Rectangle as a starting point and draw a diagonal line to divide the Rectangle in half, we then have two right angle triangles each with adjacent sides of length 1 and 1.618034 , This is a GOLDEN TRIANGLE. To find the length of this diagonal line we use the Pythagorean Theorem.

In any right angle triangle the length of the Hypotenuse is equal to the square root of the sum of the squares of the other two sides. As a mathematical formulae this equates to :-

The Diagonal = Square root [(1x1) + (1.618034x1.618034)]

= Square root [1 + 2.618034]

= Square root [3.618034]

= 1.90211

In the pure mathematical sense we should be aware that the number 2 in the Fibonacci series is a rounding of this value.

To obtain the next value in the series we need to expand the Golden rectangle to its next perfect degree. This is easily demonstrated by increasing each side by the value of PHI 1.618034 ie SIDE 1 x 1.618034 and SIDE 1.618034 x 1.618034

We now have a rectangle with sides 1.618034 and 2.618034 if we apply the same mathematics, demonstrated just now, to find the length of the diagonal of the first Golden Rectangle, we can prove that this new diagonal has increased in value by PHI 1.618034

New Diagonal = Square root [(1.618034 x 1.618034) + (2.618034 x 2.618034)]

= Square root [9.472136]

= 3.07768

The relationship of the new diagonal to the first is illustrated as:-

New Diagonal divided by Original Diagonal :-

1.90211 into 3.07768 equals 1.618034

This Then Proves That All Future Diagonals Will Increase By 1.618034 Should We Expand The Sides Of The Golden Rectangle In Powers Of Phi. The Relationship Of Phi Now Holds An intriguing Significance To The Science Of Mathematics.

If We Were To Continue This Expansion Of The Golden Rectangle Then We Would Arrive At A Series Of Values Representing The Increasing Values Of The Diagonals In An Expanding Golden Triangle.

1.90211, 3.07768, 4.97979, 8.05747, 13.03726, 21.09473, 34.13199, 55.22673, 89.35872, 144.5854

When Rounded These Values Are The Same As The Fibonacci Series.

1,1,2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4180, 6763, 10943, 17706, 28648

Each higher number in the series is approximately 1.618034 times the value of the previous number.

LUCAS NUMBER SERIES

This number series is derived by taking one as the origin and increasing each successive number by PHI 1.618034

1, 1.618, 2.618, 4.236, 6.854, 11.09, 17.95, 29, 47, 76, 123, 199

322, 521, 843, 1364, 2207, 3571, 5778, 9348, 15125, 24473.

From 29 on I have rounded off each value. This series is popularly known as the LUCAS series of numbers. Each number also holds a fixed relationship to the Fibonacci series of numbers, if you multiply a Fibonacci number by 1.382 it will equal the next Lucas number that falls between the Fibonacci series.

When this series is reversed to project a contraction we get the values :- 1 divided by PHI 1.618034 then the result divided by PHI and so forth.

1, .618, .382, .236, .146

These ratios are natural divisions of PHI and hold an extremely important place in the methods of analysis to follow.

Phi expanded by a factor of Phi

1.618*1.618 = 2.618

2.618*1.618 = 4.236 [1.618*1.618*1.618]

4.236*1.618 = 6.854 [1.618*1.618*1.618*1.618]

Phi contracted by a factor of Phi

1.618/1.618 = 1.000

1.000/1.618 = 0.618

0.618/1.618 = 0.382 [0.618*0.618]

0.382/1.618 = 0.236 [0.618*0.618*0.618]

0.236/1.618 = 0.146 [0.618*0.618*0.618*0.618]

These expansions and contractions hold the secret to the natural progressions of the Logarithmic spiral.

POWERS OF NUMBERS

Besides the Fibonacci and Lucas series of numbers we have natural squarings of numbers. The most important are squarings of prime numbers. Often these squarings will form common numbers calculated from other base numbers, these numbers are more significant as they can be derived from several sources. Without covering every number under the Sun one should place emphasis on the following numbers.

Powers of 3, 7 and 12 are very important numbers to watch.

3 9 27 81 243 729 2187 6561

7 49 343 2401 16807

12 144 1728 20736

MULTIPLES AND SQUARES OF FIBONACCI NUMBERS ARE ALSO IMPORTANT FOR CONSIDERATION.

34 68 102 136 170 204 238 272 306 340 374 408 442 476 510 etc

55 110 165 220 275 330 385 440 495 550 605 660 715 770 etc

89 178 267 356 445 534 623 712 801 890 979 1068 1157 1246 etc

144 288 432 576 720 864 1008 1152 1296 1440 1584 etc

SQUARES OF FIBONACCI NUMBERS

13 SQUARED = 169

21 SQUARED = 441

34 SQUARED = 1156

55 SQUARED = 3025

A combination of both fibonacci and lucas numbers can be very important to watch. ie 29 + 34 = 63[3 ^ 3*7] 34 + 47 = 81[3 ^ 4] 47 + 55 = 102[34*3] 55 + 76 = 131 76 + 89 = 165(3x55) 89 + 123 = 212 123 + 144 = 267(3x89) 144 + 199 = 343[7 ^ 3] 199 + 233 = 432(3x144) 233 + 322 = 555 et cetera.

GILMORE NUMBER SERIES

These ratios of the Fibonacci series are very strong numbers to watch for the reason being that in the construction of a triangle that unfolds in the ratios of 1.272 (root Phi) and 1.414 (root 2) a relationship can often be found in the markets.

21* 1.272 = 27 (3 ^ 3)

34* 1.272 = 43 (3 ^ 3*1.618)

55* 1.272 = 70 (3 ^ 3*2.618)

89* 1.272 = 113

144*1.272 = 183 (1/2 circle)

233*1.272 = 296 (144 + 144 + 8 and 183*1.618)

377*1.272 = 480 (1 1/3 circle)

21* 1.414 = 30 (5*6)

34* 1.414 = 48 (8*6)

55* 1.414 = 78 (13*6)

89* 1.414 = 126 (21*6)

144*1.414 = 204 (34*6)

233*1.414 = 330 (55*6)

377*1.414 = 533 (89*6)

Another number that continually appears in markets for which I have no great foundation for is 293, although 293*2 equals 586 (590 days is 1.618 years).

This number can be constructed thus:- 144 * root 2 + 89

SUMMARY

All of the Time and Price squaring procedures used in modern charting rely on the geometric relationships of ancient mathematics. These relationships are an exact science that has been passed down through the ages. Mathematics is not some modern day fad or invention but a form for measuring precise relationships.

The science of mathematics is common the world over, it does not matter if you are a Russian, Chinese, Japanese or Indian the same principles apply.

One strong arguement to explain why these formulae are so useful is the fact that they form a common bond throughout the world.

Markets can expand in time and price relationships covered in this chapter and find solid resistance or support at precise levels. To use these methods to advantage it is simply a matter of recognizing their significance and acting accordingly, should other important criteria exist at the time.

MAXIMIZING ANCIENT GEOMETRY

Modern charting, using all of the mathematical relationships of ancient geometry, allows for the calculation of SUPPORT and RESISTANCE areas that may signal an impending change in trend. By counting off time elapsed from major, intermediate and minor swing points in markets a common bond between the ratios of moves will be seen to exist. The more coincidences of clusters at a given future date and price will undoubtedly add more strength to each signal. Besides counting time and price we can also have vibrations. Vibrations are total mathematical relationships of future moves to past moves in both time and price, eg. the time or price of move is a 1, 1.414, 1.618 or a 2 multiple of the preceding move.

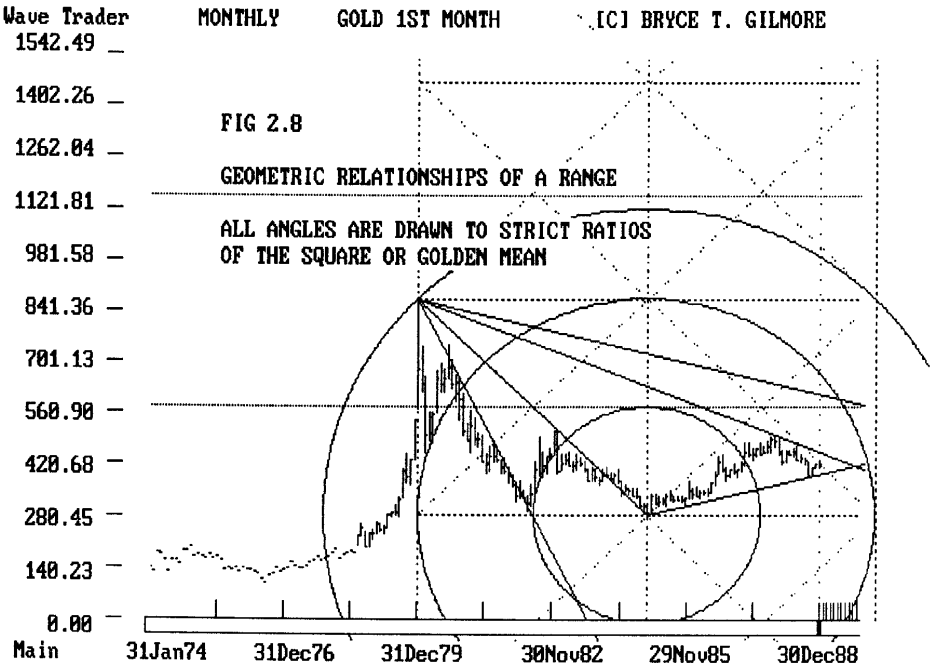
The more advanced methods for measuring wave form relationships are discussed in later chapters. As we go on you will see examples that defy logical explanation.

Markets will form a character that almost mirrors the past, even if these relationships at first seem difficult to identify, they exist. This is due to both the natural cycle of the universe and the natural subconscious of the participants.

In nature, especially music, certain vibrations are pleasing to the ear. These vibrations when explained using mathematical terms relate directly to ancient geometry. The sacred roots of 1, 2, and 5 can be found to exist in all things. My research work using these same ratios in markets has enlightened me to an approach of analysis that has such accurate predictive qualities, **it is second to none.**

It is very important that you learn off by heart the relationships of ancient geometry that bind together the square, circle and golden rectangle. Time is a wheel (circle), as time unfolds it can be squared to the past in ancient geometric ratios to make accurate predictions for future important time areas that may signal changes in trend.

FIG 2.8 GEOMETRIC ANGLES OF SUPPORT AND RESISTANCE.



3. IMPORTANT STATIC TIME ELEMENTS CAN SIGNAL A CHANGE IN TREND

USING MATHEMATICAL TIME ELEMENTS

Technical analysis is the title given to the mathematical study of human behavior in markets. If we accept the fact that market trend is precipitated by human endeavour and weigh up the facts, we can see repetitive time price elements for trend changes in markets, often these become habit forming.

By measuring the **DURATION OF A TREND IN TIME FROM ITS ORIGIN** we can expect a change in trend to occur when a move has been in progress for **34, 55, 89, 144, 233, 377, 610, 987 trading or calendar days.**

To a lesser degree but still very important time zones are **29, 47, 76, 123, 199, 322, 521 trading or calendar days.**

It is important to realize that if we are charting a commodity using only business days and allowing gaps for public holidays we will have 262 bars per year. 262 is an expansion of PHI. [PHI SQUARED (1.618034 X 1.618034 = 2.618034)]. Important times to watch for a change in trend in trading days elapsed will be signaled at **61, 101, 161, 262 bars** from the beginning of a major move. 61 trading days is approx. 89 calendar days, 101 trading days is approx. 144 calendar days. 161 trading days is approx. 233 calendar days, a higher degree Fibonacci series number. A review of past markets will highlight this fact.

The use of these times by chartists and analysts for timing trading entries and exits has a profound effect on market action. ON LONG TERM WEEKLY AND MONTHLY CHARTS THESE NUMBERS ALSO REPRESENT IMPORTANT AREAS FOR A CHANGE IN TREND TO OCCUR. 144 WEEKS IS NEARLY 34 MONTHS AND WILL OFTEN SIGNAL A MAJOR TREND CHANGE. AS YOU BECOME FAMILIAR WITH THESE RATIOS IT WILL PAY TO INVESTIGATE THE VARIOUS COMBINATIONS OF MULTIPLES AND SQUARES AS THEY INTER RELATE TO TIME IN WEEKS AND MONTHS.

For instance 3025 calendar days (55^2) is the equilavent of 432 weeks (3x144). 729 calendar days (9^3) is equal to two years. 61.8 weeks is 432 days.

ANNUAL CARDINAL POINTS

Always be prepared for a change in trend occurring at the strong astrological cardinal points. **0, 90, 180, 270 DEGREES. MARCH 21ST, JUNE 21ST, SEPTEMBER 21ST AND DECEMBER 21ST.** If a current trend has been entrenched for **34, 55, 89, 144, 233, 288, 343, 377, 432 DAYS** etc and one of these anniversaries falls on the above dates a counter trend reaction is almost certain to occur. One could become rich following these signals alone.

CLUSTERS OF TIME

Working time forward from previous swing highs and lows in trading days, calendar days, weeks and months will pinpoint clusters of time ratios that adhere to the numbers listed in chapter 2. When obvious clusters of important time elements exist around future dates we should investigate market performance closely to evaluate the possibility of a trend change coinciding with these clusters.

JUST RECENTLY THE AUSTRALIAN ALL ORDINARIES INDEX COMPLETED THE FIFTH INTERMEDIATE WAVE OF PRIMARY WAVE FIVE ON THE 21ST SEPTEMBER 1987, THE EXACT TIME FOR INTERMEDIATE WAVE FIVE FROM THE INTERMEDIATE FOURTH WAVE LOW WAS 89 CALENDAR DAYS. SEPTEMBER 21ST WAS THE EQUINOX AND ALSO THE 56 YEAR (7x8) ANNIVERSARY FROM THE MAJOR LOW OF 1931. THE LAST WAVE UP NOT ONLY EXPANDED 33% IN VALUE BUT ALSO TRAVELLED 573 POINTS (just short of 4 times 144) THIS WAS ALSO THE EXACT RISE IN POINTS OF THE EXPANSION FROM the 1974 bear market low to the 1980 high which signalled a correction of 40% in value through into 1982.

THE TIME FROM THE INTERMEDIATE WAVE 3 HIGH WAS 89 TRADING DAYS, THE TOTAL TIME FROM THE BEGINNING OF THE FINAL ADVANCE (PRIMARY WAVE 4) WAS 293 TRADING DAYS FROM LOW TO

HIGH. IN JUST A LITTLE OVER 1 MONTH THE CRASH HAS RETRACED 1160 POINTS FOR A LOSS OF 50% IN VALUE FROM THE 2312 HIGH.

DIVISIONS OF A YEAR

Measure the time elapsed from major turning points in divisions and multiples of a year. **ANNIVERSARIES OF ONE YEAR ARE VERY STRONG FORCES FOR A CHANGE IN TREND. 182 DAYS OR HALF A YEAR, 225 DAYS OR 61.8% (time of a VENUS planetary year) OF A YEAR, 590 DAYS OR 161.8% OF A YEAR.**

These times are very strong in marking a change to trend. You can use them in two ways, count the time as a cycle ie, TOP to TOP or BOTTOM to BOTTOM or as a half cycle TOP to BOTTOM or BOTTOM to TOP.

Minor Trend Changes Are Likely To Occur At Intervals Of 30, 60, 90, 120, 150, 210, 240, 270, 300, 330 Calendar Days. These divisions mark 1/12ths of a year. Once a pattern of turning points in a market is identified adhering to these times the future becomes far more predictive.

EXAMPLES OF TIME AT MAJOR TREND CHANGES

DECEMBER GOLD HIGH SEPTEMBER 22nd 1986

In 1986 on September the 22nd (September 21st was a Sunday) the Gold market made an expected high. (equinox 180 degrees)

This date coincided with the square of the June low of $287 (287x2 =574).

September 22nd 1986 was exactly 574 calendar days from the major low February 25th 1985.

574 was also very close to (4x144 =576).

The December contract high on September 22nd 1986 was $446. The low in 1985 on December gold was $301.50 and the market had risen $446-$301.50 = $144.50 (Fibonacci number 144)

The market had a fast fall over the next few days as traders sold off long positions. By October the 6th the market had climbed back to $445 and was testing the previous top.

On October 8th on its fourth attempt to penetrate the double top of September 22nd the market continued a retracement that lasted 60 days and reduced the December price $70 down to $376.50.

October 8th 1986 was exactly 1.618 years (590 days) from the major low on February 25th 1985.

The newspapers probably gave some fundamental reason for this decline but I am positive that it occurred purely by way of the natural actions of traders as price and time squared in the natural sense to these vibrations. By using both price and time squaring methods the dedicated analyst can make his fortune by patiently awaiting signals of this dimension and entering the market at the precise time and price for a change in trend.

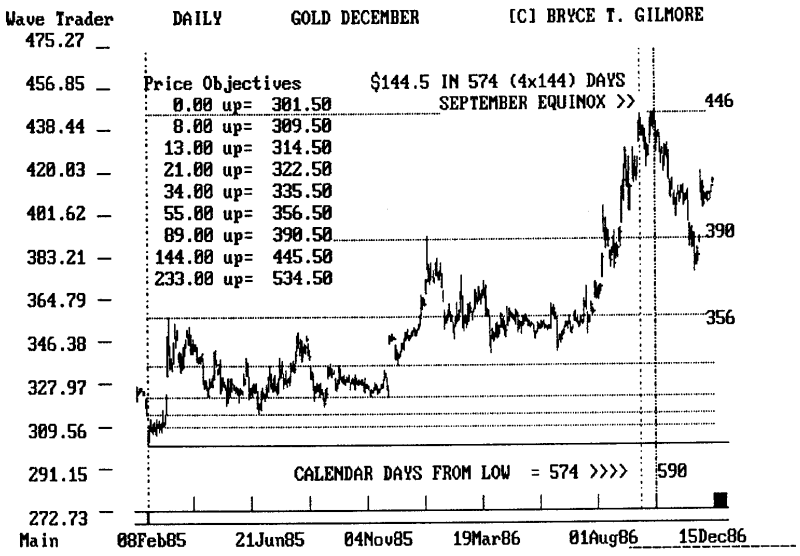


FIG 3.1 CONTINUOUS COMEX GOLD DECEMBER FUTURES.

4. STATIC PRICE INCREMENTS AND LEVELS FOR SUPPORT & RESISTANCE AREAS

MATHEMATICAL PRICE ELEMENTS

The perspective of markets is clearly identified when charted. Charts have two axis, these axes are the time scale and the price scale. In the geometry of markets each axis is as important as the other. In the previous chapter we covered static time elements that can signal a change in investor sentiment that leads to a change in the apparent trend. To confirm our views on time we use price, the term that I will use will be *time and price "squaring"*. Squarings of time and price balance a third element known in technical terms as space.

PRICE is the most natural measurement used by technical traders in determining support and resistance areas in markets. Few traders really appreciate the value of measuring time, yet most have a knowledge of calculating price objectives.

If we refer to chapter 2 and the ancient geometry that gives us a basis of natural numbers we can apply these to increments of price movement as well as time.

FIBONACCI DEGREE PRICE RISES AND DECLINES

The first series of numbers to watch are price moves in ratios of the Fibonacci series. If we investigate past markets we will find that trend changes regularly occur in markets after a rise or fall in points coinciding with the Fibonacci series, ie 13, 21, 34, 55, 89, 144, 233, 377, 610 et cetera.

The way we monitor these levels is to extend price values in Fibonacci degree up from lows and down from highs. Clusters of price support and resistance levels will be clearly identified.

On page 28, FIG 3.5 the lower chart demonstrates a price move of $233 from the Gold low in February 1985 to the high of December 1987.

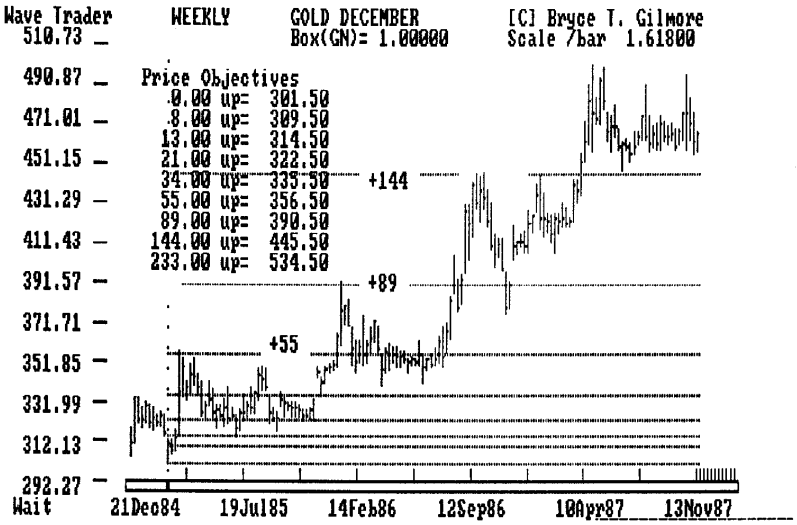


FIG 4.1 FIBONACCI PRICE LEVELS FROM A MAJOR LOW.

PRICE LEVELS OF FIBONACCI DEGREE

The power of these natural numbers seems to play an important part in the subconscious actions of traders therefore it is important to watch for reversals of trend that coincide with exact price levels on these numbers. IE, a trend could terminate at 55 points, 89 points, 144 points, 233 points, 377 points et cetera in actual price value.

LUCAS DEGREE PRICE RISES AND DECLINES

Using the same procedure as with Fibonacci price supports and resistances secondly we monitor all levels from highs and lows in LUCAS degree numbers, ie 11, 18, 29, 47, 76, 123, 199, 322, 521, 843 et cetera.

Congestion areas of support and resistance will be clearly present on your chart for future use with time intersections. The upper chart FIG 3.4 of June Gold on page 28 demonstrates a geometric price move in Lucas degree from the low of $322 in December 1985 to the high $521 of December 1987 (two years) and an increase of $199 (61.8% rise in value). This top was also $234 (233 Fibonacci) from the 1985 low of $287.

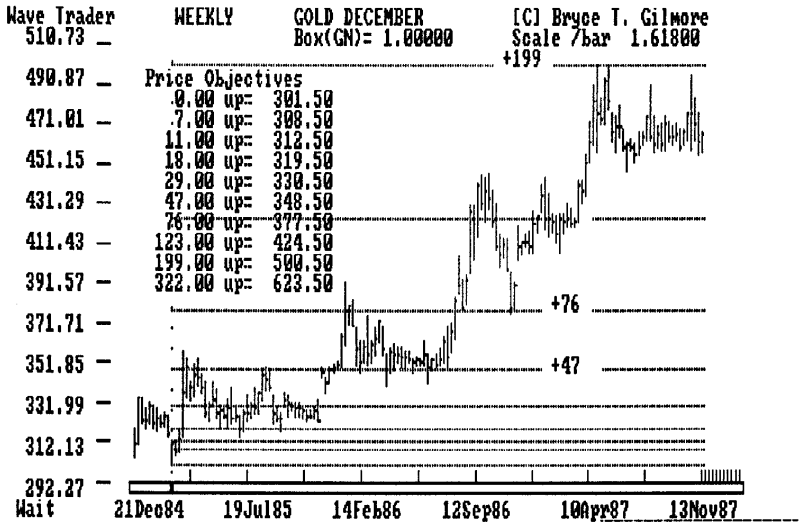


FIG 4.2

This chart of the December contract demonstrates a price rise of $199 from the February 1985 low to the April 1987 high, which terminated on a Lucas number.

PRICE LEVELS OF LUCAS DEGREE

The same principle as mentioned above for Fibonacci price levels applies to Lucas price levels.

The upper chart FIG 3.4 on page 28 demonstrates this phenomena, two very significant reversals to trend occurred at exact Lucas price levels, ie $322 and $521.

SQUARE OF 144

144 is psychologically one of the most important numbers to watch when working with relationships of time and price, 144 relates to the harmonic of the speed of light. Price moves of 72 (half 144) points, 144 points, 288 (2x144) points, 432 (3x144) points, 576 (4x144) points, 720 (5x144 and 2x360) points.

5 is a natural harmonic cycle and multiples thereof are equally as important ie, 10x144 = 1440, 15x 144 = 2160, 20x144 = 2880.

Price and time multiples of 144 in calendar days, trading days, weeks and months should be measured off important swing highs and lows in markets for a possible guide to a future trend reversal. Price levels in multiples of 144 points, ie $288, $432 et cetera, should be monitored as possible natural support and resistance areas in markets.

144 is of prime importance, not only is it a Fibonacci number but also the square of 12 (12x12 = 144). 360 divided by 2.5 (half a harmonic cycle) equals 144.

Squares of 144 are :- 144, 288, 432, 576, 720, 864, 1008, 1152, 1296, 1440, 1584, 1728, 1872, 2016, 2160, 2304, 2448, 2592, 2736, 2880, 3024(55x55).

Other important functions of 144 are :-

144 x 1.118 = 161 (PHI)

144 x 1.272 = 183 (half year in days)

144 x 1.414 = 204 (6x34)

144 x 1.618 = 233 (Fibonacci)

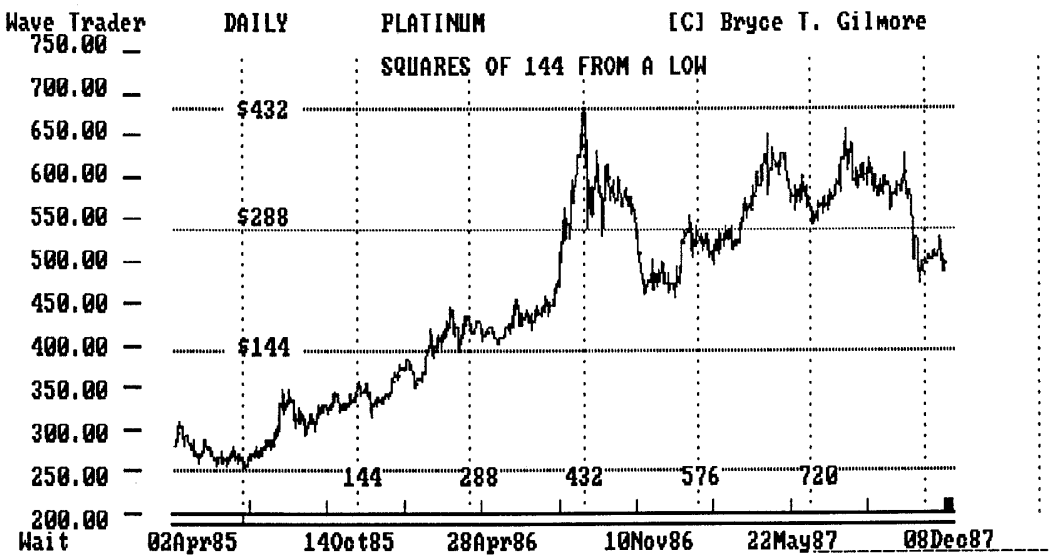
144 x 2.236 = 322 (Lucas)

144 x 3.236 = 466 (233 x 2)

SIMPLE SQUARINGS OF TIME AND PRICE

Time and price will square when, say, a market moves 89 points in 89 days or 144 points in 144 days. Both of these examples would be exactly square as units of price equal units of time.

FIG 4.3 The following chart demonstates a major move in the Platinum market that **squared $432 rise in 432 days.**



COMPLEX SQUARINGS OF TIME AND PRICE

Squarings of time and price often occur in a more complex relationship. For instance a valid squaring could fall on any ratio that is related to the Golden Rectangle, Square or Circle. Relationships of time that could balance price could be a 0.618 relationship, a 1.414 (root 2) relationship or even a 1.272 (root Phi) relationship. These will be discussed in detail in future chapters. At the moment it is important to realize that a move of 89 points in 144 days would signal a price move of 0.618 units of price to 1.00

unit of time. Similarly a price move of 144 points in 89 days would signal a 1.618 relationship of price to time. $233 in 34 weeks could signal a valid squaring of price and time (in fact the June Comex Gold contract made a bear market rally from June 1982 until February 1983 that terminated on this exact ratio).

When price terminates a move on clusters of Fibonacci or Lucas numbers, even on squares or multiples of these numbers, a valid price level has been attained. Should the time elements mentioned in chapter 3 coincide with this price level then a genuine "squaring" of time and price has been witnessed.

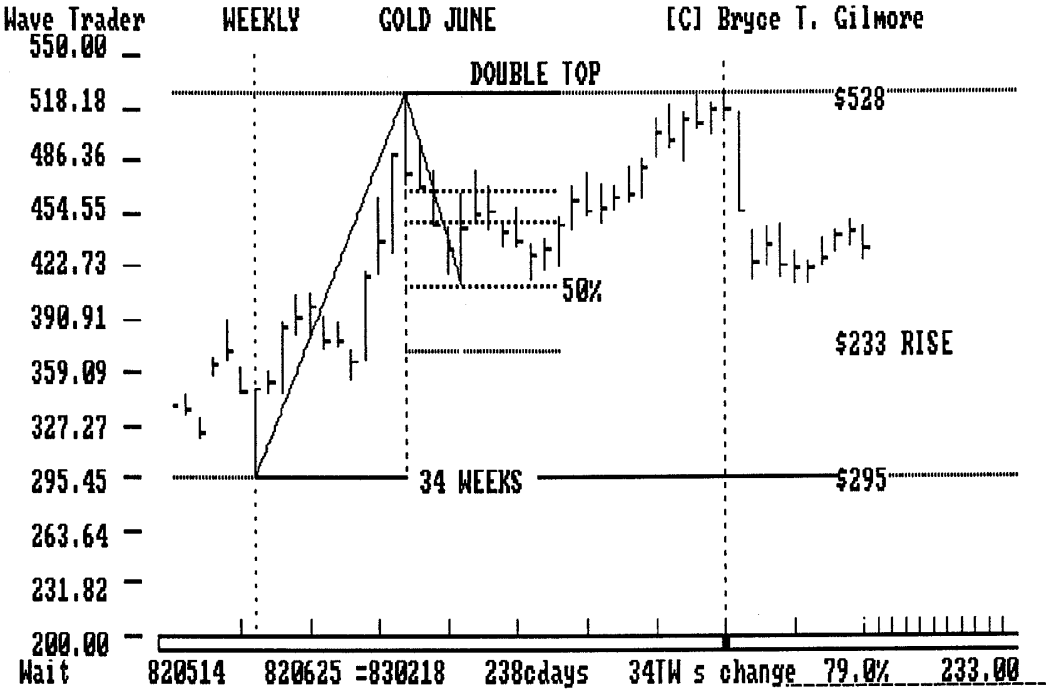


FIG 4.4 GOLD 1982-1983 BULL BARKET - PRICE ROSE $233 PER OUNCE IN 34 WEEKS ON THE JUNE CONTINUOUS FUTURES CONTRACT.

USING STATIC PRICE ELEMENTS

The Gold market is one area that I have found to be very reliable in its reversal signals often generated via the above methods. Some heavily traded stocks often move in these relationships. The criteria for using these signals for trade timing should be that the market is free trading (that means it must be free of governmental subsidies or interference). The more diversified the participants and the greater the activity of traders the more reliable these methods become.

Generally any free trading market be it a currency option, stock or commodity will lend itself to these technical measurements.

Important price expansions or contractions should be measured up from lows of importance and down from highs of importance. Clusters of support and resistance should be given priority for consideration when a time element of importance (clusters of time forward from previous swing highs or lows in similar ratios) falls due.

Even though this chapter is not directed to time it is important to realize that as the future unfolds time will be balanced by price. Sometimes trend changes will seem vague in their relationships but later on some relationship will unfold to confirm what has passed. By this statement I mean that it could happen that a bottom or top of a market is reached in say 144 days or 233 days prior to an Equinox, Solstice, Apogee or Perigee.*

By working backwards from the important cardinal points in a year other time elements will be present at major price levels using static price mathematics. An example comes to mind on the All ordinaries index this year. February 10th, 1988 was a low point (price bottomed at 1169.6) that signaled the lift off for the latest rally which has so far seen a high of 1642. This was just 142 calendar days from the all time high of 1987 also 72 calendar days (half 144) and 47 trading days from a minor correction to the great crash. February 10th /12th is also 144 days prior to the July 5th Apogee (position of Earth in its annual orbit when velocity is at its slowest), February 11th was also 233 days from the June 1987 Solstice.

* CHAPTER 16 WILL GIVE A MORE DETAILED EXPLANATION OF THIS PLANETARY PHENOMENA.

BE AWARE FOR THE FUTURE

AS ONE LEARNS MORE ABOUT THE NATURAL CYCLES OF NATURE THE RATIOS AND NUMBERS PRODUCED FROM THE SQUARE, CIRCLE, AND GOLDEN RECTANGLE WILL TAKE ON AN IMPORTANCE NOT FORMALLY RECOGNIZED PREVIOUSLY. RESEARCH OF PAST MARKETS WILL CONFIRM THE REGULARITY OF TREND CHANGES OCCURRING AT TIME AND PRICE SQUARINGS IN RATIOS OF ANCIENT GEOMETRY. TO SUCCEED IN USING THESE RATIOS ONE HAS TO DEVELOP A SENSE FOR WORKING FORWARD OF THE MARKET WHILST AT THE SAME TIME KEEPING AN OPEN MIND TO THE NATURE OF MARKETS.

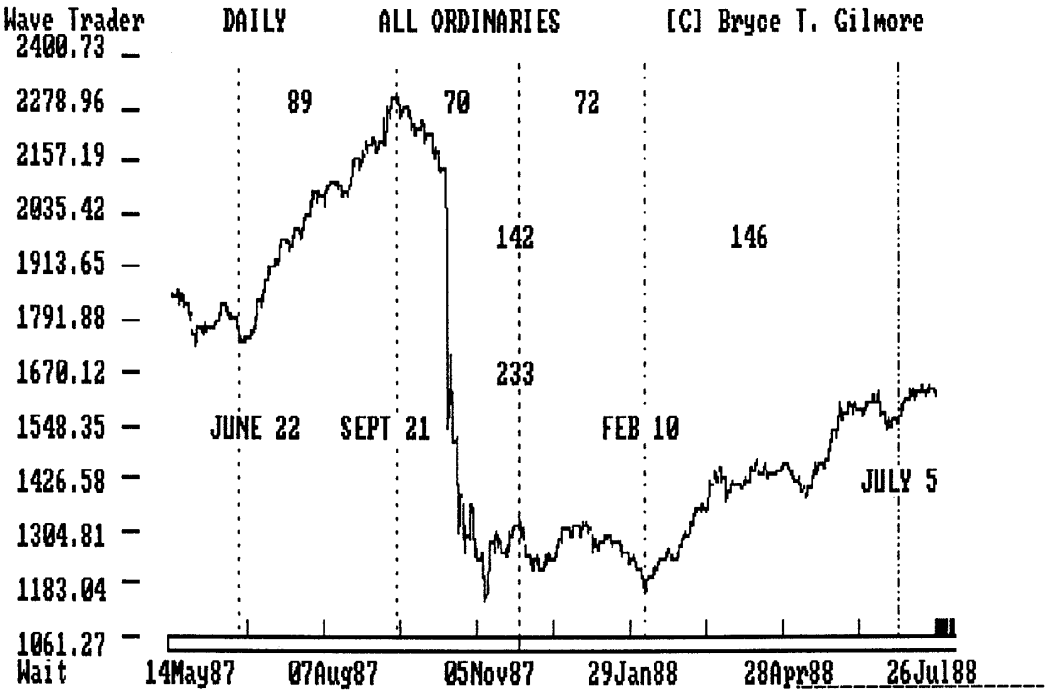


FIG 4.5 DEMONSTRATES THAT FIBONACCI RATIOS IN TIME ARE VERY IMPORTANT TECHNICAL METHODS TO MONITOR.

5. DYNAMIC PRICE SUPPORTS AND RESISTANCES

This section covers the **natural price barriers** that markets encounter when in either an uptrend or downtrend. The reason I have headed these supports and resistances as DYNAMIC is because they are forces generated by previous market action. To measure these forces requires using actual price movement and making calculations based on the ratios found in the SQUARE, CIRCLE and GOLDEN RECTANGLE.

The most natural area of resistance or support encountered in price movement is at the 100% level or half way levels of 100% divisions. If a market were to rise by 100% in value most traders would recognize this fact and become reluctant purchasers, on the same hand should a market fall in value by 100% it would be reduced to zero value and could not decline further, should it fall in value by 50% then it would be half the price and represent reasonable value to a purchaser.

Investor sentiment plays the major role in determining trend reversals in markets. The psychology of traders follows a mathematical pattern, the important ratios handed down through the ages and reflected in nature are the ratios of PHI and the SQUARE.

DOUBLE TOPS AND BOTTOMS

The first and most important level of resistance and support to become familiar with is past market price levels. These levels are easily visible when charted. If one maintains long term price charts for a commodity or stock these previous high and low points can be easily monitored.

As a market approaches previous high points investor psychology changes, they fear that prices have gone too high and stocks or commodities are no longer worth holding, this precipitates selling. The further the distance between double tops the stronger the psychological effect. Traders learn from the past and remember what happens when markets rise too high in too short a time. When a market declines to a previous low point the natural subconscious alerts investors to the possible value of buying, this action supports any further decline.

If time dictates a change in trend and the market is overbought or oversold at these levels then a reaction to trend will be more certain.

The first chart below is of the Copper cycle between the high of 1980 and the high of 1987. The bear market decline was a fall of 62.5% in value in 123 weeks (LUCAS). The initial reaction to this fall was a rise of 50% in value before declining once again to test the lower end of the range. A double bottom was formed and a new bull market was underway. After a dramatic rise in prices throughout 1987 the bull market expired exactly on the 288 week time frame (2x144) from the low of 1982 forming a double top with the 1980 high. The level reached in 1980 was $1.47 per pound, in 1987 price terminated at $1.46 per pound. At the time market expectation was for much higher prices to come. As you can see from the chart this did not eventuate and the correction to the rise was swift and devastating.

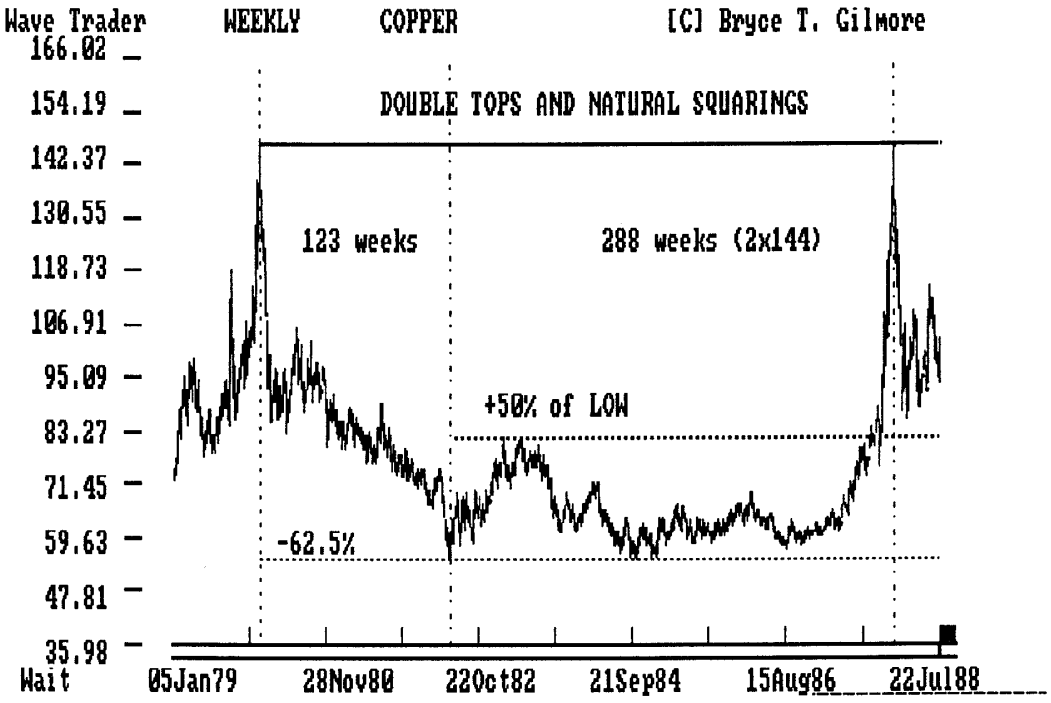


FIG 5.1 COPPER DOUBLE TOPS 1980-1987

JAPANESE YEN HIGH DECEMBER 31st 1987

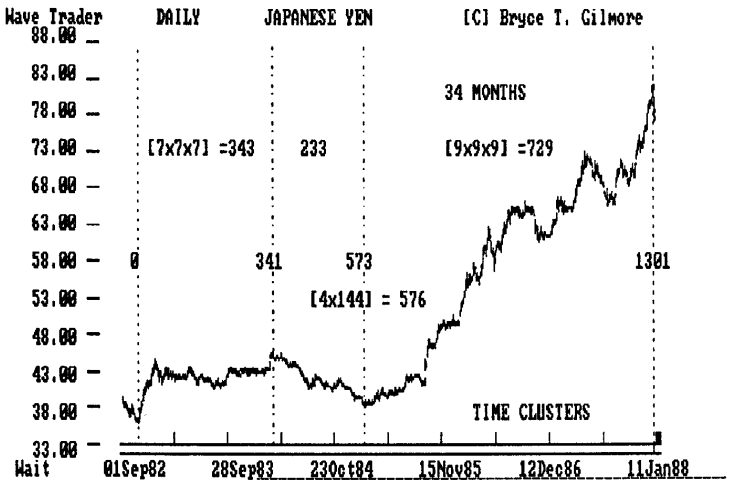
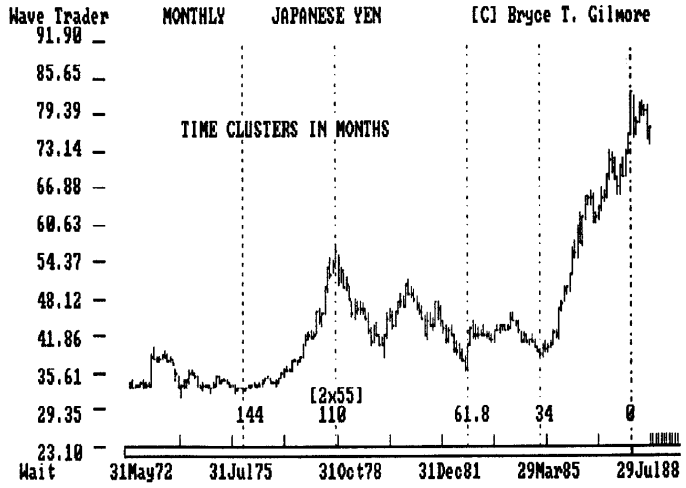


FIG 3.2 FINAL WAVE 34 MONTHS AND 729 (9 CUBED) TRADING DAYS.

FIG 3.3 FINAL WAVE TOP SQUARED TIME WITH MOST MAJOR SWINGS.



COMEX GOLD HIGH DECEMBER 14th 1987

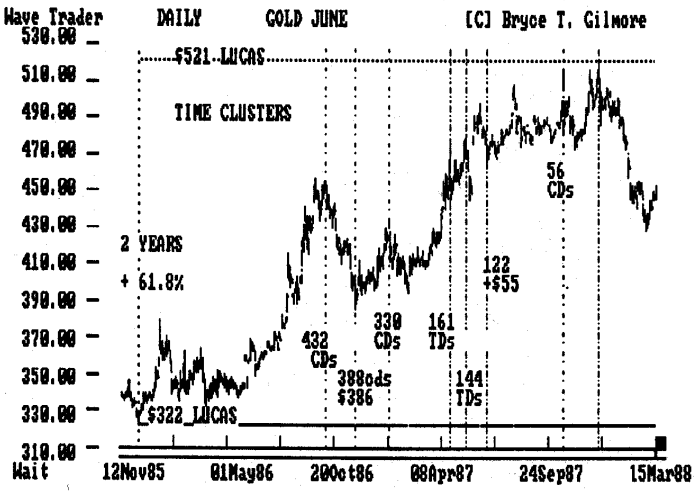
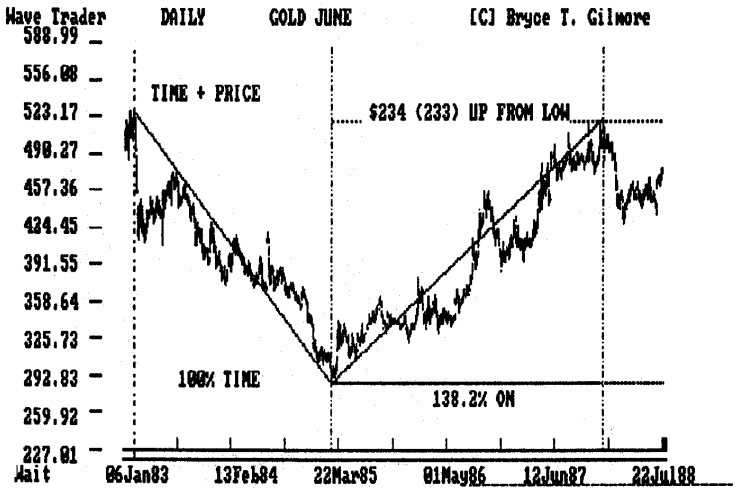


FIG 3.4 SOME TIME VIBRATIONS AT THE DECEMBER 1987 HIGH.

FIG 3.5 WAVE VIBRATION AT THE DECEMBER 1987 HIGH.



ALL ORDINARIES INDEX - ALL TIME HIGH 21st September 1987

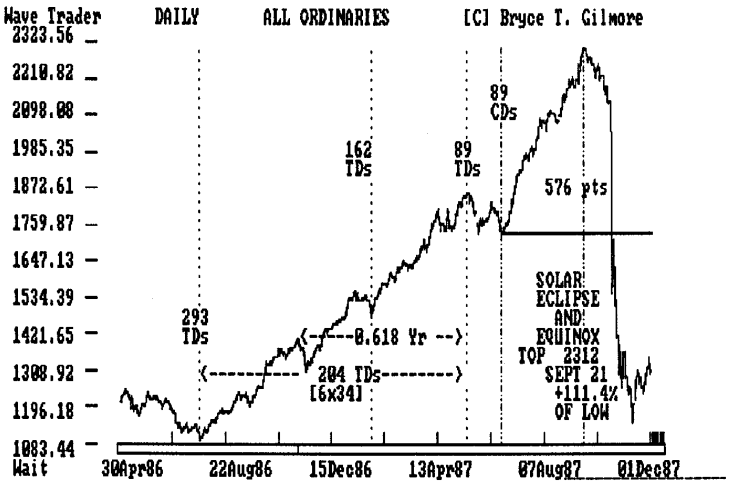
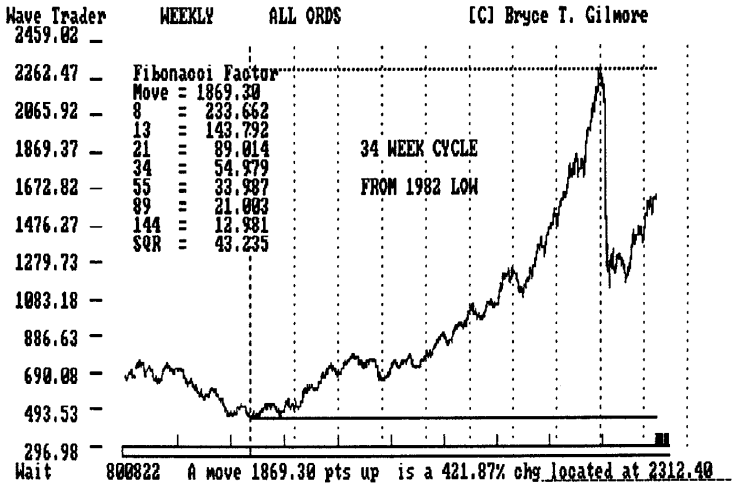


FIG 3.6 SHARE INDEX TIME VIBRATIONS

FIG 3.7 SHARE INDEX TIME CYCLES



SUMMARY

There are many other important time elements to be considered for a change in trend, but these are not common numbers and require calculations to be made over past data. These are fully detailed in the pages ahead.

Free trading markets are heavily influenced by the power of technical traders. Technical traders are speculators who use mathematical concepts to guide their decision making. At times when the signals are clearly strong enough they combine as a force to turn even the strongest apparent trend. When these actions coincide with the natural vibrations a market will react voilently allowing excellent opportunity from which to profit.

For the best use of these time periods one should measure time from major swing points and look to locate CLUSTERS of time zones that adhere to important numbers be they daily, weekly or monthly periods.

Carefully watch the 90, 180, 270 and 360 degree points of a planetary year for major trend reversals.

4. STATIC PRICE INCREMENTS AND LEVELS FOR SUPPORT & RESISTANCE AREAS

MATHEMATICAL PRICE ELEMENTS

The perspective of markets is clearly identified when charted. Charts have two axis, these axes are the time scale and the price scale. In the geometry of markets each axis is as important as the other. In the previous chapter we covered static time elements that can signal a change in investor sentiment that leads to a change in the apparent trend. To confirm our views on time we use price, the term that I will use will be *time and price "squaring"*. Squarings of time and price balance a third element known in technical terms as space.

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FIBONACCI DEGREE PRICE RISES AND DECLINES

The first series of numbers to watch are price moves in ratios of the Fibonacci series. If we investigate past markets we will find that trend changes regularly occur in markets after a rise or fall in points coinciding with the Fibonacci series, ie 13, 21, 34, 55, 89, 144, 233, 377, 610 et cetera.

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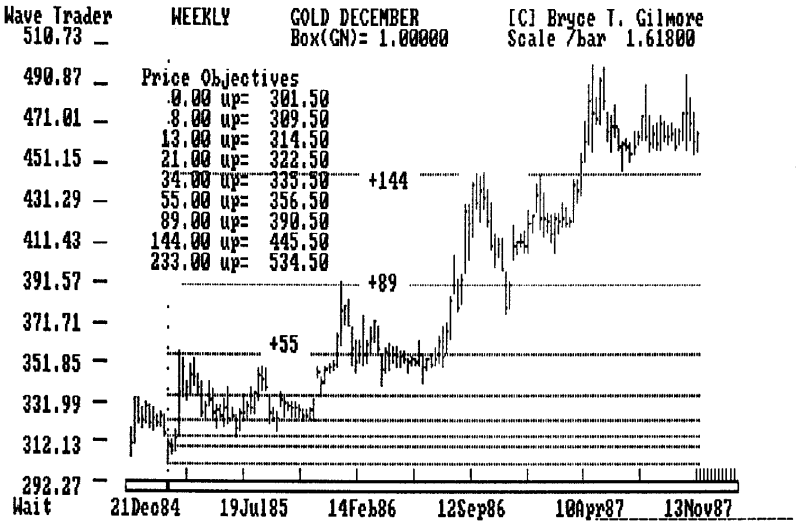

FIG 4.1 FIBONACCI PRICE LEVELS FROM A MAJOR LOW.

PRICE LEVELS OF FIBONACCI DEGREE

The power of these natural numbers seems to play an important part in the subconscious actions of traders therefore it is important to watch for reversals of trend that coincide with exact price levels on these numbers. IE, a trend could terminate at 55 points, 89 points, 144 points, 233 points, 377 points et cetera in actual price value.

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Using the same procedure as with Fibonacci price supports and resistances secondly we monitor all levels from highs and lows in LUCAS degree numbers, ie 11, 18, 29, 47, 76, 123, 199, 322, 521, 843 et cetera.

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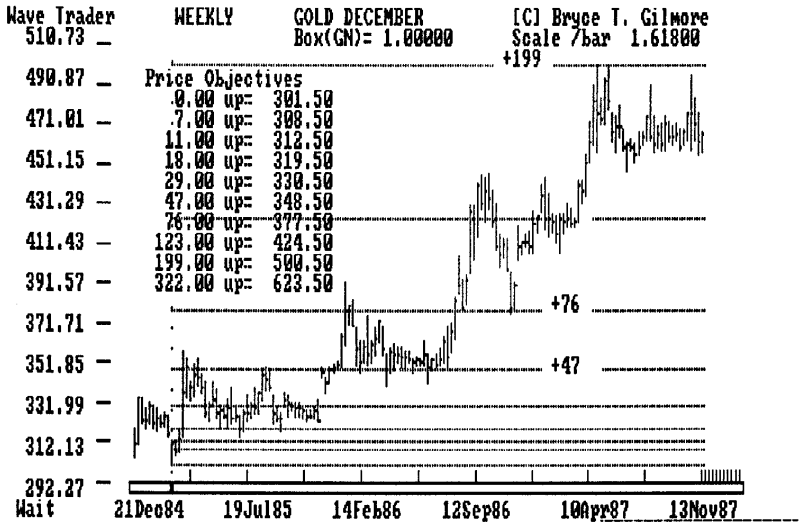


FIG 4.2

This chart of the December contract demonstrates a price rise of $199 from the February 1985 low to the April 1987 high, which terminated on a Lucas number.

PRICE LEVELS OF LUCAS DEGREE

The same principle as mentioned above for Fibonacci price levels applies to Lucas price levels.

The upper chart FIG 3.4 on page 28 demonstrates this phenomena, two very significant reversals to trend occurred at exact Lucas price levels, ie $322 and $521.

SQUARE OF 144

144 is psychologically one of the most important numbers to watch when working with relationships of time and price, 144 relates to the harmonic of the speed of light. Price moves of 72 (half 144) points, 144 points, 288 (2x144) points, 432 (3x144) points, 576 (4x144) points, 720 (5x144 and 2x360) points.

5 is a natural harmonic cycle and multiples thereof are equally as important ie, 10x144 = 1440, 15x 144 = 2160, 20x144 = 2880.

Price and time multiples of 144 in calendar days, trading days, weeks and months should be measured off important swing highs and lows in markets for a possible guide to a future trend reversal. Price levels in multiples of 144 points, ie $288, $432 et cetera, should be monitored as possible natural support and resistance areas in markets.

144 is of prime importance, not only is it a Fibonacci number but also the square of 12 (12x12 = 144). 360 divided by 2.5 (half a harmonic cycle) equals 144.

Squares of 144 are :- 144, 288, 432, 576, 720, 864, 1008, 1152, 1296, 1440, 1584, 1728, 1872, 2016, 2160, 2304, 2448, 2592, 2736, 2880, 3024(55x55).

Other important functions of 144 are :-

144 x 1.118 = 161 (PHI)

144 x 1.272 = 183 (half year in days)

144 x 1.414 = 204 (6x34)

144 x 1.618 = 233 (Fibonacci)

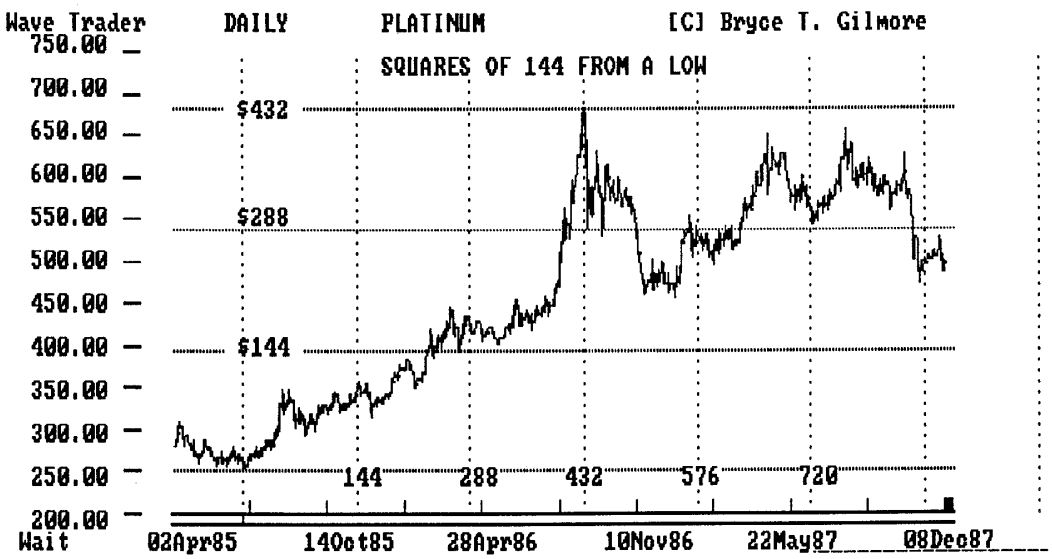
144 x 2.236 = 322 (Lucas)

144 x 3.236 = 466 (233 x 2)

SIMPLE SQUARINGS OF TIME AND PRICE

Time and price will square when, say, a market moves 89 points in 89 days or 144 points in 144 days. Both of these examples would be exactly square as units of price equal units of time.

FIG 4.3 The following chart demonstates a major move in the Platinum market that **squared $432 rise in 432 days.**



COMPLEX SQUARINGS OF TIME AND PRICE

Squarings of time and price often occur in a more complex relationship. For instance a valid squaring could fall on any ratio that is related to the Golden Rectangle, Square or Circle. Relationships of time that could balance price could be a 0.618 relationship, a 1.414 (root 2) relationship or even a 1.272 (root Phi) relationship. These will be discussed in detail in future chapters. At the moment it is important to realize that a move of 89 points in 144 days would signal a price move of 0.618 units of price to 1.00

unit of time. Similarly a price move of 144 points in 89 days would signal a 1.618 relationship of price to time. $233 in 34 weeks could signal a valid squaring of price and time (in fact the June Comex Gold contract made a bear market rally from June 1982 until February 1983 that terminated on this exact ratio).

When price terminates a move on clusters of Fibonacci or Lucas numbers, even on squares or multiples of these numbers, a valid price level has been attained. Should the time elements mentioned in chapter 3 coincide with this price level then a genuine "squaring" of time and price has been witnessed.

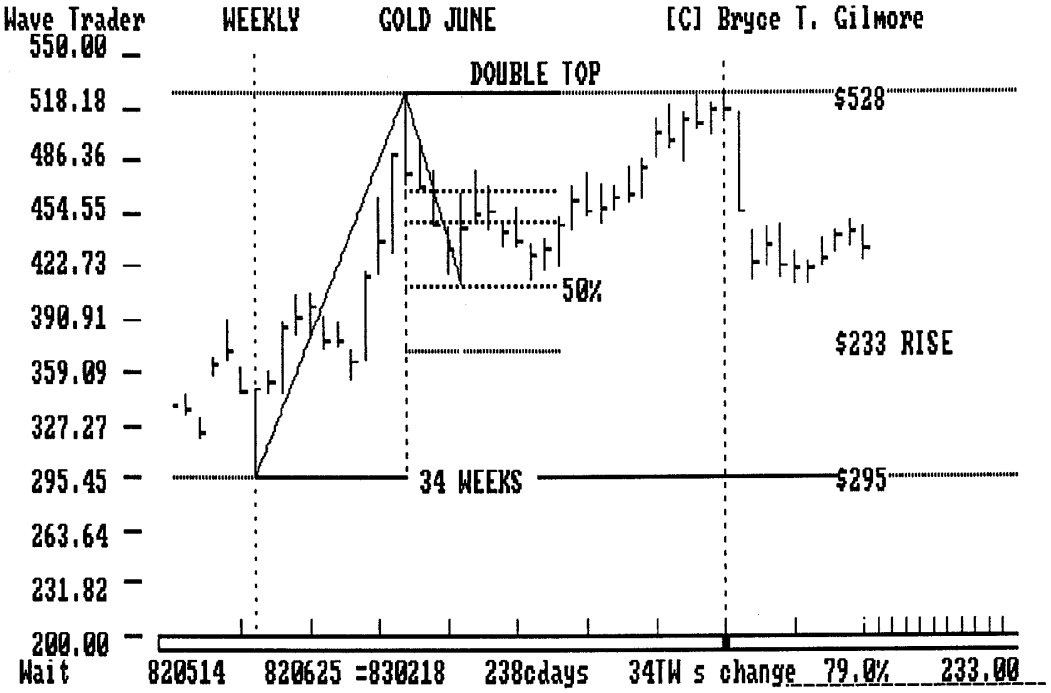


FIG 4.4 GOLD 1982-1983 BULL BARKET - PRICE ROSE $233 PER OUNCE IN 34 WEEKS ON THE JUNE CONTINUOUS FUTURES CONTRACT.

USING STATIC PRICE ELEMENTS

The Gold market is one area that I have found to be very reliable in its reversal signals often generated via the above methods. Some heavily traded stocks often move in these relationships. The criteria for using these signals for trade timing should be that the market is free trading (that means it must be free of governmental subsidies or interference). The more diversified the participants and the greater the activity of traders the more reliable these methods become.

Generally any free trading market be it a currency option, stock or commodity will lend itself to these technical measurements.

Important price expansions or contractions should be measured up from lows of importance and down from highs of importance. Clusters of support and resistance should be given priority for consideration when a time element of importance (clusters of time forward from previous swing highs or lows in similar ratios) falls due.

Even though this chapter is not directed to time it is important to realize that as the future unfolds time will be balanced by price. Sometimes trend changes will seem vague in their relationships but later on some relationship will unfold to confirm what has passed. By this statement I mean that it could happen that a bottom or top of a market is reached in say 144 days or 233 days prior to an Equinox, Solstice, Apogee or Perigee.*

By working backwards from the important cardinal points in a year other time elements will be present at major price levels using static price mathematics. An example comes to mind on the All ordinaries index this year. February 10th, 1988 was a low point (price bottomed at 1169.6) that signaled the lift off for the latest rally which has so far seen a high of 1642. This was just 142 calendar days from the all time high of 1987 also 72 calendar days (half 144) and 47 trading days from a minor correction to the great crash. February 10th /12th is also 144 days prior to the July 5th Apogee (position of Earth in its annual orbit when velocity is at its slowest), February 11th was also 233 days from the June 1987 Solstice.

* CHAPTER 16 WILL GIVE A MORE DETAILED EXPLANATION OF THIS PLANETARY PHENOMENA.

BE AWARE FOR THE FUTURE

AS ONE LEARNS MORE ABOUT THE NATURAL CYCLES OF NATURE THE RATIOS AND NUMBERS PRODUCED FROM THE SQUARE, CIRCLE, AND GOLDEN RECTANGLE WILL TAKE ON AN IMPORTANCE NOT FORMALLY RECOGNIZED PREVIOUSLY. RESEARCH OF PAST MARKETS WILL CONFIRM THE REGULARITY OF TREND CHANGES OCCURRING AT TIME AND PRICE SQUARINGS IN RATIOS OF ANCIENT GEOMETRY. TO SUCCEED IN USING THESE RATIOS ONE HAS TO DEVELOP A SENSE FOR WORKING FORWARD OF THE MARKET WHILST AT THE SAME TIME KEEPING AN OPEN MIND TO THE NATURE OF MARKETS.

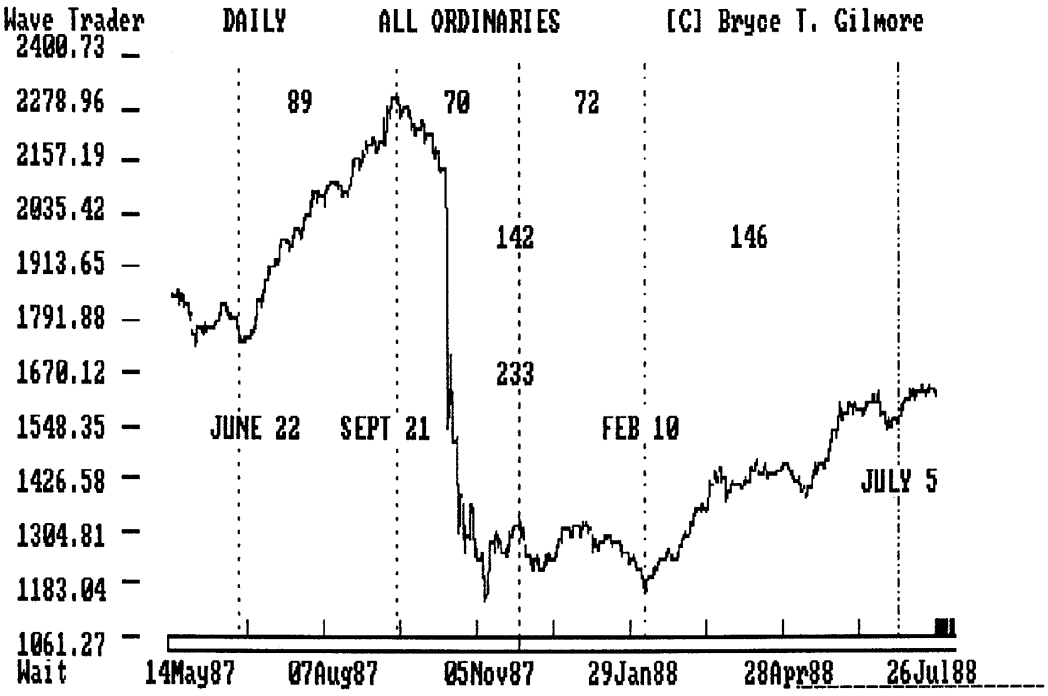


FIG 4.5 DEMONSTRATES THAT FIBONACCI RATIOS IN TIME ARE VERY IMPORTANT TECHNICAL METHODS TO MONITOR.

5. DYNAMIC PRICE SUPPORTS AND RESISTANCES

This section covers the **natural price barriers** that markets encounter when in either an uptrend or downtrend. The reason I have headed these supports and resistances as DYNAMIC is because they are forces generated by previous market action. To measure these forces requires using actual price movement and making calculations based on the ratios found in the SQUARE, CIRCLE and GOLDEN RECTANGLE.

The most natural area of resistance or support encountered in price movement is at the 100% level or half way levels of 100% divisions. If a market were to rise by 100% in value most traders would recognize this fact and become reluctant purchasers, on the same hand should a market fall in value by 100% it would be reduced to zero value and could not decline further, should it fall in value by 50% then it would be half the price and represent reasonable value to a purchaser.

Investor sentiment plays the major role in determining trend reversals in markets. The psychology of traders follows a mathematical pattern, the important ratios handed down through the ages and reflected in nature are the ratios of PHI and the SQUARE.

DOUBLE TOPS AND BOTTOMS

The first and most important level of resistance and support to become familiar with is past market price levels. These levels are easily visible when charted. If one maintains long term price charts for a commodity or stock these previous high and low points can be easily monitored.

As a market approaches previous high points investor psychology changes, they fear that prices have gone too high and stocks or commodities are no longer worth holding, this precipitates selling. The further the distance between double tops the stronger the psychological effect. Traders learn from the past and remember what happens when markets rise too high in too short a time. When a market declines to a previous low point the natural subconscious alerts investors to the possible value of buying, this action supports any further decline.

If time dictates a change in trend and the market is overbought or oversold at these levels then a reaction to trend will be more certain.

The first chart below is of the Copper cycle between the high of 1980 and the high of 1987. The bear market decline was a fall of 62.5% in value in 123 weeks (LUCAS). The initial reaction to this fall was a rise of 50% in value before declining once again to test the lower end of the range. A double bottom was formed and a new bull market was underway. After a dramatic rise in prices throughout 1987 the bull market expired exactly on the 288 week time frame (2x144) from the low of 1982 forming a double top with the 1980 high. The level reached in 1980 was $1.47 per pound, in 1987 price terminated at $1.46 per pound. At the time market expectation was for much higher prices to come. As you can see from the chart this did not eventuate and the correction to the rise was swift and devastating.

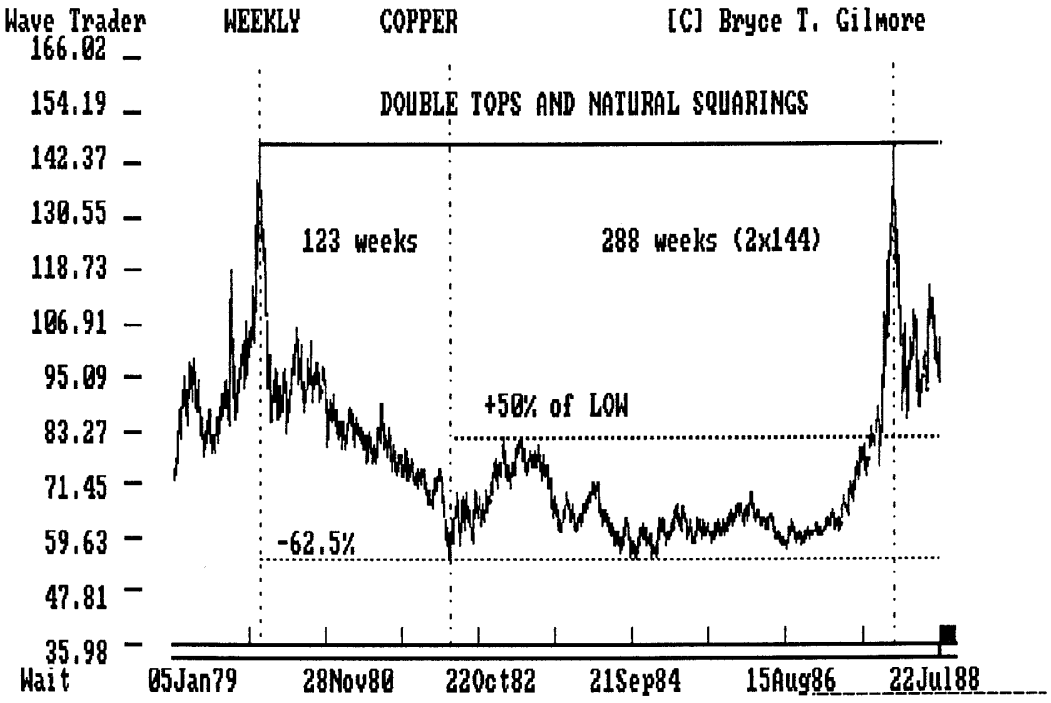


FIG 5.1 COPPER DOUBLE TOPS 1980-1987

Just recently the Sugar market went into a meteoric rise. This next chart shows the geometric chart of NCSCE MARCH SUGAR #11 and how time and price were balanced in Fibonacci degree at the double top of July 14th, 1988. The double top formed was within 0.08 of a cent of the 1983 high. Top tick was 14.39 cents per pound, 1 tick off 10 times 144 and the time between the two tops was 267 weeks (3x89) another Fibonacci relationship. The other time frame of interest shown is the relationship of the first advance from 1985 to the double bottom before the final advance resumed. These two periods balanced out at exactly 383 trading days. (maybe it's a coincidence but 383 ties in with the 38.2 ratio from PHI). The price at the double bottom was 5.77 cents (4x144) which means that the rise up to 14.39 cents was 6 times 144, this was also another technical factor present at the 1988 high.

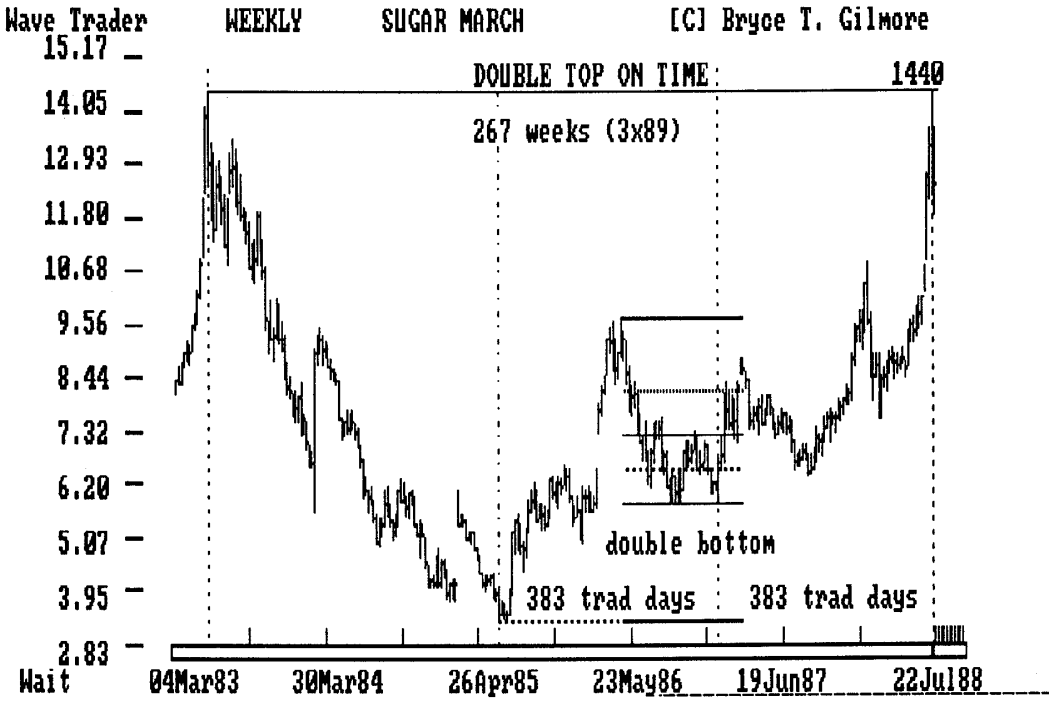
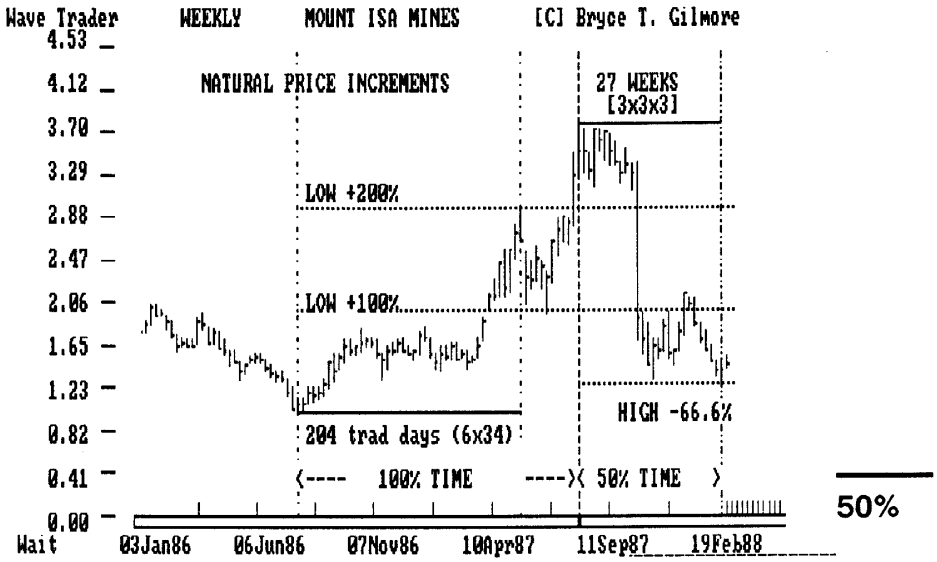


FIG 5.2 MARCH SUGAR DOUBLE TOPS 1983-1988

100% RISE IN VALUE FROM A LOW PRICE

This, in Gann terms, is the 1st square of the low price, one of the most significant areas for a reaction to trend. It may not necessarily mean that the trend will not continue at a later date but in the short term these areas are a logical psychological force to be overcome before further advances can be made. Once breached these 100% levels can act as support. I have included a chart of an Australian stock MOUNT ISA MINES to demonstrate this characteristic of markets. A major low was formed at 99 cents in July 1986, the third wave advance from this low terminated at $2.98 exactly 200% up and on the 2nd square of resistance from the low. A 50% retracement of the total rise from 99 cents came quickly, this coincided with the 100% square of the low price. The market then resumed its upward trend which terminated at $3.80, the previous highest high on MOUNT ISA had been at $3.78 back in 1980, a double top ended any further advances in that cycle. The bear market decline terminated at the 66.6% discount level to the new high. Two time elements are shown on this weekly chart, others will be shown in later chapters as more confirming methods of market geometry are demonstrated.

FIG 5.3 MOUNT ISA 3rd WAVE TOP = 200% SQUARE OF LOW.



DECLINE IN VALUE FROM A HIGH PRICE

In Gann terms this level marks the half square of the high, the mid point between the high price and zero value. Once a market declines to a level of 50% of its highest price a reaction will be almost certain, depending on the fundamental reasons for the decline and the duration often a violent reaction will ensue as investors scramble to pick up the newly identified bargain. The more psychologically oversold a market is the greater will be the upward reaction. Again this may only signal an intermediate interruption to the bearish longer term trend.

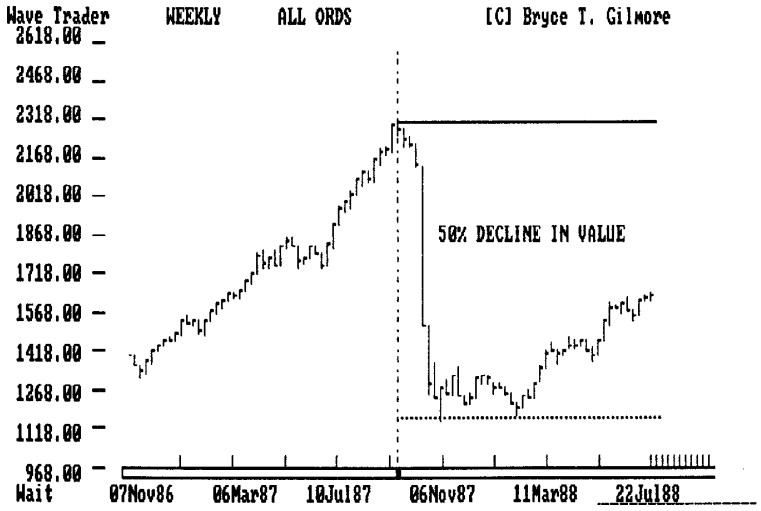


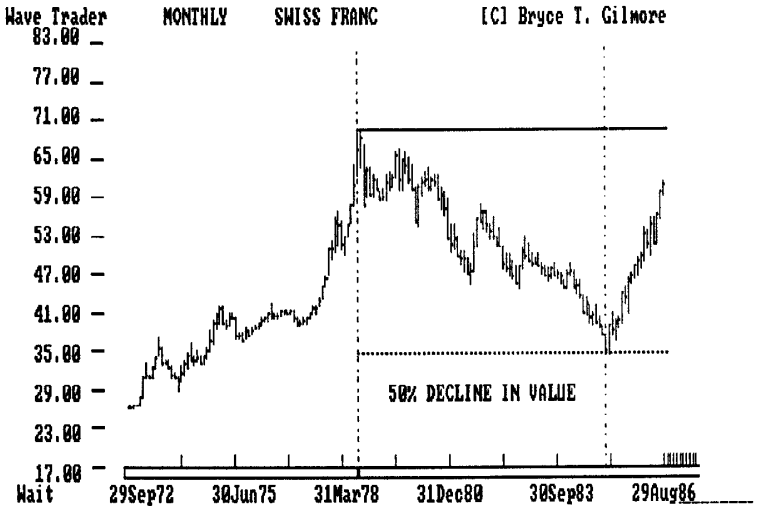
FIG 5.4 AUSTRALIAN ALL ORDINARIES - 50% SQUARE OF HIGH.

All Ordinaries Index CRASH OF 1987 - Support was met at the 50% level of the all time high. From a high of 2312 on the 21st September 1987 the market declined down to 1149.2 on the 11th November 1987 a fall of 1163 points. 2312 less 50% equals 1156. 1156 divided by 144 equals 8. On the day of the low of 1149.2 the market sentiment was one of complete despair, investor confidence was in tatters. On the evening of November 11th, 1987 I attended a meeting of about 30 technical traders, when it was my time to speak I outlined all of the reasons I had for buying the market that day just prior to the close, not one other person in the room had bought that day. Had it not

been for my knowledge of investor psychology and market geometry I guess I would have lacked the confidence to act against the prevailing trend.

Another example of a 50% decline in value of the previous highest level attained is demonstrated by this chart of the Swiss Franc against the US$. This decline unfolded over a seven year period and was a major bear market decline, nevertheless support was reached within points of the 50% value of the 1978 high..

FIG 5.5 SWISS FRANC 1985 LOW WAS 50% SQUARE OF THE 1978 HIGH.



61.8% to 66.6% DECLINE IN VALUE FROM A HIGH PRICE

This area is the most significant support for the termination of a major long term bear market. I am including numerous examples of this phenomena to demonstrate the importance of these levels.

The first example is the chart of the Australian dollar versus the US$. The Australian dollar began a decline in 1974 from a high of $1.495 to the US$, in 1986 some 12 years (144 months) later a bottom was made at $0.572 to the US$. $1.495 less 61.8% equals $0.571 another amazing example of the ratio of PHI at work in the geometry of

markets. If this chart had been plotted as a reciprocal ie with the A$ expressed as a factor of the US$ then the value in 1974 of a US$ in AUD$ would have been $0.668, in 1986 at the low it would have required $1.748 to buy one US$. $0.668 increased in value by 1.618 (phi) equals $1.748 QED.

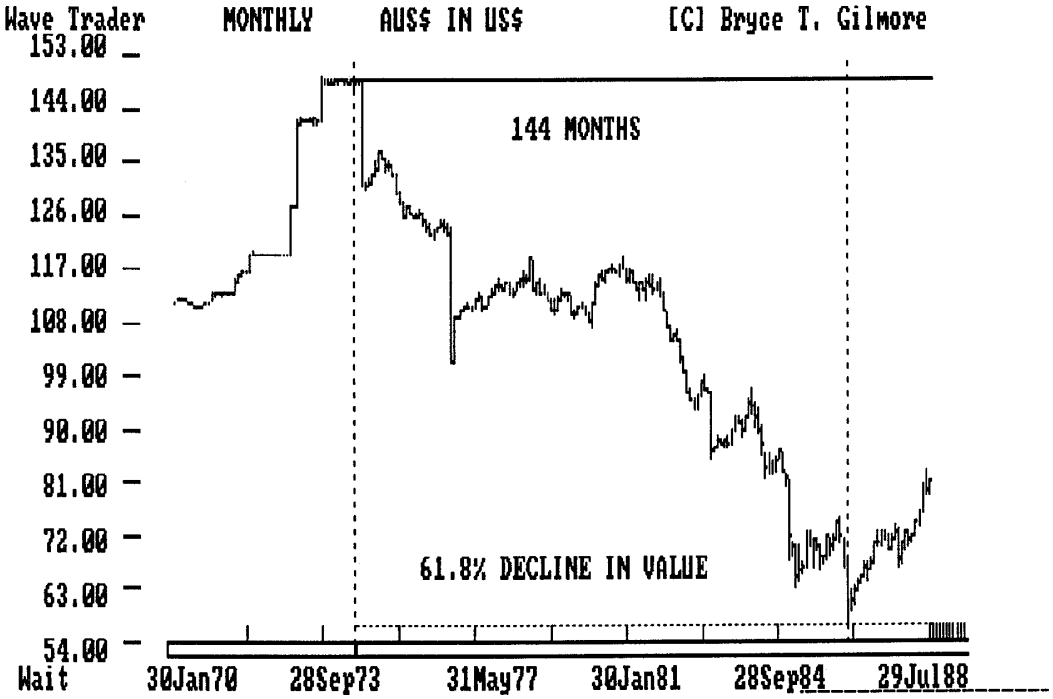


FIG 5.6 AUSTRALIAN DOLLAR SQUARING 1974 HIGH BY 61.8%.

This currency moves in fibonacci ratios of all types, for instance the decline from the 1978 high of 118.9 to the history low at 57.1 in 1986 was a fall of exactly 61.8 cents.

A rise in value of 61.8% from the low of 57.1 would give a target of 91.93 cents, also a 61.8% retracement of the 1974-1986 range (149.5 - 57.1) [61.8% of 92.4 equals 57.1] lies at 114.2, a 38.2% retracement [38.2% of 92.4 equals 35.3] and lies at 92.4 cents.

At the low of 57.1 one US dollar bought AUD$ 1.75, on the 8th December 1988, 864 calendar days [6 times 144] from the 1986 low the market made an intermediate reversal after trading to a high of 88.33, that high represented US$ 1.00 to AUD$ 1.132 or 61.8 cents less than AUD$ 1.75 at its 1986 high point.

The next example is the major Australian share market decline of 1970 to 1974, The adjusted All Ordinaries index made a high of 448 in 1970, by the low of September 30th, 1974 the price had reduced itself to 173.5 points. 448 less 61.8% equals 171.14 points, this is another incidence of PHI relationships and the geometry of markets at work.

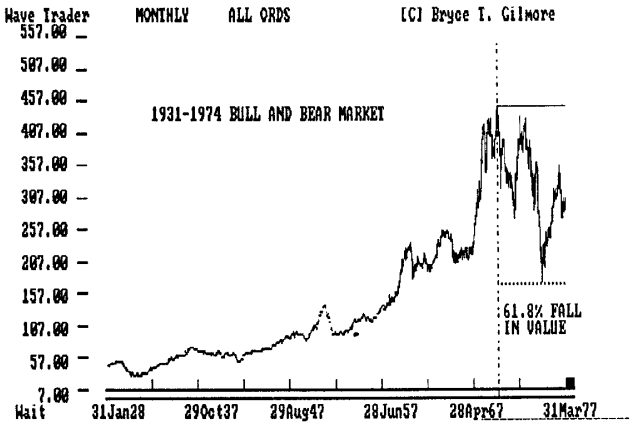
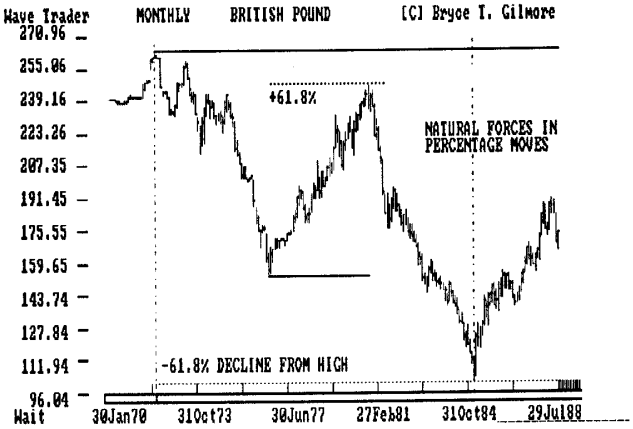


FIG 5.7 1970-1974 AUST SHARE INDEX

FIG 5.8 1972-1985 IMM BP.

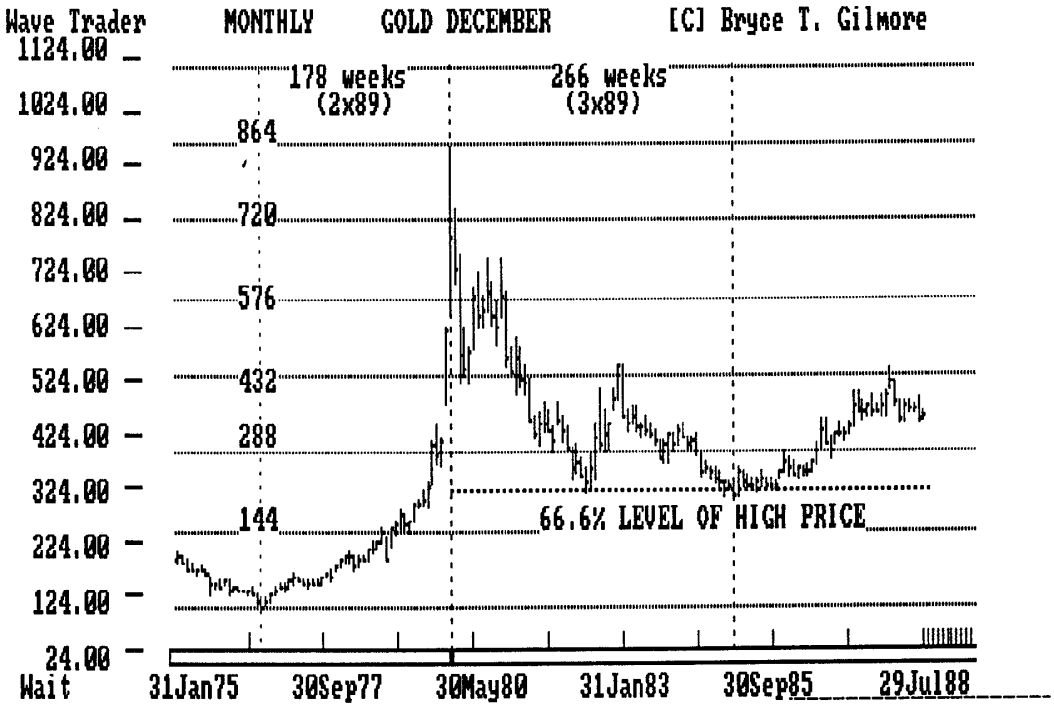


This chart of the British Pound versus the US$ shows two occurrences of PHI ratios in major market moves. The major decline from 1972 in the pound terminated at the

61.8% discount level in 1985. A primary rally in the midst of the decline rallied 61.8% in value along the way.

This Comex Gold chart of the December contract FIG 5.9 shows two time and price levels easily recognized from the methods discussed so far. The main example here is the support zone in the area of the 66.6% discount to the all time high. Time itself, and other methods that follow, will show how it was possible to locate the 1985 low support within $1.00 per ounce.

FIG 5.9 COMEX GOLD DECEMBER FUTURES



SUMMARY OF DYNAMIC PRICE LEVELS

The important message in this chapter is to remember the primary technical areas for major support and resistance.

Double tops and bottoms over long periods of time.

Levels of **50%, 61.8% and 66.6% declines in value** from an all time high

100% SQUARES OF LOWS as major price resistance.

Always think in percentage terms when looking for a major support or resistance level that will echo in a new long term trend.

6. SQUARING PRICE FOR LOCATION OF FUTURE SUPPORT AND RESISTANCE ZONES

The Gann technique for squaring price adopts three approaches :-

1. SQUARING A PRICE RANGE
2. SQUARING A LOW PRICE
3. SQUARING A HIGH PRICE

SQUARING PRICE

The term squaring relates to calculating percentage increases of a price by values of half or 100% increments. Increments of each square in 1/8th values as well as 1/3rds are important for minor divisions. Fibonacci degree increments are also important. The major levels are 50% and 100%.

As an example the squares of 144 are :-

1st Square	= 288	(144 + 144)
2nd Square	= 432	(144 + [2*144])
3rd Square	= 576	(144 + [3*144])
4th Square	= 720	(144 + [4*144])
5th Square	= 864	(144 + [5*144])
6th Square	= 1008	(144 + [6*144])
7th Square	= 1152	(144 + [7*144])
8th Square	= 1296	(144 + [8*144])

and so forth

Square divisions from zero of 144 would be :

1/8 Square = 18 (144*1/8)
1/4 Square = 36 (144*1/4)
1/3 Square = 48 (144*1/3)
3/8 Square = 54 (144*3/8)
1/2 Square = 72 (144*1/2)
5/8 Square = 90 (144*5/8)
2/3 Square = 96 (144*2/3)
3/4 Square = 108 (144*3/4)
7/8 Square = 126 (144*7/8)
1st Square = 144

DIVISIONS OF SQUARES FROM ZERO OF 144 IN PHI RATIO, ROOT 2 and ROOT 5 INCREMENTS

.146 Square = 21

.236 Square = 34

.382 Square = 55

.618 Square = 89

.764 Square = 110

.854 Square = 123

1.00 Square = 144

1.414 Square = 204

1.618 Square = 233

2.236 Square = 322

2.618 Square = 377

4.236 Square = 610

6.854 Square = 987

11.08 Square = 1597

SQUARING A PRICE RANGE

The term squaring refers to divisions of 100% of something, in the case of price squaring we divide the price to be squared into naturally square divisions. The main level of resistance or support will be reached when a move either progresses another 100% or falls 100%.

To square out a range we first have to define that range.

The first thing we need to find out for any stock or commodity option is the **HISTORY HIGH AND THE HISTORY LOW.** THIS IS THE PRIMARY RANGE TO BE SQUARED.

THE SQUARE OF THE HISTORY RANGE AND THE DIVISIONS OF THAT SQUARE WILL BE THE NATURAL LEVELS FOR FUTURE SUPPORT AND RESISTANCE.

The history high and history low will provide the means to calculate these levels most clearly. Any future price action that contains itself within this range will be subject to these technical levels of support and resistance.

The purpose of squaring a range is to find the mathematical levels of previous price movements that will cause a natural resistance or support to current price action.

To appreciate why range squaring is so important in market analysis it helps to understand the mentality of traders. In any bull move many participants will be caught buying right at the top; as prices decline in a bear move professional traders will buy more to average out the price of their holdings. When a new uptrend or correction reaches the level of their averaged out price they will liquidate part of their holdings. This action will increase selling pressure and temporarily halt any future gains.

Markets move in four phases, accumulation, advance, distribution, decline. Accumulation occurs before any sustained advance. Distribution occurs before any sustained decline.

Accumulation and distribution phases occur when the smart money players have a shift in sentiment about the future direction of prices. Advances come when demand overbalances supply, declines naturally occur because of oversupply.

EXAMPLE OF RANGE SQUARING USING SOYBEANS

The history high so far registered by the July beans was 1290 cents per bushel, trading there on the 5th June 1973, the known low price is 44 cents per bushel registered on the 28th December 1932.

Using this historic range we can calculate the natural levels that technical traders should use in the future to locate possible support and resistance zones.

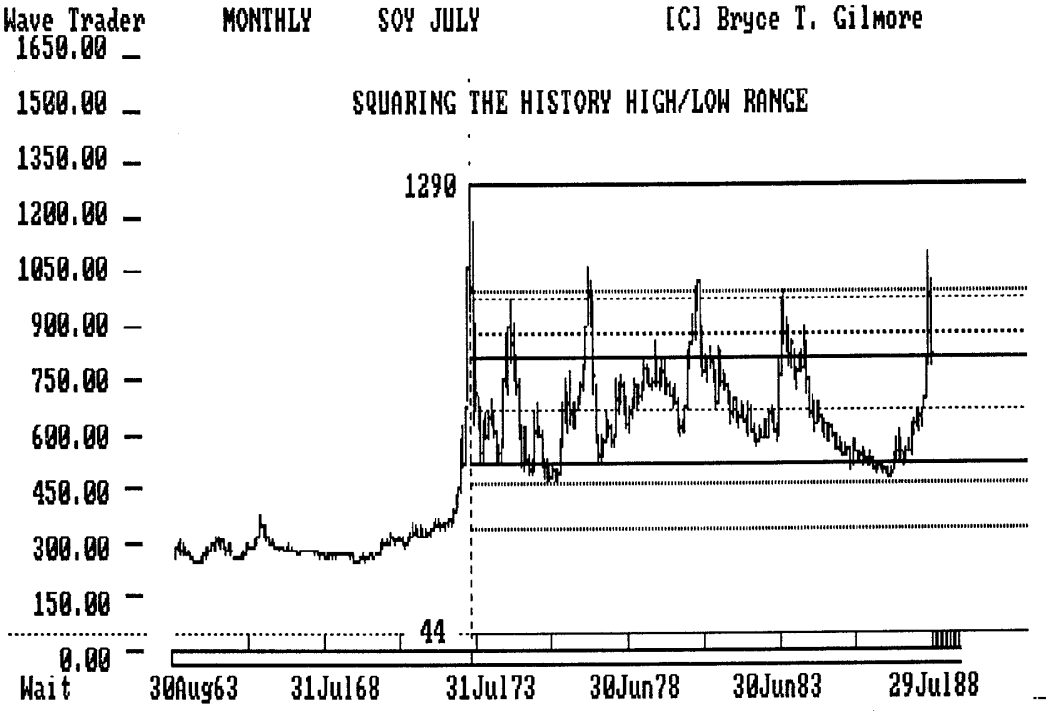


FIG 6.1 DIVISIONS OF A RANGE DETERMINE NATURAL PRICE SUPPORTS

SOYBEAN RANGE LEVELS OF EXTREME IMPORTANCE

1290	**HISTORY HIGH**	**100%**
1134	**7/8ths**	**87.5%**
978	**3/4**	**75%**
874	**2/3rds**	**66%.6%**
667	**support levels**	**50%**
459	**1/3rd**	**33.3%**
355	**1/4**	**25%**
200	**1/8**	**12.5%**
44	**HISTORY LOW**	**0%**

If at a future time the price rises above the HISTORY HIGH of 1290 cents we can make projections for future resistance based on this range, by simply expanding the range upwards in square divisions.

The following calculations would be applicable :-

The range is 1246 (1290 less 44)

25% of 1246 = 311.5 ADDED TO THE HIGH 1290 = 1601.5

33% of 1246 = 411.2 ADDED TO THE HIGH 1290 = 1701.2

50% of 1246 = 623.0 ADDED TO THE HIGH 1290 = 1913.0

and so forth .....

Square divisions of a range that will offer price resistance or support do not necessarily only rely on the history high and history low. Shorter term support and resistances may be established using more recent extremes in range. **In fact from an everyday trading point of view these are the levels that are most useful.** It pays to always watch the longer term range levels when they are close to the price action in an extended move of a long bull or bear campaign.

DOUBLE AND TRIPLE TOPS **These levels are 100% levels of a previous range, the further apart in time that they occur the more important is the technical significance.**

SHORT TERM DOUBLE TOPS OR BOTTOMS often form prior to a major trend change, the market first makes a high or low point, then it will make a fast correction. An advance or decline in a very short time period back to the previous high or low price that fails to penetrate these shorter term levels will form a double top or bottom. If a time period coincides with this type of exhaustion phase, then a major turning point in trend is indicated. Always be on your guard for double tops or bottoms as these are one of the best entry points for trading purposes. The most significant technical indication is for a market to fail on it's 4th attempt to rise above or fall below a previous turning point. **THESE ARE EXCEPTIONAL AREAS TO ENTER A TRADE AND ACCUMULATE FAST PROFITS.**

MARKET CORRECTIONS

Corrections to major and minor moves often retrace previous ranges in square degree or Phi degree exactly to the tick. For instance, common retracements in a correction are 38.2%, 50%, 61.8%, 66.6% of the preceding range. A more detailed study of retracements and projections of range is covered in a later chapter.

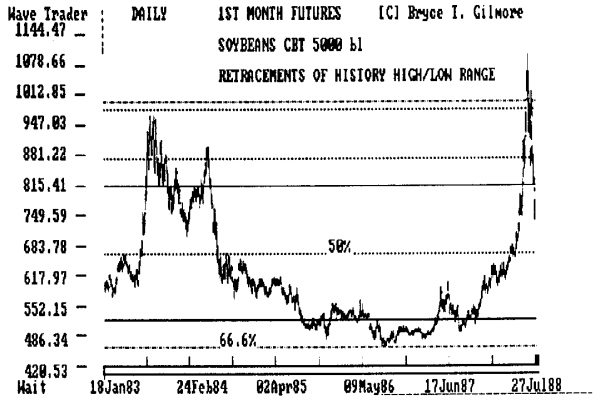


FIG 6.2 ENLARGEMENT OF THE HISTORY RANGE RETRACEMENT LEVELS.

SQUARING A LOW PRICE

As previously mentioned a square of a price is a 100% increase or decrease. In the case of a low this extends to future squares of the original low, ie 100% 200% 300% 400% 500% etc,.

First we start with the history low of any particular stock or commodity option, for our example we will use Soybeans once again.

The square of the low price 44 cents will offer resistance to future rises in the following increments.

44 increased by 25% = 55

44 increased by 33% = 58.5

44 increased by 50% = 66

44 increased by 66% = 73

44 increased by 75% = 77

44 1st Square 100% = 88

44 2nd Square 200% = 132

44 3rd Square 300% = 176

44 4th Square 400% = 220

44 5th Square 500% = 264

44 10th Square 1000% = 484

44 12th Square 1200% = 572

44 21st Square 2100% = 968

44 24th Square 2400% = 1100

These values demonstrate how to square a low price.

FIG 6.3 SQUARES OF 44 FROM ZERO. The low of February 1987 on the July contract was 477 which gave the last bull market a range of 622.5 cents (7x89 = 623). Coincidently this was exactly 50% of the history range 44-1290 =1246 (14x89)

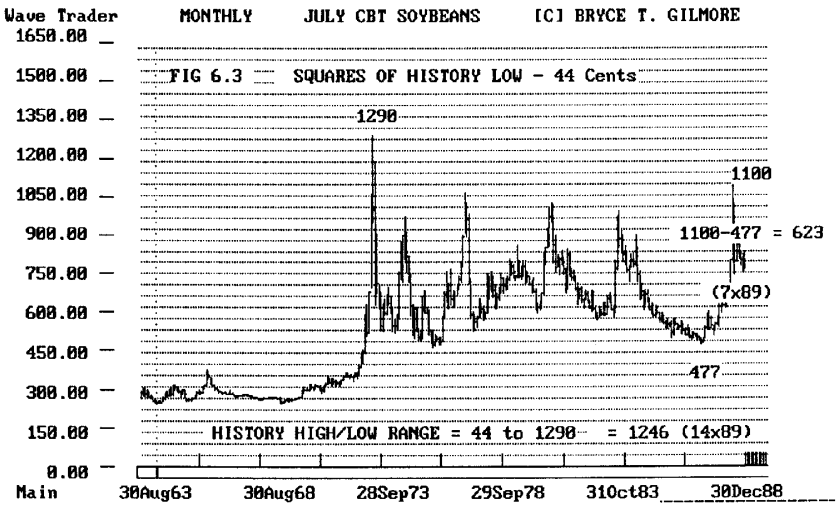
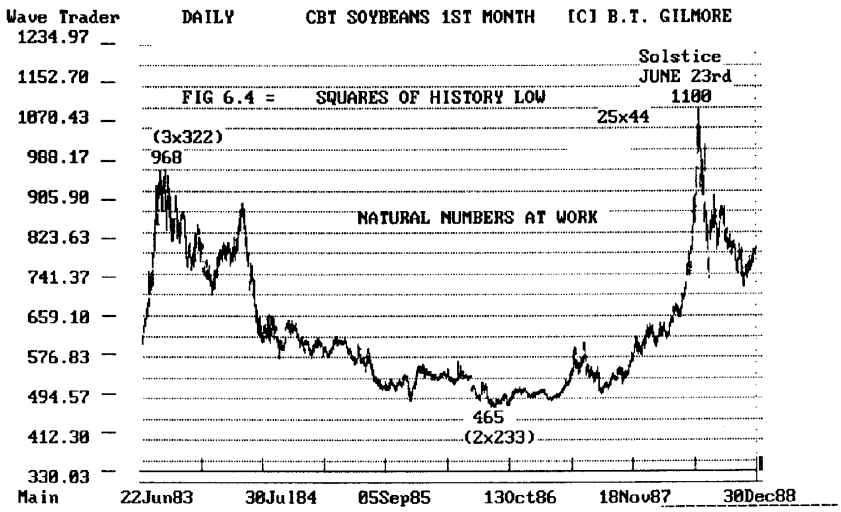


FIG 6.4 1983 AND 1987 MARKET HIGHS. The last two bull market highs in Soybeans for the spot futures contract fell on squares of 44. In 1983 a high of 968 on the November contract ended a dramatic rise in prices. In 1988 on June 23rd, 1099.5 cents was the high of the July contract. .



SQUARING A HIGH PRICE

Squaring a high price to find support levels is a common practice. I have found that on occasions it pays to look at squares of previous highs expanded vertically when finding resistance levels for markets traveling upwards into previously uncharted territory.

If we square a high price down then we can only use one square, if a price were to fall 100% then it would be worthless, this would be a very rare occurrence.

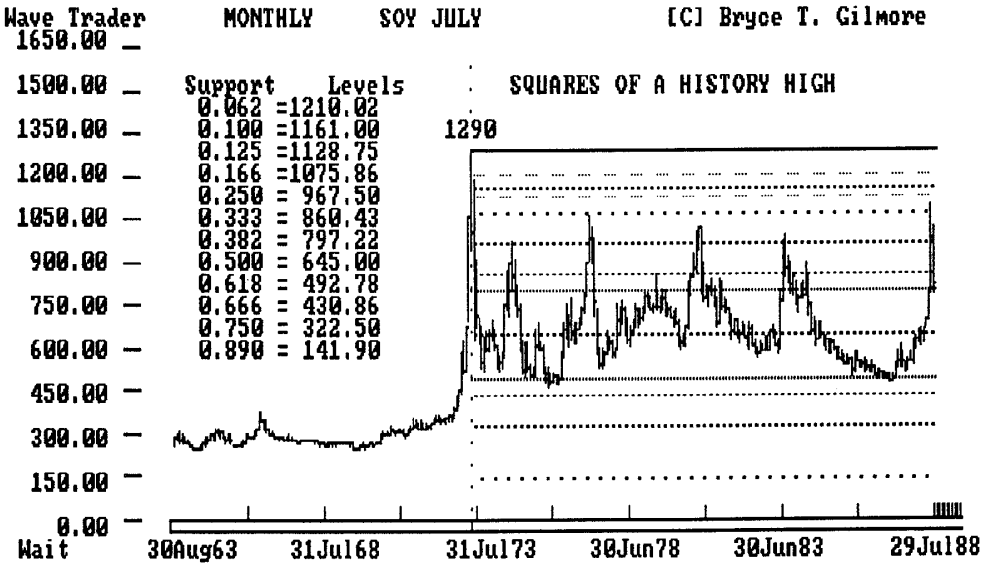


FIG 6.5 Using the history high of Soybeans once again, 1290 cents, we can examine the percentage levels that should naturally create support and resistance whilst trading beneath this price.

1290	**less**	**25%**	=	**967.5**
1290	**less**	**33.3%**	=	**860.4**
1290	**less**	**37.5%**	=	**806.25**
1290	**less**	**50%**	=	**645**
1290	**less**	**62.5%**	=	**483.75**

1290	**less**	**66.6%**	=	**431**
1290	**less**	**75%**	=	**322.5**
1290	**less**	**87.5%**	=	**161.25**

Squaring a high price is a very simple exercise as you can see. Oddly enough as we approach the lower end of this squaring we find a link between 144 and the values.

ANY MAJOR TURNING POINT

It will always pay to square all recent major lows and highs as a guide to future support and resistance levels. These levels, depending upon their significance will act as future support or resistance in the eyes of technical traders. If any other strong technical influences apply at a time the market trades at these levels , then a reversal in trend is highly likely.

MAJOR PRICE SUPPORT AND RESISTANCE ZONES

SQUARE RANGES IN THE FOLLOWING ORDER :-

HISTORY HIGH TO HISTORY LOW

PRIMARY HIGH TO PRIMARY LOW

INTERMEDIATE HIGH TO INTERMEDIATE LOW

MINOR HIGH TO MINOR LOW

next keep up the price levels generated by percentages of :-

HIGHS OF MAJOR AND PRIMARY DEGREE.

LOWS OF MAJOR AND PRIMARY DEGREE.

THESE ARE THE MOST SIGNIFICANT AREAS FOR A LIKELY CHANGE IN TREND.

7. DYNAMIC TIME SUPPORTS AND RESISTANCES

This section covers the natural time barriers exerted by previous market action. The time axis for any commodity or stock is even more important to market analysis than the price axis. The measurements we use to calculate these dynamic forces are again the ratios found in the SQUARE, CIRCLE, GOLDEN RECTANGLE and the GREAT PYRAMID of GIZA.

PREVIOUS MAJOR RANGE TIMES

The most natural area for a change in trend is when a previous major range time has been balanced in time. It is fairly simple to understand that the trend forces at work in markets take time to dissipate. In science we are taught that for every action there is an equal and opposite reaction. Any shock to a market will generate a force that compels the participants to act in a certain way. Depending upon the mass psychology of traders, price will often trend in an upward or downward direction for long periods of time. Along the way there will be corrections to this trend as minor forces interact to the current long term force in motion. The further away in time we go from a major shock then, theoretically, the less force it has as time has allowed the traders room to erase this past from their memory. In practice, however, the mass psychology that drives prices up and down in varying cycles has some natural basis. Natural forces in markets can be measured, and the accuracy of these measurements is often amazingly precise for predicting days on which a future change to the current trend will occur.

The most important range time to start measuring future vibrations off is the last major trend. The term vibrations has been selected to cover the varying measurements one can use to calculate future areas where a change in trend will be most likely. If one studies price movement, one will see that in each major trend a series of market movements go together to form the complete move. Ralph Elliott earlier this century discovered that bull markets generally expand in five wave movements and bear markets unfold in threes. Elliott states in his theory that waves of price action will be related in both time amplitude and price amplitude. Another discovery made by students of the Elliott wave theory was that bull markets generally last 1.618 (PHI) times the time of bear markets. This means that bear markets are generally 61.8% of the

time amplitude of bull markets. A bull market as a general rule is not complete until it has formed five waves, three impulse waves in the upward direction of the trend each separated by a corrective phase before the next advance. The original principle applies to each of the impulse waves, they will also unfold in five wave movements. Corrections in a bull market will form three waves, each minor wave will form three waves. In a bear market the three waves will be two down broken by a corrective phase. The two impulse waves down will contain five waves and the correction will contain three waves.

For our purposes if we use the basic tenets of the Elliott wave theory to identify important wave movements in markets we have a sound basis from which to measure time.

The most important ranges from which to measure time will be :-

1. A completed bull and bear phase.

2. A completed bull phase.

3. A completed bear phase.

The **major time vibrations** for a newcomer to this theory too watch for counter trend reactions are the **38.2%, 50%, 61.8%, 100% and 161.8%** as these are the strongest forces at work in the natural sense.

Other vibration ratios and how to use them are detailed later but first let us look at a few examples of time forward from previous market cycles in the NYCSE MARCH SUGAR contract. Below is a table of swing highs and lows going back from more recent times to the major cycle highs and lows of years past. The following table is an example of the detailed information that I keep to monitor vibrations forward from previous cycles.

NYCSE MARCH SUGAR #11 - FACT FILE

DATE	SWING POINT		TIME	RANGE	IMPORTANT NOTES
320621	61	LOW	0	61	HISTORY LOW
670103	123	LOW	12614	62	1802 WEEKS-414.4 MTHS MAJC
741121	6600	HIGH	2880	6539	HISTORY HIGH- super cycle
770106	743	LOW	777	5857	1st Bear Market Low
770422	1106	HIGH	883	363	[A]
780725	655	LOW	1342	5945	[B]
801105	4550	HIGH	1293	3895	CYCLE [B]
830131	605	LOW	817	3945	PRIMARY [A]
830531	1448	HIGH	937	3102	PRIMARY [B] or INTERMEDIATE
850620	334	LOW	3864	6266	CYCLE [C] or INTERMEDIATE (I
860410	964	HIGH	294	630	INTERMEDIATE (A)
860430	967	HIGH	314	633	b
861002	575	LOW	155	392	A
861104	730	HIGH	33	155	a
870107	577	LOW	97	153	b
870304	885	HIGH	153	310	B
870826	639	LOW	175	246	INTERMEDIATE (B)
880125	1083	HIGH	152	444	A OF (C)
880226	756	LOW	184	327	B OF (C)
880714	1439	HIGH	1120	1105	PRIMARY [A]

COMPLETED BULL AND BEAR CYCLES

A completed market cycle is the bull and bear phase. Over the years a series of these cycles will join together to form larger cycles. The time vibrations forward from lesser degree cycles and larger degree cycles will relate in mathematically degree. When vibrations from a series of cycles, be they long term or short term, fall together they can signal a natural area for a trend reversal.

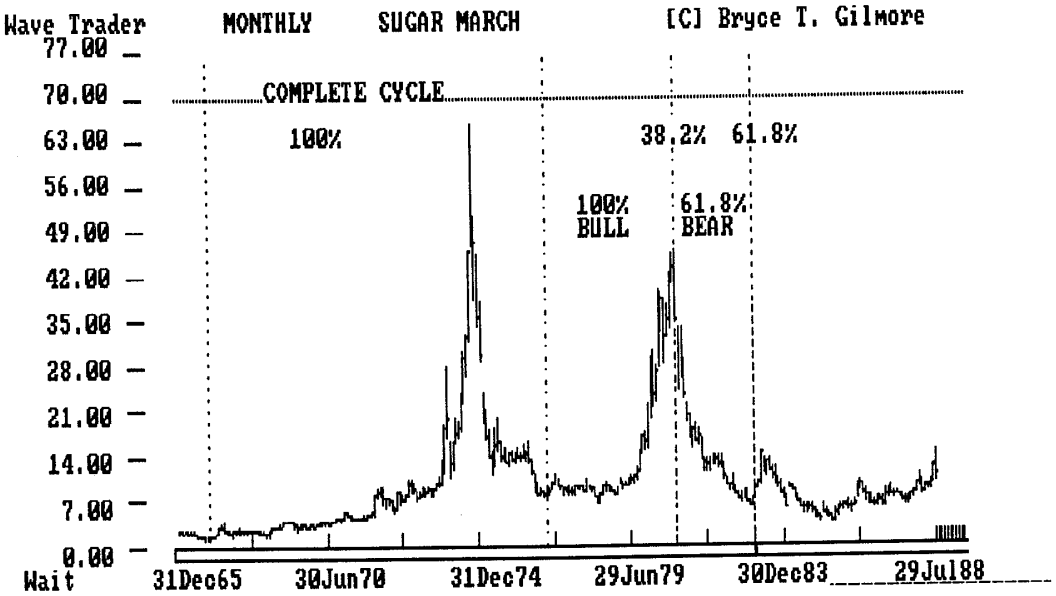


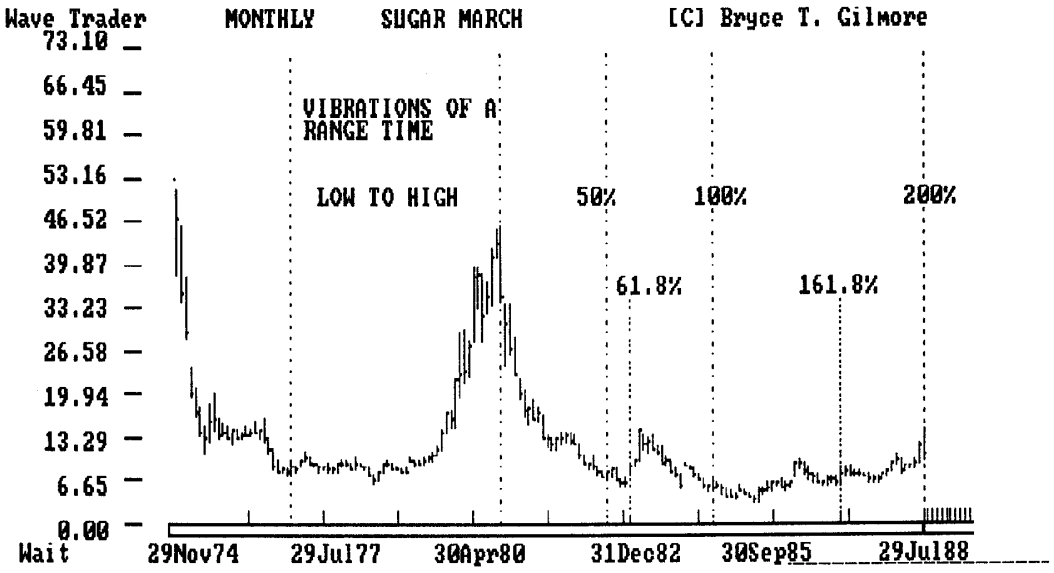
FIG 7.1 THE LONG TERM MONTHLY CHART OF MARCH NYCSE SUGAR #11. This shows how time of the major cycle LOW to LOW, (which included an amazing bull market lifting price from a low of 1.23 cents to a high of 66 cents per pound then back to 7 cents over a period of 10 years), set in motion a vibration that clearly signaled two future highs and lows. The second bull market range time adhered to the Elliott wave theory teachings as it was 1.618 times the length of the next major bear market phase. As an aside it is interesting to note that the low price of 1.23 cents was 100% square of the all time history low for sugar registered on the 21st June 1932 at 0.61 of a cent. Also the time in days from the 1.23 cent low of January 3rd, 1967 to the high 66 cents, November 21st, 1974 was exactly 2880 days (20 times the square of 144).

BULL MARKET CYCLE

A bull market cycle could be defined as any market cycle when prices trend upwards to higher values over long durations of time. To measure the time vibrations of a bull market phase it is simply a matter of measuring ratios of time forward from the conclusion of the bull market phase.

The chart below (FIG 7.2) of March Sugar shows graphically how to do this. One should not become over anxious that each vibration forward will cause a violent reaction to trend. Sometimes the market will be in a state of equilibrium and little volatility will result. Obviously when the market has been in a volatile medium greater reactions can be expected. Another problem arises when we inspect this chart and that is forecasting whether to expect a high or low on future time vibrations. From past experience I have found great difficulty predicting highs and lows too far distant into the future. However, with a thorough understanding of how to combine all of the time and price methods to form an analysis this problem is alleviated to some degree. Be careful not to go out on a limb in your expectations, just remember that a counter trend reaction often occurs on these important vibration times.

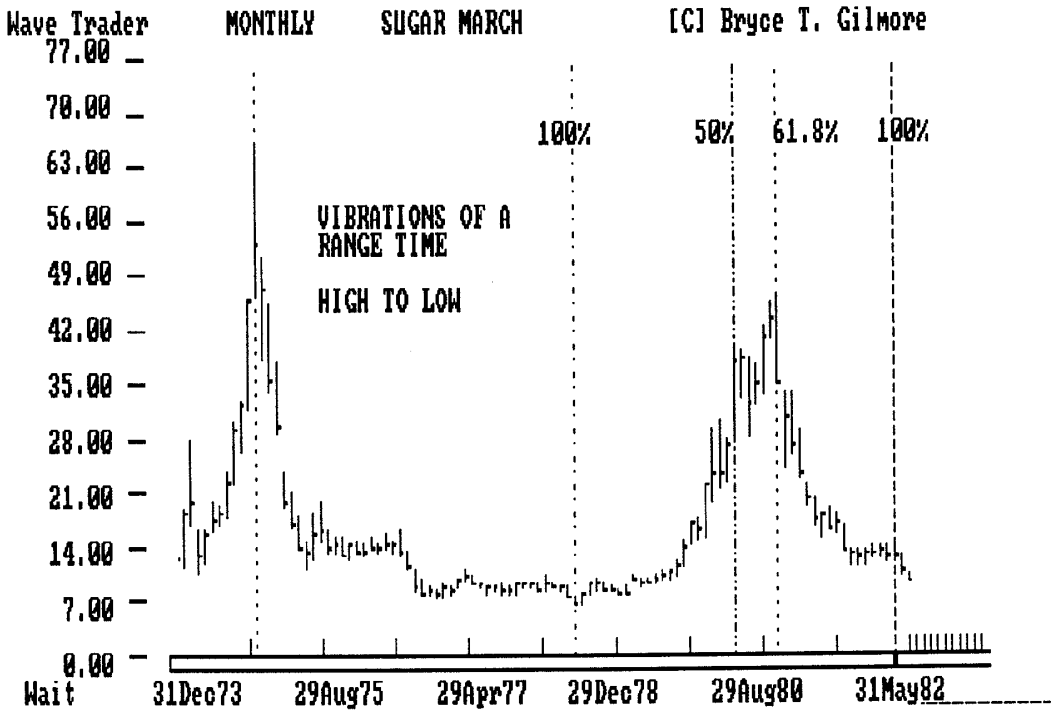
FIG 7.2 VIBRATIONS OF A RANGE - NYSCE MARCH SUGAR #11



BEAR MARKET CYCLE

Vibrations of a bear market cycle are measured forward in time in the same ratios as demonstrated above. This chart (FIG 7.3) of March Sugar shows two reactions to trend on the 50% and 61.8% vibration markers. In this particular instance the bull market that followed this bear market was 61.8% in time duration of the previous bear market. In Elliott wave terms this bull market could be construed as a bear market rally since the time duration was less than the underlying forces that dragged the market down from its previous high price. In the grand cycle of events this bull market was merely a corrective phase to the previous major cycle, under Elliott wave theory this bull market could be called a B wave cycle.

FIG 7.3 VIBRATIONS OF A RANGE - NYSCE MARCH #11

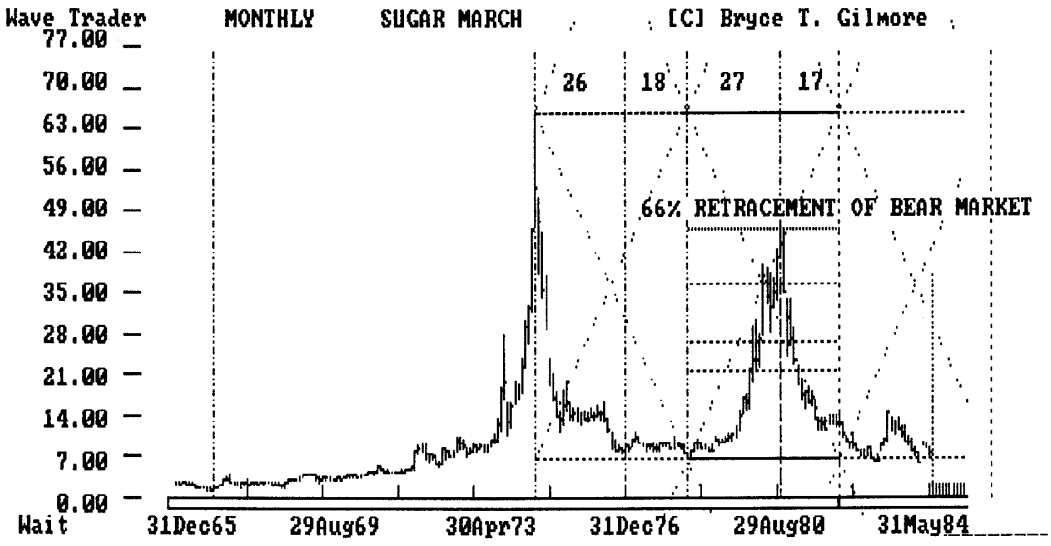


USING RANGE VIBRATION TIMES FOR TRADING SIGNALS

Range vibrations of cycles, half cycles, one and one half cycles can be extended forward in the major ratios 38.2%, 50%, 61.8%, 100% and 161.8%. The important areas for counter trend reactions will be highlighted by clusters of time vibrations falling together. These areas are the natural vibration elements that abound in all free trading markets. Carry forward vibration times of selected ranges on monthly, weekly and daily charts. Follow the basic tenets of the Elliott wave theory of markets as a guide to the type of counter trend reaction to expect on the time clusters. If a major price squaring occurs on these time elements then both time and price amplitude has been satisfied and a major change in trend is indicated.

The high on March Sugar of 45.50 cents in November 1980 occurred on two major cycle vibrations mentioned above. At the same time a range retracement of 66% price of the previous bear market decline was fulfilled. Another time period of importance was 72 months (half 144) from the all time high of 66 cents when the double top was formed and the next bear market got underway. This top was also 165 months (3x55) from the low of 1.23 cents. You can clearly count five waves up from the low which further helps confirm ones suspicions that a major change in trend would be forthcoming.

FIG 7.4 NYSCE MARCH SUGAR #11



RANGE VIBRATIONS IN INTERMEDIATE WAVES

Once all primary cycle vibrations have been calculated and extended forward for future recognition we can move down a wave degree and plot intermediate wave vibrations in the same manner as with primary cycles.

The same mathematical ratios apply throughout the complete process for establishing vibration time clusters of previous cycles and half cycles. Measurements are taken from previous intermediate swing highs and lows, high to high, low to low and low to high. When more than two intermediate time vibrations cluster on a future date a reaction to trend is indicated for this time. Once again to confirm a price and time squaring is taking place a price objective should be obvious, ie a retracement or projection of a previous market move of primary or intermediate degree should be present to signal a counter trend reaction. Price retracements or projections in the same wave ratio as time offer the most convincing squarings, yet is is not mandatory that time and price actually fall in the same identical ratios only that they fall on the common ratios put forward in this text.

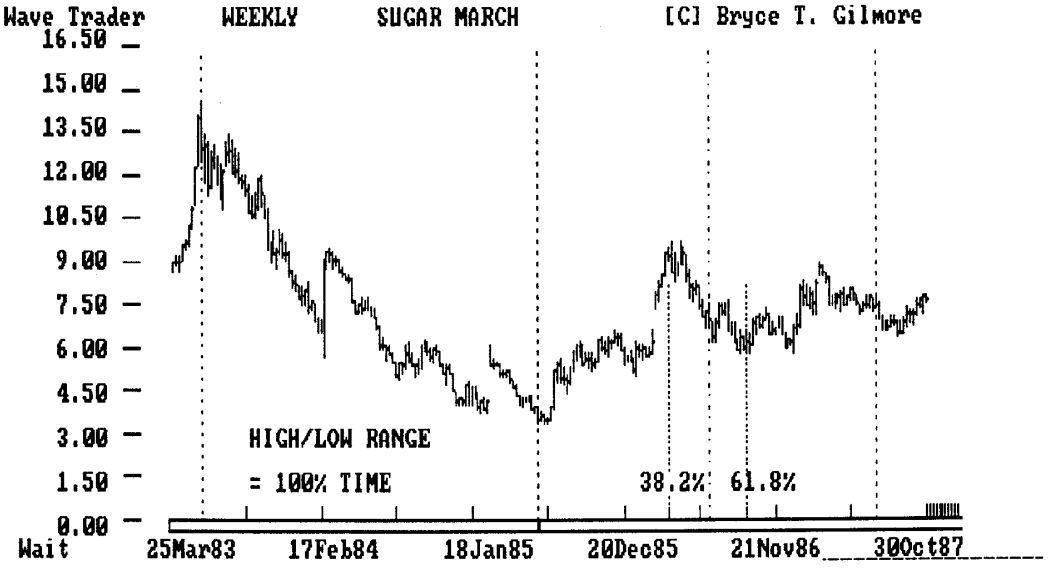


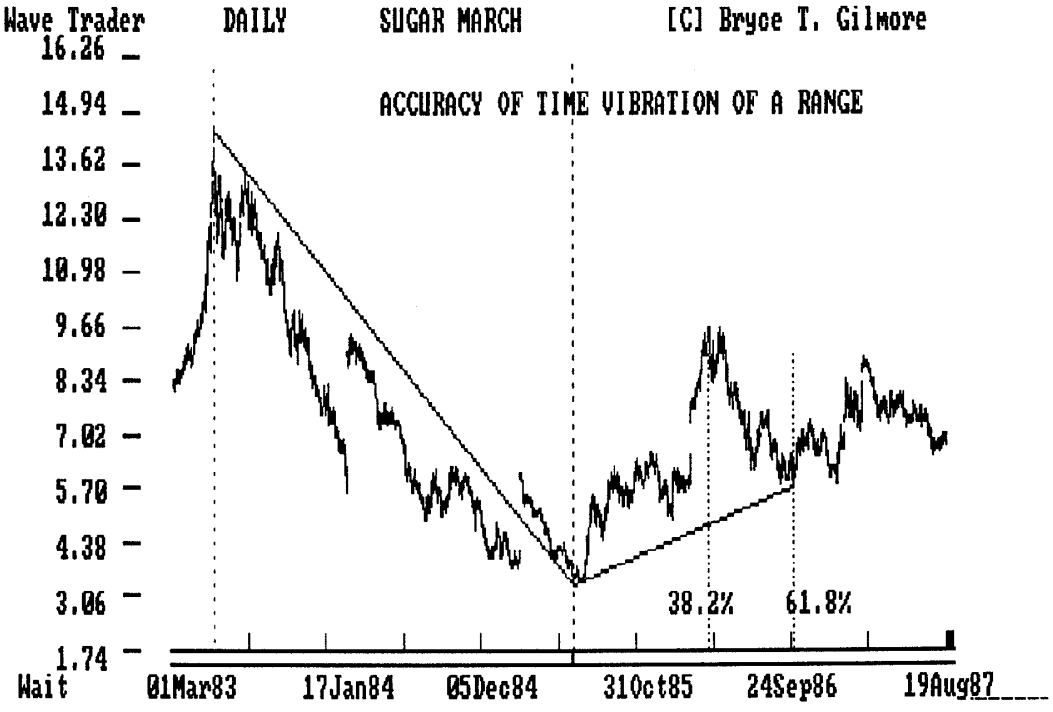
FIG 7.5 WEEKLY March Sugar NYCSE #11 example of an intermediate WAVE time vibration. VIBRATIONS OF 38.2% AND 61.8% forward pinpoint a high and low swing point.

DAILY CHART FOR ACCURACY OF TIME MEASUREMENT

DAILY March Sugar NYCSE #11 (FIG 7.6) is an example of the same vibrations 38.2% and 61.8% in trading days. The time of the range being projected forward was 518 trading days (3 days less than 521 Lucas). The 61.8% vibration calculated at 518*61.8% equals 320 (322 = Lucas) trading days. Exactly 320 trading days forward of the June 1985 low a support in the market was reached as the chart shows. This was the low of 2nd October 1986 at 5.75 cents (4x144).

The vibration of 38.2% of the same range signaled the high of 10th April 1986 at 9.64 cents. This was 1 day off the required calculation 518*38.2% equals 198 trading days as the high fell 199 (Lucas) trading days from the June 1985 low of 3.34 cents.

FIG 7.6 NYSCE MARCH SUGAR #11



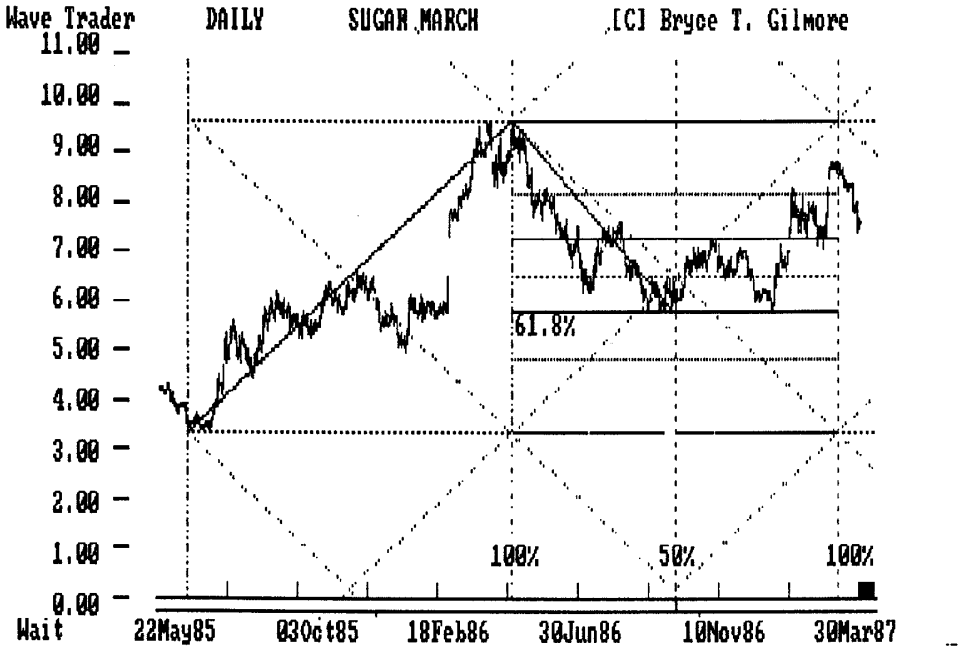
CONFIRMING ORIGINAL FINDINGS

RANGE FROM APRIL 30th, 1986 HIGH 9.67 cents TO LOW OCTOBER 2nd, 1986 5.75 cents.

Time squared on a 50% vibration of the previous intermediate bull market range, namely the time from the 20th June 1985 low of 3.34 to the high 9.67 on 30th April 1986 which was 213 trading days. Time in trading days down to 5.75 was 107. As seen above there were now two important vibrations that squared out on the same day, 2nd October 1986.

In terms of price retracement of the previous upmove from 3.34 to 9.67, which equaled 633 ticks, a 61.8% price decline of this range calculated out to 633*61.8% equals 391 ticks. 9.67 less 3.91 equals 5.76, the low made on the dual time vibration was 5.75 which I would consider close enough to confirm my belief in the geometry of markets as a science rather than an art.

FIG 7.7 NYSCE MARCH SUGAR #11 - 1985-86 RANGE SQUARED

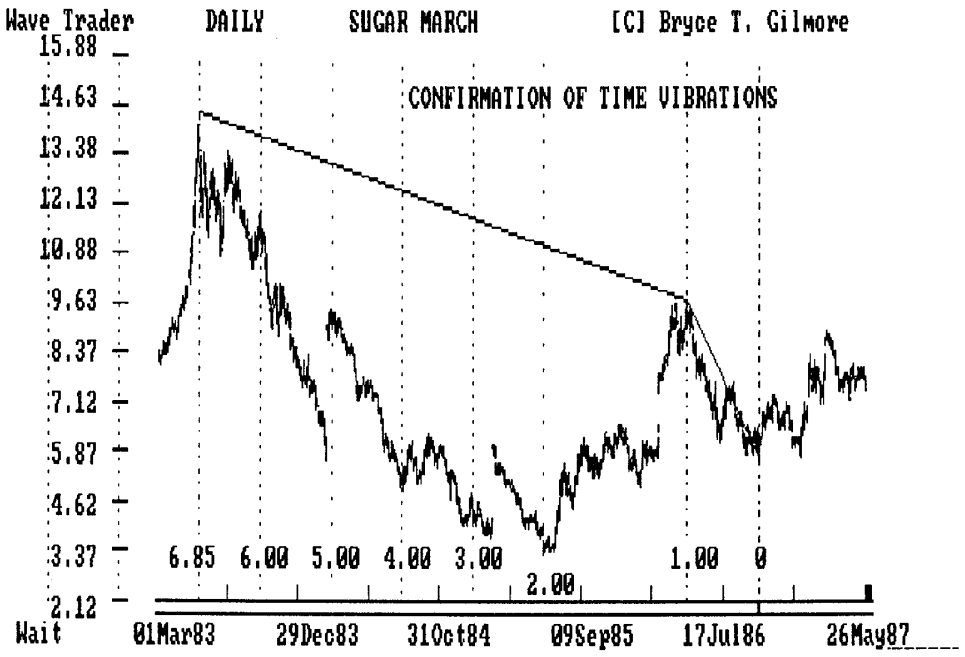


ALTERNATIVE CONFIRMATIONS OF TIME SQUARINGS

The last chart (FIG 7.8), to conclude this section, is further proof of the geometry of time vibration. The time in trading days from the May 1983 high of 14.48 cents to the top of 30th April 1986 (incidentally this was the day of the Chenoble disaster news being released and one would have expected prices to rise rather than decline on the fundamental news) was 731. [731 * .618 * .618 * .618 * .618] equals 107, .618 raised to the fourth power equals 0.146, 107 divided by 731 equals a 0.146 time vibration.

The low of 2nd October, 1986 at 5.75 cents basis March futures came in on the 107th trading day measured from the April 30th high.

FIG 7.8 NYSCE MARCH SUGAR #11 - Shows the relationship of ratios in reverse should we project time backwards for more confirmation of unfolding cyclic events. [6.85 = 1.618 to the 4th power]



THE BOTTOM LINE ON RANGE VIBRATION

The bottom line of this section is to leave one in no doubt as to the value of time vibration in markets. The technical signals using these methods to pinpoint the 2nd October 1986 low at 5.75 cents are too overwhelming simply to be a **random** coincidence. One can only conclude that a natural force is at work in the subconscious minds of traders, these forces dictate market patterns that once set in motion will reverberate well into the future until some major shock overrides their strength and new patterns begin to evolve from the new factors present in the particular market being followed.

The clearest indication to trade these signals is when both time and price relate geometrically; the market can be seen to be overbought or oversold and volatility dictates good risk reward ratios. Fortune will favor the astute analyst who is prepared to put his money up against the prevailing opinion that usually abounds at such turning points in trend.

Extreme importance should be placed on vibrations of 38.2%, 50%, 61.8%, 100% and 161.8% in both time and price.

Vibrations of 127.3% (root Phi), 141.4% (root 2), 173.2% (root 3), 200% (root 4) and 223.6% (root 5) are also very important.

Begin by tracking the first group and then see how many cross confirmations you can relate to the second group.

At every major swing high or low relationships will exist in the primary waves, intermediate waves, the minor degree waves and the very short term waves.

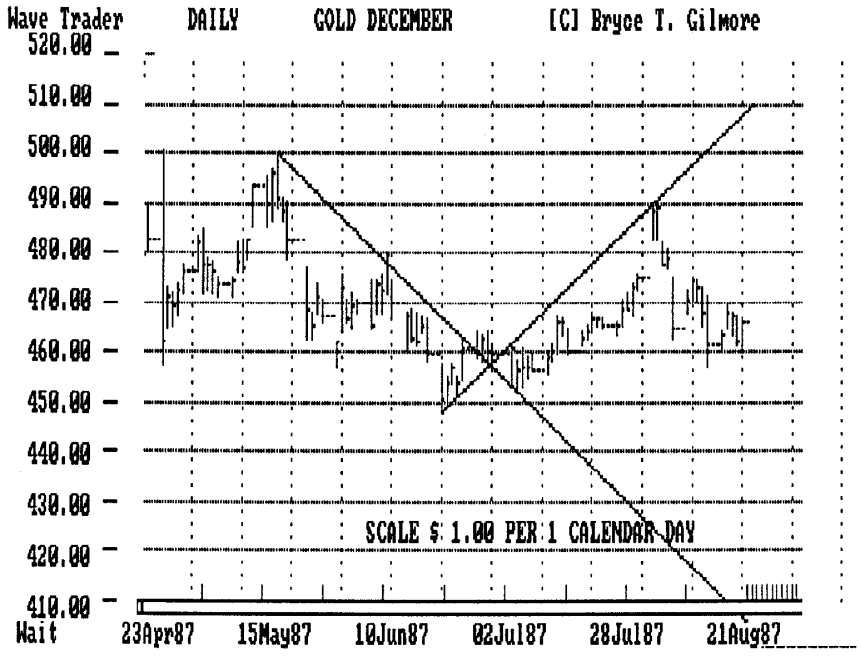
8. CHART SCALING OF TIME AND PRICE

This chapter deals with the complexities of chart scaling. It is quite important that chart scales are understood prior to explaining Gann techniques for squaring price to time and Gann support and resistance angles.

Geometric charting implies what it means, the price scale must relate to the time scale in a ratio of the square, circle or golden rectangle if we are to transpose one axis to the other and expect measurements to hold a strict relationship.

1 UNIT OF PRICE EQUALS 1 UNIT OF TIME SCALE

FIG 8.1 Is an example of a daily 1 by 1 chart scaling using the Comex Gold market as an example.



Time is the axis that is fixed. Time is uniform, we can plot 1 hour, 1 day, 1 trading day, 1 week, 1 month or even 1 year. Nothing arbitrary, time is a fact of life. Price on the other hand sometimes causes a dilemma. Before we look at various forms of squaring price scales to time scales we should understand that the correct scale of price to time can only be 1 unit of time to 1 unit of price. This means we must plot 1 unit of price to 1 hour, 1 day, 1 trading day, 1 week, 1 month or 1 year if we are to work in SQUARE ratios.

FIG 8.2 Comex Gold price series on a weekly 1 by 1 chart scale.

ALTERNATIVE PRICE TO TIME SCALES

Throughout the ages man has endeavored to introduce standard measurement scales to all things. Land areas have been scaled in square feet, square meters, acres, hectares, square miles and square kilometers. Produce has been measured in ounces, pounds, kilograms, tonnes, tons, bushels and so forth. Financial instruments are measured in rates of change to a contract specification. Time is fixed by the movement of the Sun yet price is completely variable.

Each commodity has its own psychological price unit that balances units of time. Over years these units can change as inflation and deflation of price unfolds with economic developments.

As a guide I am going to detail in this section the scales of price to time that I have found useful for a base value of 1 unit of price to 1 day of time. These relationships could change in the future yet at the moment they are appropriate to this subject.

RECOMMENDED GANN SCALES PRICE-DAY FOR US FUTURES CONTRACTS.

GOLD COMEX US$ 1.00 per ounce

SILVER COMEX US$ 0.01 per ounce

SOYBEANS CBT US$ 0.01 per bushel

CORN CBT US$ 0.01 per bushel

WHEAT CBT US$ 0.01 per bushel

SUGAR NYCSE US$ 0.0001 per pound

COTTON NYCE US$ 0.01 per pound

COPPER COMEX US$ 0.10 per pound

US TREASURY BILLS - IMM 1/100th of 1%

US TREASURY BONDS - IMM 1/100th of 1%

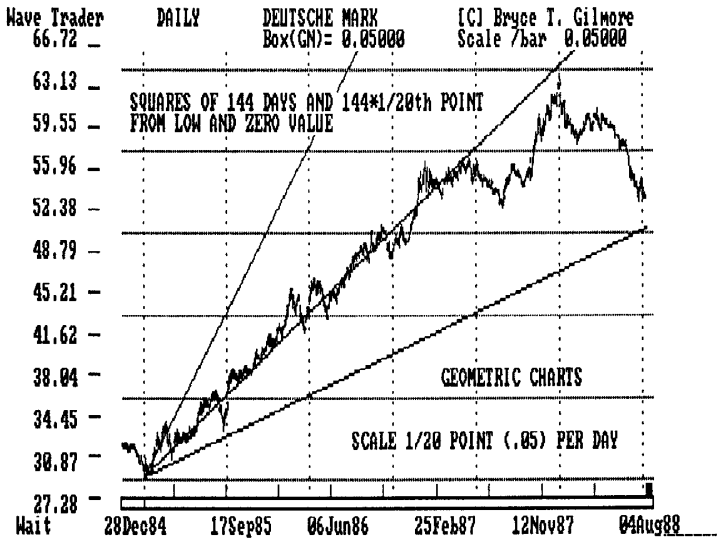
BRITISH POUND - IMM 1/10th of 1 cent

DEUTSCHE MARK - IMM .05 ticks

JAPANESE YEN - IMM .05 ticks

SWISS FRANC - IMM .05 ticks

FIG 8.3 Deutsche Mark IMM futures daily on a scale of 1/20th point to 1 trading day. 1985 low on.



STOCKS AND SHARES SCALING

Depending upon the trading value of each individual stock or share we can experiment with the base value to associate with time.

Stocks trading below $ 5.00 should use 1 cent per day.

Stocks trading between $ 5.00 and $ 10.00 should use 2 cents per day.

Stocks trading between $ 10.00 and $25.00 should use 5 cents per day.

Stocks trading between $ 25.00 and $50.00 should use 10 cents per day.

Stocks trading between $ 50.00 and $100.00 should use 20 cents per day.

As price value increases so does the theoretical psychological unit of measurement that controls volatility. Personal experimentation with individual stocks, based on volatility, will help guide you to the correct value for your analysis. Price scale is an arbitrary value, from time to time certain markets will require changes. It is better to understand this fact beforehand so that disasters in judgment can be avoided.

BEST ADVICE ON SCALING

At all times where possible select a base unit that is a round number psychologically, ie .01, .10, 1, 10, 100, 1000 et cetera. ONE UNIT will always perform better than variations of this theme although at times it is necessary to expand scales. A later chapter on commodity vibration will certainly alleviate the major problems one has wrestling with this dilemma.

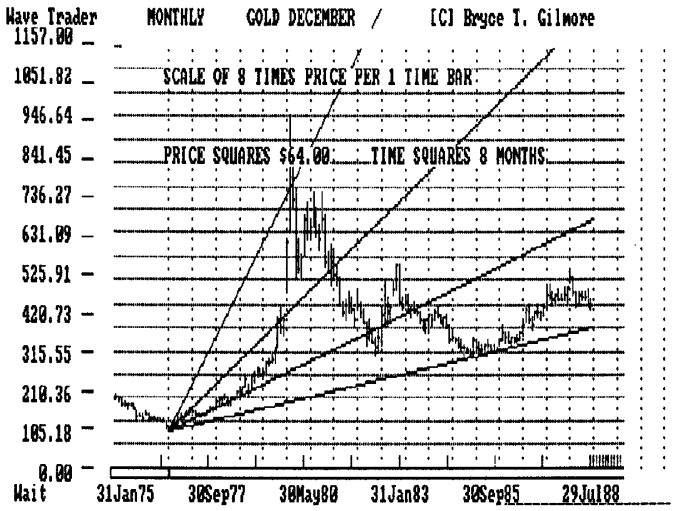
DAILY, WEEKLY AND MONTHLY CHARTS

The practice of scaling each different time frame back to a base price unit of ONE is a strict prerequisite in geometric charting. At times the scale will be far too small for the plotted price series, when this occurs instead of increasing the base unit to an arbitrary figure we can increase the base unit used on the daily chart by square ratios so that price remains in perspective.

If a unit price used on a daily chart causes the weekly chart to become unmanageable, ie price scale is far to sensitive to time scale, then a ratio in square degree should be used on the weekly and vice versa the monthly price series. By this I mean that assuming a scale of say $ 1.00 per day is being used as a base price to time scale on a daily chart then ratios of $1.00 x2 = $2.00 or $1.00 x4 = $4.00 or $1.00 x8 = $8.00 should be used for price to time on the weekly or monthly charts so that price scales remain square.

You may not appreciate the reason for this at this moment yet once we have discussed geometric angles used by Gann traders and technicians it will become quite clear. The same principle applies when we have longer periods of data to plot and it is physically impossible to maintain the base scale due to vertical limitations of our worksheet.

FIG 8.4 COMEX DECEMBER GOLD ON A SCALE OF $ 8.00 per month.



GEOMETRIC ANGLES OF SUPPORT AND RESISTANCE

Once a suitable scale of price to time is found for a commodity or stock we can use geometric angles to monitor time and price squarings in the ratios of the square, circle and golden rectangle.

Geometric angles take on the following form when drawn on a 1 unit to 1 day chart.

A 1 unit of price to one unit of time is a 45 degree angle (1/8 of the circle of 360 degrees).

A 2 units per day angle is an angle of 63.5 degrees, this angle will square price to time in a ratio of 2 to 1. Eg, a move of 288 points in the angle will take 144 days.

A half unit of price to 1 day angle is approximately 26.5 degrees, this angle will square price to time in a ratio of 1 to 2. eg, a move of 72 points will take 144 days.

The Gann philosophy of markets assumes that the 1 by 1 angle is the strongest guide to trend strength or weakness. Correctly drawn on a geometric chart this is the 45 degree angle. When a 45 degree angle is drawn down from a major swing high and the market trades below this resistance it is said to be in a weak state. Conversely a 1 by 1

or 45 degree angle drawn up from a major swing low will signal the state of the trend, if the market is trading above this angle it is said to be in a strong state, if below this angle then it is in a weak state. At times reversals to trend will be signaled at points along these angles, these are generally at times when significant time periods from swing highs or lows elapse, ie. at say 144 points in 144 days, 89 points in 89 days.

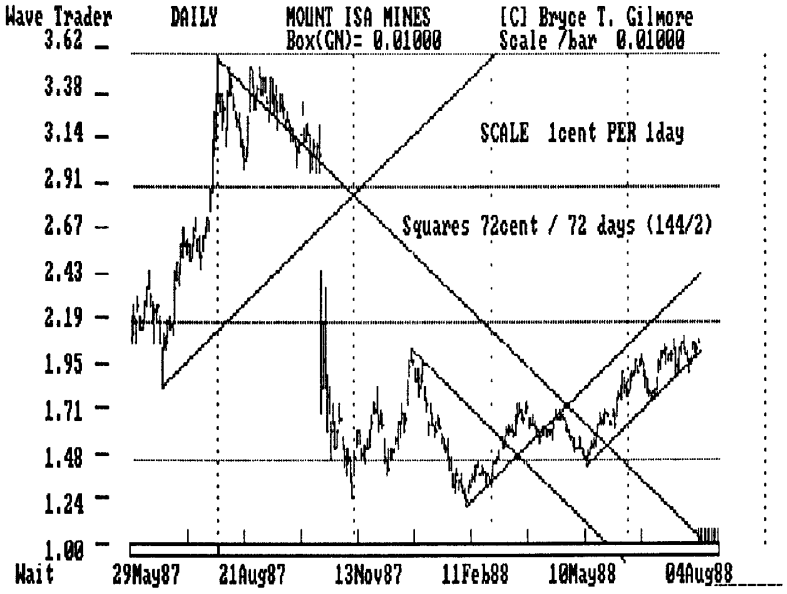


FIG 8.5 MOUNT ISA MINES scale 1 cent per day. Examples of the 1x1 or 45 degree angles of support and resistance.

ANGLE INTERSECTIONS AND TIME SQUARING

If the 1x1, 2x1 and 1x2 angles are drawn geometrically down from swing highs and up from swing lows they will square time at their crossings. One Gann practice for measuring time forward for a trend reaction area is this principle.

If each swing high and low of major degree on a geometric chart is related in some strict mathematical degree, and the chart scaling reflects this, then it would be true that intersections of these angles would signal a third dimensional squaring. This practice is known as the squaring of space. These intersections of angles do not necessarily

need to coincide with price, yet their crossings are an important area in time as they form triangular relationships with the past at these points.

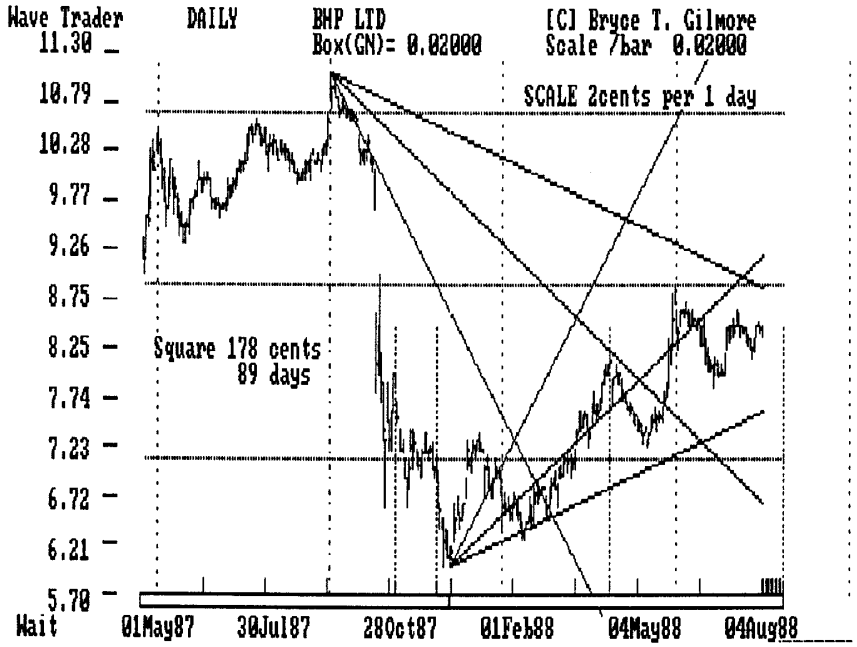


FIG 8.6 BROKEN HILL PROPRIETORY LIMITED scaled at 2 cents per trading day demonstrates some relationships that can be found in markets using geometric angles.

MY BEST GUIDE TO THE USE OF GEOMETRIC ANGLES

The 1x1, 2x1 and 1x2 angles are best used as a guide to trend strength, occasionally they will pinpoint a turn in trend by forming a support or resistance on the actual high or low point reached before the trend reversal. This will only occur should an exact squaring take place in the ratios of a square. More often than not time and price squarings will be made in other degrees, ie price 61.8% and time 50%, price 50% and time 38.2% et cetera.

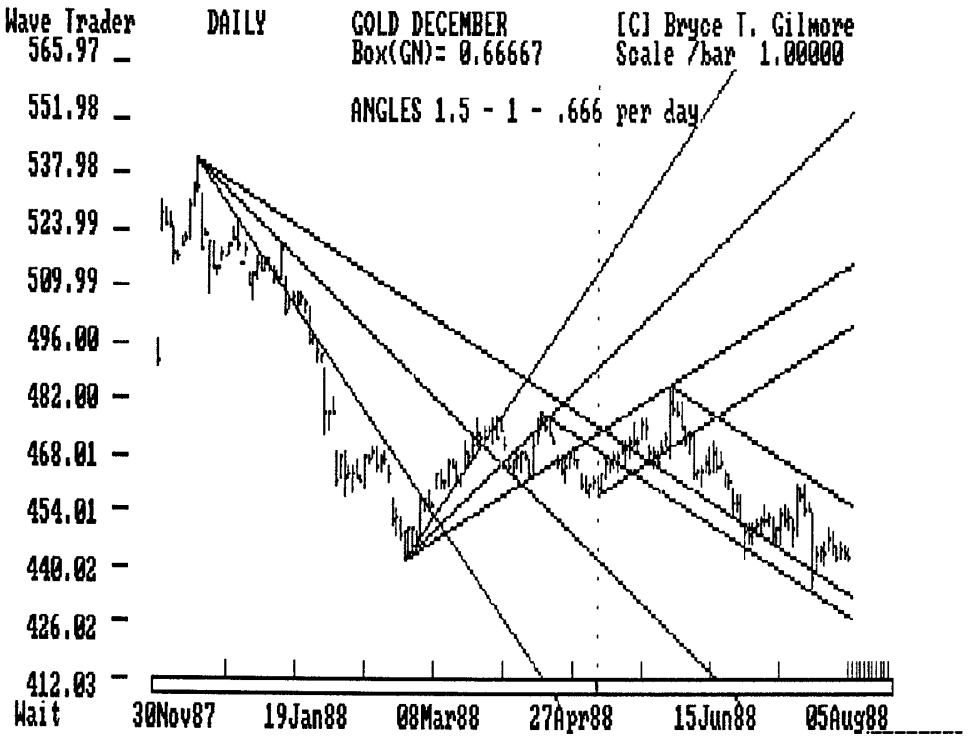
Third dimensional squarings of space seem to be one of the best uses for these angles so it is important to keep up your geometric angles from major swing points and be aware of their specific use in your analysis. As you become proficient at utilizing all of the various geometric techniques in this text you will understand how each technique is also a variation of another method.

ALTERNATIVE ANGLES USED BY TECHNICIANS

Students of time and price squaring have devised many alternatives to the original theories passed down by the masters of geometrical charting over this century. Angles of 1.5 units of price to time are considered important technical ratios to monitor, 1 unit of price to 1.5 units of time is also considered a strong geometric relationship.

FIG 8.7 of the GOLD chart below gives a quick pictorial view of the angles that can be used by chartists to determine strength of trend. One must bear in mind that with the volatility of markets today there is an increased need to find levels of price that are within daily ranges to gauge support and resistance zones.

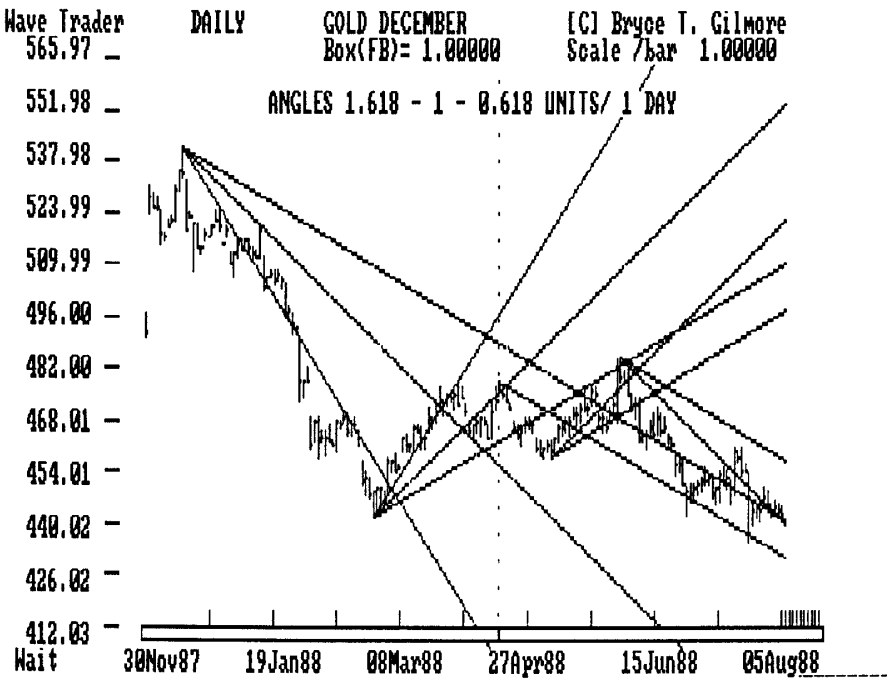
FIG 8.7 1x1.5, 1x1, 1x0.666 GEOMETRIC ANGLES.



1.618 AND 0.618 ANGLES OF PRICE TO TIME

Technicians that work in Fibonacci degree also use 1.618 x 1 price to time, 0.618 x 1 price to time angles. These angles are in the ratios of the Golden rectangle. On occasions, as price and time vibrations revolve through the geometric circle, these angles pinpoint ratios of price moves in Fibonacci degree. For example, a 1.618 price to time angle will measure units of price such as 144 points travelled in 89 days, a 0.618 angle will measure the reverse such as 89 points travelled in 144 days. Any angle drawn in strict mathematical degree to the square, circle and golden rectangle is important from a technicians point of view. If price squares time in an ancient geometric relationship it is important. Angles are purely a way of stating the obvious. If we wish to keep one step ahead of the unfolding price patterns we need to be aware of all the techniques that we can employ.

FIG 8.8 Shows the same swing highs and lows of the December Gold chart using angles of 1.618 per day and 0.618 per day to measure future moves for support and resistance.



PERCENTAGE OF A PRICE SQUARING TO TIME

As an adjunct to this method of measuring price to time squarings it would not be fair to dismiss percentage price moves from a high price or low price as insignificant. In some commodity and stock indices, averages are used to determine the value for the index. In cases such as these it is fair to assume that averages of previous price could be just as important to geometric relationships as points moved. In effect this means that some price series can be geometrically charted in percentages. This would at first seem totally impossible, yet we do not need to concern ourselves with the problems of day to day entries that do not reflect the true exchange value given out. All we need to do is monitor price rises and declines in percentage increments of previous important swing highs and lows. Examples of major bear markets terminating at 50%, 61.8 and 66.6% decreases in value to their highs has been demonstrated in an earlier chapter. What was not demonstrated was the relationship of price decline per day, week or month in percentage terms.

To begin with this type of analysis one should use an index of a group of stocks or a group of commodities.

For my purpose of demonstration I am going to cite a major move in the ALL ORDINARIES INDEX (The Australian equivalent to the American Standard and Poors 500 stock index) over the past two years.

Firstly the ALL ORDINARIES made a low on 28th JULY 1986 at 1094.1 points, in Elliott wave terms now that we have experienced the crash of 1987 we can safely label this low as a primary wave 4. This means that from an analysis viewpoint any time squarings emanating from this low are strictly written in stone. On 21st September 1987 the ALL ORDINARIES index made its final high prior to the October crash at 2312.4 this was exactly 293 trading days and 420 calendar days from this low, the rise in points from 1094.1 was (2312.4 less 1094.1) 1218.3 points. In percentage terms the rise from 1094.1 to 2312.4 fulfilled a mathematical ratio often overlooked by students of this science 1.118 (the section of the square that goes to make the golden rectangle, ie. 0.5 plus 1.118 equals 1.618). 1094.1 increased in value by 111.8% equals 2317.3, The exact rise in the ALL ORDINARIES was 111.4% very close indeed. Another factor that should not be overlooked was the 2 x 610 (Fibonacci multiple) present at the completed primary wave 5 advance. The price rise fell only 1.7 points short, the 5th intermediate wave fell 2 points short of 576 points (4x144) taking 89 calendar days exactly, and terminated on the September equinox at the time of a solar eclipse.

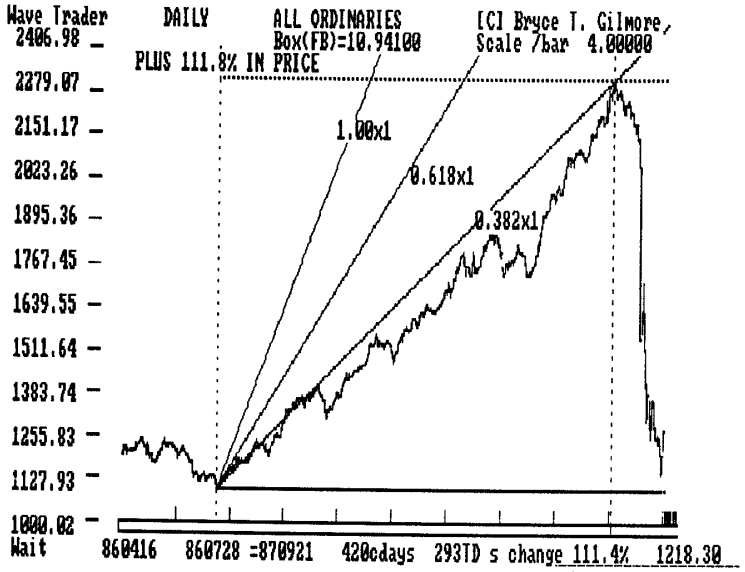
From a time perspective the move up from 1094.1 to 2312.4 was 293 trading days (144 * root 2 plus 89) if we divide 111.8% by 293 we get an average rise of 0.38157% per day.

This means that an angle drawn up from the 1094.1 low at 0.38157 % of 1094.1 per day intersected the high price made on the 21st September 1987 at 2312.4. Obviously to follow these particular calculations requires some thinking, I would rather think than suffer when it comes to market analysis and trading decisions. IN CASE ANYONE HAS MISSED THE POINT .382 IS .618 SQUARED.

Of course before arriving at this brilliant deduction one would have looked at numerous other methods to pick the top of the bull market, I have detailed many other relationships that squared price and time at the 2312.4 top in other sections of this text.

How do we plot angles off swing highs and lows in percentage degree? This is easy as 1% substitutes for $1.00, 1 point et cetera. In this instance 1094.1 reduced to 1% equals 10.941 points per day. By emitting our Fibonacci angles up and extending our times forward we would have been prepared to recognize a geometric squaring of price and time at the 2312.4 top.

FIG 8.9



9. FUTURE TIME SQUARINGS OF PRICE

SQUARING PRICE UNITS FORWARD IN TIME FOR FUTURE AREAS LIKELY TO SIGNAL A COUNTER TREND REACTION **IS A METHODOLOGY DEVELOPED** AND TAUGHT **BY** THE GRAND MASTER OF GEOMETRIC ANALYSIS **W.D. GANN.**

There are three techniques used for this methodology:-

SQUARING A LOW PRICE IN TIME TO THE FUTURE

SQUARING A HIGH PRICE IN TIME TO THE FUTURE

SQUARING A PRICE RANGE IN TIME TO THE FUTURE

Since it is possible to transpose price units to future time units it is also possible to reverse the procedure and transpose time units back into future price. An example of this technique is demonstrated at the end of this chapter. (See FIG 9.6)

SQUARING A RANGE TIME TO FUTURE PRICE

SQUARING A LOW PRICE IN TIME

On a chart scaled at 1 unit of price to 1 unit of time, if we were to draw a square starting with a vertical line up from zero to the low price to be squared, then horizontally forward the identical units of time, then vertically back down to zero a square will be formed. The forward vertical line will measure the first square of time of the low price.

A low price of $ 100 will square out in time 100 days forward from the date of the low. On a weekly chart it will be 100 weeks on a monthly chart 100 months.

These squares of time to price are very important areas for Gann theory traders to look for and expect a counter trend reaction to price movement. It does not stop here, as depending upon the significance of the low (Major, History or Minor), their influence can predominate over many future squares as well as divisions of squares.

The strongest points to watch are at the 50% and 100% levels.

Next watch 33.3%, 66.6%, then 25%, 75%. Minor divisions such as one eighth could be of importance. 141.4%, 161.8% and 223.6% of major squarings should also be noted.

These technical methods are particularly useful for agricultural products such as Soybeans, Wheat and Corn. They also help to confirm time squarings within the Gold complex.

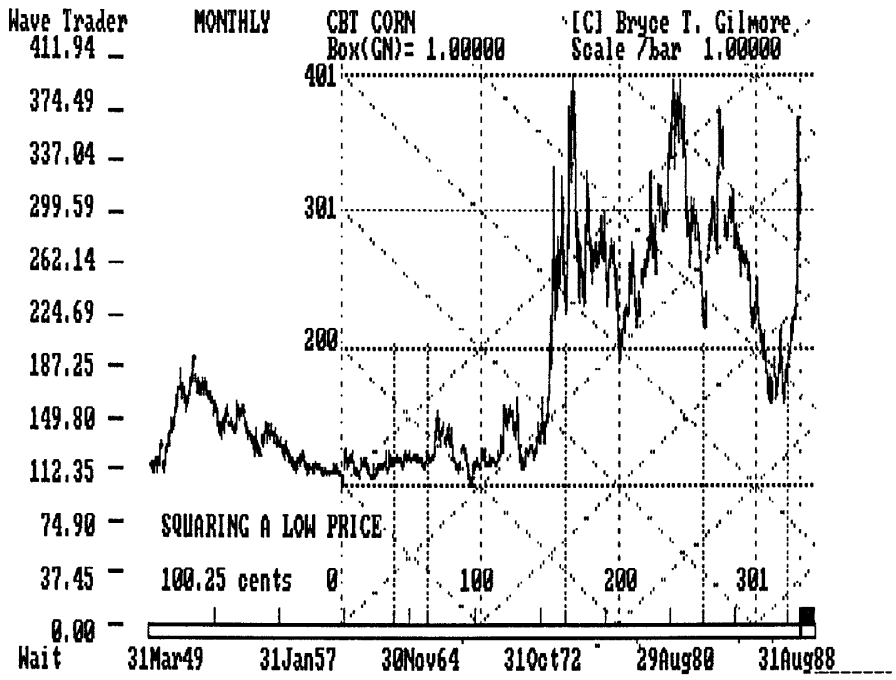


FIG 9.1 CBT CORN DECEMBER DELIVERY - This chart demonstrates the low of 100.25 cents squared forward in both price and time. One can see by careful study of this price series how significant some of the future 100% levels in both price and time turned out to be.

SQUARE OF THE 1982 LOW IN THE STANDARD & POORS 500

This weekly chart (FIG 9.2) is an example of Gann at work. The low of 102.41 registered on the S&P 500 cash back in 1982, worked forward, signaled many a significant trend reversal on this weekly chart. Of course research will show that other relevant technical information coincided with the major turning points. Squaring of major lows in both time and price has proven to be a powerful technical tool for the students of geometric charting.

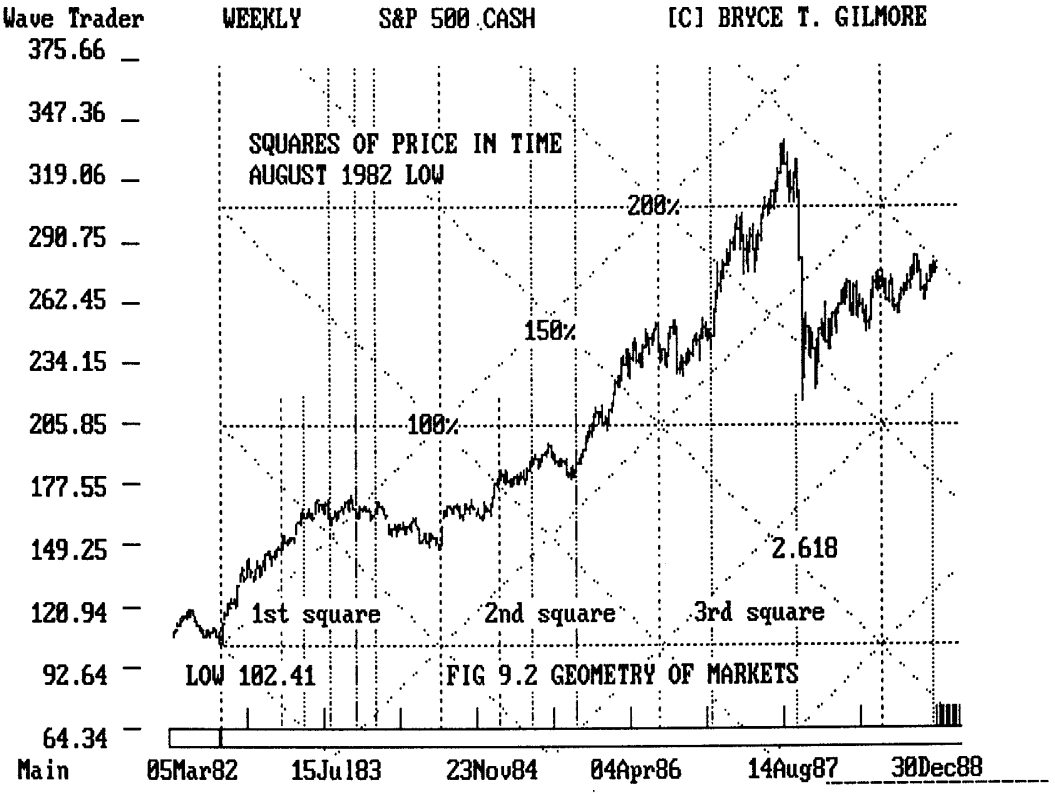


FIG 9.2 S & P 500 CASH INDEX - MAJOR LOW IN 1982 OF 102.41 SQUARED IN TIME AND PRICE.

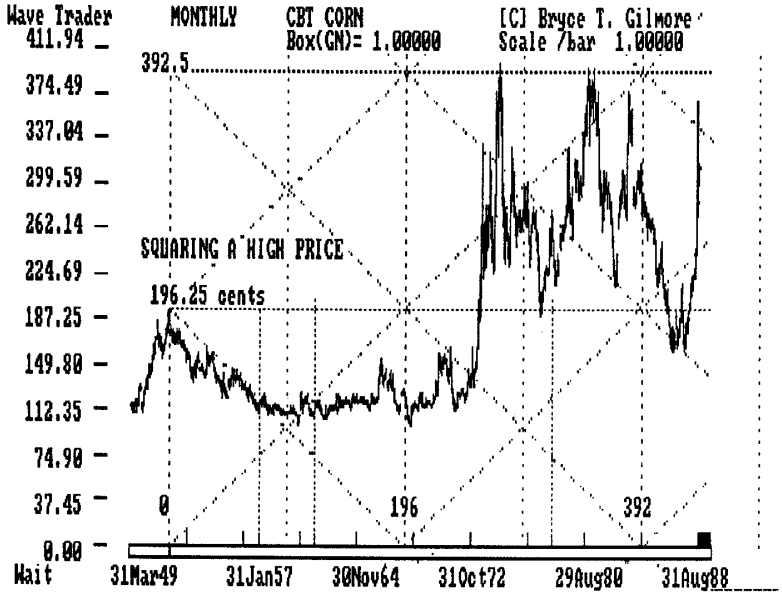
SQUARING A HIGH PRICE IN TIME

On a chart scaled at 1 unit of price to 1 unit of time if we were to draw a square starting with a vertical line up from zero to the high price to be squared, then horizontally forward the identical units of time, then vertically back down to zero, a square will be formed. The forward vertical line will measure the first square in time units of the high price.

A high price of $ 144 would square out time 144 days forward from the date of the high. On a weekly chart it will be 144 weeks on a monthly chart 144 months.

The strongest levels are at 25%, 33.3%, 38.2%, 50%, 61.8%, 66.6%, 75%, 100%, 141.4% 150%, 161.8%, 200% and 223.6% divisions of a high price squared forward in time.

FIG 9.3 CHART OF CBT DECEMBER CORN

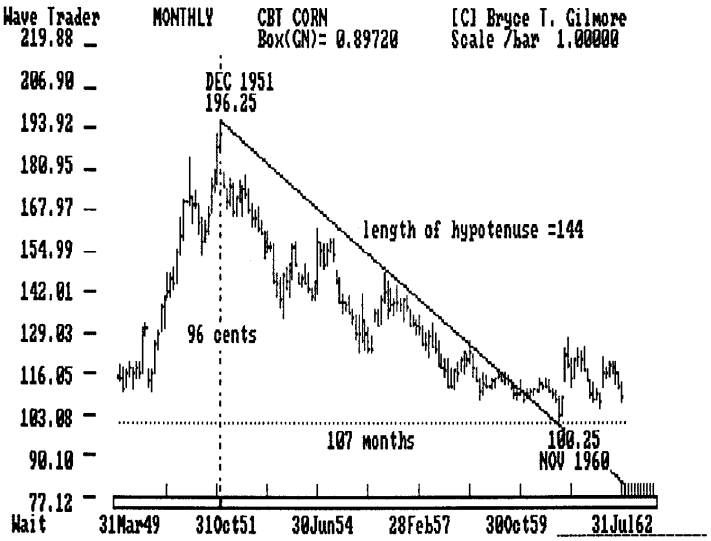


The high price of 196.25 registered in December 1951 has been squared forward in both price and time. Time divisions of this square marked several turning areas of trend, although the first chart of the low in November 1960 of 100.25 cents squared the high to the cent. (see Fig 9.1)

SQUARING A PRICE RANGE IN TIME

As with squaring lows and highs in time we measure forward in units of price translated to time units. So we do the same when squaring a price range in time. First we measure the units moved from either a low to a high or a high to a low and then we calculate forward from the turning point of that range, squares of that previous move.

FIG 9.4 CBT CORN DECEMBER DELIVERY

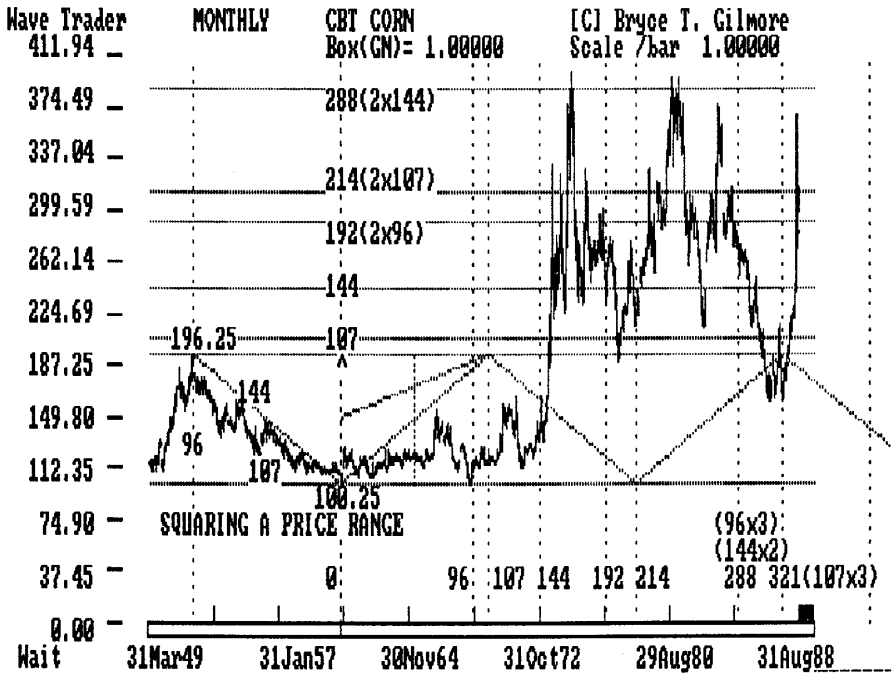


For this example I have used the price range from the high 196.25 and low 100.25 used in the first two examples of squaring a low and a high price. The geometric relationship formed from the high to the low is a right angled triangle. The vertical axis is price in this case 96 cents (196.25 less 100.25) the horizontal axis is time in this case 107 months. The hypotenuse of the triangle formed by this range is 144 units if we are using a 1x1 scale of price to time.

You may already be thinking that I have made liberal use of the number 144 in the text so far. The obvious reason is that I consider 144 the strongest static number one can relate to. In fact if you were to only trade when a vibration squared in 144 relationships you would make a fortune. Any geometric vibration in a market that contains 144 is confirming the existence of natural law at work. 96 by the way is exactly 66.66% of 144, 108 is 75% of 144.

The two price measurements that are transposed to time and measured forward into the future are the vertical range 96 cents and the hypotenuse calculation 144. On this example I have only used 100% squares for ease of explanation, I also included the 100% anniversaries of the time of the range 107 months to show how each method of squaring range can be worked forward.

FIG 9.5 This chart of Corn also demonstrates the price squarings in 100% increments of each axis of the triangle formed by the geometric range.



Just for the record, the all time high on this Corn contract was 400 cents which was reached in October 1974. From the methods of price squaring discussed to date this high fell on the 300% square of the low 100.25 cents (100.25 plus 3x100.25 equals 401 cents), also another geometric relationship with the previous bear market range of 96 cents was evident (96 by PI (3.141593 x 96 equals 301.5)). If you were to add 301.5 to the low of 100.25 where the 96 cent bear market decline terminated you would square price exactly to the 400 cent all time high.

SQUARING A RANGE TIME TO A FUTURE PRICE

If a move from a high to low or a low to high of major degree has occurred, then to square out the time duration to future price we translate time units to price units and add or subtract the value to the last turning price of the range.

The NYCSE SUGAR example below shows a range in time of 155 days converted to 155 tics and added to the low price to calculate squarings in this fashion. It is important to realize that these relationships can repeat whilst time is still working out the first square. I feel happier using these methods when they coincide with other calculations such as vibration angles and retracement levels. This sugar chart nevertheless shows an accuracy for this technique that defies explanation using "standard" charting methods.

FIG 9.6 SQUARING A RANGE TIME TO FUTURE PRICE EXAMPLE.

USE OF THESE METHODS

As a guide to the effective use of these methods it will pay only to use highs or lows that are higher or lower than the current wave of prices. Major market turning points have an enduring effect on markets whilst the price is contained within that range. Some knowledge of the Elliott Wave Principle will help define ranges into Cycle, Primary, Intermediate and Minor degree and give a good guide to the influence that specific turning points may have in the future.

A combination of time clusters coming from numerous squarings of lows and highs at a future time will signal a stronger geometric influence for a change to the current trend.

10. RATIO ANALYSIS OF PRICE RETRACEMENTS AND PRICE PROJECTIONS

In this chapter we will cover the most important price range projection and retracement levels needed to be monitored for market support and resistance. This section only deals with the price axis and is a more detailed explanation of range squaring covered in chapter 6.

When price is plotted geometrically on a two dimensional chart it will be seen to move in waves, as these waves unfold they are telling us a story. We know from experience that the driving force behind any market is the balance between buyers and sellers, when nobody is prepared to sell prices will rise and when everybody wishes to sell prices will fall. Under normal trading conditions price will move in four stages, accumulation, advance, distribution, decline. At times the advances and declines will overreact to the generally held view of what the fair price should be. These periods of extreme are naturally caused by the mass psychological habits of market participants and are commonly referred to as periods of fear and greed. Human nature, being what it is, tries in many ways to justify why a market price is at a certain level yet in the end supply and demand rules the day as prices retrace previous advances or declines looking for support or resistance levels where the market can once again find a logical balance.

Changes in economic patterns can produce extended moves in price, both up and down in value. These periods are referred to as bull and bear markets. In a bull market prices will advance and decline from a stable area in stages; as a bull move progresses the retracements to advances will diminish in degree. A detailed description to this phenomena can be found in the works of R.N. Elliott. A fully fledged bull market will normally contain three major advances interrupted by two adjustment periods where prices retrace part of the previous advance wave. Retracements to advances can be measured with a great degree of accuracy as they are working to some natural law. As a guide the first wave of a new bull market will normally be retraced at least 50% and often 61.8% for a wave two. The third wave which is often the longest

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in a bull market extends above the high price of the first wave and terminates at a level in relationship to the first wave advance. Several common levels for a third wave top are 61.8% of the first wave advance added to the high of the first wave, 100% of wave one added to the wave one high and 161.8% of wave one added to the wave one high. As the third wave reaches its peak distribution begins as the players who gained from the long advance start to take profits, generally the mood is still optimistic and declines are usually limited to between 14.6% and 38.2% of the third wave advance. Fourth wave adjustments often unfold as triangles and the pattern of price adjustments on a chart can give one a guide as to the extent of the fifth wave that has yet to unfold. In a bull market third wave, new buyers are progressively entering the market and volume is increasing, during a fourth wave the late comers see the adjustment as good value compared to the established trend. By the time the fifth wave begins to unfold old buyers, who were smart enough to have participated in the bull market so far, have distributed their stocks to the latecomers and the market forces are being driven by greedy uneducated traders. Fifth waves can have two characteristics, they can be wild affairs that take the market to new extremes and cause even the most rational traders to re-enter as buyers close to the top, or they can be very short lived upmoves that rise only slightly above the third wave top. Bull markets generally terminate at levels that relate to previous major low prices (see chapter 4) or projection squares of earlier major ranges. Price levels for a resistance top can be easily calculated in advance, as we approach these areas we monitor the risk, if the risk is real we take evasive action.

PRICE PROJECTION EXAMPLES IN BULL MARKETS

FIG 10.1 SYDNEY SHARE PRICE INDEX

Although this chart is of the last bull market advance from July 1986 to September 1987 of a 5 year bull market the wave tops terminated extremely close to ideal ratios of the first wave price advance. The wave top labeled (1) reached a high of 1385 after advancing from a low of 1058 (1385 less 1058 equals 327). 327 points was incidentally only 5 points greater than the Lucas ratio 322. The wave top labeled (3) terminated at 1906 for a net increase from the low 1058 of 848. 848 less 327 was 521 (Another Lucas number exactly) the net advance above the wave (1) high. 521 is precisely 1.618 times 322 which means that the wave (3) high terminated at roughly a projection of 1.618 times the wave (1) advance. Observation of this chart also shows a correction between the wave (1) high and the wave (3) high occurring when the advance reached the 61.8% projection level of wave (1).

The correction from the wave (3) high terminated very close to the 100% projection level of wave (1).

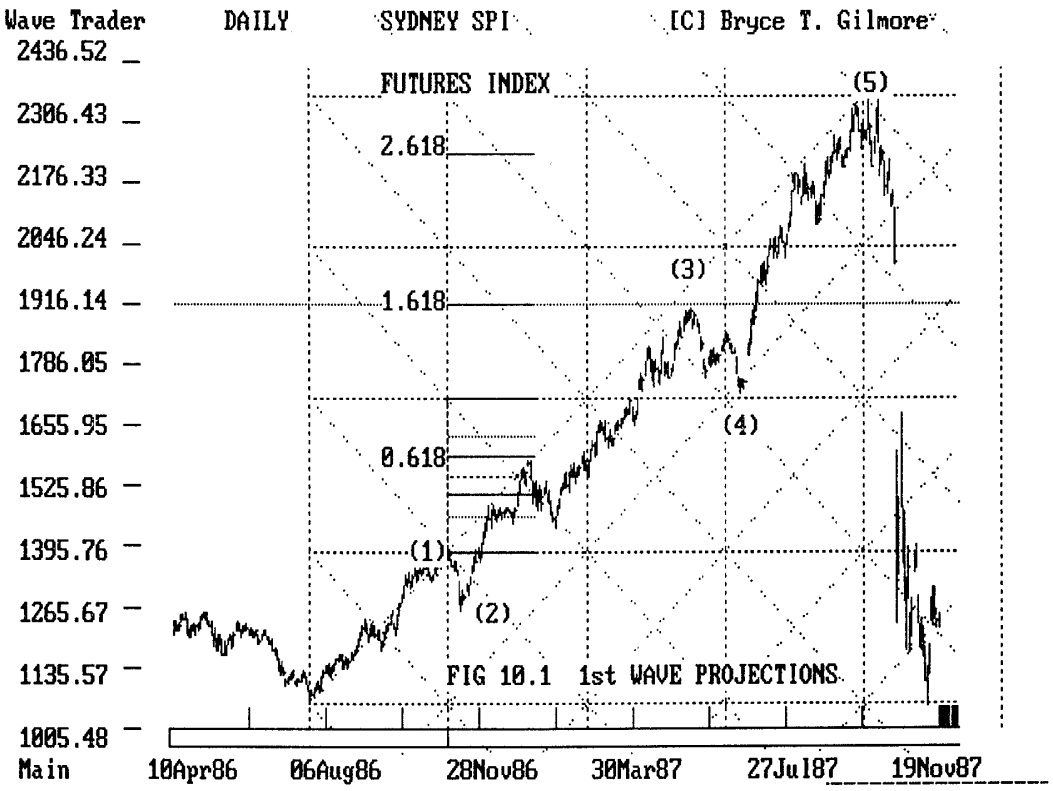


FIG 10.1 - SYDNEY SHARE PRICE INDEX - FINAL ADVANCE BEFORE THE 1987 CRASH.

If projection levels of waves from lows to highs can be used to anticipate new highs it must follow that, if retracements to these price advances fall in precise mathematical degree to natural law, then projections from lows to lows can be used to project future highs.

FIG 10.2 SYDNEY SHARE PRICE INDEX

This chart is of the same time period as Fig 10.1. The all time high on this index fell at 2387.5 on October 2nd, 1987. From a base of 1058 the overall rise was 1330 points. The wave labeled (4) terminated at 1723 a drop of 183 points from the wave (3) high of 1906 (earlier I demonstrated that 183 was a root PHI relationship of 144 ie 144 * 1.272 equals 183 and is very important). The net ground gained from the 1058 low to the 1723 wave (4) low was 665 points (666 is the number of man and holds an important meaning in the study of numerology). Forgetting numerology for a minute and sticking with basic mathematics, the advance from the wave (4) low traced out a 100% price advance to the high of 2387.5 to terminate wave (5) and end this amazing bull market.

Wave (1) related to wave (3), wave (4) related to wave (5), the overall advance from the low 1058 traced out a geometric pattern based on the square and the golden rectangle.

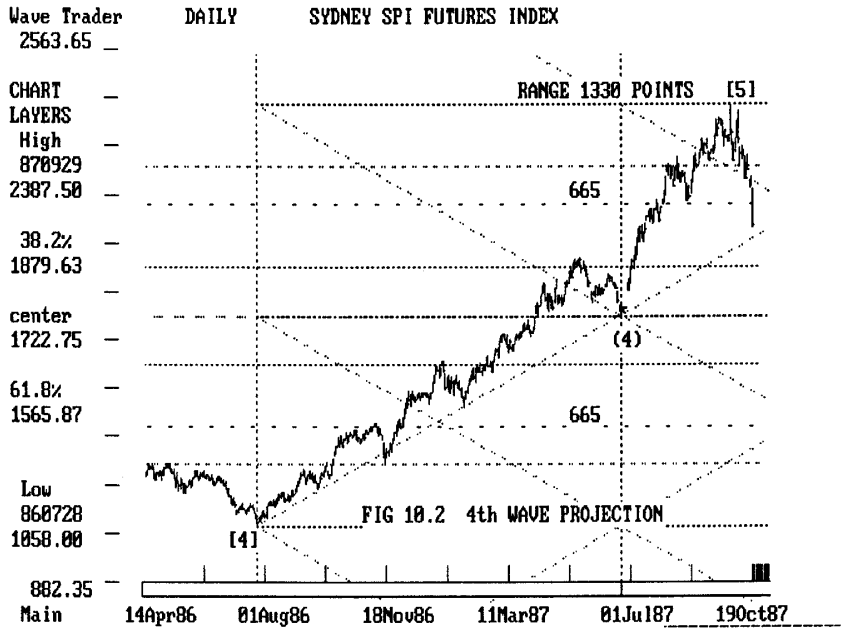
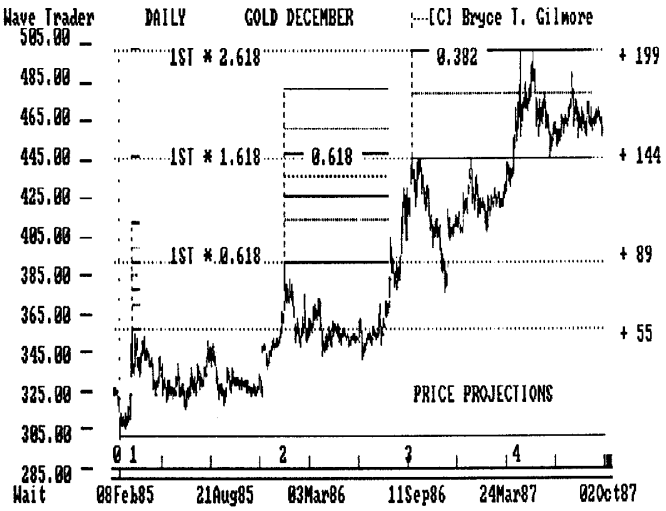


FIG 10.2 Wave [4]-(4) equals wave (4)-[5] in price.

If one approaches market analysis with **a clear understanding of the psychological factors that motivate price movement** then it is not such a difficult task to anticipate turning points in trend when the geometry unfolds in such precise ratios as demonstrated in this text.

FIG 10.3 COMEX GOLD DECEMBER DELIVERY



This chart graphically illustrates the relationships that can unfold in a long protracted price advance. Across the lower scale wave points are labeled 0, 1, 2, 3, 4. The price at 0 was $301.50, tops 1 ($357.00), 2 ($392.00), 3 ($446.00) and 4 ($501.00). The first advance terminated at $357 a move of $55.50.

$55.50 by 0.618 added to $357.00 equaled $390.30

$55.50 by 1.618 added to $357.00 equaled $446.80

$55.50 by 2.618 added to $357.00 equaled $502.30

All of these price levels were met within $2.00 before subsequent reversals in trend, naturally projections taken from each advance top related in lesser degree ratios of Phi as the expansion continued. One would have to seriously question the random walk theory in markets after reviewing this price action. As it turned out, the expansion also

followed the Fibonacci and Lucas series in dollar value which made it even more convincing.

COMPLEX RETRACEMENTS AND PROJECTIONS IN MINOR WAVES

To continue with this section I am going to work through the Comex Gold December contract from the low of $301.50 on January 25th, 1985 to the low of $447.70 on June 22nd, 1987, using only the known information prior to each turning point.

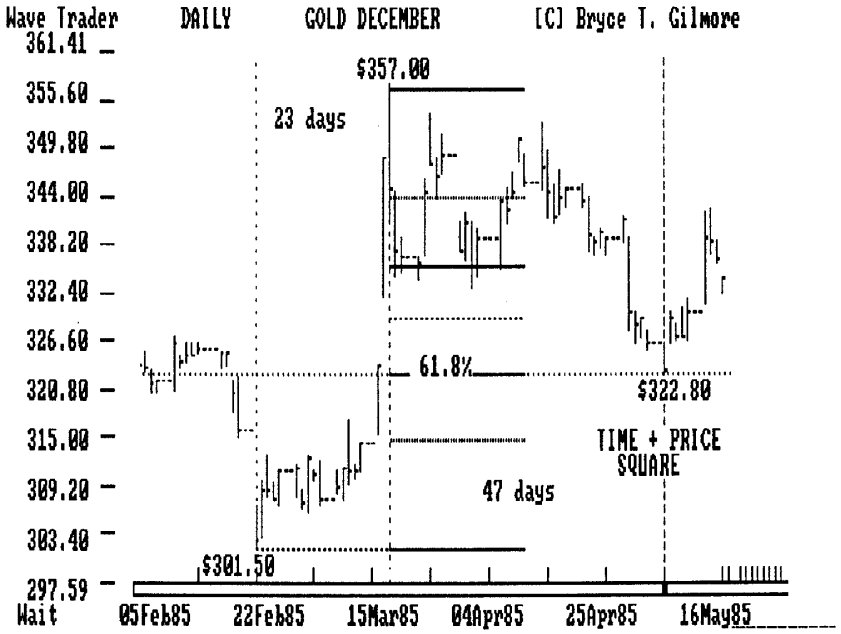
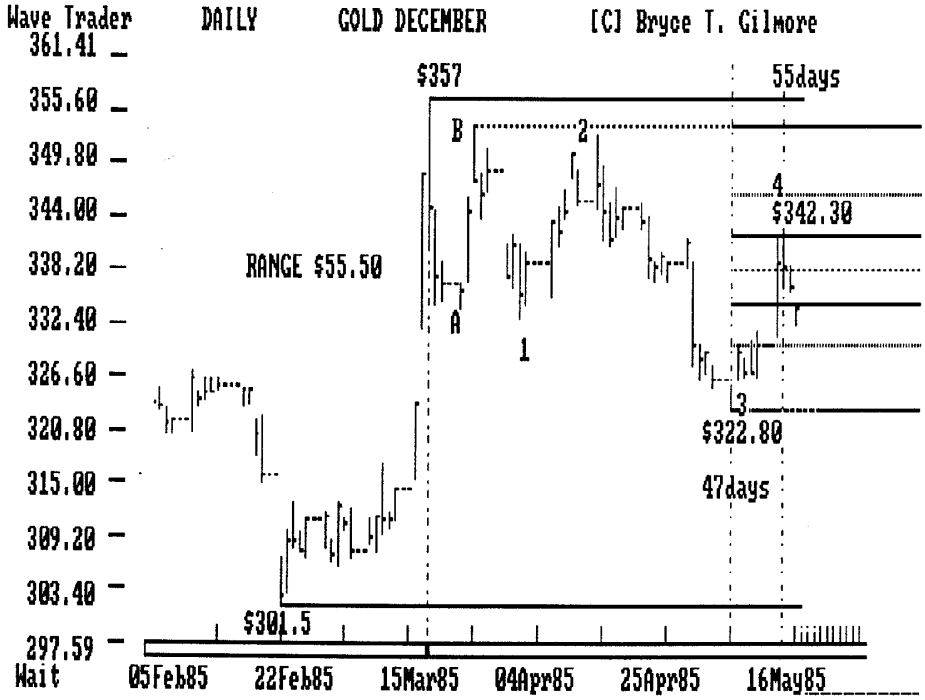


FIG 10.4 GOLD LOW OF $322.80 MAY 6TH 1985

The wave advance from $301.50 to $357 was $55.50 in 23 days, the high was made on the equinox of March 20th. The first decline was exactly $23 in five days which squared the range time, a counter trend rally of $20 over two days failed to get back to the high. Over the next seven days a further decline of $21 broke just below the first correction indicating lower prices to come. After rallying back another $20 over the next 12 days the market failed to go above the first reaction high indicating once again

lower prices to come. The next low at $322.80 squared time in two ways (1); 47 days is a Lucas ratio, (2); 47 days was twice (200%) the time of the 23 day wave in the first advance. MAY 6th is also 45 degrees on the circle of 1 year from the March equinox. Price squared a 61.8% retracement of the advance from $301.5 to $357. The fall in price was $34.20 a Fibonacci multiple. The market then rallied $19.50 over the next 8 days. Recognizing this opportunity would have been worth a tidy profit.

FIG 10.5 $342.30 HIGH 14th May 1985



In this chart I have used some Elliott wave labels to identify the corrective phases from the $357 high. The price decline from the B wave high down to 3 was $31.20, 61.8% of this is $19.30, $342.30 less $322.80 is $19.50 giving the wave 3-4 a 61.8% relationship with B-3.

The high of $342.30 was made exactly 55 days from the $357 high giving a Fibonacci ratio and a squaring of the price range from $301.50 to $357.

FIG 10.6 WAVES C OF (2), D of (2) and E of (2)[D-(2)]

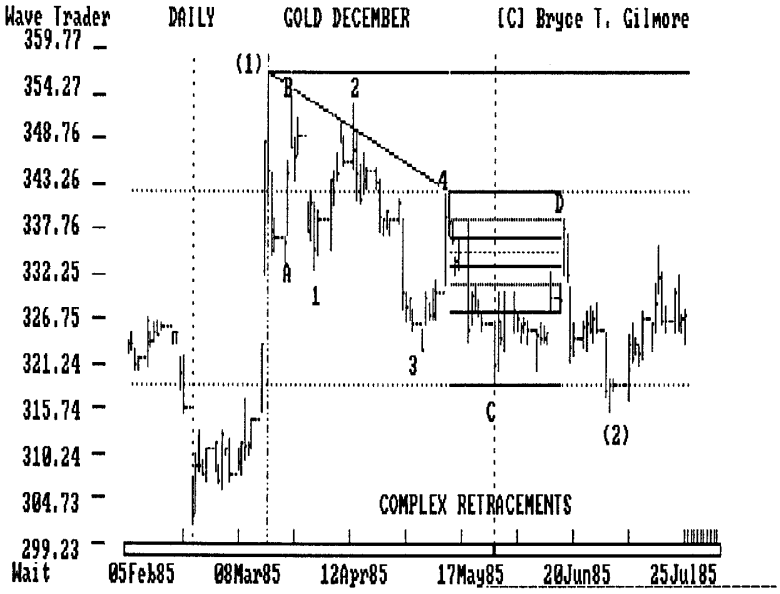


FIG 10.6 COMPLEX RETRACEMENTS IN CORRECTIONS.

Wave C = $319 MAY 28th, 1985

Wave C of (2) on this chart was 69 days from the $357 top labeled (1), this was a 3 times multiple of the 23 days rise. The ratio of price (1) to 4 was 38.2% of the decline from (1) to C. The decline from 4 to C was $23.30, 30 cents greater than (1) to A. Time of B to C was 62 days and a decline of $35.

Wave D = $339 JUNE 18th, 1985

Wave D rose $20 in 21 days. This wave alternated with wave B which also was $20. Wave D terminated 90 days from the $357 wave (1) high, both 89 and 90 are important ratios of time.

Wave E for (2) = $315.50 JULY 2nd, 1985

Wave E fell $23.50 to complete a 75% retracement of the rise from $301.50 to $357 [Wave (1)].

Wave (2) contained 9 minor waves for a total decline of $41.50 in 104 days. Three waves equaled each other at $23 to $23.50, five waves equaled each other at $19.50 to $21. The longest wave of $30.20 was the 3rd wave of C, as expected under Elliott wave rules.

FIG 10.7 WAVE STRUCTURE UP TO $392 HIGH 16th JANUARY 1986

The main technical feature here was the expansion of wave (1) by 61.8% to arrive at the $392 target price. Time in days from the start at $301.50 was 325 days (a few days off 322 Lucas). The correction that immediately followed this high retraced 50% of the rise from $301.50 before halting. You will notice that this correction unfolded in five waves, a very bearish scenario. The third wave as usual was the longest and strongest wave. Time between the $357 high and the $350.20 high was balanced at the $392 high. Another interesting relationship between the high of $357 to the $315.50 low ($41.50) and the high of $350.20 to the high of $392 ($41.80) becomes apparent with a little exploration. Everywhere we look we keep finding repetitive ratios in the total wave structure so far. Will this continue in the future?

FIG 10.7

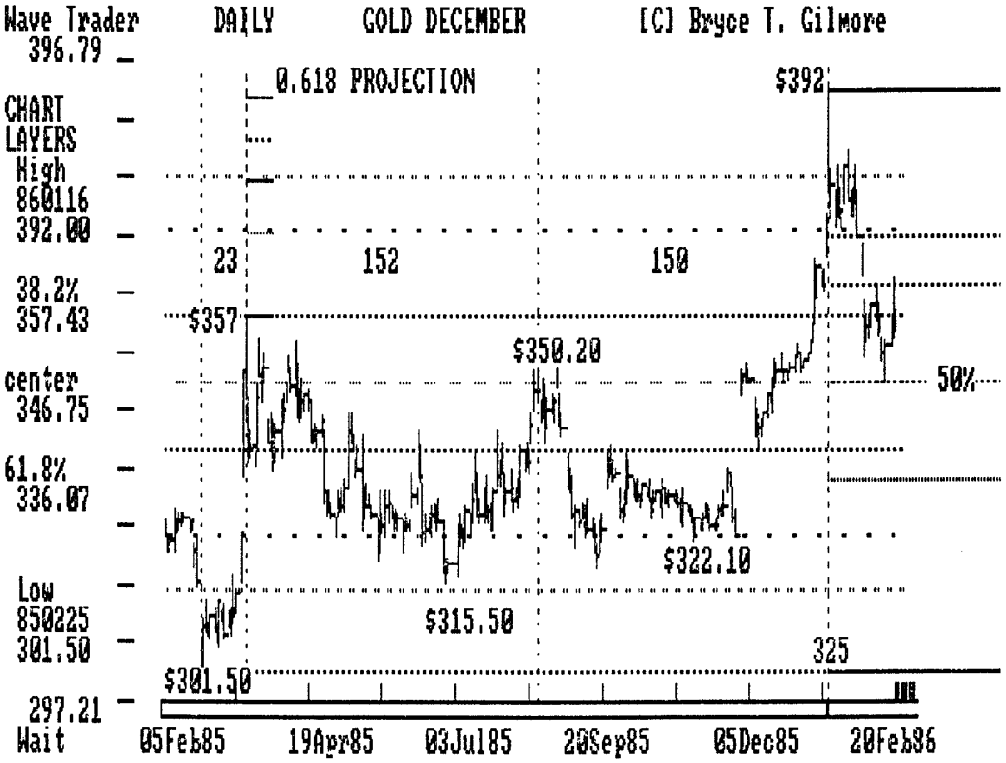


FIG 10.8 CORRECTION FROM $392 HIGH

This chart is a good example of how time overrides price in many instances. After the first two minor waves from the $392 high unfolded in perfect ratios of time and price a consolidation period set in that followed time rather than price for the next several counter trend reactions. Time ratios in degrees of Phi of the first corrective wave projected forward signaled numerous swing points during the consolidation phase.

FIG 10.8

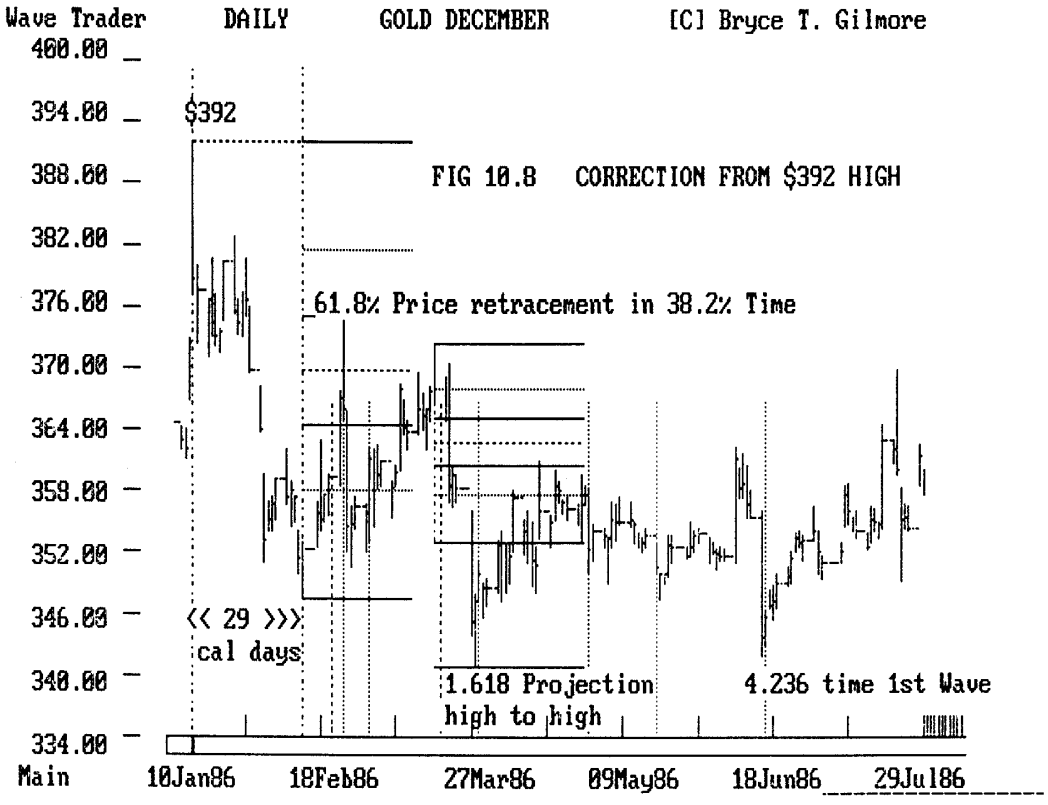
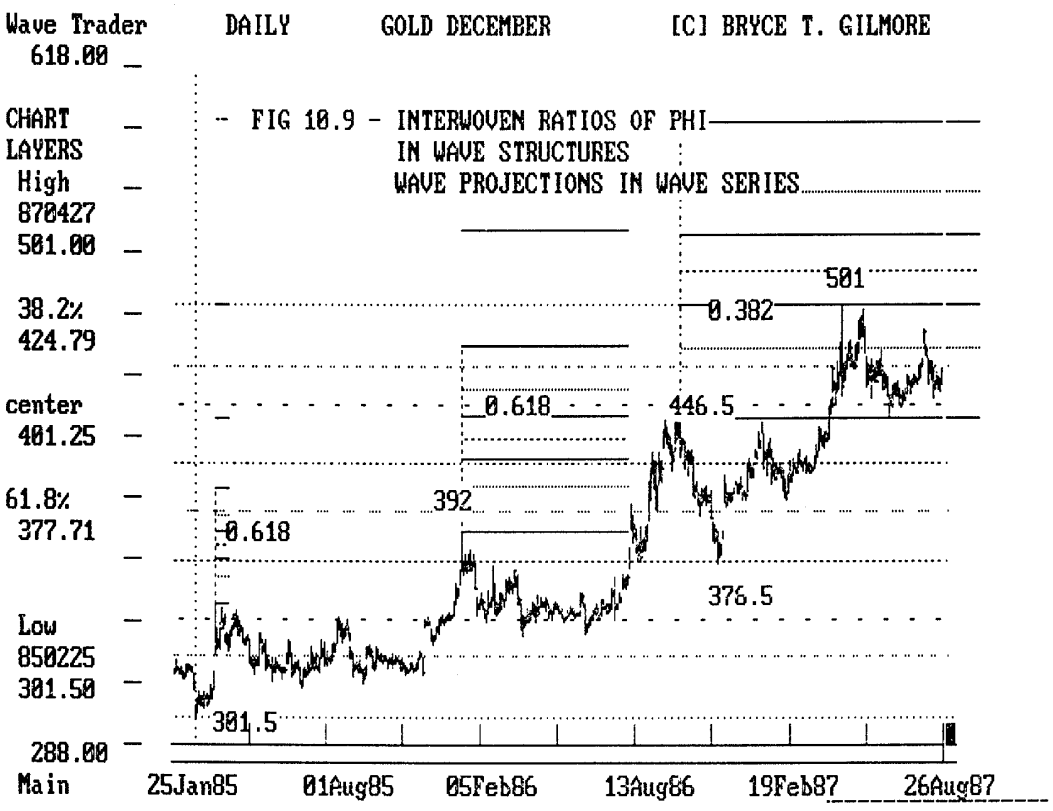


FIG 10.9 WAVE STRUCTURE $301.50 TO $447.70

This chart should reinforce the concept of price relationships in wave structures. Most of the major ratios have already been detailed, the only one I wish to point out here is the retracement from the $446.50 high back to $376.50 ($70.00). The price advance up to $446.50 from $301.50 expanded $145, as a ratio of the overall advance $70 did not appear to satisfy a satisfactory level although $70 is [$55 * 1.272 (root Phi)]. $55 as a ratio of $144 is 38.2% therefore $70 interlinks somehow. As it turned out the total ground gained from $301.50 to the low of $376.50 was $75. $75 * 1.666 equals $125, $376.50 plus $125 equals $501.50 which was near enough the high of April 27th, 1987 at $501.

FIG 10.9



61.8% EXAMPLE RETRACEMENT IN BEAR MARKETS

FIG 10.10 SILVER BEAR MARKET RALLY 1986-1987

One only needs to look at this chart to be convinced of the accuracy of these measurements. The high at 61.8% retracement fell on a time of 343 calendar days (7x7x7) from the 1986 low. There were also a number of other time elements at this high but the important aspect I wish to illustrate is the runaway market coming to a halt exactly at the 61.8% retracement level. The subsequent market action that followed may help prove that this was no fluke.

FIG 10.10

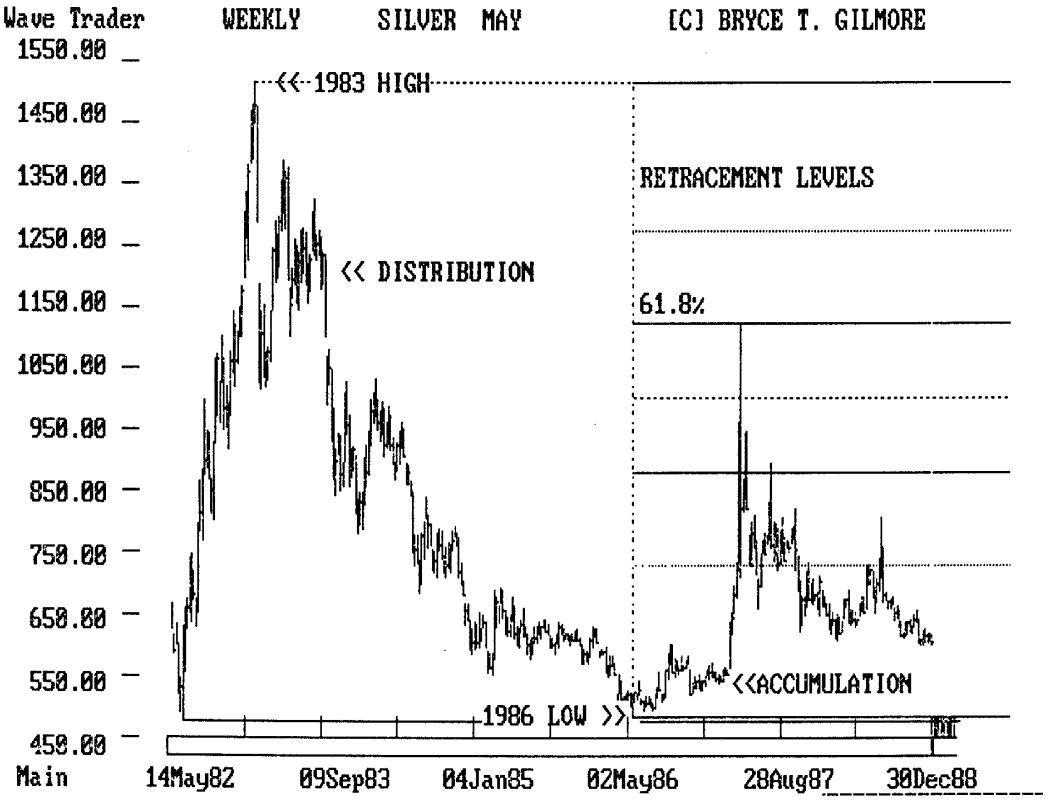


FIG 10.11 SILVER CORRECTION AFTER 1987 HIGH

This chart speaks for itself, here two successive intermediate wave turning points fell within a cent of the ratios we have been discussing throughout this chapter.

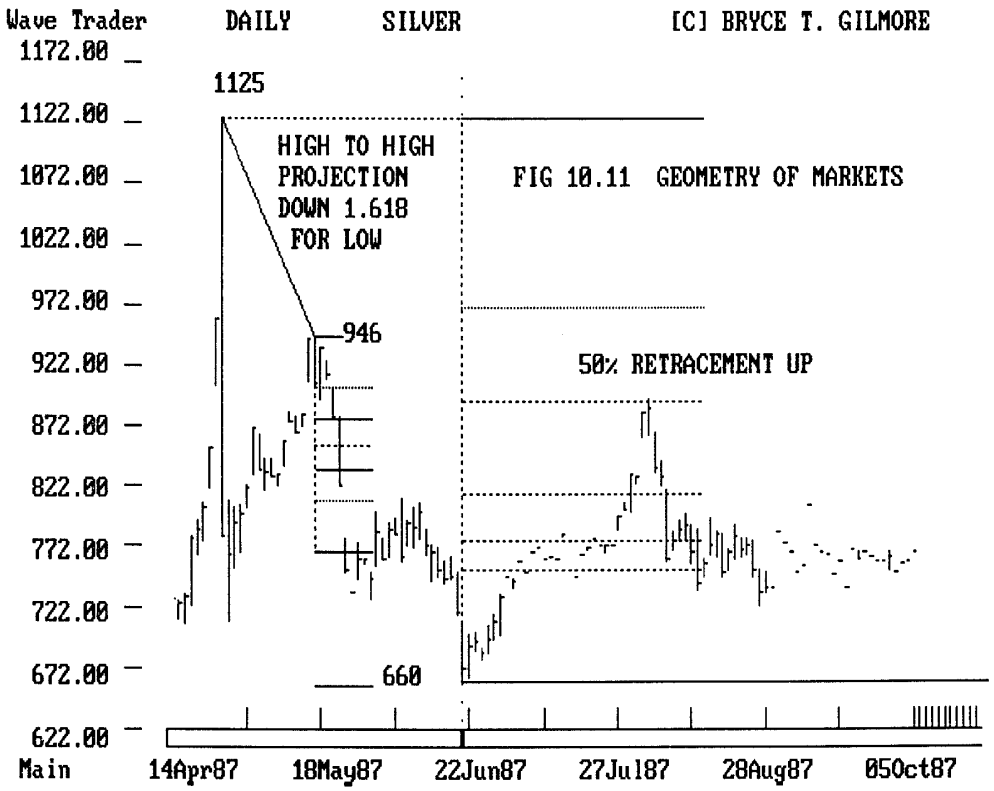


FIG 10.11

Using projections and retracements of previous ranges to gauge support and resistance levels in geometric markets is quite simple. If a market turns at these levels and an important time ratio of some other wave structure concurs, a change in the current trend should last for a while. Depending on the severity of the price and time signals and the prevailing psychological factors present at the time, an astute experienced analyst can evaluate profit making strategies.

The most important future range levels to consistently monitor are :-

RETRACEMENTS OF 33.3% 38.2%, 50%, 61.8% and 66.6%

PROJECTIONS OF 38.2% 61.8% 100% 161.8% and 261.8%

Following range retracement and projection levels

To remain abreast of important price retracement and projection levels of previous ranges one should maintain long term weekly charts and mark out the important price levels that could square price in the future.

Start with the history high to history low range.

Then the latest primary high to primary low range.

Next use the latest intermediate high to low range as this is normally the most important unless a major change of trend has occurred.

In minor waves follow the equality of waves and how they relate to the overall structure.

Watch for triangular formations as these could signal trading opportunities. Triangles generally form in fourth waves, this means one more impulse wave then a complete change in trend.

11. GEOMETRIC VIBRATION ANGLES

This chapter should clear up any misunderstandings regarding the geometric ratios used to find technical support and resistance put forward in this text to date.

VIBRATION

Vibration is the key to the universe, all matter emits a vibration. Even though we cannot see it, it is there. The human heart vibrates at around 70 beats per minute, if excited these vibrations increase, as things settle down to normal the vibration decreases, when we sleep the heart rate reduces. Each vibration fulfills a cycle and then adjusts its momentum into another phase. This phenomena continues unabated throughout our lives and follows a natural pattern. Markets vibrate up and down in the same manner, continually increasing and decreasing their vibration rate. These vibrations are a function of ever changing factors to do with supply, demand and speculator interest.

W.D. Gann used an arbitrary value of 1 to 1 to measure the vibration of price against time. This is merely a guide to the overall concept of vibration as vibration is not static in markets. Vibration of markets is a function of the players. These players fight a battle with each other and a markets vibration rate either increases or decreases depending upon the intensity of interest.

As a trend in a market progresses the vibration rate should increase until such time as the driving force exhausts itself, once this occurs a counter trend move will evolve, generally at the same vibration or intensity that led it into the situation of exhaustion. Nature adjusts to its mistakes in an unforgivable way.

DISCOVERING MARKET VIBRATION

When I first began squaring price and time I would draw my daily gold chart on a box scale of 10 cents per day. After some time it was becoming unmanageable and I had to change the scale to gain any perspective of the price movement against time. The

scales being used by Gann traders went through an upheaval after the 1980 bull market. When I asked my friend Steve Barrett how he coped with the scaling on his daily, weekly and monthly charts his answer was a little vague so I realized he was wrestling with this same problem. Each chart had its own specific problem, **WHAT WAS THE CORRECT VIBRATION RATE TO USE FOR THE 45 degree angle**? This was even more of a problem when plotting the All Ordinaries Index which now had a range of 800 points and was rising.

COMMODITY VIBRATION

Commodity vibration is the term used to describe the rate of price increase or decrease per day, week or month between two extreme points.

Some analysts I have met talk of commodity vibration numbers, by deduction I see they are talking about specific cycles observed as being regular. These are not vibrations as they are static in value.

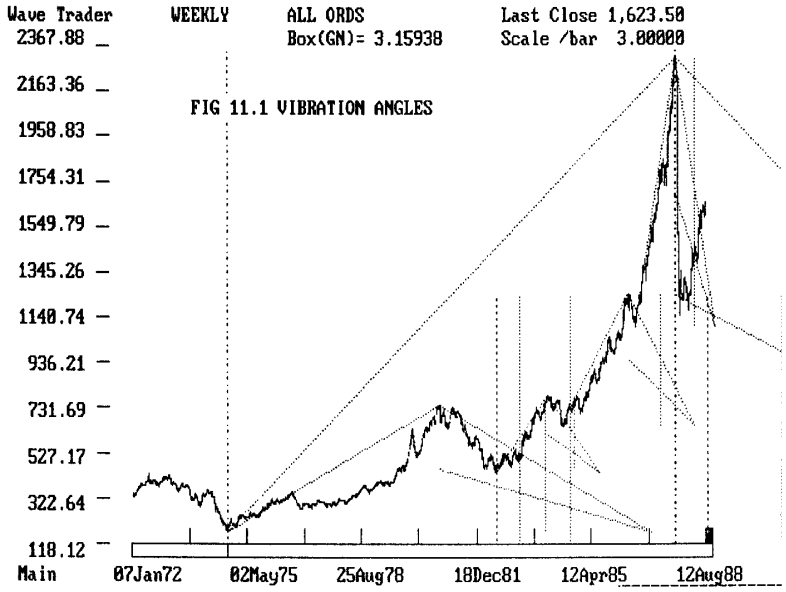


FIG 11.1 DEMONSTRATES HOW EACH NEW WAVE IN AN ADVANCING MARKET GROWS IN ITS INTENSITY OF VIBRATION.

Extreme market turning points for measuring vibration could be a history high and history low, major bull market top to the next major low, minor top to next minor low etc.,

If the vibration of a commodity was changing with each cycle then it seemed to me that I must change my 45 degree angles after each move if I wished to keep in tune with the market. This meant rescaling my charts after each major move. Taking this concept one step further meant adjusting angles to suit even the shorter term vibrations.

CALCULATING A VIBRATION RATE

Geometric vibration angles are the true reflection of previous price ranges squared to time and price.

The vibration of a price move can be calculated by dividing the points travelled in that move by the time taken to complete that move.

Example of the calculation required when a price rise of say $144 occurs in a market trend over a period of say 233 days.

144 divided by 233 equals 0.618

This means that the average vibration for the completed move was $0.618 per day.

In Fig 11.1 of the All Ordinaries Index, the vibration angle of the total move from the 1974 low to the 1987 high squared out at 3.15938 points per week, This can be read out from the Box(GN). This value holds a mathematical property often overlooked by students of geometric charting.

Root 2 (1.414) multiplied by root 5 (2.236) equals 3.162 QED

Also PI which is 3.1417 came extremely close to this vibration.

TIME OF THIS RANGE WAS 677 WEEKS - POINTS RISEN 1974-87 EQUALED 2138.9 (89 x 24 = 2136).

DISPLAYING A COMMODITY VIBRATION GEOMETRICALLY

Once the vibration of a trend is established we can then represent this vibration as the diagonal of a square, ie the vibration rate becomes the true 1x1 unit of price to time and the 45 degree angle of that square.

This 1x1 vibration angle can now be represented in degrees of the square, circle and golden rectangle as a guide to future market strength or weakness.

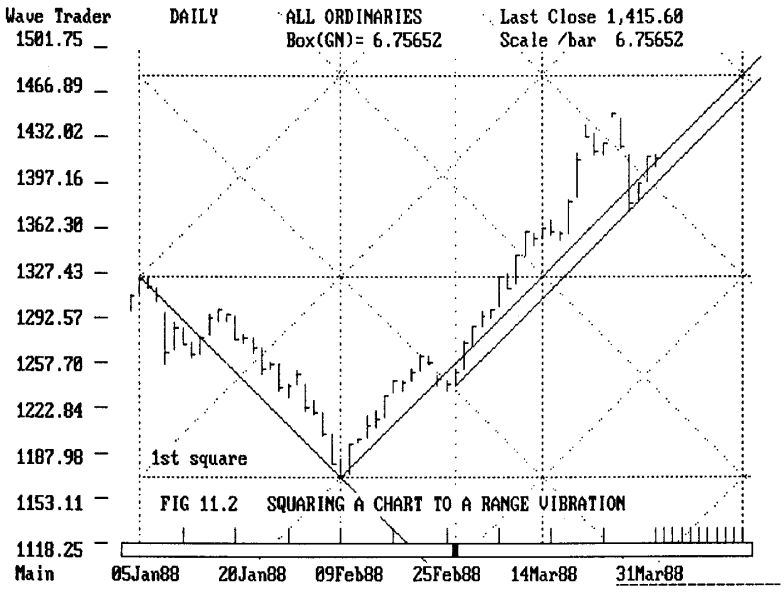


FIG 11.2 VIBRATION OF A MOVE REPRESENTED AS THE DIAGONAL OF A SQUARE

This chart is a little more descriptive of these methods. The corrective wave has been squared to price and time. The vibration of this move is read off the scale/bar at 6.75652 unit per day, hardly anything like 1 2 4 or 8 units per day that a standard geometric chart would use. This means that the 45 degree angle is vibrating at 6.75652 and that the next wave needs to remain above the 45 degree angle if it is to signal strength. At present the bullish trend is in a touch and go position as the market is trading just on the primary 1x1 angle. There is good reason for this as at the last high both time and price were overbalanced by a larger degree vibration.

If a trend is intact then the next impulse phase will increase its vibration, however, should the future vibration wain, then it will signal an end to the longer term trend in progress. This is generally a sign distribution is taking place.

1x1 vibration angles have a particular purpose for determining the future trend whilst prices remain in a counter trending move from the squared range.

The first square has the most relevance in both time and price, as prices move along they will form new important ranges that require new calculations to be made. Major market shocks will have a more enduring effect on the future as they take longer to erase from the memory.

Range vibrations should be calculated for all important market moves. These originate from the range of the history high to the history low down to the most recent minor range of significance.

An understanding of the Elliott Wave Principle is very important when it comes to selecting ranges for future vibration calculations, be they minor, intermediate, primary or cycle vibrations.

If we wish to represent a support or resistance angle of vibration that geometrically relates to both price and time of a past range in other degrees such as the golden rectangle, it is only a matter of manipulative mathematics. The 1x1 angle of the squared range is multiplied by the desired factor.

Using the same range illustrated in Fig 11.2, where the 1x1 angle was calculated at 6.7565 points per day, a quick calculation of the 1.618 vibration would be 6.7565 * 1.618 or 10.9352 points per day. Similarly a 0.618 vibration of the same 1x1 would be 6.7565 * 0.618 or 4.1755 points per day.

Strangely enough I can remember from an earlier chart presented on page 82 in chapter 8 where the vibration of the overall move from the 1986 low to the 1987 high of this same index had a similar vibration to the 0.618 angle ratio just calculated. This move lasted 293 days for a gain of 1218.3 points, a vibration of 4.158 points per day.

FIG 11.3 ILLUSTRATION OF 0.618 AND 1.618 VIBRATION ANGLES OF A RANGE

You will notice how easily one can view these angles once a chart has been presented geometrically.

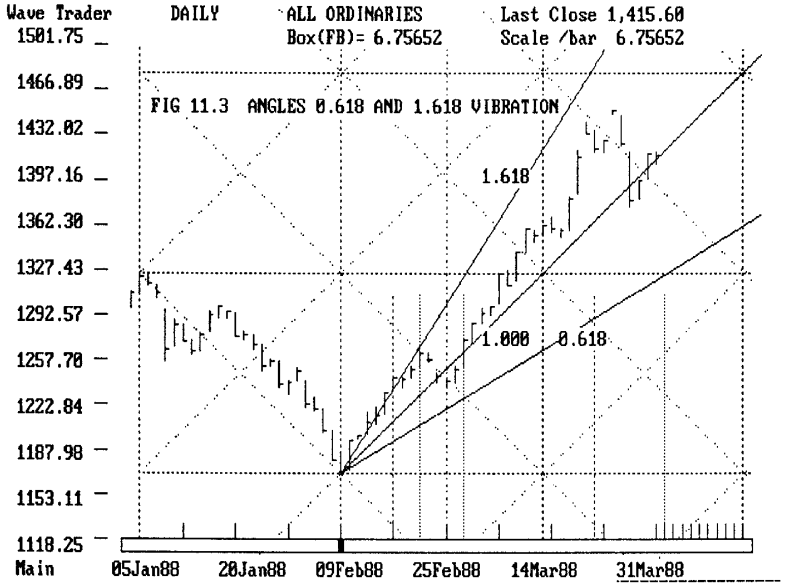
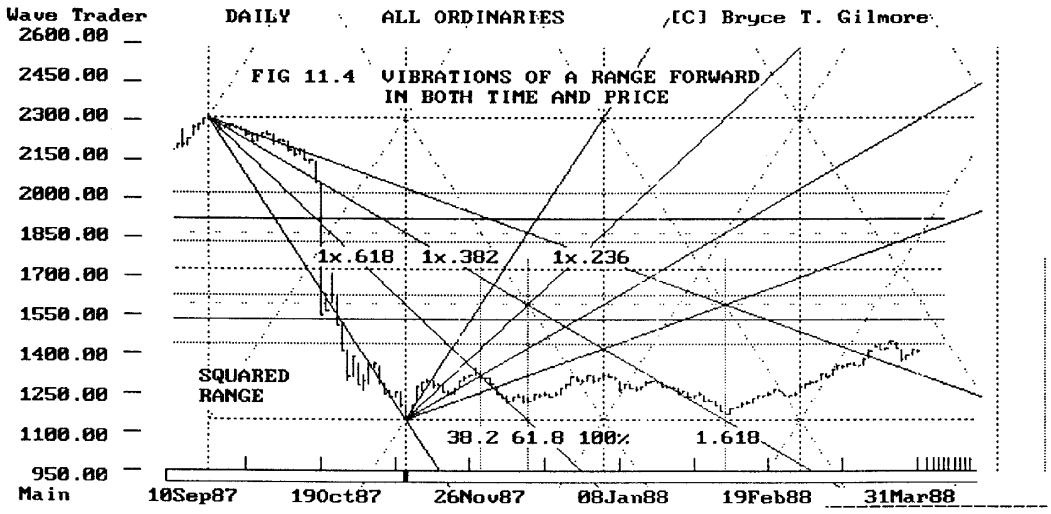


FIG 11.4 VIBRATION IN THE LARGER DEGREE



Careful observation of this chart (Fig 11.4) will explain the significance of vibration angles. Where they intersect they measure time. Markets vibrate on time and price relationships to the past. This market turned on cue at 61.8% time 100% time 161.8% time and 250% time. Look at the confusion during the first square. The last high of several days ago turned on the 25% retracement of price as well as the 250% of time vibration.

You may well be puzzled by Fig 11.4 as I did not square the chart range to the vibration value yet all of the angles have been drawn geometrically to represent their correct values. You can see that, just the same, they are all mathematically perfect. As long as one understands the underlying principle behind commodity range vibrations geometric angles can be represented on any chart time price scale.

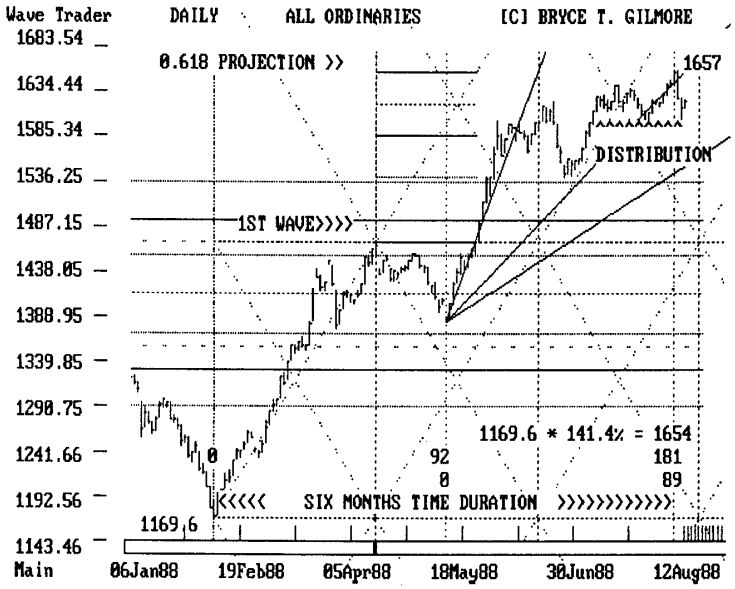
VIBRATIONS IN TRENDS

As a general rule the ratios of wave vibrations will hold a solid mathematical relationship throughout a complete trend in the market, this includes both a related bull market and bear market reaction.

Once a trend is evident one should take readings from the first advance or decline and project these forward. Then vibrations of previous waves can be projected to confirm clusters where vibrations of price and time in past waves coincide with progressive vibrations as time and price move through an unfolding geometric series of waves.

Whilst the market continues to unfold holding a pattern of past vibration tendencies we can be sure that the mass psychology of the participants is relatively unchanged and future trend will continue to advance or decline along the same relationships.

FIG 11.5 - VIBRATIONS FORWARD OF A FIRST WAVE ADVANCE



Note how vibration angles in PHI degrees projected from the first wave advance seem to fit the future unfolding wave patterns, also how the time vibrations measure the pulse of the future turning points.

This wave pattern is unfolding in a very corrective pattern as the market is struggling to maintain trend. I would think that this upward trend is very close to a completion. An orthodox evaluation of the wave structure throughout the past several weeks indicates a diagonal triangle formation unfolding, this implies that the end is in sight. Even if this market were to stage one more advance I would not remain long after viewing this formation, a collapse could occur at any time.

NOW THAT WE HAVE COVERED ALL OF THE GEOMETRIC CHARTING TECHNIQUES FOR SQUARING PRICE TO TIME WE CAN PROCEED IN THE ART OF USING THIS INFORMATION AS A GUIDE TO FUTURE FORECASTING OF MARKET TREND.

MARKETS UNFOLD IN A SYMMETRY OF MATHEMATICAL DEGREE TO THE PAST. RELATIONSHIPS BETWEEN PAST TRENDS AND FUTURE TRENDS WILL FALL INTO ONE OF THREE CATEGORIES, ARITHMETIC, GEOMETRIC OR HARMONIC VIBRATIONS. SOMETIMES MINOR MOVES ARE INTERRUPTED BY LONGER TERM VIBRATIONS, THESE VIBRATIONS COULD EMANATE FROM PREVIOUS INTERMEDIATE, PRIMARY OR CYCLE WAVES. SHOCKS ALONG THE WAY OFTEN PROVIDE NEW INGREDIENTS INTO THE OTHERWISE PERFECT SYMMETRY THAT IS PRESENTLY UNFOLDING.

Arithmetic ratios are 33.3% 50% 66.6%

Geometric ratios are 38.2% 61.8% 161.8%

Harmonic ratios are 70.7% 141.4%

As analysts we must appreciate that we are only human and can get misled into believing as others do that all will work out as we now see it. Often because we are human we have neglected to keep up our technical calculations. Failure to recognize a trading opportunity mostly lies with this shortcoming not the method.

MARKET SYMMETRY

The main difference between using range vibration angles instead of standard geometric angles on daily, weekly and monthly charts is that an **equality with time and price is always maintained between each chart of a different time series.**

Some Gann analysts will no doubt be having great success using standard geometric angles and I would not in anyway discourage the use of these angles as they hold their rightful place in the art of time and price analysis. Before I illustrate vibration angles on the Mount Isa Mines chart I have included a chart (Fig 11.6), illustrating standard geometric angles on the weekly chart just so we can see their effective use. What I wish to point out is that this chart has just had price values adjusted for an issue. The 1x1 angle at $0.025 per week would not have placed the angles in the same position relative to future time and price previous to three weeks ago.

FIG 11.6 = MOUNT ISA MINES WEEKLY WITH STANDARD GEOMETRIC ANGLES AT 2.5 CENTS PER WEEK SCALE (2x1) (1x1) (1x2).

On the face of it they appear to be working quite well as an indicator of support and resistance. The only anomaly is that this price series was just adjusted 7% in value 3 weeks ago and prior to that these angles would have been positioned quite differently on the old price series. Whereas now the 1x1 vibration of the chart major low to high is 0.04981 per week (equal to a 2x1 angle of 0.025) before it would have been (99 cents to $ 3.80 in 53 weeks [380-99/53 equals 0.0530]).

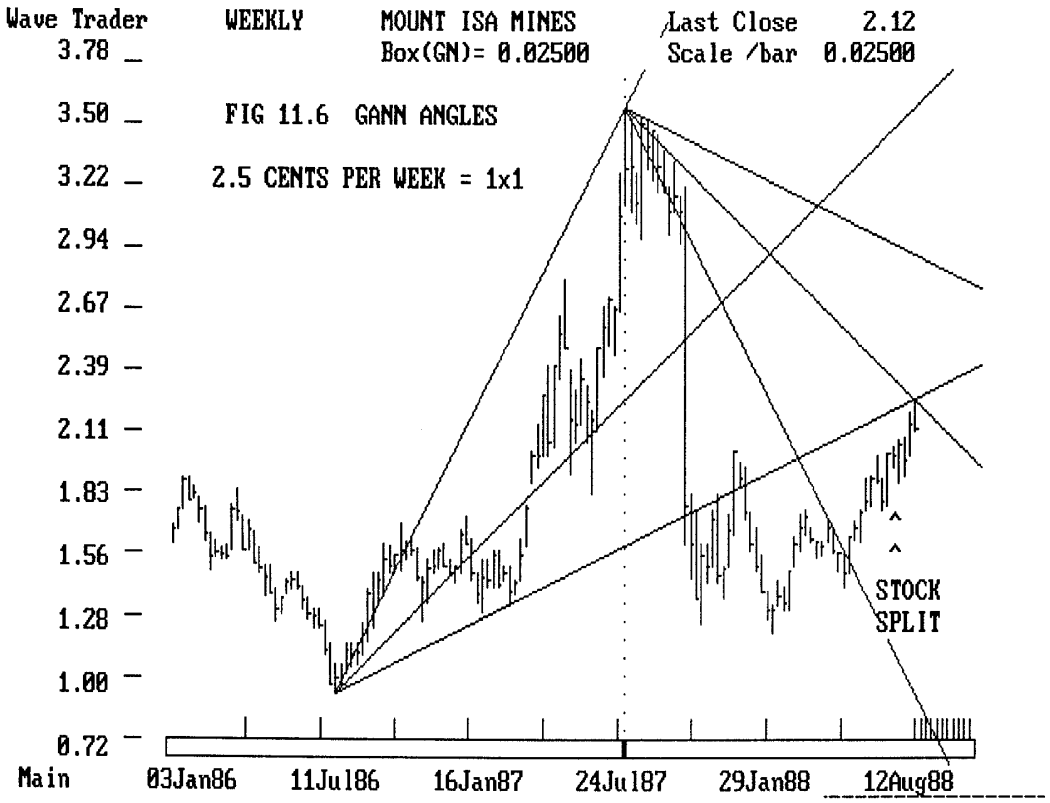


FIG 11.7 = MOUNT ISA MINES WEEKLY - VIBRATION SQUARING OF THE MAJOR RANGE.

The power of geometric analysis is now in high gear, both price and time have been squared to the vibration of the chart low / high range and projected across the ensuing price series.

A geometric relationship of price to time exists at every level from either the horizontal price, vertical time or diagonal time price angles, intersections of the inner circle with diagonal angles form some strict relationship of the circle to the square. The main levels to watch are as stated earlier, the .382, .5, .618 and 100% areas as they are directly related to both the square and the golden rectangle. As one becomes proficient using these methods the relationships of the lesser degree vibrations will tie in as confirmations of the inter- relating range vibrations of multiple waves projected across the same data.

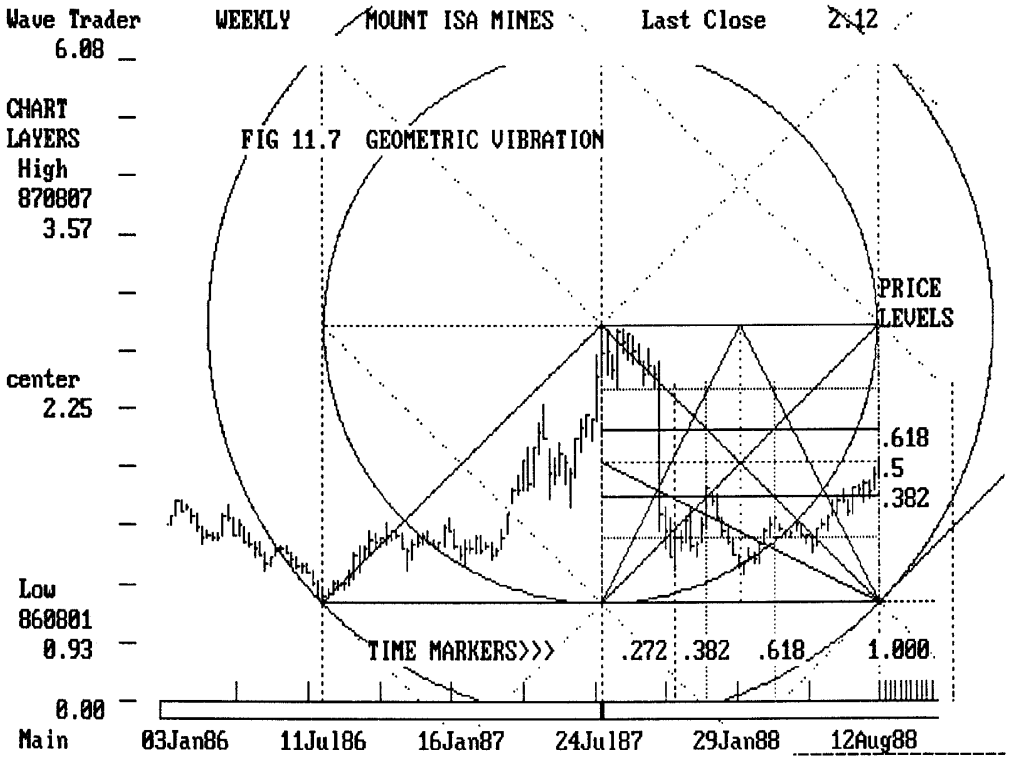


FIG 11.8 = BULL RANGE VIBRATIONS OF THE SQUARE

In this chart I have endeavored to illustrate how accurately precise angle vibrations can act as support and resistance within absolute values of the progressing price patterns. In this chart an intermediate low and high of the market fell exactly on the 50% and 100% time levels of the previous range, the high on the 100% time level squared the 50% level of the previous range in price, this is a classic squaring of price and time in Gann degree. The low made at the 50% time vibration was a 66.6% decline in value from the high of the chart which also confirmed time and price intersecting at this point. This is better illustrated in Fig 11.12

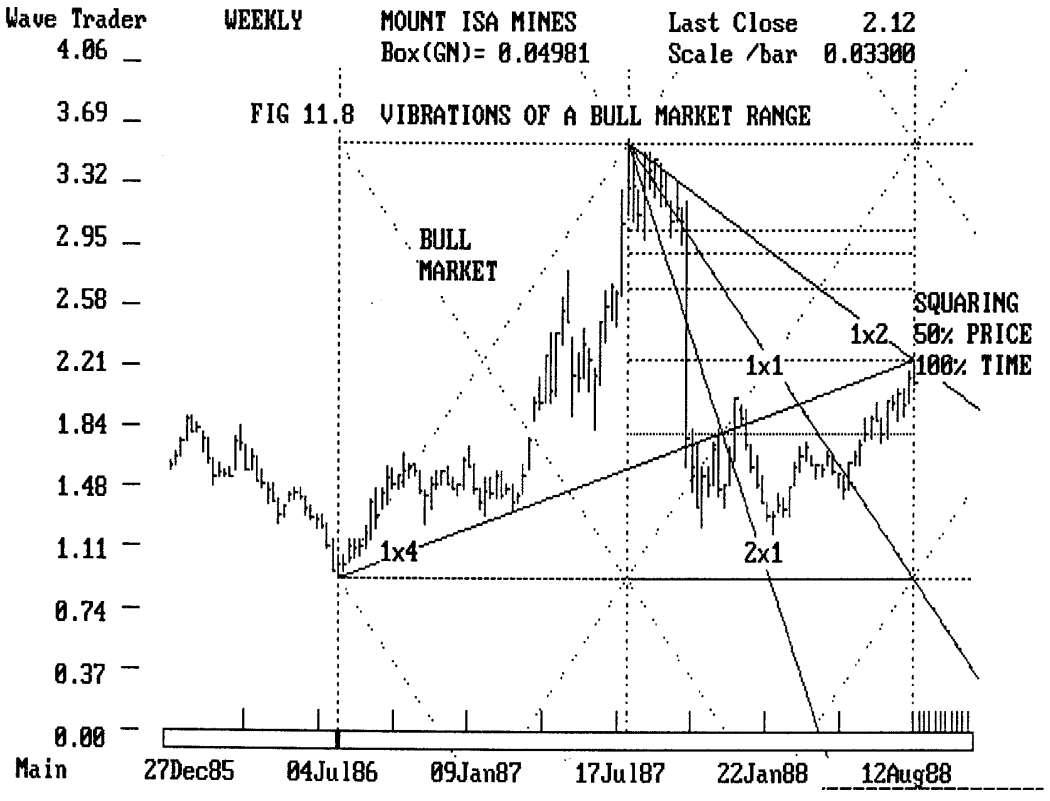
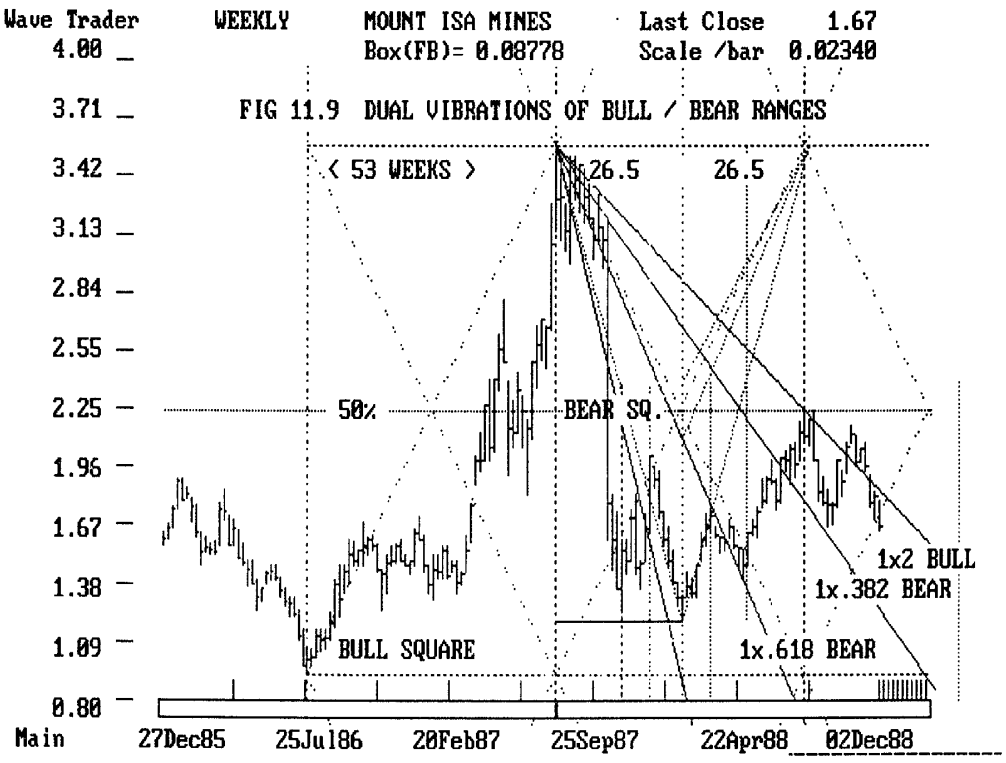


FIG 11.9 = VIBRATIONS OF BOTH THE BULL AND BEAR CYCLE FORWARD

The angles across this chart after the mid point of the square combine both the vibrations of the bull range as well as the vibrations of the bear range. The angles down from the high are in square ratios ie 50% and 100% vibration of the bull vibration and Fibonacci ratios of the bear range ie 38.2% and 61.8%, (these ratios I use when I start the angles from the beginning of the squared range). The angle up from the low is a 1x1 vibration of the bear range. The 1x1 up and the 0.618 down cross at the 0.618 time of the bull market square and intersect price at the exact reversal point. This time vibration of the bear market square is 0.236 (0.618*0.618*0.618).

The 0.382 angle down crosses the 1x1 angle up at exactly the mid point of the range of the bull square, the upper angle that squares the 100% time and 50% price intersection is the 1x2 angle of the bull market down from the high.



Just in case Fig 11.9 is a little complex to follow, the next few charts will help clear up the ratio examples presented.

FIG 11.10 TIME VIBRATIONS OF THE **BULL** MARKET RANGE

Time markers 38.2% 50% 61.8% AND 100%.

On the previous chart you can reaffirm the crossing of the 1x1 and 0.618 angles of the bear range at the 61.8% time vibration and the subsequent reversal to trend.

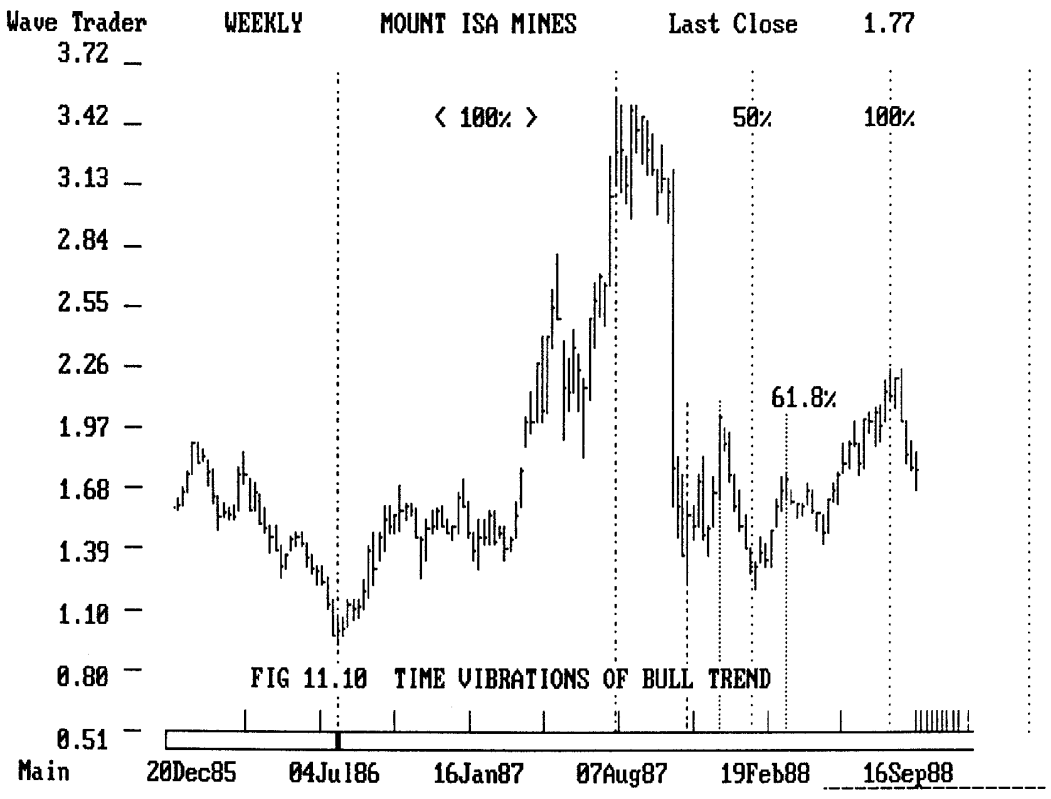


FIG 11.11 TIME VIBRATIONS OF THE **BEAR** MARKET RANGE

Time markers 38.2% 50% 61.8% AND 100%.

Each timing period marked a counter trend reaction of some degree, the 50% level being the strongest signal for the continuation of the uptrend that began on the 50% time of the bull market square.

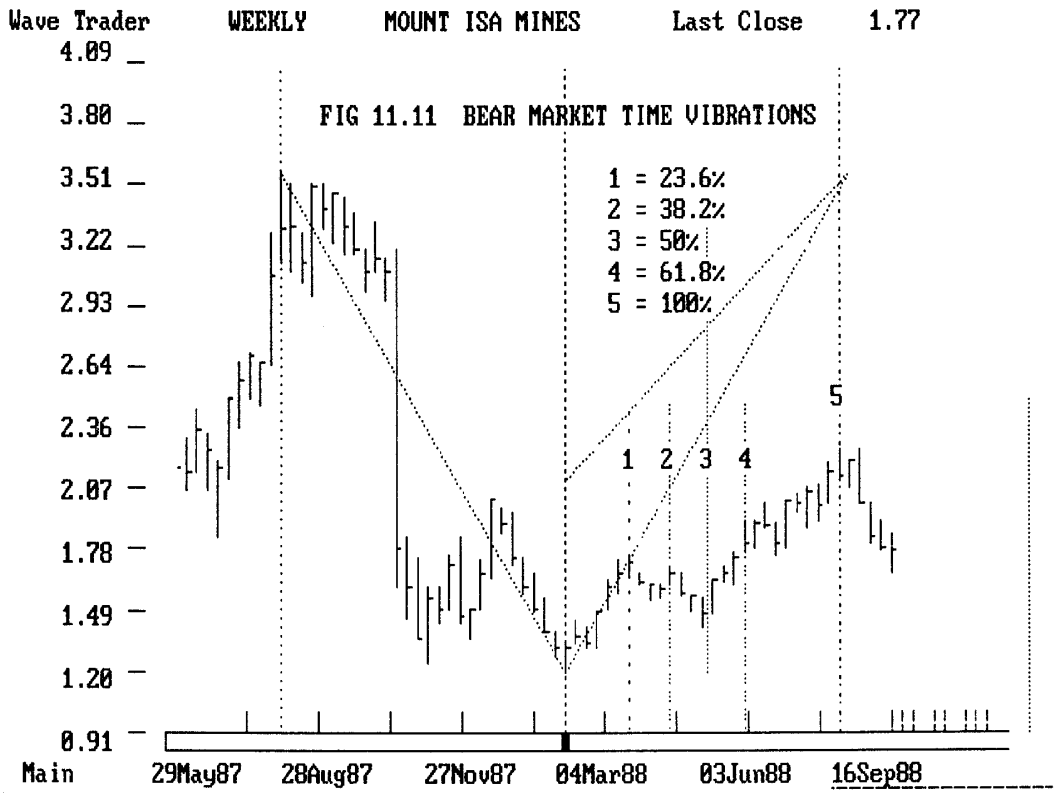
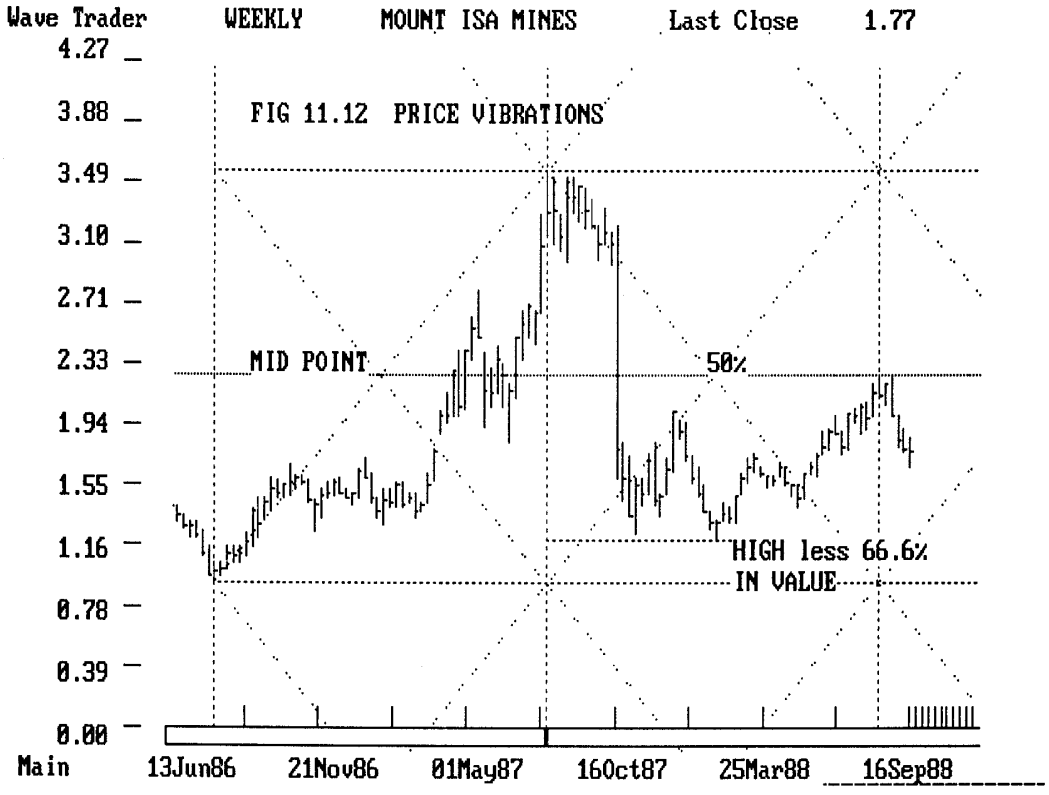


FIG 11.12 BULL MARKET SQUARE SHOWING THE PRICE RELATIONSHIP WITH THE HIGH PRICE (66.6% DISCOUNT) AT THE 50% TIME PERIOD.

Another classic squaring of price and time. This particular ratio was discussed in an earlier chapter under dynamic price supports.



To further illustrate how the vibration angles hold form from daily charts to weekly charts the next two examples show the vibrations in the bear market square.

FIG 11.13 WEEKLY BEAR MARKET SQUARE FORWARD

The angles drawn down from the high are at ratios of 0.618 and 0.382 of the bear range vibration. The angle up is the 1x1 vibration. The symmetry of this market is demonstrated by these mathematical techniques.

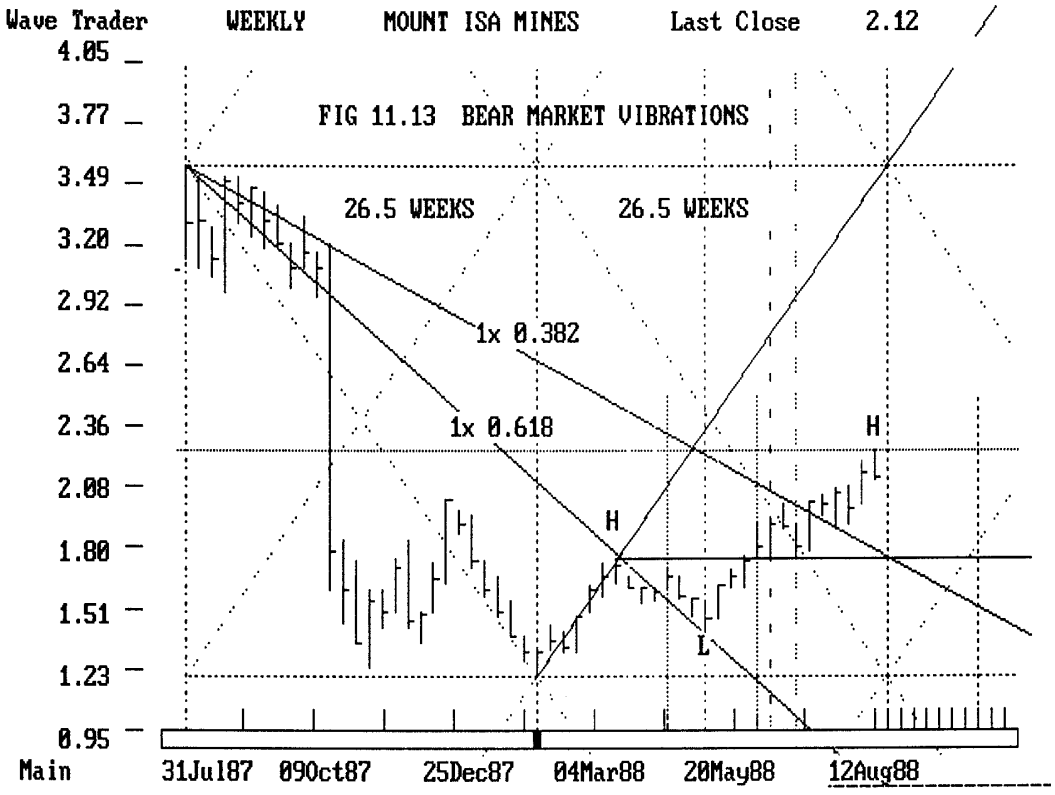


FIG 11.14 DAILY BEAR MARKET SQUARE FORWARD

The low made at the 66.6% discount to the high price fell 131 trading days from the high, this was in the 27th week forward of the high. The previous bull market range shown on the earlier charts was 259 trading days and 53 weeks. Time missed by two trading days but still fell in the right week for this low. The last high price at the end of the chart where the reversal occurred at the 50% price level of the bull market range was 256 trading days from the high and in the 53rd week, 371 calendar days forward of the high exactly 53 weeks. The bull market range was exactly 372 calendar days, the lesson here is that the major range of the bull market was overriding time of the bear market range, meaning that the greater the range the greater the future influence.

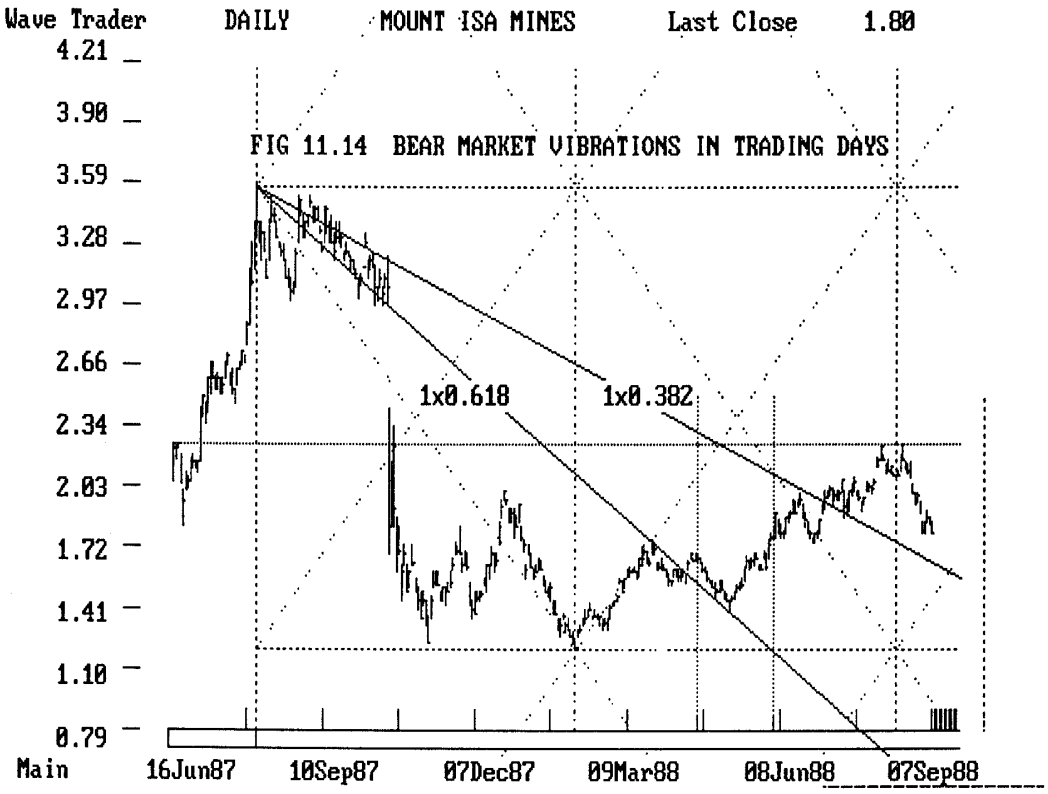
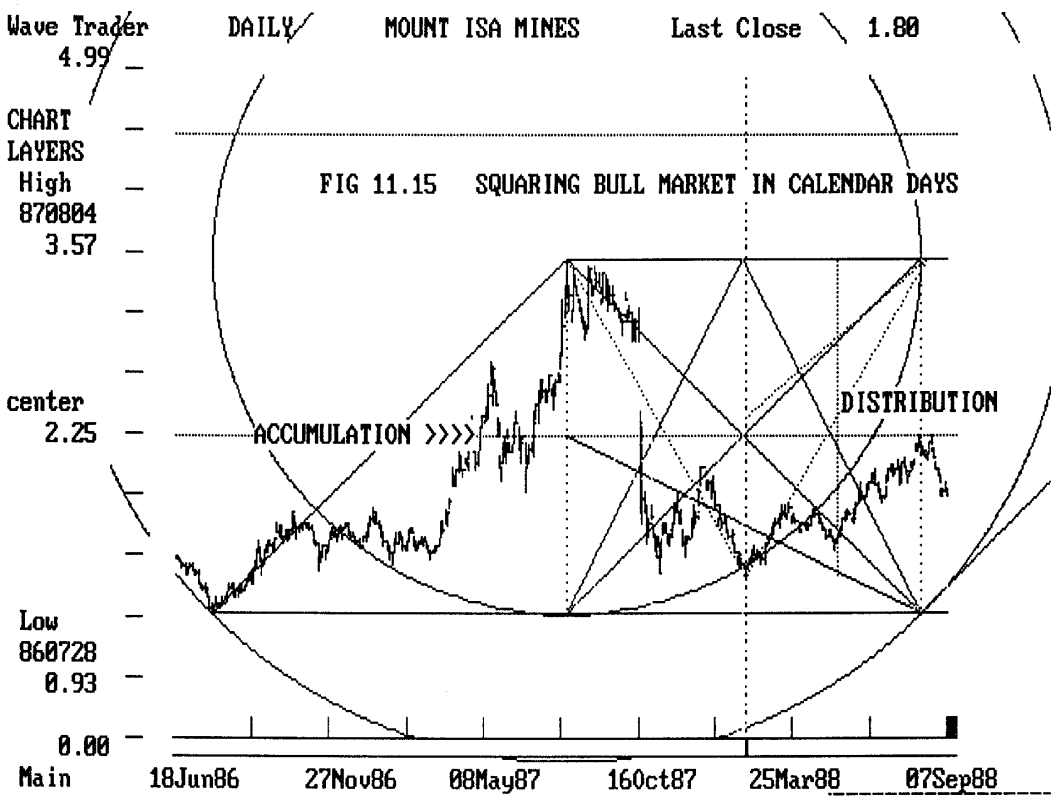


FIG 11.15 BULL MARKET RANGE SQUARED IN CALENDAR DAYS

This chart bears out how accurately these methods can track the symmetry of markets over long periods of time.

When plotting vibration angles do so by weeks, trading days and calendar days. You will find on occasions that time periods will balance out perfectly for all charts, these are the times we can be sure of our signals to the exact day. At other times when a slight variation is apparent revert to the Fibonacci and Lucas numbers as a guide to home in on the exact day. This means counting off time in days, weeks or months from previous swing highs and lows to find clusters of time around your more primary vibration signals.



Summary of important vibration ratios to monitor.

Watch the price levels reached at times when a market is squaring the time vibration of a range at 38.2% 50% 61.8% and 100%. Anytime a price vibration of 38.2% 50% 61.8% or 100% is achieved at the same time means that the symmetry is perfect and a counter trend reversal will follow.

These are exceptional areas from which to trade for fast profits. Remember there is no necessity to overtrade. An **educated trader** only needs four or five major trades per year to increase his trading account by 300% or more.

Throughout this chapter I have concentrated on the ratios 38.2%, 50%, 61.8% and 100%. These ratios, are the most common used by technical analysts familiar with these techniques. Before proceeding it would be wise to mention that 33.3% and 66.6% can be just as valid for a reversal in trend, also 70.7% half of root two.

Ratios of lesser importance are 23.6%, 25%, 27.2%, 75%, 76.4%, 85.4% and 87.5%. Vibrations of past waves of lesser current significance often fall on these ratios at the same time a major squaring occurs in 38.2%, 50%, 61.8% or 100% adding extra confirmation to the unfolding pattern.

Strongest signals for a reversal of the current trend will be when vibrations of PRIMARY WAVES, INTERMEDIATE WAVES and MINOR WAVES square in a cluster around a future date. A combination of 50% and 61.8% or 100% and 161.8% or 50% and 100% are just a few to remember.

Study and observation of a single market will, in time, alert you to the recognition and knowledge of which ratios are important.

12. EFFECTIVELY USING TIME SIGNALS FOR TRADE TIMING

Since one cannot be sure of the market volatility prior to important time signals, it pays to monitor the market sentiment as a barometer of what to expect. I see the markets as a chess game, we have valuable tools to use to plan our attack, but in the final analysis if we are foolish traders we will never make any money from our knowledge. No two traders are the same, each must have a plan that makes them comfortable. Develop particular strategies for specific market conditions; sometimes an option play can be extremely rewarding with low risk in a fast moving market, other times a move will ultimately go in your favor, yet the time taken will be too long making options worthless even when your analysis is correct. I have found several approaches are needed if one is to continually profit from the markets. Another word of advice is too only follow a limited number of markets. Keep up with the fundamental news for each market, when important news reaches the public and the chart price patterns have already reflected this news, a counter trend reaction often occurs.

There are other disciplined ways to monitor market sentiment, the methods I use are:-

1. Bullish Consensus.
2. Relative Strength Indices.
3. Elliott Wave Analysis.

It may only take a limited time period to learn the methods outlined in this book, but to trade successfully is an art and requires a professional approach.

BULLISH CONSENSUS

A bullish consensus poll is a good barometer of the mass psychological forces underlying a particular commodity or stock. Expert advisors are polled for their opinion on future market direction, overall opinion is rated between 0% and 100%. 100% readings would mean that everybody thought the market was going up, 0% readings would indicate everybody thought the market was going down. However these extremes are rare-

ly reached and 80% to 20% is the general range. The higher or lower the bullish consensus reading when a change in trend is indicated, the more volatile the ensuing move will be.

Many books have been published on bullish consensus and the power of contrary thinking. My advice is to purchase one for your library and refer to it **regularly**.

My logic, when it comes to the bullish consensus, is that if everyone is bullish then they have all bought; who else is left to buy, only the uneducated public, whose funds will soon be depleted at high prices. When the bullish consensus is very bearish everyone has sold out and selling pressure is reducing. Sooner or later prices will appear to be at bargain levels and new buyers will emerge to reverse the downward path. A study of past volume and open interest charts will confirm this observation.

RELATIVE STRENGTH INDICES

There are many different indicators that can be used under this heading, they are all mathematical calculations based on the past market ranges over specific time frames. From my experience it is only necessary to have one indicator as they all tell you the same thing, some faster or slower than others.

To reduce the conflict of opinion I use the popular indicator made famous by J. WELLES WILDER Jr. A 7 day, 10 day and 14 day RELATIVE STRENGTH INDEX can tell you all you need to know regarding the position of system traders and the strength of trend.

The detailed interpretation for this index can be found in the book "NEW CONCEPTS IN TECHNICAL TRADING SYSTEMS" by J. Welles Wilder Jr. One of the better features of this index is the way it diverges at major swing highs and lows in the market. A divergence is seen when the price rises to a new high yet the oscillator fails to make a higher reading than it did at the last peak in price.

The following chart (FIG 12.1) shows examples of the RELATIVE STRENGTH divergence readings when the ALL ORDINARIES INDEX made its all time high and the crash low in 1987.

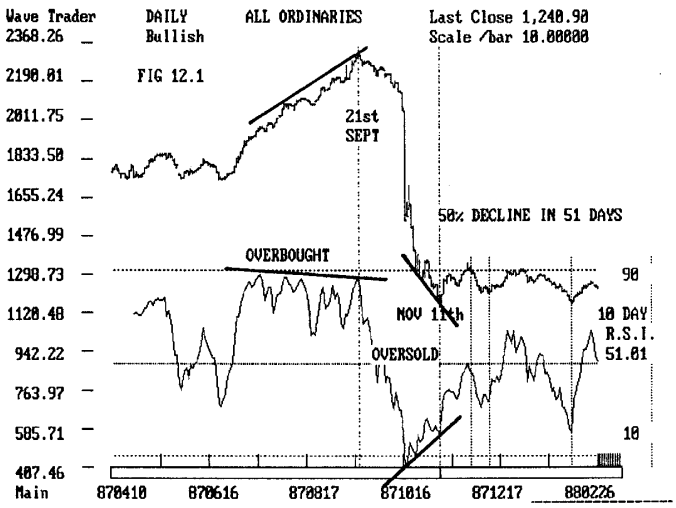


FIG 12.1

RELATIVE STRENGTH

DIVERGENCE INDICATIONS

AT MAJOR HIGHS AND LOWS

FIG 12.2 of the Japanese Yen IMM against the US$ is a good example of the confirmation offered by the divergence in RELATIVE STRENGTH at important time intervals in the market performance. The major high of December 31st, 1987 had so many time calculations for a trend reversal it was a set up. Bullish consensus was approaching 100% with many experts predicting a further 15% rise in the Yen to the dollar. A banker whom I had told several days earlier that the Yen would not break 120 to the dollar, was so impressed that he approved the purchase of my software package for his technical analyst in January 1988.

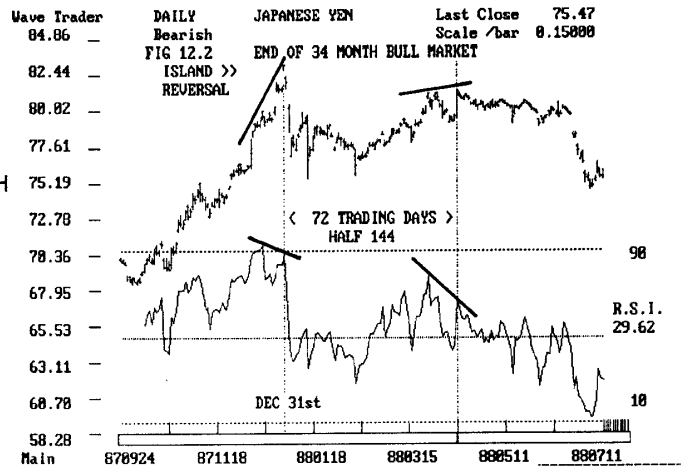


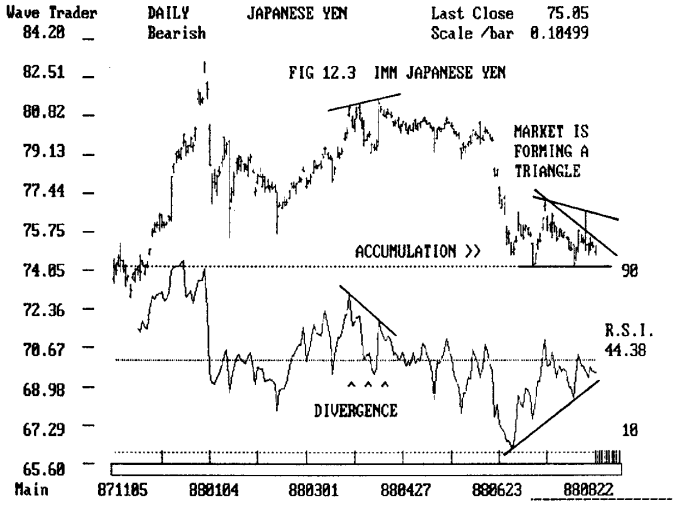
FIG 12.2

IMM JAPANESE

YEN 1ST MONTH

FUTURES.

FIG 12.3 It is now eight months from that high (IMM Japanese Yen December 1987) and right at this time the bullish consensus for the dollar is nearing 85%. The RELATIVE STRENGTH INDEX is diverging with price, several minor time periods and price squarings have arrested the downward trend, and a double bottom has been formed. All we need now is a specific time and price target to plan an entry for the reaction to this downtrend when it is signaled. Maybe there will be one more downward thrust to finish off this move from December. Only careful analysis of time and price can give us this answer.



ELLIOTT WAVE ANALYSIS

The accepted expert on this subject is Robert R. Prechter, Jr. He has published two books which are mandatory study for the student of ratio analysis.

"THE MAJOR WORKS OF R.N. ELLIOTT" Edited by Robert R. Prechter, Jr. and "ELLIOTT WAVE PRINCIPLE - Key to stock market profits" by Frost and Prechter.

Following is an outline of the important points that I have noted for my own use of the ELLIOTT wave theory.

ELLIOTT WAVE STRUCTURES

To keep track of the stages that a bull or bear market moves through, Ralph Elliott developed a lettering system for waves of varying degree.

Waves are broken down in stages from CYCLE - PRIMARY - INTERMEDIATE - MINOR - MINUTE.

The same principle applies in waves of minute degree as to waves of cycle degree. Impulse waves have a minimum 5 legs, corrections have minimum 3 legs.

A minute wave structure when completed fulfills a completed stage of a minor wave and so on. ie five minute waves will make up a minor wave one.

(i) (ii) (iii) (iv) (v) equals 1 (a) (b) (c) equals A

WAVE LABELING

CYCLE WAVES

I II III IV V

PRIMARY WAVES

[1] [2] [3] [4] [5] [A] [B] [C]

INTERMEDIATE WAVES

(1) (2) (3) (4) (5) (A) (B) (C)

MINOR WAVES

1 2 3 4 5 A B C

MINUTE WAVES

(i) (ii) (iii) (iv) (v) (a) (b) (c)

MINUETTE WAVES

i ii iii iv v a b c

ELLIOTT WAVE STRICT RULES

As a general rule markets will advance in five waves and contract in three waves.

In an upward moving market there will be three major impulse waves and two corrective waves. The impulse waves will have a minimum of five minor waves and the corrective waves will have a mini mum of three waves. Trend can be established by the direction of waves containing five wave sequences.

During corrective waves a decline in volume will signal a relief to selling pressure and possible trend reversal.

Corrective waves of a major nature in a five wave sequence will alternate. This means that a simple correction will be followed by a complex correction. A simple correction is an a b c three wave movement. A complex correction generally contains 5 movements. Complex corrections are forms of a triangular appearance on a price chart.

Triangles are far more common in fourth waves.

The third wave in a five wave sequence is usually the longest wave, but never the shortest.

Wave four in a five wave sequence should not overlap wave one except within diagonal triangles.

Wave four corrections will most often than not terminate within the area of the previous wave four of lesser degree.

Extensions can only occur in impulse waves, and are very common, this will give an impulse wave seven to a maximum of nine waves.

Impulse waves always contain five waves minimum and up to nine waves with extensions.

CORRECTIVE WAVES WILL RELATE TO IMPULSE WAVES IN BOTH TIME AMPLITUDE AND PRICE AMPLITUDE.

IMPULSE WAVES WILL RELATE TO IMPULSE WAVES IN BOTH TIME AND PRICE AMPLITUDE.

GROUND GAINED OR LOST IN MARKET ADVANCES OR CONTRACTIONS CAN BE ACCURATELY MEASURED, WAVE STRUCTURE IS A FUNCTION OF HUMAN EMOTION.

WHEN A MARKET MAKES A SIGNIFICANT HIGH, BULLISH CONSENSUS WILL BE AT A MAXIMUM.

AT IMPORTANT LOWS BEARISH CONSENUS WILL BE AT ITS VERY WORST.

ELLIOTT WAVE CHARACTERISTICS

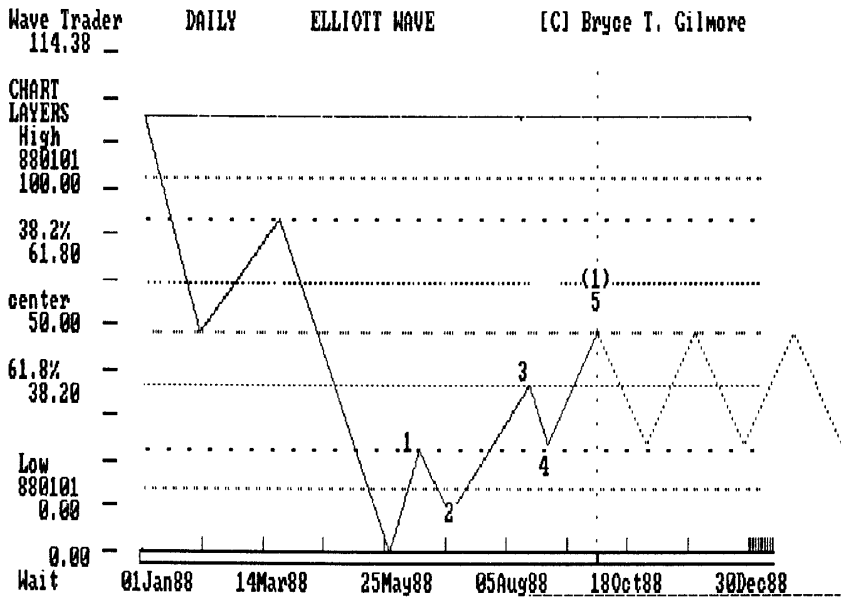
WAVE ONE OF A NEW BULL MARKET

Wave one will be either a slow basing type movement as accumulation takes place from the previous downtrend, or a dynamic thrust caused by the large number of short traders covering positions in an oversold market.

When evaluating the price level potential for a wave one advance I find it better to use percentage increases of the bear market low. By squaring the low price to 25% 33.3% 50% 66.6% et cetera, will nearly always tell one where this first wave will find resistance. The reason is quite simple, a bear market terminates because prices have reached a level that even the bears consider cheap by previous standards. The low price becomes the new standard by which future prices are measured. It really depends on how far prices were decimated in the previous bear market as to the possibility and extent of a fast recovery. Any retracement in excess of 25% of the previous bear market is generally a sign that a new bull trend is in the making.

THE BEGINNING OF WAVE ONE SHOULD COINCIDE WITH A MAJOR TIME AND PRICE SQUARING OF THE PREVIOUS BEAR MARKET.

FIG 12.4 ILLUSTRATION OF FIVE MINOR WAVES FORMING AN INTERMEDIATE WAVE.

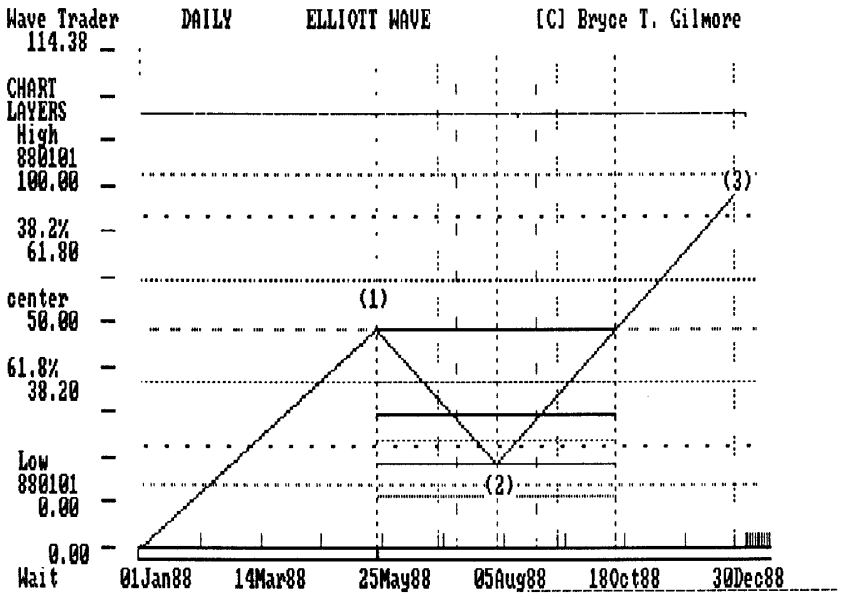


WAVE TWO OF A NEW BULL MARKET

Second waves often appear to be part of the previous bear phase as they often retrace much if not all of the first wave up. They are not inspiring moves to create the atmosphere for a new bull market. **Wave two will generally retrace 50% to 61.8% of the wave one advance.**

Wave structure in second waves is the best guide to the retracement level. A simple zig zag correction can take on the following appearance; phase (a) corrects between 25% and 38.2% of the wave one advance, phase (b) retraces 61.8% of wave (a), wave (c) for [2] terminates at the 61.8% or 100% projection level of wave (a). It will normally depend on the depth of the first (a) wave to determine if a correction of over 50% to wave one can be expected.

FIG 12.5 ILLUSTRATES WAVE (2) AS A 61.8% PRICE RETRACEMENT TO WAVE (1) IN 50% OF TIME.



A careful study of corrective wave structures is recommended because identifying wave two bottoms is one of the best ways to become rich trading leveraged markets. **Option premiums are virtually given away as a wave two terminates.**

WAVE THREE OF A NEW BULL MARKET

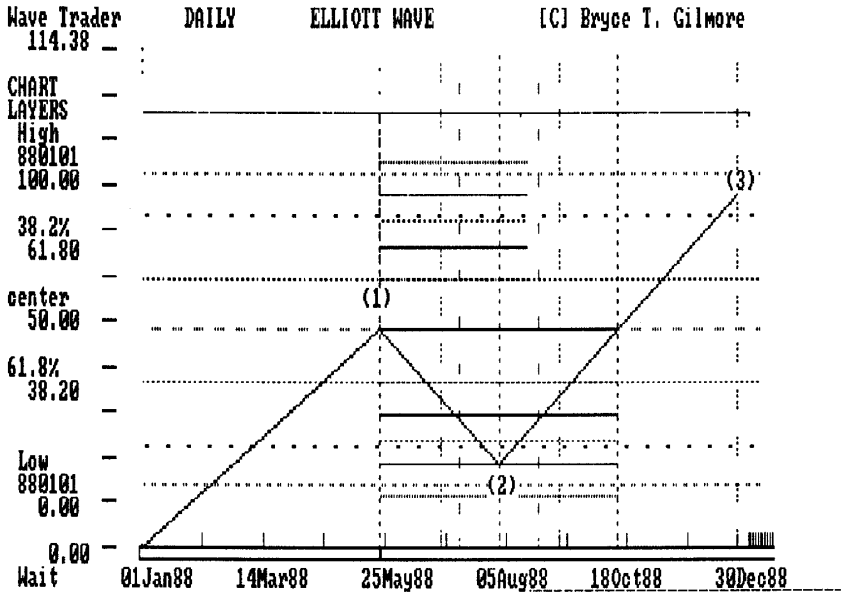
Third waves are often long and broad. The trend is unmistakable. Fundamental news is entering the market and instilling confidence in the future. As they progress market sentiment will be so high one would think there will never be an end to the current trend. Third waves are the best waves to identify and trade for the long haul. Minor corrections are often very shallow affairs as the move really gets going.

Third waves, IF SIMPLE, usually advance to the 161.8% level of the wave one advance, either measured from the wave two low or the wave one high. 61.8% advance on the wave one expansion is a minimum target.

WAVE THREE TARGETS BASED ON WAVE ONE PROJECTIONS SHOULD BE 61.8% THEN 100% THEN 161.8% THEN 200% THEN 223.6% THEN 261.8%

WAVE THREE CAN COMMONLY TERMINATE AT 100% 200% 300% SQUARES OF THE ORIGINAL LOW PRICE WHERE THE ADVANCE BEGAN.

FIG 12.6 ILLUSTRATES WAVE (3) AS A 61.8% PROJECTION OF WAVE (1).



FOURTH WAVES IN THE OLD BULL MARKET

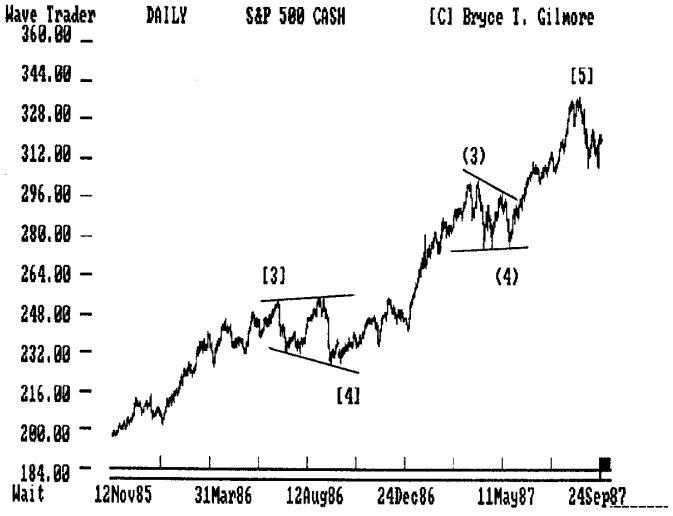
Fourth waves are predictable in as much as they see the sentiment turn from one of hope to one of despair. The bullish index will fall to the lowest readings seen for months. Soothsayers will be predicting the end of the bull market and further falls as the fourth wave terminates. Johnny come latelys to the market will be in a state of nervousness. The public have usually entered at the late stages of the third wave.

Fourth waves often take on a triangular appearance due to the fight backwards and forwards between the longer term trend and the frightened traders. When the local share market (Australian All Ordinaries Index) was distributing this year (1987) before the final advance, a head and shoulders pattern emerged as the previous intermediate fourth wave low was tested. Many chartists were tricked into believing that the top had been attained, instead the next advance gained 33% in value from the wave four low. A word of warning regards the count in a fourth wave is this, sometimes wave (1) of wave five will double bottom with the wave four low giving the appearance that it is part of the fourth wave structure, this can often leave you a wave short on your fifth wave count. This can be disastrous when you believe a market has one more upswing to complete a valid Elliott wave count. To quote a friend "Elliott wave analysis is similar to a love affair with a beautiful woman! Until something goes wrong."

Fourth waves usually retrace only 14.6% or 23.6% of the upmove of the third wave or sometimes of the total range from the bull market start. A 38.2% retracement in fourth waves of lesser degree is common.

Whenever you identify a triangular formation it is nearly always signaling a base for one more advance. This is the distribution phase catching all the latecomers. Once a fifth wave breaks above the third wave high even the traders who exited through the distribution phase are attracted back into the market.

FIG 12.7 S&P 500 INDEX - FOURTH WAVES IN PRIMARY AND INTERMEDIATE DEGREE.



FIFTH WAVES THE END OF THE BULL MARKET

Fifth waves can be either dynamic or mild. The market will be pessimistic to the future and the first wave of the fifth will be a laboured affair as the so called experts continue to sell into the advance, refusing to believe that the bull market is still intact.

Fifth waves can fail to reach the high point of the third wave, this will be signaled only if a clear five wave count can be identified.

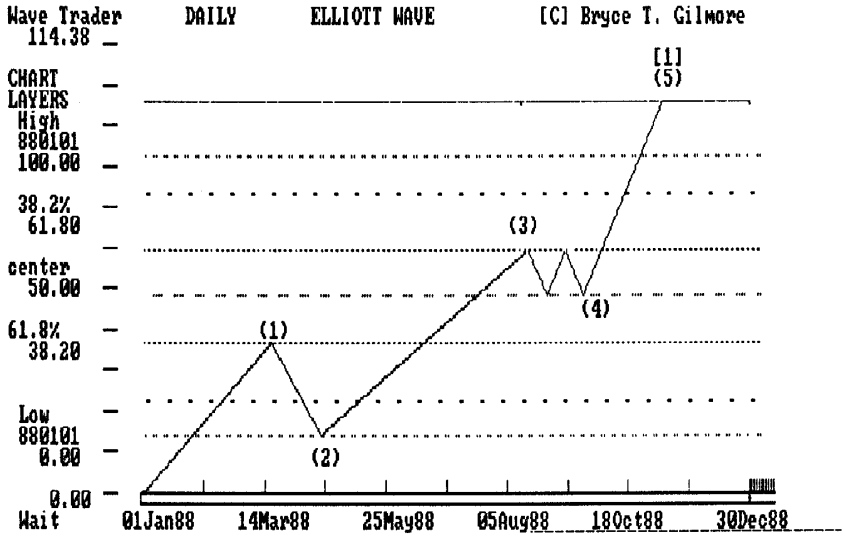
Once a fifth wave breaks above the previous third wave top the fundamentals will be changing yet the market is not listening. Human nature will be buying the market as greed becomes more apparent. No one will be predicting the top, quite the contrary, the so called experts will be advocating that the market is headed for even more ridiculous highs. The public will be fully invested and the commercials will be distributing as much as they can. The local taxi driver will have an opinion on the market due to the latest interest being created by the media. No one will listen to sensible advice when it comes to investments, brokerage houses will be recording huge profit results.

A dynamic fifth wave will expand 161.8% of the first three waves above the third wave high.

WAVE FIVE TARGETS BASED ON PROJECTIONS OF THE TOTAL ADVANCE TO WAVE THREE SHOULD BE 61.8% THEN 100% THEN 161.8% THEN 200% THEN 261.8%

THE BULLISH INDEX IS AT AN ALL TIME HIGH

FIG 12.8 POSSIBLE LAYER STRUCTURE FOR A COMPLETE BULL MARKET.



TECHNICALLY A COMBINATION OF MANY TIME AND PRICE SQUARINGS WILL BE UNMISTAKENLY APPARENT AS A BULL MARKET MEETS ITS WATERLOO.

BEAR MARKETS

WAVE A OR ONE OF THE NEW BEAR MARKET

A waves are usually viewed as corrections to an overheated market they are generally short and swift, it depends upon the volume of trading that takes place that determines the amount of panic that they create. The A wave will generally take out the bull market fourth wave low, this is the confirmation of the new bear market. At the conclusion of the A wave the regulatory authorities and the media will make all the excuses about the place for the sudden fall. Before the bear market can continue a sizeable retracement to the crash wave must be completed. As the retracement progresses it will seem to the casual observer that all is well. [FAR FROM IT]

DYNAMIC [A] WAVE TARGETS SHOULD BE A 50% DECLINE OF THE TOTAL ADVANCE OF THE BULL MARKET

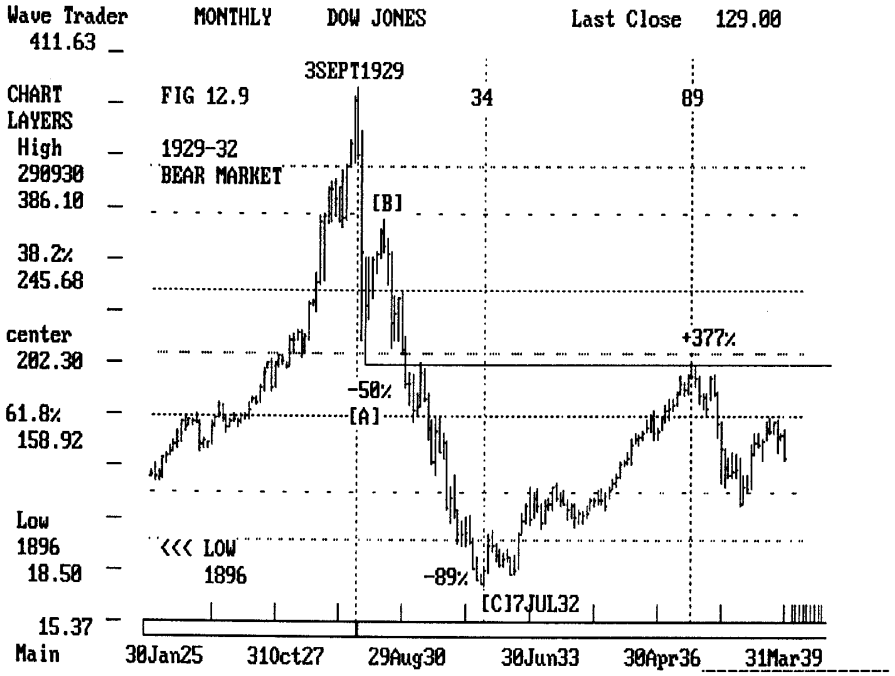


FIG 12.9 DOW JONES 1929-32 BEAR MARKET

WAVE B OR TWO OF THE NEW BEAR MARKET

This is a short covering rally and could also contain fresh buying by the traders that now consider prices are at their correct level. This is the last hurrah ! The attitude is that things have been overdone and the bargain hunters come out of the woodwork. Most major B waves often become triangular in appearance as the people caught by the fall slowly unload positions on the rallies. Sometimes as they are nearing completion the sentiment will become more bullish than it was at the top of the preceeding fifth wave.

[B] WAVE TARGETS SHOULD BE A 38.2%, 50%, 61.8%, 66.6%, and 75% RETRACEMENT OF THE [A] WAVE DECLINE.

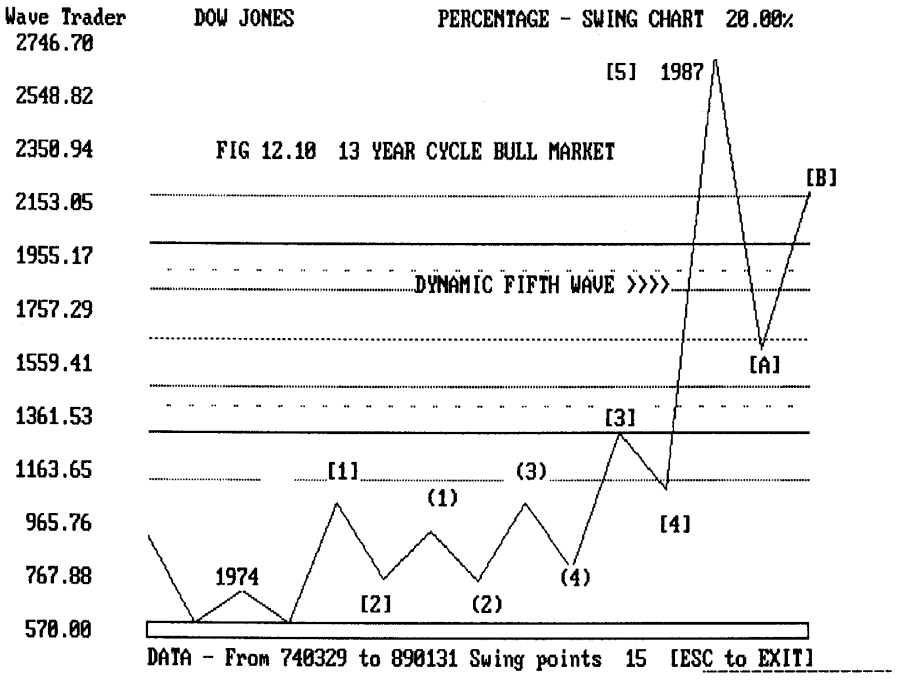


FIG 12.10 DOW JONES INDUSTRIAL AVERAGE 1974- JAN 1989

One must be careful not to presume that this market will duplicate the bear market of 1929-32. The economic conditions surrounding the two eras are totally unrelated, in fact it is possible that the coming [C] wave will fail and form a triangle for a cycle degree wave IV giving a wave V target of 3577.

WAVE C OR THREE OF THE NEW BEAR MARKET

[C] WAVES CAN BE DYNAMIC OR AS WITH [5] WAVES, FAIL TO REACH THE EXTREMES OF PREVIOUS IMPULSE WAVES. A failed [C] wave will form a triangle and indicate a new bull market of extreme strength.

DYNAMIC [C] waves start off slowly and build up as the fundamental news turns from bad to worse (similar in the reverse to third waves of a bull market). Media attention turns the sentiment around to one of despair, forced sellings accentuate the fall in prices.

Finally complete desperation takes over causing even the most stable investors to abandon positions close to the bottom. The bullish index is at an all time record low.

WAVE C CAN BE CALCULATED ONCE THE A WAVE AND THE B WAVE HAVE BEEN IDENTIFIED. THE TOTAL GROUND LOST FROM THE BEGINING TO THE B WAVE TOP WILL END UP BEING 25% 33.3% 38.2% 50% 61.8% OR 66.6% OF THE TOTAL GROUND LOST TO THE TERMINATION OF THE BEAR MARKET.

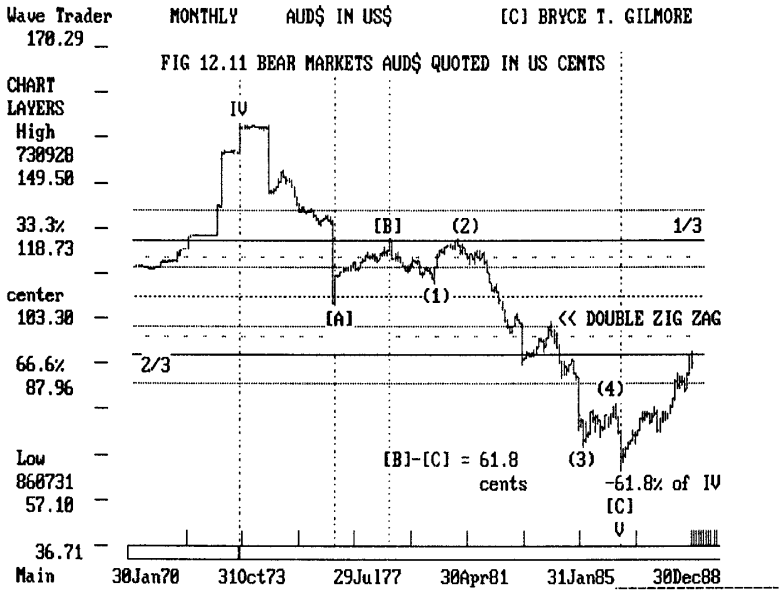


FIG 12.11 AUSTRALIAN DOLLAR valued in US cents per $ 1974-1988

Wave [B]-[C] = 66.6% of total bear market. From 1974 high to the 1986 low was a decline in value of 61.8%. Wave [B]-[C] was exactly 61.8 US cents.

ADVANCED ANALYSIS PROCEDURES

If possible keep a yearly or quarterly price chart of each stock or commodity for as long back as it is possible to gather data.

Maintain a monthly price history for a minimum of 20 years, longer if possible.

Maintain a weekly price history for the past 10 years.

Maintain geometric daily price histories for as far back as data is available.

Establish ELLIOTT WAVE counts on all charts and determine the state of each stock or commodity on a long term cycle basis, a primary wave term basis, an intermediate term basis and a minor wave basis.

Analyze the probabilities of future moves based on the past. Always consider an alternative wave count, your expectations could bias your opportunity to profit.

Follow The Mathematical Relationships Of Past Markets For A Guide To The Future.

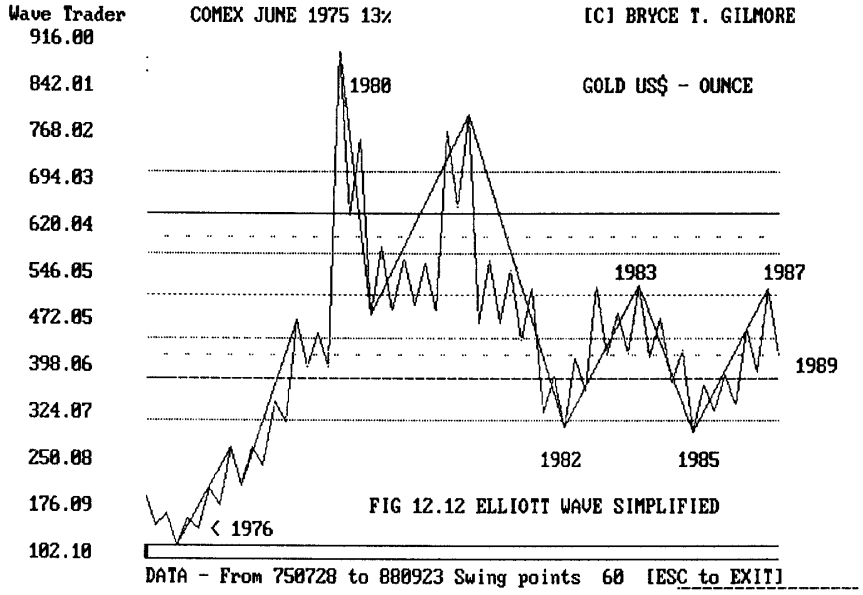


FIG 12.12 SWING CHART SHOWING ELLIOTT WAVE FORMATIONS

USEFULNESS OF ELLIOTT WAVE

Elliott wave analysis is an extraordinary tool when used in the manner discovered by Ralph Elliott in the early thirties. On the other hand, if you believe that each wave will fall into the same pattern as the theory you will become horribly disillusioned with the whole concept.

The Elliott wave theory was formulated around the Dow Jones Industrial Averages, primarily Elliott intended its use in determining price levels of support and resistance in the stock market. The stock market is an ever growing monster of capitalization and as such will continue to advance as long as the civilization behind that market is intact. This is not the case with commodities as they are expendable and prices rise and fall during periods of over and under supply. Substitutes become more viable at times of high prices and this in turn keeps the lid on further advances. Wave structures in commodities unfold obeying the basic tenets of time and price, but more often than not, many Elliott wave rules have to be broken if one is to apply a long term wave count over more than 10 years. Another characteristic common to commodities is that they move in the more complex wave structures outlined in the theory.

The best guide to a wave count on commodities is the mass psychology readings taken at extreme turning points in trend, if you label your waves accordingly you will have a better chance at forecasting the future direction of that market.

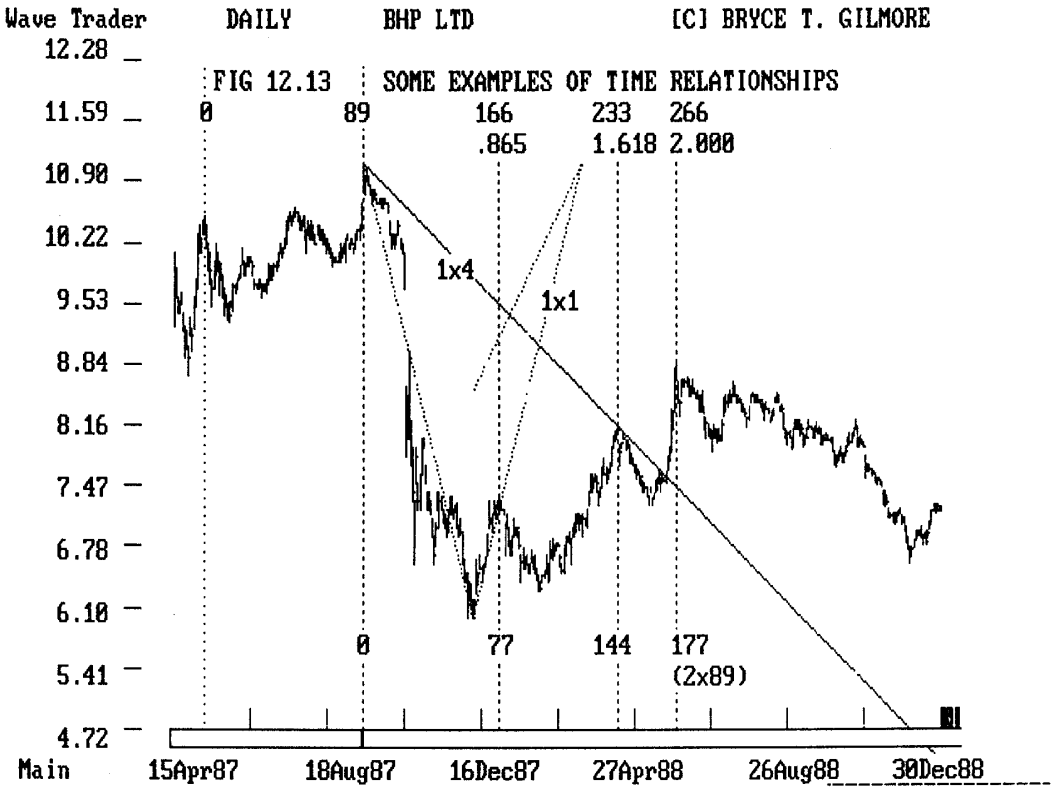
FIRST PINPOINT TIME VIBRATIONS IN MARKETS

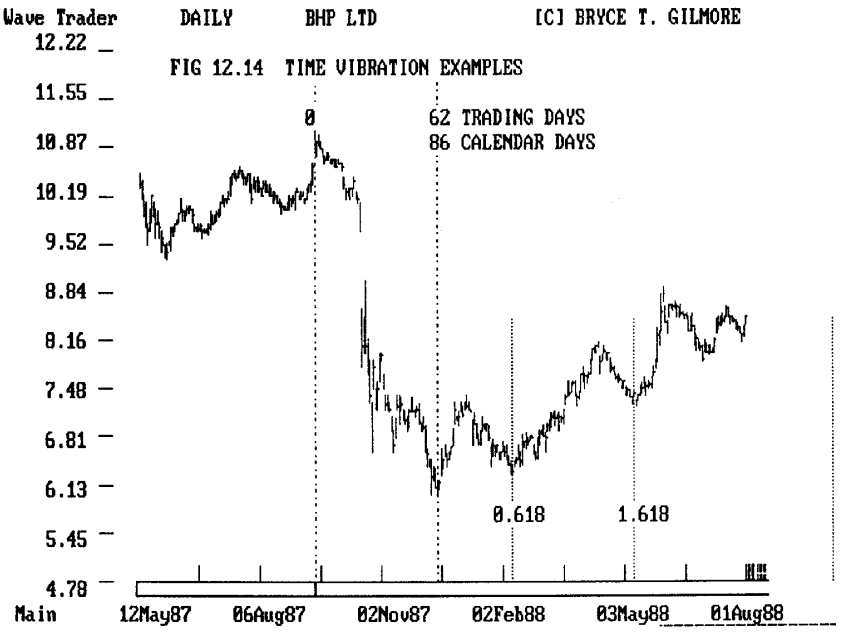
Before ever making a trade you must evaluate the prospects of a timing signal that is strong enough, based on your knowledge of market timing, to signal a reaction to the current trend. Once all the fundamentals are known the technicals will obey natural law.

Once these future areas of time are calculated and they interrelate with other vibrations of time we can evaluate the prospects for a successful trade.

If you accept that all minor, intermediate and primary swing highs or lows are related in time in relationships of the square, circle or golden rectangle, your discipline will never be questioned.

The following six charts show how the Australian stock BHP LTD made highs and lows in perfect time relationships to past cycles. Study each chart and see if you can piece the structure of this market together. It is important that you understand the mathematics that go into calculating the vibrations if you are to excel in this method of analysis. Many students may find that they have a mental block due to lack of mathematical knowledge, this is not a problem if you just admit to yourself that you can learn, some will take longer than others. It is not any impossible task if you are dedicated and patient. Once you have mastered this area of understanding your whole appreciation of markets will take on a calm approach to the future. You will never be afraid of the markets when it comes to making a trade. Always remember that TECHNICAL ANALYSIS is a SCIENCE, profitable TRADING is an ART.




Wave Trader
DAILY
BHP LTD
[C] BRYCE T. GILMORE
FIG 12.14 TIME VIBRATION EXAMPLES
0
62 TRADING DAYS
86 CALENDAR DAYS
0.618
1.618
12.22
11.55
10.87
10.19
9.52
8.84
8.16
7.48
6.81
6.13
5.45
4.78
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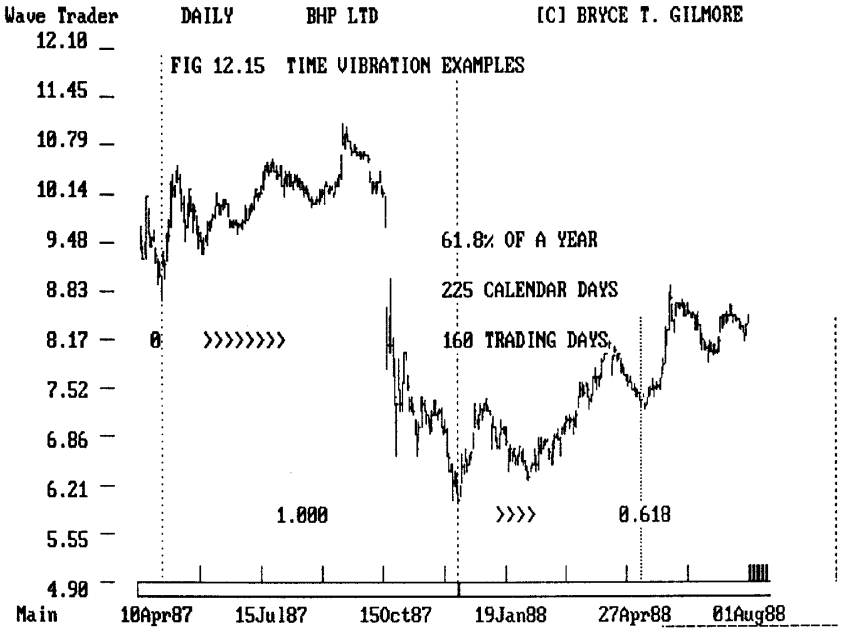
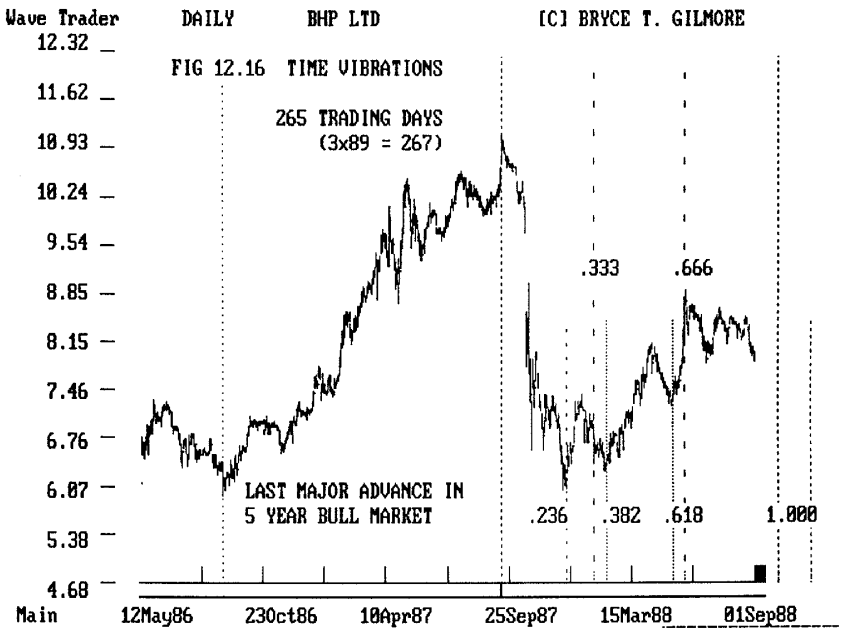
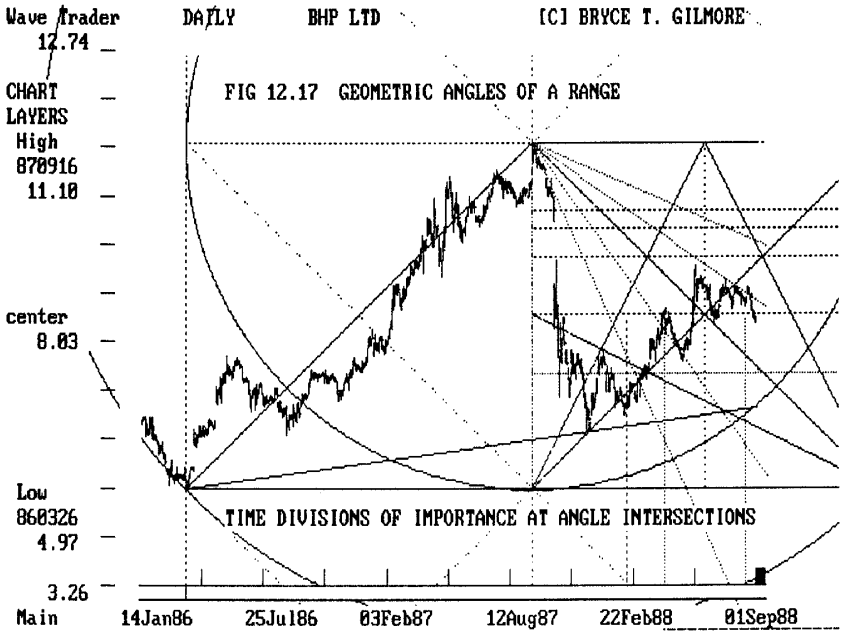
02Nov87
02Feb88
03May88
01Aug88


Wave Trader
DAILY
BHP LTD
[C] BRYCE T. GILMORE
FIG 12.15 TIME VIBRATION EXAMPLES
61.8% OF A YEAR
225 CALENDAR DAYS
160 TRADING DAYS
0
1.000
0.618
12.10
11.45
10.79
10.14
9.48
8.83
8.17
7.52
6.86
6.21
5.55
4.90
Main
10Apr87
15Jul87
15Oct87
19Jan88
27Apr88
01Aug88


Wave Trader
DAILY
BHP LTD
[C] BRYCE T. GILMORE
12.32
FIG 12.16 TIME VIBRATIONS
11.62
265 TRADING DAYS
(3x89 = 267)
10.93
10.24
9.54
.333
.666
8.85
8.15
7.46
6.76
6.07
LAST MAJOR ADVANCE IN
5 YEAR BULL MARKET
.236
.382
.618
1.000
5.38
4.68
Main
12May86
23Oct86
10Apr87
25Sep87
15Mar88
01Sep88


Wave Trader
DAILY
BHP LTD
[C] BRYCE T. GILMORE
12.74
CHART
LAYERS
High
870916
11.10
FIG 12.17 GEOMETRIC ANGLES OF A RANGE
center
8.03
Low
860326
4.97
TIME DIVISIONS OF IMPORTANCE AT ANGLE INTERSECTIONS
3.26
Main
14Jan86
25Jul86
03Feb87
12Aug87
22Feb88
01Sep88

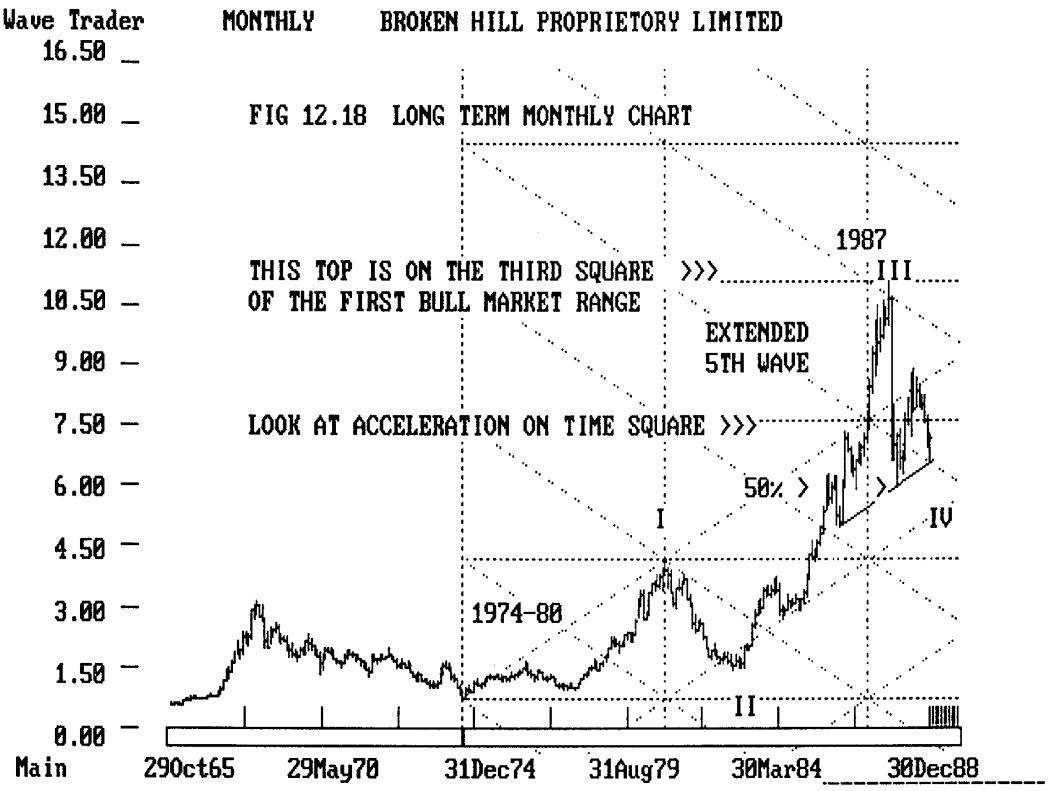


FIG 12.18 BROKEN HILL PROPRIETORY LIMITED - see chapter 14 for more detail.

1974-1980 BULL MARKET, 1980-1982 BEAR MARKET, 1982-1987 BULL MARKET, 1987-1988 BEAR MARKET. 1989-1990 BULL or BEAR MARKET ???? (I favor BULL).

AT THIS TIME THE CRASH LOW OF 1987 APPEARS TO BE EITHER A PRIMARY WAVE [A] OR A CYCLE WAVE IV. IF THE CRASH LOW IS AN [A] THEN WE HAVE JUST EXPERIENCED A FAILED [C] WAVE FOR CYCLE IV AT $6.60. (100% SQUARE = $13.20)

A 2.618 PROJECTION OF THE 1974-80 BULL MARKET GIVES A FUTURE TARGET OF $13.20

VITAL STATISTICS = 1974-1980 BULL MARKET = 73.8 MONTHS(6yrs1.8mths) RANGE $3.45

IF A CYCLE V WAVE IS FORMING - DATES FOR TERMINATION ARE AUG 89(1.414) OF WAVE I or NOV 1990 (10 YEARS AND 1.618 WAVE I). 1991 LOOKS LIKE A DISASTER YEAR.

13. RECORDING STOCK OR COMMODITY PRICE HISTORY

Charts are prepared from past records of stock and commodity price history, if we wish to correctly analyze a chart then it is imperative that our data base is correct.

COMMODITY PRICE HISTORIES

There are numerous ways to plot commodity prices correctly.

1. **CASH PRICES**
2. **1st MONTH FUTURES continuous**
3. **SEASONAL DELIVERY MONTH continuous**

W.D. Gann discovered that seasonal commodities maintain geometric relationships with the past when plotted on a continuous basis. For instance you will have seen examples earlier in this book for the NYCSE SUGAR MARCH delivery or the COMEX GOLD DECEMBER delivery, each of these charts were constructed using only prices from their respective contract months.

To maintain a seasonal history for a particular contract delivery month we must gather the price history for that contract on the active delivery month. This means that for 12 months out from delivery we are geometrically relating forward price. On long-term charts we are relating previous years of continuous price history for a particular delivery month.

To correctly maintain a COMEX GOLD DECEMBER chart requires data only from the December delivery, ie. we start the chart when the exchange first began trading the

December contract, this was in early 1975. At the end of December 1975 when that contract expired we continue with prices from the December 1976 contract, when that expires we plot December 1977 and so on until our chart is up to date.

CHARTS CONSTRUCTED IN THIS STYLE ARE TERMED **GEOMETRIC** CHARTS, commonly referred to in the industry as **Gann style charts.**

With commodities, forward prices can run at a premium or discount to the cash price, this will mean that a geometric chart could have its important highs or lows on different dates to the cash market. When working with a particular commodity it is important to keep at a minimum two geometric charts, for instance with Gold I keep both DECEMBER and JUNE continuous. The best idea is to keep two contract delivery months 180 degrees apart (six months), this way you will always have a reasonably active market to trade. When it comes to trading signals work only from your geometric chart. Other price series such as CASH or 1st MONTH FUTURES can be used to confirm ones opinion derived from the geometric data.

Do not mix data from two exchanges or different locations, if you wish to stick strictly to these rules.

If a contract specification is ever changed then all previous prices will need to be adjusted to remain geometric. This seldom occurs these days but the case I had in mind was COCOA, originally prices were quoted in cents per pound, currently prices are quoted in dollars per tonne.

STOCK PRICE HISTORIES

The geometric relationship for particular stock prices is their ratio of value to market capitalization. For instance on inception a company could issue 10 million shares at $1.00, for a capitalization of $10,000,000. Whilst these shares are trading above or below the original $1.00 they are registering the perception of that companies value in relationship to the $10,000,000 capitalization.

When an issue changes a companies capitalization, past share price data must be adjusted to maintain the true geometric relationship of past price to future price.

Companies can change their market capitalization by issuing bonus shares to shareholders in several ways.

Shares can be issued at no charge, for example as a 1 for 4 bonus. This will mean that in future we will now have 5 shares for every 4 that existed in the past. All prices prior to the issue will have to be adjusted by 20%. If a share was trading at $1.00 prior to a 1 for 4 bonus issue that price when adjusted would equate to 80 cents.

To explain this further so there is no confusion, 4 shares at $1.00 equal $4.00, now 5 shares equal $4.00 since each shareholder has been given 1 extra share for every 4 previously held. $4.00 divided by 5 equals 80 cents.

Another way a company can raise extra capital is to have an issue at a price. Generally they strike the issue price below the market value of the existing shares. A form of issue could be 1 for 4 at 50 cents, when a share is trading at $1.00. This means that 4 shares are worth $4.00 at the moment and after the issue, 5 shares are worth $4.50, slightly more complicated.

The correct procedure is to calculate the BONUS content implied by the issue.

Before issue 4 shares at $1.00 equals $4.00 or $1.00 per share.

After issue 5 shares now equal $4.50 or 90 cents per share.

Bonus content is $1.00 divided by 90 cents equals a 1 to 1.1111 stock split with the past.

Past prices must be adjusted accordingly, this means that for every old 10,000 shares we adjust their value as if there were 11,111. **A reduction of 11.11% per share.**

PRICE IN TIME FROM PAST SHARE PRICE

I have found that if a stock has split regularly, as happens on the Australian share market then it is not such a good idea to place any faith in converting static price values to time. All other methods of analysis are valid as the percentage relationships between past and future price maintain strict geometric relationships. Best results in any analysis are achieved through the use of range vibration techniques in any case.

CORRECT DATA MEANS ACCURATE ANALYSIS

Before embarking on a career of speculation using the methods outlined in this text be sure that you have your facts straight. Double and triple check your data base for accuracy, correct price history and no days missing. **A workman is only as good as his tools.**

14. STEPS REQUIRED FOR COMPREHENSIVE TIME & PRICE ANALYSIS

The first section of this chapter uses Australia's number one company BHP LTD to demonstrate the steps I would take to create a base for future analysis.

Before we can undertake any analysis we need to procure long-term monthly price history for at least 20 years, longer if the information is available. In this case we will be making a study of a stock that has had many share splits and bonus issues throughout its history so it is imperative that the data be free of any errors. If you do not have accurate data then it is impossible to implement time and price analysis with reliability. Do not take someone else's word that new data is correct until you have checked its accuracy yourself, this may involve some research but I have learnt through bitter experience that this must be done.

STEP 1. RECORD ALL IMPORTANT HIGHS AND LOWS

The first thing we need to do is record all cycle and primary waves high and low turning points, actual traded price, current adjusted price and the date of each swing point. As we approach current times we can record intermediate and minor wave swing highs and lows of importance.

A major swing high or low market day is the day that the psychological imbalance between buyers and sellers reached its zenith. The price recorded is a measure of buyer support or resistance that is extremely important for the future, examples throughout this text attest to this fact. The time period between each swing of cycle and primary degree is even more important for our future calculations.

Creating a history **fact file** can be done quickly if you have the tools, run a percentage change swing chart on your daily data. You could use monthly data, but this will require extra work in locating the exact date the market made its high or low. Primary waves and cycle waves should be generated on swings greater than 15%.

BHP LTD - RECENT HISTORY FACT FILE

DATE	TRADED PRICE	ADJUSTED TODAY	DILUTION FACTOR
1968-JUN-28	$25.75	$ 3.12	0.1213
1974-SEP-30	$ 4.10	$ 0.72	0.1756
1980-NOV-18	$17.60	$ 4.17	0.2369
1982-DEC-10	$ 5.90	$ 1.44	0.2450
1984-APR-09	$12.37	$ 3.73	0.3014
1984-JUN-27	$ 9.20	$ 2.77	0.3014
1985-NOV-11	$ 9.26	$ 6.27	0.6779
1986-MAR-26	$ 6.12	$ 4.97	0.8134
1986-MAY-29	$ 9.00	$ 7.32	0.8134
1986-SEP-01	$ 7.30	$ 5.93	0.8134
1987-SEP-16	$11.10	$11.10	1.0000
1987-DEC-11	$ 5.98	$ 5.98	1.0000
1988-JUN-01	$ 8.90	$ 8.90	1.0000

An initial observation I have just made is this. The highest physical price BHP LTD has ever traded was $25.75 in June 1968, the second highest level was $17.60 in November 1980. Both of these levels will retain a psychological barrier for the future, irrespective of the current price dilution caused by share issues and splits.

CALCULATE TIME VIBRATIONS BETWEEN FACT FILE DATES

DATE	PRICE	DAYS	WEEKS	MONTHS	APPROX TRADING
1968-JUN-28	$ 3.12	0			
1974-SEP-30	$ 0.72	2285	326.4	75.1	1577
1980-NOV-18	$ 4.17	4526	646.6	148.7	3125
1982-DEC-10	$ 1.44	5278	754.0	173.4	3650
1987-SEP-16	$11.10	7019	1002.7	230.6	4850

DATE	PRICE	DAYS	WEEKS	MONTHS	APPROX TRADING
1974-SEP-30	$ 0.72	0			
1980-NOV-18	$ 4.17	2241	320.1	73.6	1548
1982-DEC-10	$ 1.44	2993	427.6	98.3	2069
1987-SEP-16	$11.10	4734	676.3	155.5	3273

DATE	PRICE	DAYS	WEEKS	MONTHS	APPROX TRADING
1980-NOV-18	$ 4.17	0			
1982-DEC-10	$ 1.44	752	107.4	24.7	521
1987-SEP-16	$11.10	2493	356.1	81.9	1725

DATE	PRICE	DAYS	WEEKS	MONTHS	TRADING DAYS
1982-DEC-10	$ 1.44	0			
1984-APR-09	$ 3.73	486	69.4	16.0	334
1984-JUN-27	$ 2.77	565	80.7	18.6	387
1985-NOV-11	$ 6.27	1067	152.4	35.1	737
1986-MAR-26	$ 4.97	1202	171.7	39.5	830
1986-MAY-29	$ 7.32	1266	180.9	41.6	873
1986-SEP-01	$ 5.93	1361	194.4	44.7	939
1987-SEP-16	$11.10	1741	248.7	57.2	1204

WORK TIME BACKWARDS FROM HISTORY HIGH

DATE	PRICE	DAYS	WEEKS	MONTHS	TRADING DAYS
1987-SEP-16	$11.10	0			
1986-SEP-01	$ 5.93	380	54.3	12.5	265
1986-MAY-29	$ 7.32	475	67.9	15.6	331
1986-MAR-26	$ 4.97	539	77.0	17.7	374
1985-NOV-11	$ 6.27	674	96.3	22.1	467
1984-JUN-27	$ 2.77	1176	168.0	38.6	817
1984-APR-09	$ 3.73	1255	179.3	41.2	870
1982-DEC-10	$ 1.44	1741	248.7	57.2	1204
1980-NOV-18	$ 4.17	2493	356.1	81.9	1725
1974-SEP-30	$ 0.72	4734	676.3	155.5	3273
1968-JUN-28	$ 3.12	7019	1002.7	230.6	4850

STEP 2. ELLIOTT WAVE COUNT

The next analysis procedure is establishing possible Elliott wave counts on the price history.

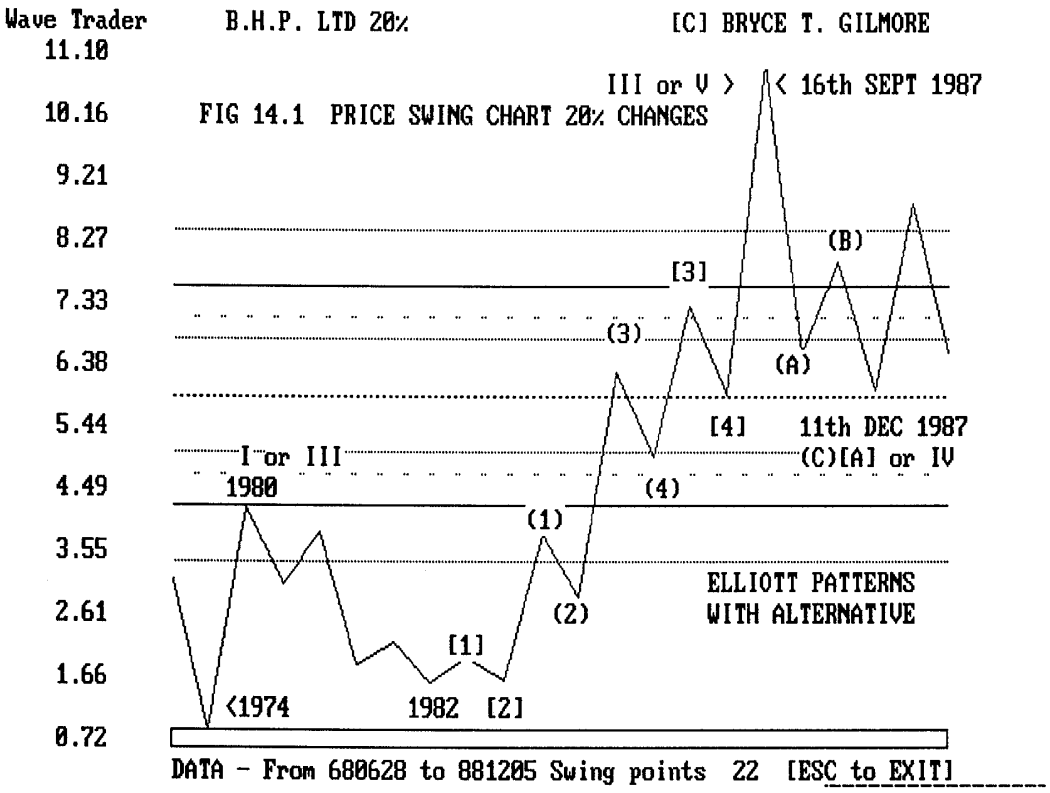
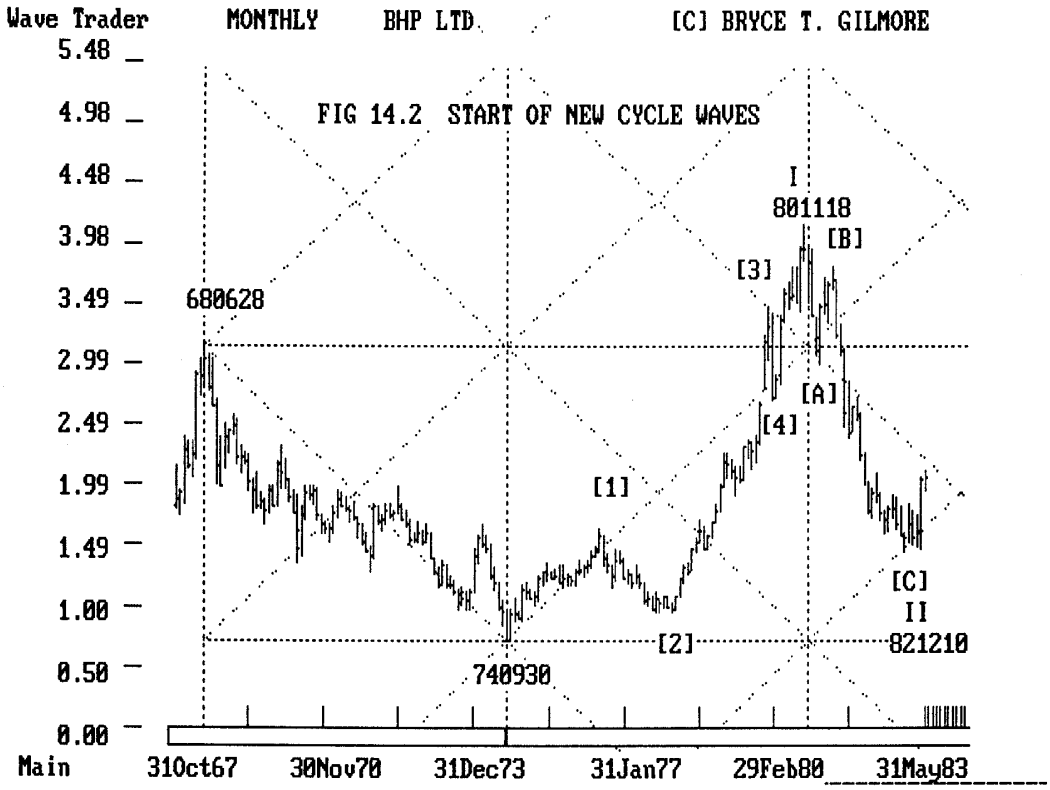


FIG 14.1 20% MINIMUM PRICE SWINGS FROM 1980 HIGH

Elliott wave formations are pronounced using the percentage swing procedure.

See FIG 12.18 on page 144 for my monthly long term cycle degree count.

FIG 14.2 1968-1982 MONTHLY CHART

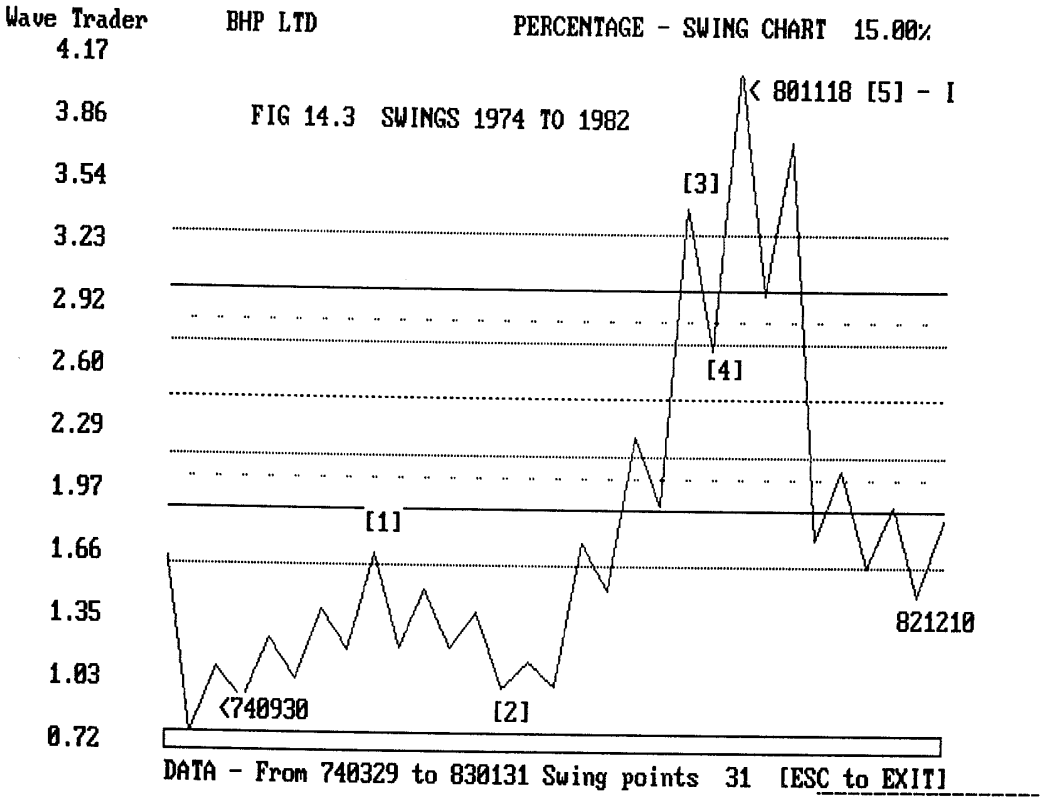


CYCLE PHASE I-II

The major bear market from 1968 concluded on 30th September 1974, here a new cycle began so I have started a fresh wave count. In my opinion the bull market cycle that started in 1974 and finished in 1980 was a cycle I. The 1982 low at $ 1.44 overlapped the primary wave [1] of I high of $1.64 which normally (under Elliott strict rules) discounts this low being a cycle IV wave.

The loss in value from the 1980 high to the 1982 low was 65.5% an ideal ratio between 61.8% and 66.6% for a second wave. The time period for the fall was 752 calendar days against a bull market period from 1974 to 1980 of 2241 calendar days, in percentage terms 33.5%.

FIG 14.3 PRICE SWING CHART 1968 TO 1982



CYCLE PHASE III 1982-1987

The next cycle phase from 1982 to 1987 unfolded in five major waves. Cycle high III of $11.10 fell exactly on the second price square projection of cycle I ($0.72 to $4.17 = $3.45), ($11.10 less $4.17 = $6.93), ($4.17 plus 2 times $3.45 = $11.07). [See FIG 12.18 page 144]

The crash wave of 1987 followed a bull market from 1974 that ran 13 years, a 50% retracement of the overall advance from $0.72 to $11.10 calculated to a price target of

$5.91, the low at [A] was $5.98 and the low at [4] was $5.93, these waves were nearly 100% square in price and both equal to 50% of the 1974 to 1987 range.

My conclusion to date is that this particular option is either in a new bull market or a [C] wave of cycle IV. Considering that the cycle II wave from 1980 to 1982 was a simple zig zag formation, then under the Elliott wave interpretation of alternation between corrective waves in a sequence, we should be expecting a triangular formation to unfold. So long as the low at $5.98 holds then a cycle degree V wave should take this option to new highs sometime in the distant future.

The test will be to see how long prices continue to trade above the $5.91 mid point of the 1974-1987 range. If we project the time of the 1982-1987 range forward 38.2% we get July 1989, if this stock continues to trade above the [A] wave low up until this time it will be fairly certain that this count is the correct one.

You will notice that I have not labeled the last high of $8.90 of June 1988 as a [B] as yet, it is possible that $8.90 is a (1) of a V, we will discuss this as we move on.

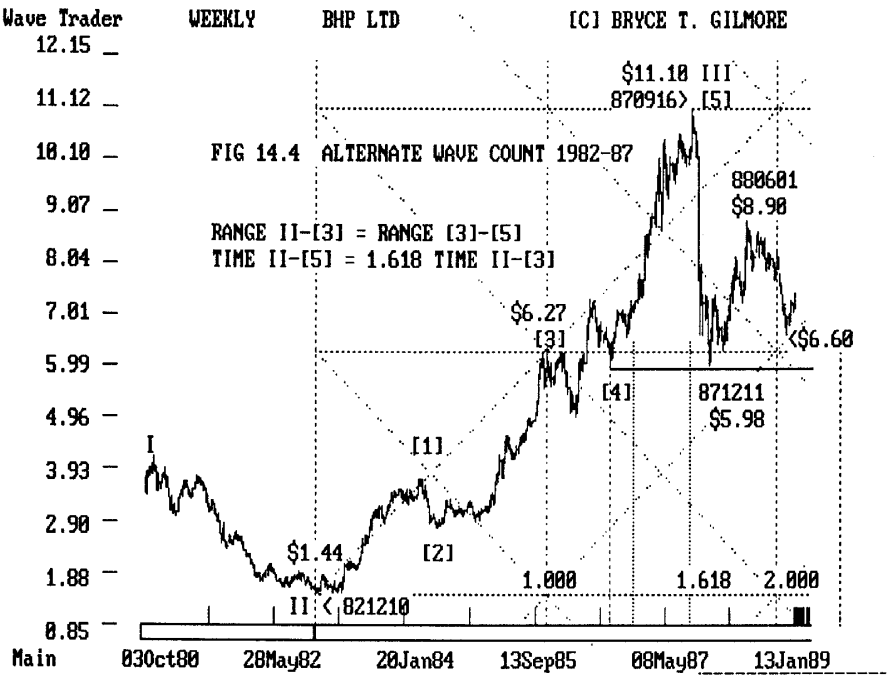


FIG 14.4 ALTERNATIVE WAVE COUNT FOR CYCLE III

The weekly chart (FIG 14.4) shows even more interesting time and price relationships unfolding between the primary and cycle waves. The range of the 1982 low (II) $1.44 (which incidentally was 100% square in price with the 1974 low of $0.72) to the wave [3] high of $6.27 was $4.83. $4.83 added to $6.27 gave a price range square target of $11.10 (which was the exact high made on the 16th September 1987).

Wave [A] or IV ($5.98 871211) of my cycle IV has held above wave [4] of III (fig 14.1) indicating that the long-term trend is still intact.

Also this may just be a coincidence but the range of the 1974 low $0.72 to the [3] of III at $6.27 in 1985 (fig 14.4) was $5.55, this range doubled ie $5.55 times 2 equals $11.10 (the III wave high price).

WHERE TO FROM HERE

Firstly we must verify all of the support zones post Cycle wave III. This will surely tell us what the possibility is of another crash wave emerging in this wave series.

We need to identify the last intermediate swing high and low. From there we can apply a short term Elliott wave count and evaluate where we are likely to go from here.

Secondly we can calculate all of the cycle and primary wave SQUARES of PRICE and RANGE for future support and resistance estimates.

Thirdly we calculate all time vibration measurements forward so we have an idea where to expect trend changes.

Fourthly we will conduct research on Minor and Intermediate waves to evaluate which vibration ratios this option tends to vibrate around in lesser degree waves.

Fifthly we can examine the fundamental position of this company as a guide to its future standing among investors.

Some chartists (who are not true technical analysts, and most often hopeless traders) will probably not bother with the last exercise as they believe this information will be reflected in the price. Please don't follow their guide, if you intend to trade your own advice and expect to make a profit.

FUNDAMENTALS WILL BE REFLECTED IN THE PRICE LONG BEFORE THE NEWS HITS THE STREET, SO THINK AHEAD. STUDY THE LONGER TERM FUNDAMENTALS, NOT THE DAY TO DAY NOISE.

Treat each commodity or stock that you trade, AS A BUSINESS.

MARKETS CAN ONLY DO THREE THINGS, MOVE UP IN PRICE, DOWN IN PRICE OR SIDEWAYS IN PRICE.

WHEN THE TIME COMES FOR A CHANGE IN TREND WE WILL KNOW FROM OUR TIME VIBRATIONS - IT WILL ALSO BE AN ASSISTANCE IF WE CAN CONFIRM A PRICE SQUARING AT THE SAME TIME.

WAVE STRUCTURE POST 1987 HIGH $11.10

Once we have formed a long-term opinion on the state of an option we can proceed to analyze the closer in price action to see if it is telling the same story.

By running a percentage swing chart in ratios that reflect the Minor degree waves we can see the shorter term market vibrations unfolding in a very clear manner.

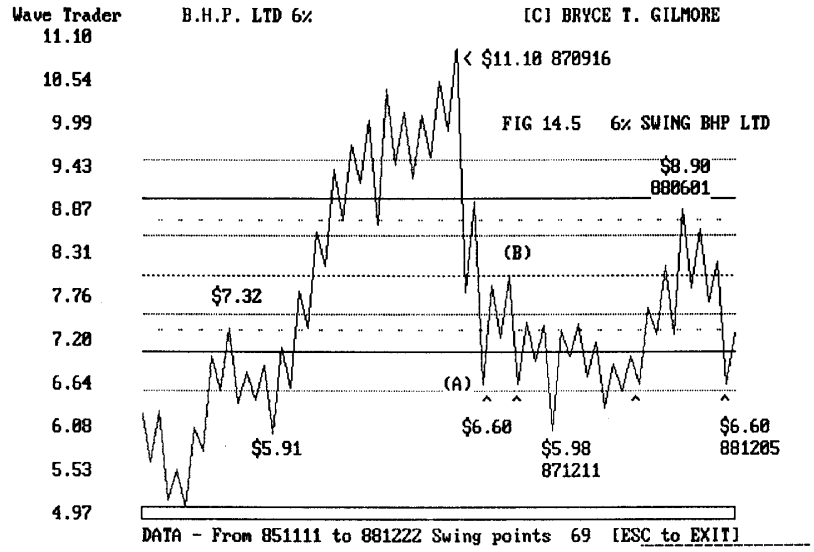
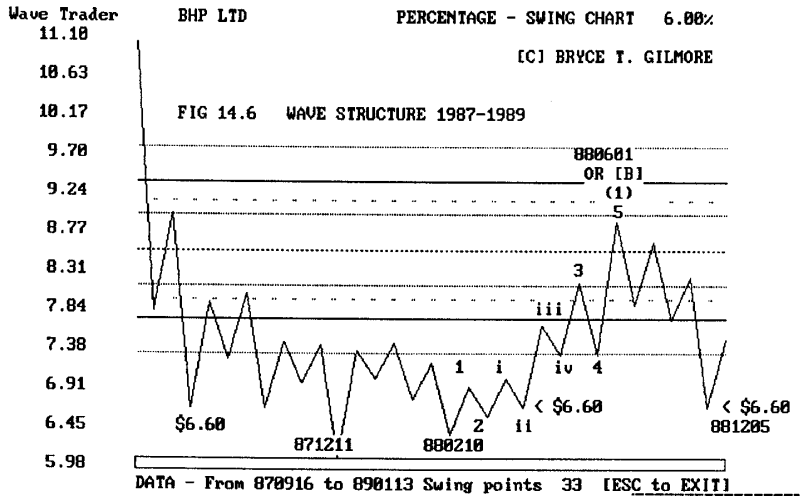


FIG 14.5 6% MININIMUM PRICE SWING CHART 1985 TO 1988

This chart Fig 14.5 certainly has a message that is important to the longer term cause. The low of $5.98 (December 11th, 1987 formed a double bottom with the primary wave [4] of III low) which lies on the 50% level of the 1974-1987 RANGE, this CHART is indicating strong support at this level. It is always possible that this market could trade below this level, yet since the rally to $8.90 we have had 4 lows registered at $6.60, this level is now indicating major support. Another thing is that the rally from February 1988 expanded in five waves. (See Fig 14.6)

FIG 14.6 6% SWING CHART WAVE III to JANUARY 13th, 1989

Five waves formed in an impulse move that adhered to strict Elliott wave rules. Wave



4 found support at the iv wave low of lesser degree before the 5 wave blasted up to $8.90 (50% square with $5.91 [50% of the 1974 to 1987 range]).

Is the high of $8.90 a [B] (primary bear market rally in a sustained bear market or a (1) wave of a new expansion), looks more like a (1) to me, even though the wave 1 has been overlapped at the last low of $6.60 indicating a large diagonal triangle. The importance of this will of course be found out in the near future. An important point worth mentioning is the discipline that we can now apply to these findings. If $6.60 breaks then we will need to reassess the present scenario I have put forward and accept the alternative. If $8.90 is broken on the upside then we can project new highs forming at a rapid rate, as fund managers and traders who have been sidelined, rush to

build up their portfolios once again, wondering why they bailed out at the bottom of a crash wave.

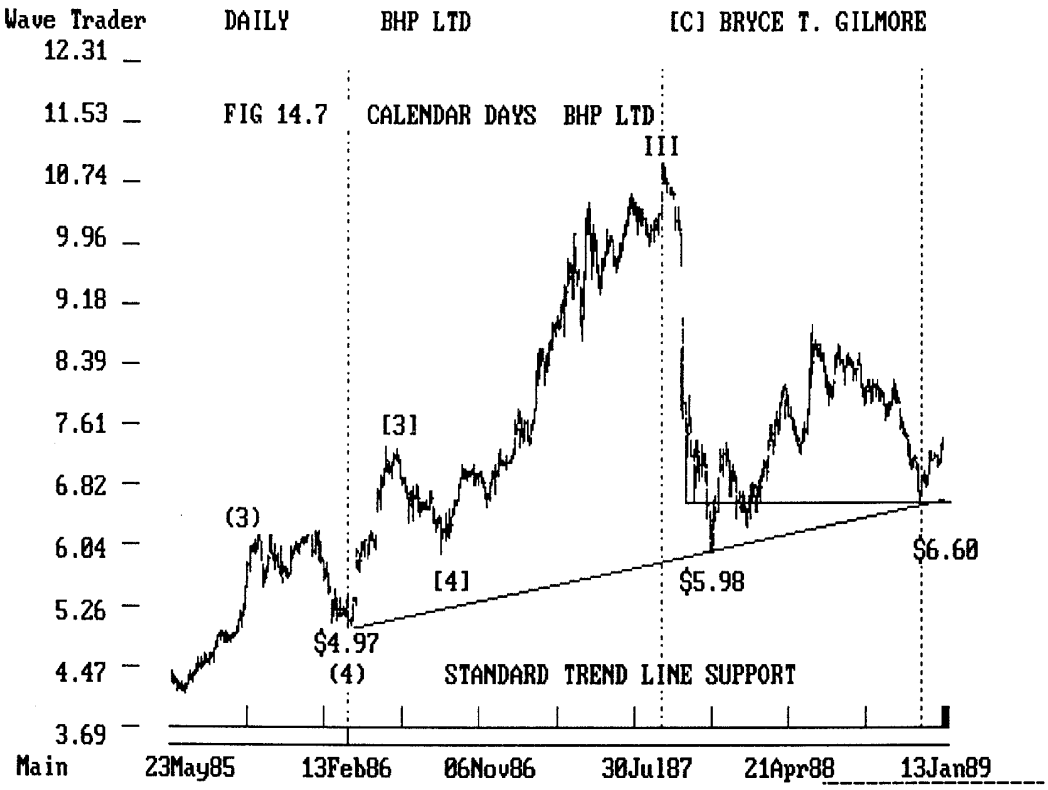


FIG 14.7 HOW STRONG WAS THE LOW AT $6.60 ON DECEMBER 5TH 1988

If you were to use the supports previously mentioned, $6.60 for a wave (2) seems to be an impenetrable barrier at this time. By combining standard charting practice and drawing a trend line, you find that this aspect also added to the geometric support. What was even more important was the time duration from $5.98 to $6.60, low to low, at twelve months (360 days exactly [degrees in a circle]) and 985 calendar days from $4.97 (right on the Fibonacci number [give a day or two] 987). Time was present at this low, this adds an almighty weight to my analysis at any time.

The alternative of course, should the market break below $6.60, is for support at $5.90 (50% of the 1974-87 range) or $5.55 (50% square of the 1987 high $11.10).

LAST INTERMEDIATE AND MINOR ELLIOTT WAVE SWING POINT

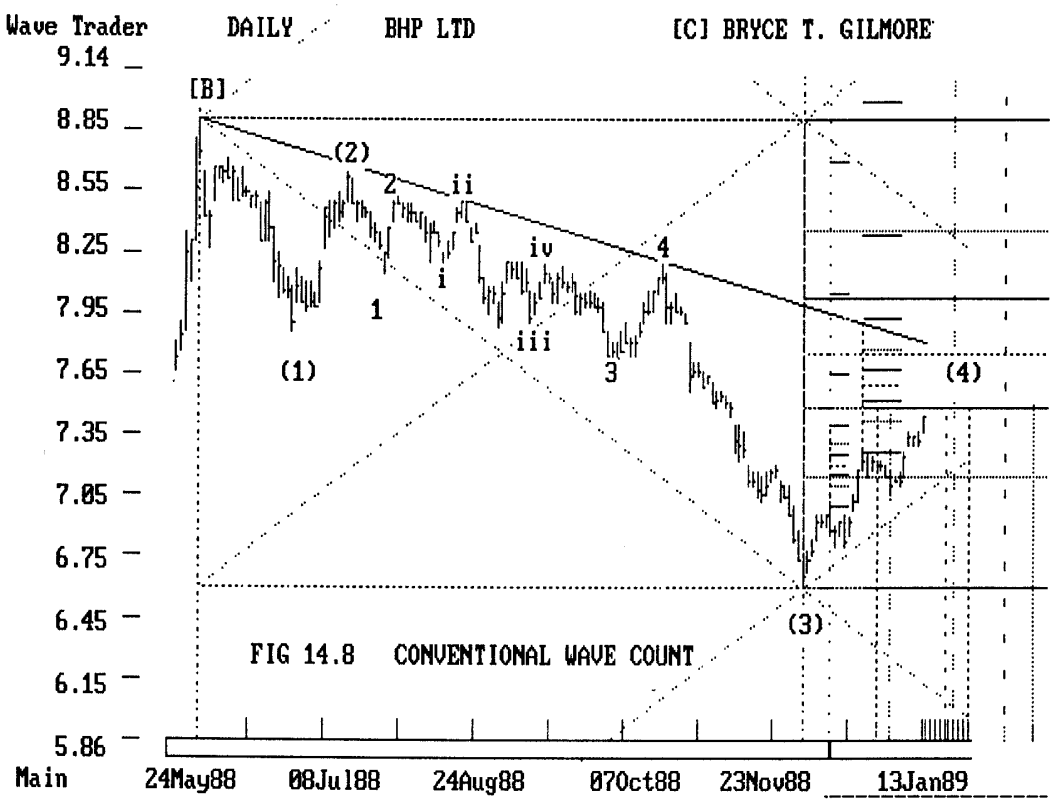
To remain on the conservative side, at least until we receive more conformation, I will assume that $8.90 (880601) is still a [B] of primary degree. To disprove this analysis $6.60 (881205) would need to be confirmed as a (2) [intermediate wave two].

question.. What would need to happen to confirm $6.60 (881205) as a (2)?

answer.. A retracement greater than 38.2% of the range $8.90 to $6.60.

reason.. If we are currently in a [C] (primary bear market impulse wave) then $6.60 (881205) has to be counted as a (3) [intermediate wave three of five]. It then follows that we are now in a (4) [intermediate wave four]. Wave four (normally) in an impulse wave sequence should not retrace more than 38.2% of its advance.

FIG 14.8 $6.60 LOW DECEMBER 5TH, 1988 as a wave (3) of [C]

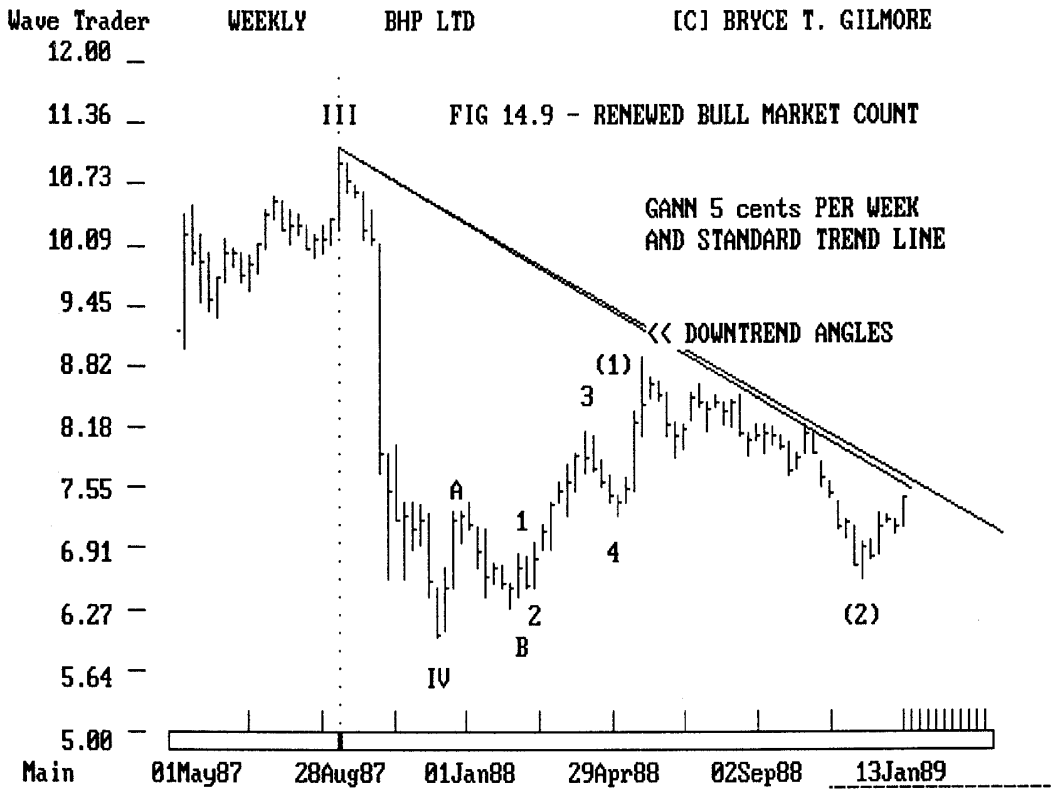


The moment of truth is close at hand, it is now January 13th, 1989 and the market has traded within 2 cents of the 38.2% retracement level.

More importantly this market appears to be impulsing, study the wave formations unfolding in the minor wave from the low. It may of course come to pass that a correction will occur here just to keep us in suspense for a little longer.

The final outcome will be known for sure just as soon as the downtrend angle is broken (see fig 14.9). We are either, in a bull market on a convincing break of $7.48 or in a confirmed bear market on a break of $6.60.

FIG 14.9 $6.60 LOW DECEMBER 5TH, 1988 as a wave (2) of [1]



Careful observation of this wave count will illustrate an anomaly mentioned in R.N. Elliott's thesis. A-B formations can form between the end of a bear market and the begining of the new bull market. Mention is made of this wave form in "THE ELLIOTT WAVE PRINCIPLE" Frost and Prechter 1981 (page 48).

To accept this wave count and of course to have arrived at it in the first place, one needed to experience the pschological factors present at the time both the bottom labeled IV and B were registered.

This market was in proverbial tatters on the days both bottoms were recorded. Bullish concensus was reading ZERO. Every indicator was hard down. This still did not stop me from buying a parcel of 50 call options in another stock at the February low (wave B) on this chart (fig 14.9). My profit was $5150 for an investment of $2972 in 6 weeks.

STEP 3. RECORDING SQUARES OF PRICE SUPPORT AND RESISTANCE

SQUARES OF PRICE

1. HIGHEST RECORDED PRICE IN CURRENT CYCLE WAVE SERIES - $11.10

2. LOWEST RECORDED PRICE IN CURRENT CYCLE WAVE SERIES - $0.72

3. HIGHEST OR LOWEST PRICE APPLICABLE IN LAST 7 YEARS - $1.44

4. MOST RECENT CYCLE OR PRIMARY WAVE HIGH OR LOW - $5.98

The high at $11.10 is covered by selection 1.

SQUARES OF RANGE

1. HIGHEST AND LOWEST CYCLE TOPS AND BOTTOMS - 1974 to 1987

2. LAST MAJOR BULL OR BEAR PHASE - 1987 high $11.10 TO 1987 low $5.98

3. PROJECTIONS OF RANGE (0)-(I)

4. PROJECTIONS OF RANGE (0)-(III)

These prices and ranges would be the most important to monitor for the future. Of course recent ranges, minor highs and lows can be calculated as the market moves along.

SQUARES OF PRICE

The simplest way to continually monitor these important levels is on long term monthly charts. I have several cork boards strategically placed around my office walls, on these I keep updated long term charts for the stocks and commodities I wish to trade. After a while support and resistance levels in markets are committed to memory. This way it is highly unlikely the markets can arrive at these levels and be overlooked. The first rule when it comes to trading is, **KNOW YOUR BUSINESS.**

FIG 14.10 BHP LTD SQUARES OF 1974 (0), 1982 (II) AND 1987 (IV) LOWS

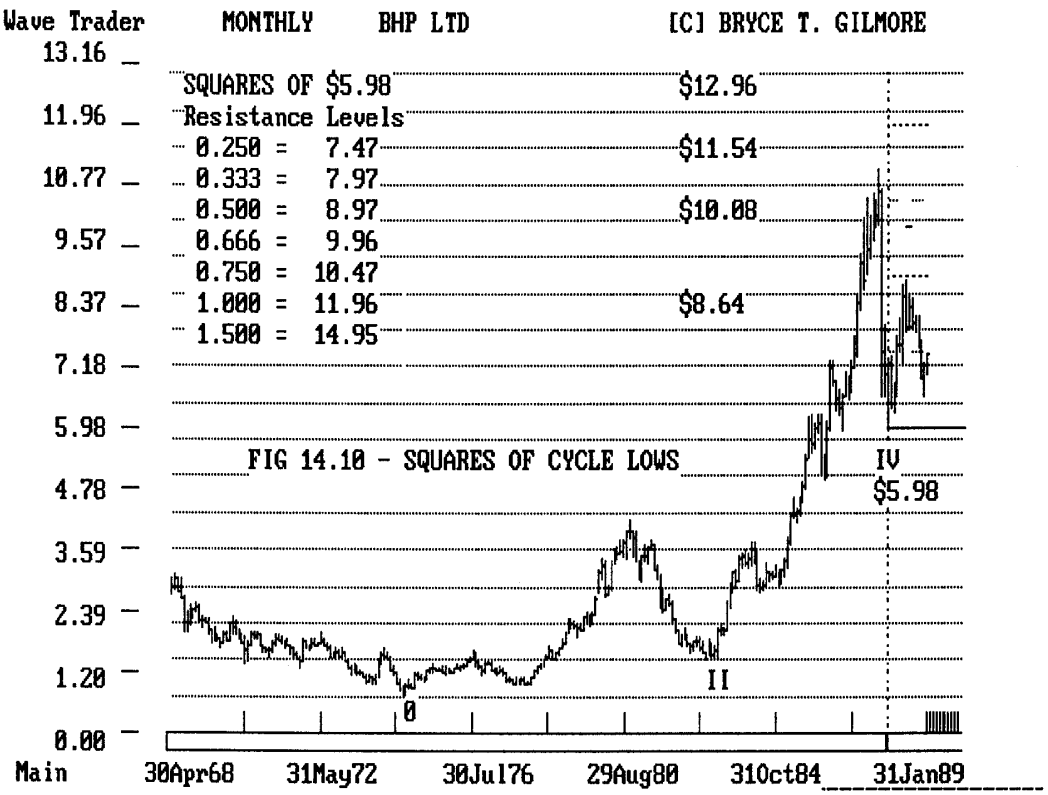


FIG 14.11 BHP LTD SQUARE OF HIGH (III) $11.10 16th SEPTEMBER 1987

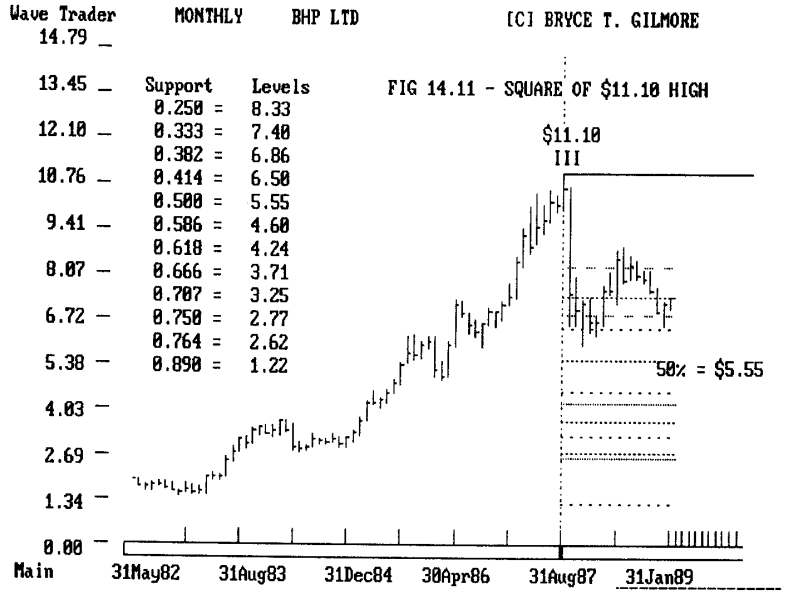


FIG 14.12 BHP LTD SQUARE OF 1974 (0) TO 1987 (III) TRADING RANGE

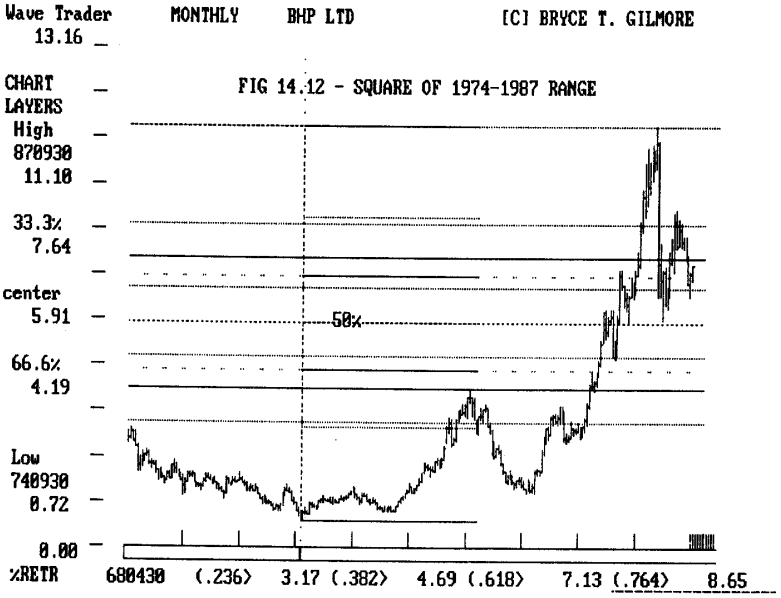


FIG 14.13 BHP LTD SQUARE OF CRASH WAVE (III)-(IV)

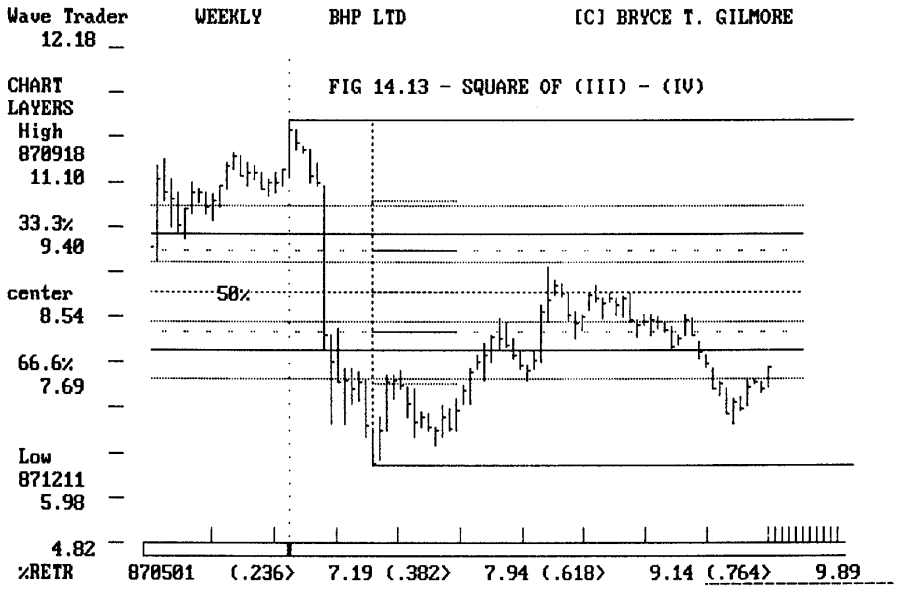


FIG 14.14 BHP LTD PROJECTIONS OF 1974-1980 BULL MARKET (0)-(I)

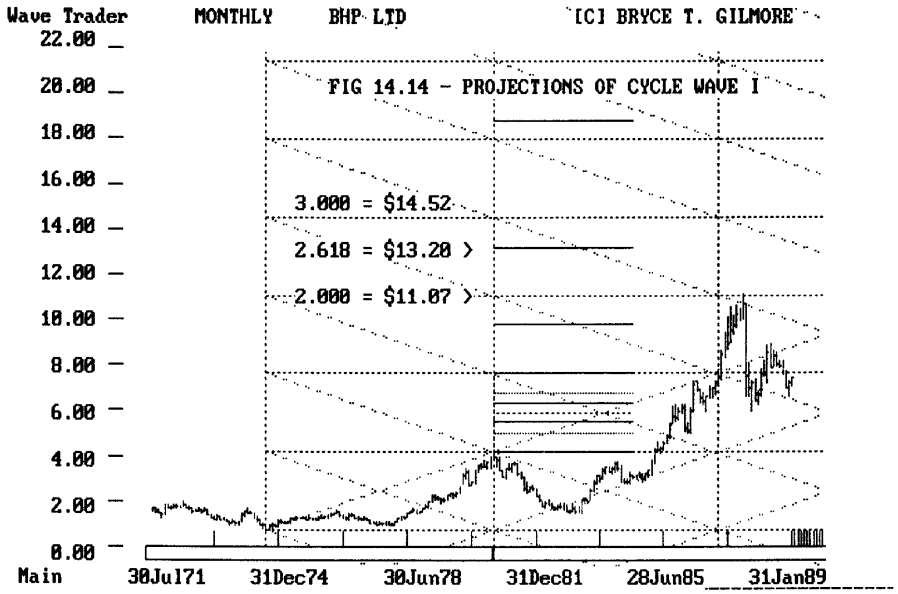
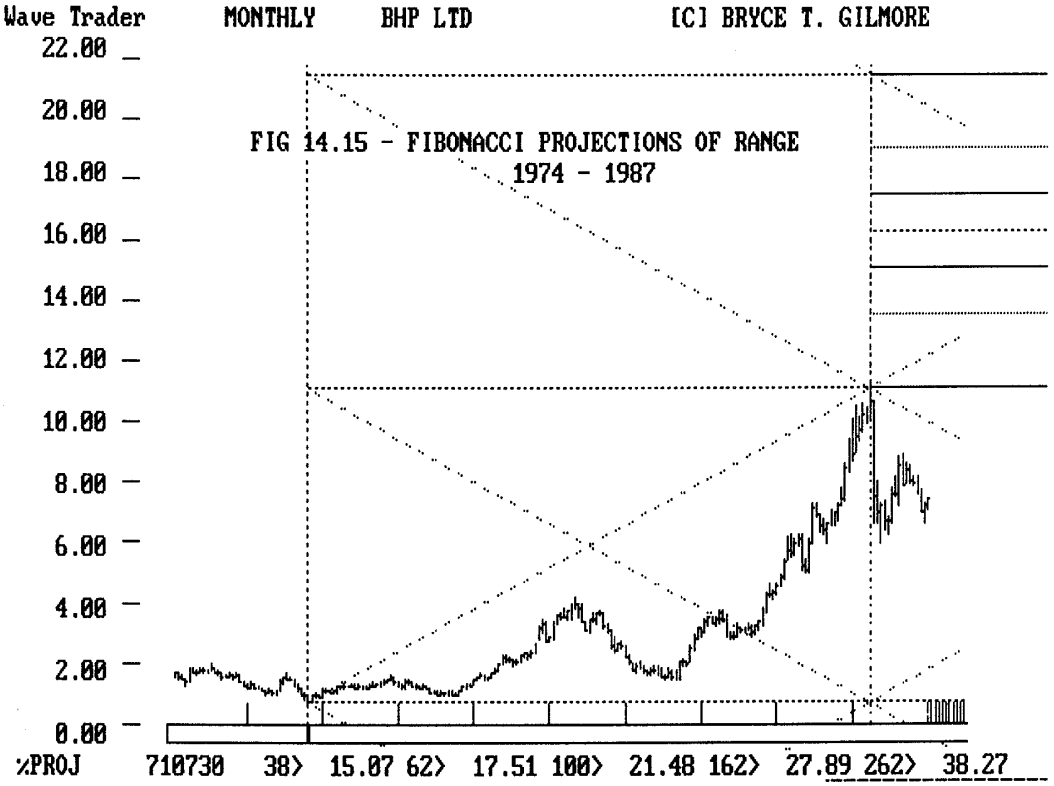


FIG 14.15 BHP LTD PROJECTIONS OF 1974-1987 RANGE (0)-(III)



Now that we have recorded all of the major price levels we can move on to major time vibrations that may square in the near future.

STEP 4. RECORDING MAJOR TIME VIBRATIONS FOR THE FUTURE

Fundamental input and investor psychology determine the strength in price rises or falls, yet, time is the ruler of markets. Time has only one axis, always moving forward. Experiences from the past vibrate forward under cover of the mass subconscious actions of investors. Once time is overbalanced a reaction to trend will be almost certain. The universe vibrates about three major ratios, Arithmetic, Geometric and Harmonic. In terms of cycles (total time of an action and the reaction) we can use these ratios to

determine a logical end to a current trend. Of course within all markets the vibration of minor, intermediate, primary and cycle degree CYCLES are going on at all times, strongest areas for a reaction to a current trend are when clusters of vibrations fall around a future date. For instance the most important event that is imprinted in the investors memory is the crash of 1987, this will take time to erase. Each time a market begins a correction to any upward move nervousness will abound, this will continue until all of those jittery stock holders have quit the market. It then follows that vibrations of the crash wave are the most important to monitor. Fig 12.14 on page 142 gives a pictorial view of the Geometric vibrations signaling successive lows, in the unfolding wave structure post 1987 crash in BHP Ltd.

VIBRATIONS OF RANGE TIME THAT I WOULD TRACK WITHOUT DEVIATION:-

1. Squares of vibration of 1987 high (III)[$11.10 870916] to crash wave low (IV) [$5.98 871211].
2. Squares of total vibration from 1974 [740930] to 1987. Low $0.72 (0) to high $11.10 (III).

FIG 14.16 Wave Trader TIME ANALYZER menu

```
V1.5  W A V E  T R A D E R tm -  T I M E  A N A L Y Z E R  M O D U L E

      (C) Copyright  Bryce T. Gilmore 1987,1988  - All rights reserved

      TIME  and  PRICE calculations applicable to market trends

      1  -  WAVE TRADER IMPORTANT DATES - uses FACT FILE swings
            Fact files can contain  100 past market swing dates
            between 1910-1999.   File support Selection [4]
      2  -  VIBRATION DATES OF PRICE IN TIME -  uses fact files
            Ratios of swing prices and price range entries
      3  -  Future dates squaring VALUE from a starting date
            Used for RANGE time, LOW \ HIGH value, a set period
      4  -  PRICE SWING CHART and FACT FILE CREATION v1.5
            Elliott wave - fact file menu and file maintenance
      5  -  VIEW details of a FACT FILE to SCREEN or PRINTER

      6  -  PLANETARY POSITIONS - Heliocentric aspects 1910-99

      7  -  PRICE SQUARING  PROJECTIONS AND RETRACEMENTS MODULE

      Select by number  [1-2-3-4-5-6] or [ESC] to exit....?
      [F10 Advance printer to a new page]  [F1 Abort any routine]
```

3. Squares of cycle wave I vibration. $0.72 to $4.17 (740930 to 801118).

4. Squares of cycle wave III vibration $1.44 to $ 11.10 (821210 to 870916).

5. All current waves of minor, intermediate and primary degree.

I shall list a few of these that have been prepared by the WAVE TRADER TIME MODULE.

FIG 14.17 VIBRATIONS OF CYCLE WAVE IV (870916 to 871211 = 86 days)

Wave Trader report using selection 3. Notice that the first vibration of 5 (Fibonacci) falls on February 13th, 1989. This is also 430 days (3x144 = 432) and 61.8 weeks. This forward date 890213 is within days of 1 year anniversary from wave labeled B (beginning of my new bull market count - see Fig 14.9 page 162 - low was $6.28 on 880210).

```
                TIME AND PRICE  FORECASTING ANALYSIS

              Project squarings of a PRICE or RANGE forward.


    Enter  begining DATE to start SQUARING  ( yymmdd ) ..  ? 871211
    Is this Squaring to be in (D)ays  (W)eeks  or (M)onths ? D
    Enter VALUE that is to be squared forward  (999.99) .. ? 86
    Do you wish to print a report    ENTER    (Y) or (N).. ? N
    Place a limit year on report     START    (1901) etc . ? 1989
    Place a limit year on report    FINISH    (1999) etc . ? 1989
The VALUE   86.00 squared in time period from 871211   in D   periods.
  5.000  time vibration   430 days     61 weeks  forward is 1989 Feb 13
  6.000  time vibration   516 days     74 weeks  forward is 1989 May 10
  6.180  time vibration   531 days     76 weeks  forward is 1989 May 25
  6.850  time vibration   589 days     84 weeks  forward is 1989 Jul 22
  7.000  time vibration   602 days     86 weeks  forward is 1989 Aug  4
  8.000  time vibration   688 days     98 weeks  forward is 1989 Oct 29

Press any key
```

FIG 14.18 VIBRATIONS OF CYCLE WAVES 1974 (740930) TO 1987 (870916)- see calculations of time as per schedule prepared on page 152.

```
                    TIME AND PRICE  FORECASTING ANALYSIS

                    Project squarings of a PRICE or RANGE forward.


     Enter begining DATE to start SQUARING  ( yymmdd ) ..  ? 870916
     Is this Squaring to be in (D)ays  (W)eeks  or (M)onths ? D
     Enter VALUE that is to be squared forward  (999.99) .. ? 4734
     Do you wish to print a report    ENTER    (Y) or (N).. ? N
     Place a limit year on report     START    (1901) etc . ? 1989
     Place a limit year on report    FINISH    (1999) etc . ? 1992
The VALUE 4734.00 squared in time period from 870916   in D   periods.
  0.146  time vibration   691 days    99 weeks  forward is 1989 Aug  7
  0.168  time vibration   795 days   114 weeks  forward is 1989 Nov 19
  0.204  time vibration   966 days   138 weeks  forward is 1990 May  8
  0.272  time vibration  1288 days   184 weeks  forward is 1991 Mar 26
  0.333  time vibration  1576 days   225 weeks  forward is 1992 Jan  9
  0.382  time vibration  1808 days   258 weeks  forward is 1992 Aug 28

Press any key
```

The first vibration of this report falls on 7th August 1989, when we review the report for the crash wave vibrations (previous page Fig 14.17) we find that also on 4th August 1989 we will run the 7th vibration of that range.

This means that a cluster of timing vibrations is being formed in the first week of August 1989. It is not so important right at this moment, but when we get closer to this time we can investigate lesser degree vibrations from the Minor wave formations that will unfold between now and then.

FIG 14.19 VIBRATIONS OF CYCLE WAVE I (740930 to 801118 = 2241 see schedule page 151).

```
                    TIME AND PRICE  FORECASTING ANALYSIS

                    Project squarings of a PRICE or RANGE forward.


     Enter  begining DATE to start SQUARING  ( yymmdd ) ..  ? 801118
     Is this Squaring to be in (D)ays  (W)eeks  or (M)onths ? D
     Enter VALUE that is to be squared forward  (999.99) .. ? 2241
     Do you wish to print a report    ENTER    (Y) or (N).. ? N
     Place a limit year on report     START    (1901) etc . ? 1989
     Place a limit year on report    FINISH    (1999) etc . ? 1992
The VALUE 2241.00 squared in time period from 801118   in D   periods.
  1.382  time vibration  3097 days    442 weeks  forward is 1989 May 12
  1.414  time vibration  3169 days    453 weeks  forward is 1989 Jul 22
  1.500  time vibration  3362 days    480 weeks  forward is 1990 Jan 31
  1.618  time vibration  3626 days    518 weeks  forward is 1990 Oct 22
  1.666  time vibration  3734 days    533 weeks  forward is 1991 Feb  7
  1.902  time vibration  4262 days    609 weeks  forward is 1992 Jul 20

Press any key
```

BINGO two clusters with the crash wave vibrations (Fig 14.17 page 169). These are 12th May 1989 and 22nd July 1989.

1.382 is a Geometric relationship and 1.414 (root 2) is a Harmonic vibration.

On July 22nd 1989 to the exact day the crash wave (Fig 14.17) runs a 6.85 Geometric vibration as this wave runs a Harmonic. I would consider July 22nd an extremely important vibration point even at this time.

FIG 14.20 VIBRATIONS OF CYCLE WAVE III (821210 to 870916 = 1741 see schedule page 152).

```
                    TIME AND PRICE  FORECASTING ANALYSIS

                    Project squarings of a PRICE or RANGE forward.


     Enter  begining DATE to start SQUARING  ( yymmdd ) ..  ? 870916
     Is this Squaring to be in (D)ays  (W)eeks  or (M)onths ? D
     Enter VALUE that is to be squared forward  (999.99) .. ? 1741
     Do you wish to print a report    ENTER    (Y) or (N).. ? N
     Place a limit year on report     START    (1901) etc . ? 1989
     Place a limit year on report    FINISH    (1999) etc . ? 1990
The VALUE 1741.00 squared in time period from 870916   in D   periods.
  0.272  time vibration   474 days     68 weeks  forward is 1989 Jan  1
  0.333  time vibration   580 days     83 weeks  forward is 1989 Apr 17
  0.382  time vibration   665 days     95 weeks  forward is 1989 Jul 12
  0.437  time vibration   761 days    109 weeks  forward is 1989 Oct 15
  0.500  time vibration   871 days    124 weeks  forward is 1990 Feb  2
  0.618  time vibration  1076 days    154 weeks  forward is 1990 Aug 26
  0.666  time vibration  1160 days    166 weeks  forward is 1990 Nov 18

Press any key
```

Nothing on this report exactly fits the previous reports (Figures 14.17 to 14.19) although the 0.382 vibration falling on July 12th, 1989 is an important benchmark for the future. Should the price of BHP LTD stay trading above $ 5.98, I am positive that my expectation for a new expansion will be correct. 666 is the number of man and this date is 665 days from the HIGH $11.10, the period July 12th to July 22nd seems to be an extremely important time period to monitor.

One interesting aspect I have noticed is the reoccurence of November 18th, anniversaries of the 1980 bull market high, form, vibrations on this report at the .666 vibration and a 1/6th vibration on the report Fig 14.18 page 170.

One of the most important Gann teachings on TIME, watch for changes in trend around anniversaries of previous major market tops or bottoms.

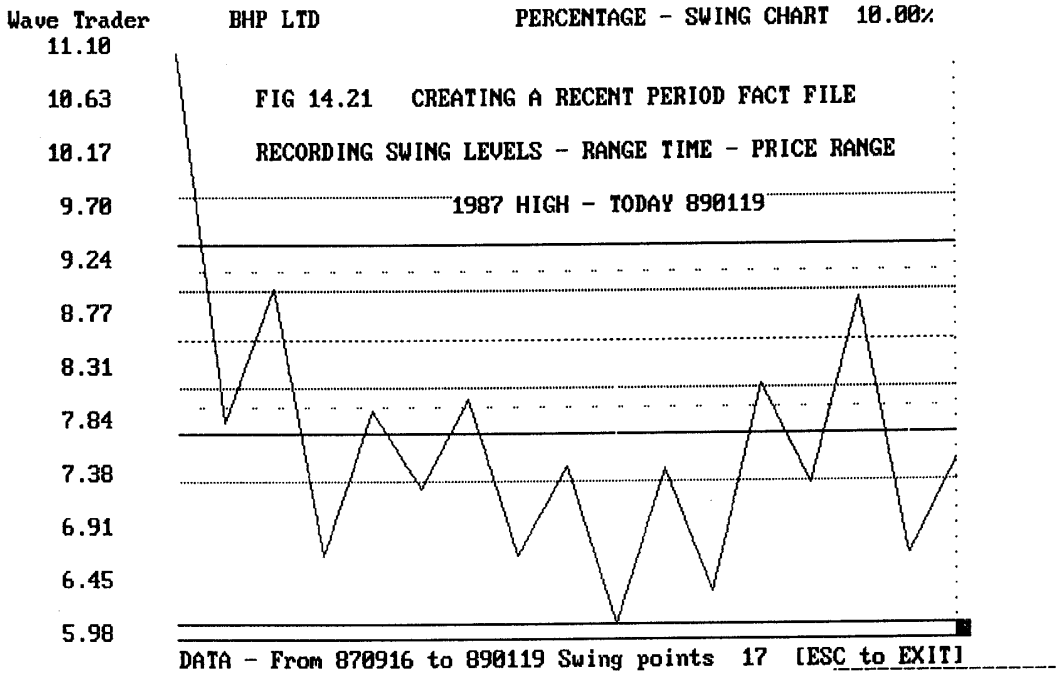
MONITORING STATIC TIME AND VIBRATIONS ON A DAY TO DAY BASIS

By preparing a fact file using the details from my price swing charts I can keep track of long term market vibrations as well as short term vibrations easily.

I have already prepared a long term fact file using the details from the swing chart FIG 14.1 page 153.

For the shorter term I am now preparing a 10% price swing file back to the pre-crash high $11.10 (870916). This is illustrated in Fig 14.21, Elliott wave analysis made easy.

FIG 14.21 ELLIOTT WAVE ANALYSIS MADE EASY



Having saved these details to a fact file for analysis purposes. Here is a print out of the relevant swing levels. FIG 14.22 shows date of swing high or low, price extreme recorded that day, time in calendar days from the last swing or an edited record that reflects a completed series of waves, price range of swing in cents (this will be used for translating units of price range to time) and notes.

FIG 14.22 FACT FILE OF MARKET SWINGS at 10% FROM 870916 HIGH

```
Print your fact file details to printer (Y or N) ...
Fact file details for  BHP 10% 87 HIGH ON
DATE,   SWING,     HI/LO,    CYCLE,     RANGE,     IMPORTANT NOTES
870916    11.10     HIGH       380      517.00    HISTORY HIGH
871020     7.80     LOW         34      330.00    SWING =  29.73 %
871022     9.00     HIGH         2      120.00    SWING =  15.38 %
871027     6.60*    LOW          5      240.00    SWING =  26.67 %
871028     7.90     HIGH         1      130.00    SWING =  19.7 %
871029     7.20     LOW          1       70.00    SWING =  8.86 %
871102     8.00     HIGH         4       80.00    SWING =  11.11 %
871111     6.60*    LOW          9      140.00    SWING =  17.5 %
871113     7.40     HIGH         2       80.00    SWING =  12.12 %
871211     5.98     LOW         86      512.00    CYCLE WAVE BOTTOM IV
880106     7.38     HIGH        26      140.00    SWING =  23.41 %
880210     6.28     LOW         35      110.00    SWING =  14.91 %
880414     8.14     HIGH        64      186.00    SWING =  29.62 %
880512     7.24     LOW         28       90.00    SWING =  11.06 %
880601     8.90     HIGH       112      262.00    41.7% INCREASE $6.28
881205     6.60*    LOW        187      230.00    SWING =  25.84 %
890119     7.46     HIGH        45       86.00    SWING =  13.03 %

Press any key to exit
```

The next step is to run static time counts from each high or low and vibrations of each swing phase. From this information we will be alerted to forthcoming dates to watch. Strongest dates are when we have many clusters falling together.

FIG 14.23 WAVE TRADER TIME REPORT FOR SUNDAY, JANUARY 22th, 1989

Time Analysis of BHP 10% 87 HIGH ON on 890122

DATE	PRICE		TIME	SQR DAYS	SQR WKS	T/DAYS	NEXT	NEXT DATE
870916	11.10	HIGH	494	22.23	8.40	341	505	1989 Feb 2
871020	7.80	LOW	460	21.45	8.11	317	465	1989 Jan 27
871022	9.00	HIGH	458	21.40	8.09	316	465	1989 Jan 29
871027	6.60	LOW	453	21.28	8.04	313	455	1989 Jan 24
871028	7.90	HIGH	452	21.26	8.04	312	455	1989 Jan 25
871029	7.20	LOW	451	21.24	8.03	311	455	1989 Jan 26
871102	8.00	HIGH	447	21.14	7.99	308	448	1989 Jan 23
871111	6.60	LOW	438	20.93	7.91	302	441	1989 Jan 25
871113	7.40	HIGH	436	20.88	7.89	301	441	1989 Jan 27
871211	5.98	LOW	408	20.20	7.63	281	408	1989 Jan 22
880106	7.38	HIGH	382	19.54	7.39	264	385	1989 Jan 25
880210	6.28	LOW	347	18.63	7.04	239	350	1989 Jan 25
880414	8.14	HIGH	283	16.82	6.36	195	288	1989 Jan 27
880512	7.24	LOW	255	15.97	6.04	176	261	1989 Jan 28
880601	8.90	HIGH	235	15.33	5.79	162	238	1989 Jan 25
881205	6.60	LOW	48	6.93	2.62	33	48	1989 Jan 22
890119	7.46	HIGH	3	1.73	0.65	2	11	1989 Jan 30

Press any key to exit OR [S] for next 7 days dates...

This report makes the necessary calculations for static time periods and vibration ratios of previous swing points and time ranges that we should monitor. It needs to be viewed in two parts. Firstly, time is measured forward from the swing points to the date of this report. Secondly, squares (Gann methodology) are calculated on the actual time elapsed. Thirdly, approximate trading days elapsed are calculated, a quick perusal by a trained eye would alert an experienced analyst to any Fibonacci or Lucas relationships falling close at hand. Fourthly, the next possible important number is selected from the number bank and the date calculated for its due day.

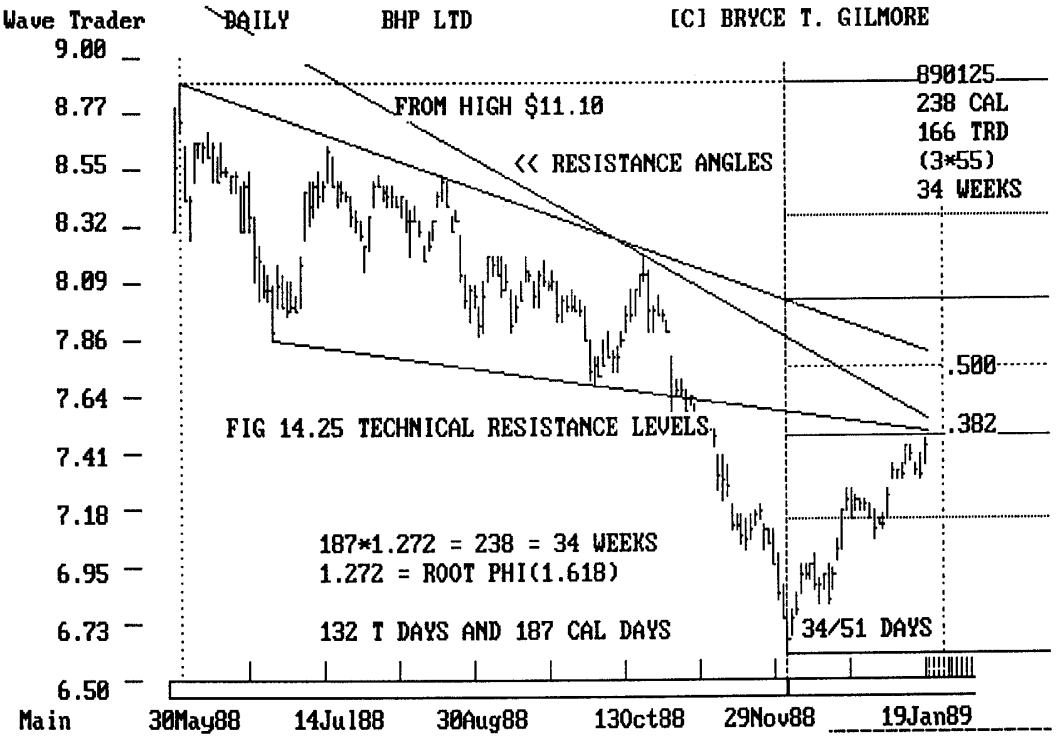
FIG 14.24 WAVE TRADER DATE SORT OF STATIC TIME AND VIBRATION TIME, PREPARED ON REPORT FIG 14.23

```
SELECTION 1. Sort of closest dates in next 7 days for BHP 10% 87 HIGH ON

1989 Jan 22   WT time        408 days   58 weeks from 871211      5.98 LOW
1989 Jan 22   WT time         48 days    7 weeks from 881205      6.60 LOW
1989 Jan 23   WT time        448 days   64 weeks from 871102      8.00 HIGH
1989 Jan 24   WT time        455 days   65 weeks from 871027      6.60 LOW
1989 Jan 24   vibration   0.272 time    7 weeks from 881205      6.60 LOW
1989 Jan 25   WT time        455 days   65 weeks from 871028      7.90 HIGH
1989 Jan 25   WT time        441 days   63 weeks from 871111      6.60 LOW
1989 Jan 25   WT time        385 days   55 weeks from 880106      7.38 HIGH
1989 Jan 25   WT time        350 days   50 weeks from 880210      6.28 LOW
1989 Jan 25   vibration  10.000 time    50 weeks from 880210      6.28 LOW
1989 Jan 25   WT time        238 days   34 weeks from 880601      8.90 HIGH
1989 Jan 25   vibration   0.146 time     1 weeks from 890119      7.46 HIGH
1989 Jan 26   WT time        455 days   65 weeks from 871029      7.20 LOW
1989 Jan 27   WT time        465 days   66 weeks from 871020      7.80 LOW
1989 Jan 27   WT time        441 days   63 weeks from 871113      7.40 HIGH
1989 Jan 27   WT time        288 days   41 weeks from 880414      8.14 HIGH
1989 Jan 28   WT time        261 days   37 weeks from 880512      7.24 LOW
1989 Jan 29   WT time        465 days   66 weeks from 871022      9.00 HIGH
Press any key to exit ...
```

PART TWO

Time is clustering on the 25th January 1989, from a fact file of effectively 16 entries time is vibrating 6 times on this date (I am not taking any notice of the 0.146 vibration from 890119). Two of the entries are pinpointing 55 and 34 week periods. 55 weeks from the post crash short covering rally high of $7.38 (880106) and 34 weeks from the $8.90 high of 880601 (Intermediate wave 1 on my preferred count). This date requires investigation on the daily price chart. See Fig 14.25

FIG 14.25 PRICE SERIES FROM $8.90 (880601) TO CURRENT (890119)



Interesting position, this market has now formed more than three waves (normal in a correction phase only 3 waves should form) from the $6.60 low. This certainly does not appear to be a (4) as the conventional count FIG 14.8 page 161 would have us believe. However my bullish scenario still has several technical obstacles to overcome before my preferred count can be substantiated. January 25th will most likely signal a swing high that will usher in a correction that will terminate on or about February 13th, the major time frame illustrated in FIG 14.17 - vibration 5 of the crash wave. If the picture unfolds this way then we could expect the next expansion to last until the major date of May 10-12 as per Fig 14.17 and Fig 14.19.

Technical time resistance present next week :-

890125 = 55 weeks and 34 weeks time vibration discussed in FIG 14.24

890125 = 34 trading days from low $6.60, 5th December 1988.

890125 = 1.272 vibration of time $8.90 to $6.60, total time 34 weeks.

FUNDAMENTAL OUTLOOK FOR THIS STOCK

Most pure chartist's would shudder when I mention fundamental analysis! They consider it is not at all necessary, don't make their mistake. Markets are vibrating from shock to shock on the pschological action of traders, underlying all of these price actions a basis of value exists. What are the general economic conditions? Has this stock a solid balance sheet? Is it earning profits on a consistent basis? What are the future prospects for continued growth and profits? Is the management secure and in tune with investor needs? What is the long term history of this stocks performance? Poor? Mediocre? Good? Excellent?

THE ANSWER TO THESE QUESTIONS ARE SIMPLE!

BHP LTD has managed to fragment the share holding and increase capitalization at every share offering it has ever made, investors have long term confidence in this enterprise. Continually it increases it's earnings and divests it's holdings.

During the past several years it has been a target for takeover offers, its management has fought, dealt with and resisted all such attempts.

BHP LTD is now well positioned since the crash of 1987, two record profit performances of over one billion dollars per year.

Australia's number one company, large holdings in producing oil fields, mining iron ore for export, producing steel and other building materials, together with diversified investments in many other areas, the most prominent of these being a 50% plus holding in the new Gold producer BHP GOLD LTD which has 3.7 million ounces of Gold in proven reserves (December 1988) and presently geared to produce 250,000 plus ounces per annum.

Most important BHP pays a dividend that includes imputation tax.

At current price levels I would assume that downside risk is at a minimum, this conclusion certainly helps sway me in the direction of my preferred wave count.

There is no point investing in anything unless it has a pedigree, forget about get rich schemes that presumably will work overnight, the secret to the business (investing for

profit) is investing and trading for the longterm. Search out ships to trade that always remain afloat, even after capsizing in a storm.

One lesson in investments I have learnt over the years, having participated in the 1970-74 bear market, the 1981-82 bear market, thankfully through knowledge and good judgement not the 1987-88 bear market, is that when the proverbial *shit hits the fan* or the wave breaks over the ship no amount of hope will ever recover your money. You will have to rely on the ship uprighting itself and adjusting to the new environment.

If you lose all of your capital you will be bankrupt and out of business. Don't let this happen to you. Plan, study, analyse, prepare and attack. If it becomes necessary retreat and attack another day.

If you wish to trade in speculative areas, make sure that you continually monitor these investments, trade only for the short term when every fundamental, be it real or imaginative, is in your favor.

No matter what you see, read or hear, **unless it is an atomic bomb**, markets will continue to expand and contract on the expectations of traders, as economic conditions basis the supply and demand laws of nature dictate.

These rules have been with us for several millennium or longer, they will not desert us now just because it is 1989. The technical approaches I have outlined in this book and chapter will hold good *ad infinitum. They have already stood the test of time.*

Always remember this, whenever things are confused, or not going according to plan, you have not been doing enough analysis work! Start again from scratch and replan your attack.

Throughout this chapter I have been discussing BHP Ltd, before concluding it will be necessary to outline my approach to commodity futures contracts. For this I am going to discuss the Comex Gold complex. In fact I am so fascinated by the gold market I will probably make this the sole subject of my next book, I am at present writing a bi-monthly Wave Trader Digest on the day to day technical events that come to pass, together with future price and time projections, based on the methods outlined in this text. (call me if you are interested in subscribing).

ANALYSIS PROCEDURES FOR COMMODITY FUTURES CONTRACTS - COMEX GOLD FUTURES

Refer back to Chapter 13 starting on page 145 for information on how to keep correct geometric data records for commodity future contracts.

The Comex Gold futures market is the primary world market for Gold. It is important that one studies a primary market for any commodity that you wish to speculate in. The beauty of Gold is that since 1974 there has been no possibility of insider trading. This market is completely free of governmental interference (at least for the time being). Gold has held a fascination to man over past, present and I expect future civilizations. For this reason its price trends should obey a natural law, examples sprinkled throughout this text already testify to this fact.

As a store of wealth, Gold has an intrinsic value, in times of crisis the gold price will adjust to its correct value in terms of the worthless paper that has been issued world wide by the controlling central banks.

Present statistics indicate that there is well over 100,000 tonnes (possibly 180,000 tonnes) of gold above ground and production is adding approximately 2000 tonnes per annum. 1 tonne equals 2000 pounds, 2000 pounds equals 32,000 ounces. 2000 tonnes equals 64 million ounces. At US$ 400.00 per ounce each years production is worth only US$ 25.6 billion. This value divided into the trillions of dollar debt that exists (that will never be repaid) is infinitesimal and argues that the only way out, is for gold prices to inflate. Gold held in reserve by world central banks is estimated as ranging from 18% to 30% of total above ground stocks.

In the early 80's the Aden sisters issued a report predicting that gold would rise to US$ 3000.00 per ounce - this to me is not a silly proposition, the only flaw in their argument has been the time frame. A valid case can now be made that gold could eventually be valued at US$ 5000 per ounce in a hyper inflationary environment.

The present world central banks monetary expansionist policies are creating money out of thin air by simply running their individual printing presses day and night. The currency notes on issue are only promises, promises for what? Since most world central banks abolished the gold standard, currency notes are really IOU nothings. As more and more paper is circulated at an exponential rate, gold via free market forces or governmental intervention, in any crisis, will have to inflate.

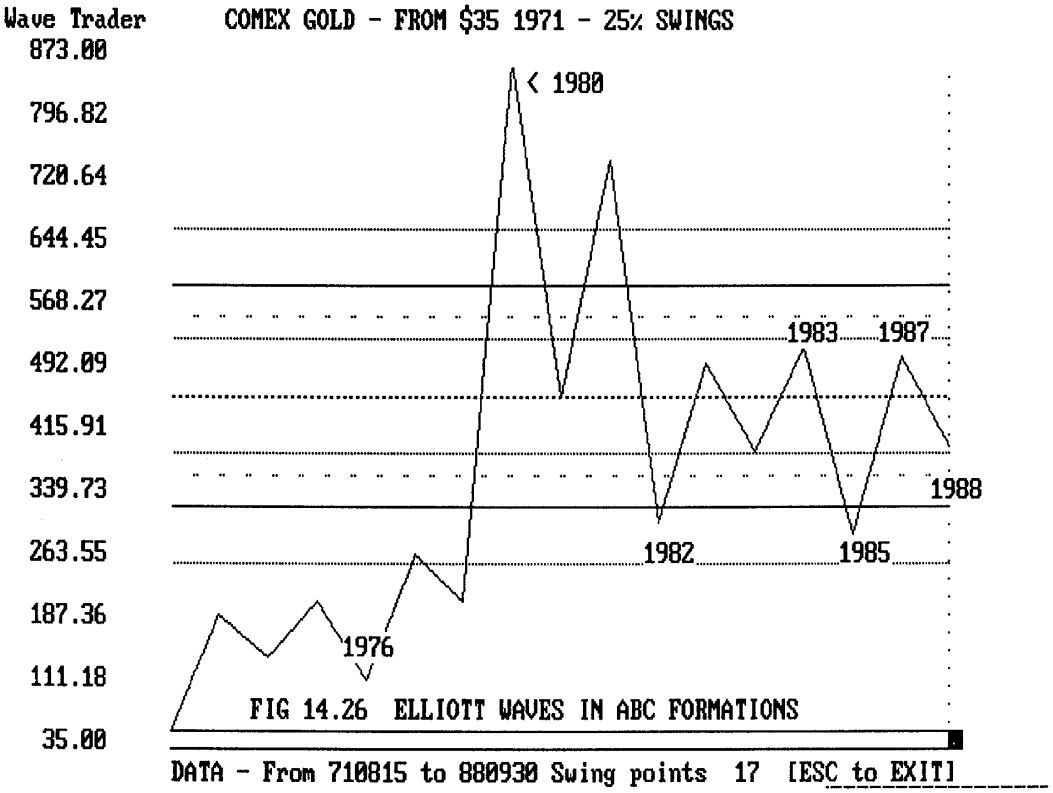
All it will take is several years of bad weather or drought. Disruption to food production will send food prices into an inflationary spiral. The only beneficiaries will be the sensible producers who refuse to accept more book debt and demand payment in the only hard currency that exists; GOLD.

In any case I am diverting from the subject, we are here to learn to identify the technical signals that will protect and enhance our investments.

COMEX GOLD

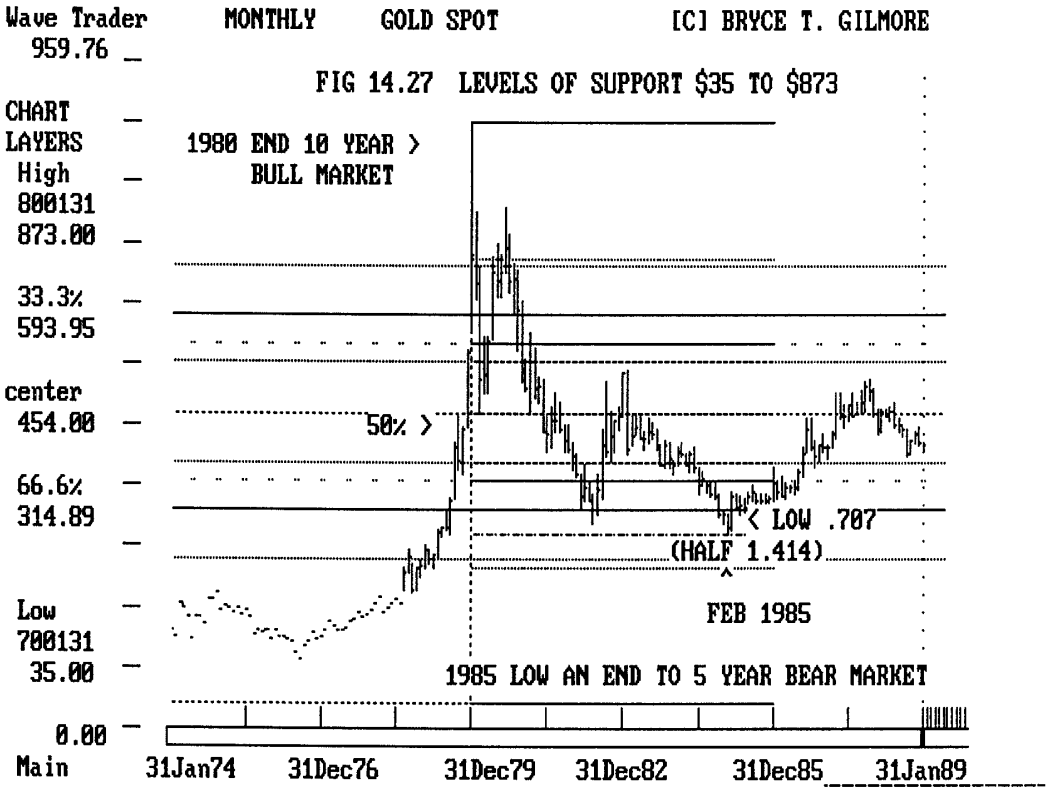
Just as with BHP Ltd, the first thing I will do is prepare a long-term swing chart.

FIG 14.26 ELLIOTT WAVE SWING CHART COMEX GOLD 25% SWINGS



This swing chart (FIG 14.26) will probably help clear up my statements on Elliott waves in commodities, made in chapter 12, page 140. Swings in the larger degree wave formations tend to be more random in appearance than with stocks or stock indices. Nevertheless strict ratios exist between each move as the "principle" suggests. I prefer to count waves in three phase ABC type counts for ease of understanding. When swings are reduced as I shall show, wave counts become more in tune with the general perception of the theory see Fig 12.12 page 139.

FIG 14.27 LONG-TERM MONTHLY COMEX SPOT GOLD PRICE 1974 ON



In January 1970 the free world gold price was trading at a base of US$35.00 per ounce, this was in times of fixed exchange rates and gold backed currency. On 15th August 1971, President Nixon closed the gold window, this in effect left the US$ without any redeemable value at all, only paper and whatever anyone else is prepared to give you in return for this paper. This lack of obligation now extends to most all central banks.

Commercial banks can create money out of thin air as well, did you know that for each dollar you deposit at the bank they are allowed to (create) lend out 8 against **their** new asset. You may wonder how they manage to make such massive profits considering how inefficiently they are run.

After the major nations floated their exchange rates in 1971 the US$ remained the worlds reserve currency even though it is now only a promise. Lesser industrialized countries with suspect credit ratings, in an effort to adjust to the new system, were forced to borrow US dollars (and mortgage their assets) or pay for international trade in gold. To accommodate the new system massive loans were made out of newly created paper (by private banks) to plaster the whole imbalance together. You would be aware that Russia indirectly pays in gold or oil, not paper, where international trade is concerned. They have now seen the error of their communistic ways and are intent on turning to capitalism (this way they can join the IOU system) as an easy way out. The end result is that Latin American and third world indebtedness has decimated living standards.

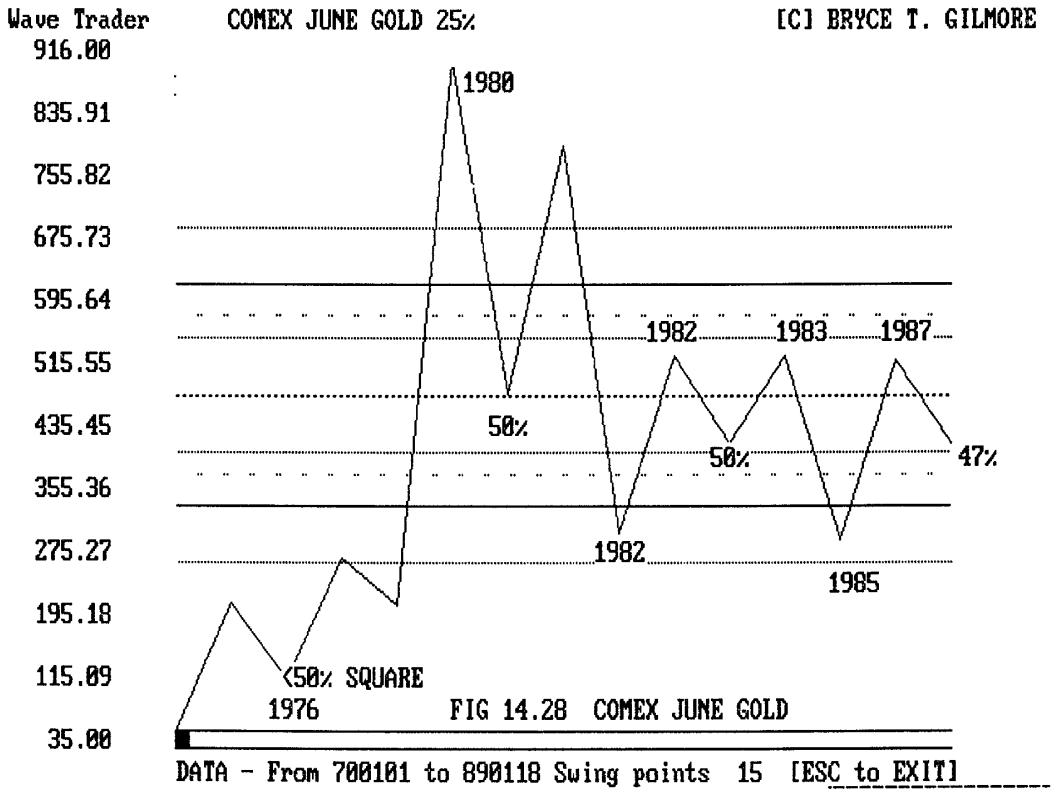
Another by product of monetary expansion is inflation, a political battle has been waged between governments and central banks to reduce this inflation, less the masses revolt. Socialist policies abound (need more money? lets print it) to keep the masses (who know little of what is going on) in their place. Throughout the past twenty years, debt, inflation, money supply (creation of paper) has accelerated at an unprecedented rate. This debt has now mortgaged future generations, at the same time destroying the seeds of past generations. Future generations will not accept this inheritance, this debt will never be repaid in a million years, it must be written off. The world central banks monetary system can be compared to a balloon that now needs air at an exponential rate - how long now before the bubble bursts and gold becomes the judge of paper assets? Fundamental deduction leads me to believe that we are heading into an era of hyper-inflation, my charts will guide me as we progress so that I will know how to act.

When it comes down to the truth, those pretty looking currency notes (affectionately called greenbacks, marks or yen) really do not have a value, unless someone is prepared to take them in exchange for goods. Stay out of debt and invest every dollar you get your hands on. Buy some form of negotiable asset. Better still invest in a country property near a river or the sea (buy a fishing rod), this could provide your family safe haven and an opportunity to remain self sufficient. Stock up with plenty of provisions. It could become extremely hard living out a depression in a large city, especially if food is in short supply and prices skyrocket. In the mean time get to work and learn how to use these techniques as a means to get your hands on more assets. Don't hoard paper (cash) its future is limited, gold is the only true currency recognized throughout the ages, so make sure that you have some stashed away for a rainy day.

In an earlier book "Time and Price Analysis of Stock and Commodities" (now out of print) that I wrote, as a bridge to this text and to get Wave Trader users started. I had a chart of June Gold with an expected price target of US$404 and US$375 (this was an update written in March 1988 when it was trading at $470 thereabouts) see page 138 T&PAS&C if you have it. We are now fairly close to the first target as gold has made lows basis June at $411.20 (890118). December gold traded to $395.50 (880926) and spot gold made it down to $391.80 (880926) a 50% retracement of the 1985-1987 range $281.60-$502.30. (which was the case I had in mind for the June contract at the time I outlined this projection)

Lets prepare a fact file for both June and December contracts. We can then use them to monitor important time frames for the future.

FIG 14.28 JUNE GOLD 25% swing 1975-1989



A careful study of the past 6 swings (FIG 14.28) would have this market in a 6 year reverse head and shoulders formation, technically the current outlook is that we are very close to a major low. The next advance could be as explosive as the 1978-1980 bull market.

FIG 14.29 JUNE GOLD 25% FACT FILE DETAILS

Print your fact file details to printer (Y or N) ...
Fact file details for COMEX JUNE GOLD 25%

DATE,	SWING,	HI/LO,	CYCLE,	RANGE,	IMPORTANT NOTES
700101	35.00	LOW	3025	35.00	START
741231	204.00	HIGH	1825	169.00	ARTIFICIAL ENTRY
760825	102.10	LOW	603	101.90	SQUARE 50%
781030	261.90	HIGH	796	159.80	SWING = 156.51 %
781130	201.60	LOW	31	60.30	37.7% RETRACEMENT
800121	916.00	HIGH	417	714.40	SWING = 354.37 %
800318	477.50	LOW	57	438.50	50% RETRACEMENT $35 TO HIGH
800923	805.00	HIGH	189	327.50	SWING = 68.59 %
820621	295.00	LOW	636	510.00	SWING = 63.35 %
820907	527.00	HIGH	78	232.00	SWING = 78.64 %
821004	413.00	LOW	27	114.00	50% RETRACEMENT $295-527
830215	528.00	HIGH	134	233.00	$233 IN 34 WEEKS
850225	287.00	LOW	1862	629.00	.714 RETRACEMENT $35-916
871214	521.00	HIGH	1022	234.00	SWING = 81.53 %
890118	411.20	LOW	401	109.80	SWING 21.1% .274VPD

Press any key to exit

Study the arithmetic relationships that continue to unfold within this contract. Continually it makes 50% retracements or 50% declines in price.

FIG 14.30 DECEMBER GOLD FACT FILE DETAILS FROM CONTRACT INCEPTION 25% SWINGS

```
Print your fact file details to printer (Y or N) ...
Fact file details for  COMEX DEC GOLD 25%
DATE,   SWING,     HI/LO,    CYCLE,     RANGE,     IMPORTANT NOTES
741231   200.70     HIGH       144      200.70    %SWING  100
760825   100.00     LOW        603      100.70    %SWING  50.17
781030   249.40     HIGH       796      149.40    %SWING  149.4
781129   191.90     LOW         30       57.50    %SWING  23.06
800121   959.90     HIGH       418      768.00    %SWING  400.21
800501   518.40     LOW        101      441.50    %SWING  45.99
800923   748.50     HIGH       145      230.10    %SWING  44.39
801107   593.00     LOW         45      155.50    %SWING  20.77
801201   753.00     HIGH        24      160.00    %SWING  26.98
820621   311.50     LOW        567      441.50    %SWING  58.63
820908   509.00     HIGH        79      197.50    %SWING  63.4
821004   390.00     LOW         26      119.00    %SWING  23.38
830215   553.50     HIGH       134      163.50    %SWING  41.92
850225   301.50     LOW        741      252.00    %SWING  45.53
871214   542.00     HIGH      1022      240.50    %SWING  79.77
880926   395.50     LOW        287      146.50    %SWING  27.03

Press any key to exit
```

When looking for time clusters in commodity markets it pays to use all three charts, ie., In the case of Gold, the spot, December and June contract swing highs and lows.

Time must be kept up for all charts if you are to confirm squarings in advance.

PRIMARY DECISION CHART

When the June chart for instance is your primary analysis source, ie., from January to June, use it as your primary decision maker. From July to December use the December chart as your primary analysis tool. Along the way continue to confirm all findings by double checking the spot chart and the secondary geometric chart.

THERE IS VERY LITTLE TO ADD TO THIS CHAPTER EXCEPT MORE ADVICE ONCE AGAIN!

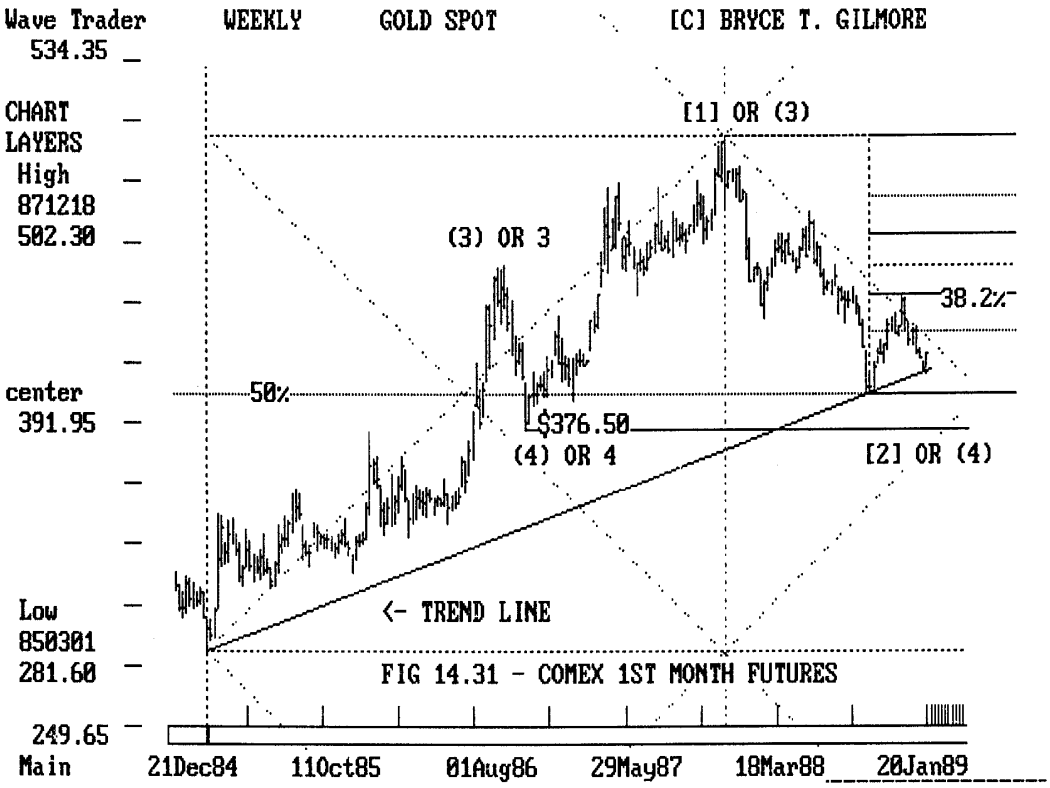
Markets have a way of deceiving the majority of players, most of the time. Research the past for a concrete understanding of what is possible, when history repeats itself jump aboard. Sometimes you may need to sit aside for long periods, if this happens make good use of your time, write a book or something just so you will keep your mind on the job at hand. Markets move in several phases as we have discussed (advance, distribution, decline and accumulation), approximately 70% of the time they are distributing or accumulating. When this action occurs markets tend to screw up your long term projections, don't deviate on an opinion unless overwhelming evidence refutes your previous analysis. Set guidelines for price supports and resistances that will reverse your opinion should they be broken. Most of all maintain your discipline to remain flexible. When a position is working nicely stay on top of it, when it fails to go your way step aside, don't hope. Learn all of the methods and techniques outlined in this book and apply common sense to your analysis, even if you fail to become a "hot shot" trader your analysis services will be keenly sort after in the corporate arena, this could be just as rewarding and less stressful, especially if you don't have that aggressive killer instinct a good trader requires and even thrives on.

Technical analysis is now a science - trading for profit is an art.

FIG 14.31 CURRENT POSITION AND FUTURE GOLD PROJECTIONS

The low registered on spot gold at the September equinox 1988 is proving to be a long term market low. The only reservation I have is that the rally from September 26th to December 3rd retraced 38.2% of the total decline December 1987 to September 1988. This could indicate a fourth wave correction, meaning that we still require one more down wave to complete the current bear market.. This market is dangerous if you don't keep in touch with it, so remain alert. If the trend line were to be broken, support would not be reached until the US$ 376 level basis spot and June contracts. Time will not be over balanced until May 8-12th, 1989 (50% anniversary of the 1985-1987 bull market range).

Downside is limited, upside is unlimited. Major waves are vibrating to form a significant high projection for early APRIL 1990. A minimum target for June gold is US$ 576. Longer term projections indicate that gold will at least reach 1980 highs.



15. RULES FOR CONFIRMING IMPORTANT MARKET VIBRATIONS

Market activity has three dimensions, TIME, PRICE AND SPACE. These "VIBRATIONS" are graphically represented by the sides of a triangle that adhere to a sacred geometric form.

As the circle or wheel of time continues forward, reactions to the past occur as both time elapsed and price moved either attract or repulse themselves from one gravity vortex to another.

The cycles of the universe are already programmed in nature, the cycles of 1 year, 1 month (lunar cycle), 1 day or 1 week should be considered as wheels within wheels. The effects of these cycles will balance out in the longer term, yet along the way we will see distortions or imbalance occur.

Market swing highs and lows are points in time, price and space where the PSYCHOLOGICAL imbalance of supply and demand dictated by traders reaches its zenith. The variables in the mathematical equation can fall into three categories, these strict ratios are known as the trinity of trinities. A cycle move could be considered as low to high and back to low or high to low and back to high. The ratio of time or price or both to each wave movement should fall into one of three categories if it is to signal a direct relationship of equality in degree.

The relationships known as the trinity of trinities are the divisions of 1 unit in ARITHMETIC, HARMONIC and GEOMETRIC MEANS.

The ARITHMETIC MEANS of 1 are .333 and .666 (1 to 2).

The HARMONIC MEANS of 1 are .414 and .586 (1 to 1.414).

The GEOMETRIC MEANS of 1 are .382 to .618 (1 to 1.618).

TIME calculations that can balance vibrations of previous trends are measured by extending ratios of previous ranges or cycles, as well as high and low prices forward on the chart Y axis.

PRICE calculations in terms of range retracements and projections, percentage increases in value from lows and highs of importance, percentage decreases in value from past highs of importance are all necessary to follow. These are easily plotted on the chart X axis.

SPACE calculations are third dimensional and may not necessarily be easily recognized.

The first important area to watch is specific times of the year which are historically important, static seasonal anniversaries such as Equinoxes, Solstices, Perigees and Apogees, Solar eclipses and interplanetary aspects such as conjunctions and oppositions.(see chapter 16 for further detailed explanation) Strangely these times can be confirmed usually by squarings of time of previous trend vibrations as they are repetitive and cyclical in nature.

The second method of identifying space squarings are at the crossings of time and price vibration angles of previous trends. Some may be quite obscure but as each individual method will confirm clusters at strong points in the future we should work all methods in unison. It is not necessary that vibration angles actually pinpoint a price intersection to be valid although if they do they are more convincing.

The third method of confirming a space squaring is when price or time of a previous trend squares in reflection. Ie., a price range in units squares to the future in time. For instance a previous trend may have advanced 144 points, when 144 days has elapsed from the change in trend that price range will square 100%. Conversely a previous trend may have lasted 144 days so that when the new trend has advanced or declined 144 points from its new beginning it will square price 100%. These methods of monitoring space are extremely important and should not be discounted under any circumstances.

TIME AND PRICE VIBRATIONS of a move MUST SQUARE out in definite proportions to past waves of SIMILAR DEGREE if they are to signal the completion of that market phase and the beginning of a new trend.

IMPULSE WAVES generally expand and contract in direct relationship to the Golden Mean (PHI 1.618) or 100% levels in time and price, ie 38.2%, 61.8%, 100%, 161.8%, 200%, 261.8% et cetera.

CORRECTIVE WAVES generally move in square ratios, ie 25%, 33.3%, 50% and 66.6% both in time and price.

OVERLAPPING CORRECTIVE WAVES in a move signal weakness of trend, these are usually a forewarning of exhaustion and an imminent reversal. These formations are commonly known as diagonal triangles.

CYCLES IN TIME OF TRENDS are not static, cycles expand and contract in direct relationship to the subconscious involvement of traders. In a bull market phase corrections will be much swifter and shallower as the expansion progresses. The same principle applies in reverse to a fully fledged bear market. Bear markets start off fast then make labouring protracted corrections before entering their final phase.

FILTER DAILY NEWS

It is most important that intermediate, primary and cycle time and price squarings are accompanied by overbought or oversold sentiment readings. Besides using mathematical equations to monitor these conditions it is also important to actually identify them in the true sense. Never act without thinking. Sometimes oscillators can remain overbought or oversold for weeks on end as a move virtually doubles previous gains, the only filter will be your perception of the prevailing market strength. This area alone could decide whether you win or lose when it comes to placing money on the line.

Let the market tell you where it is going, don't you tell the market where it has to go.

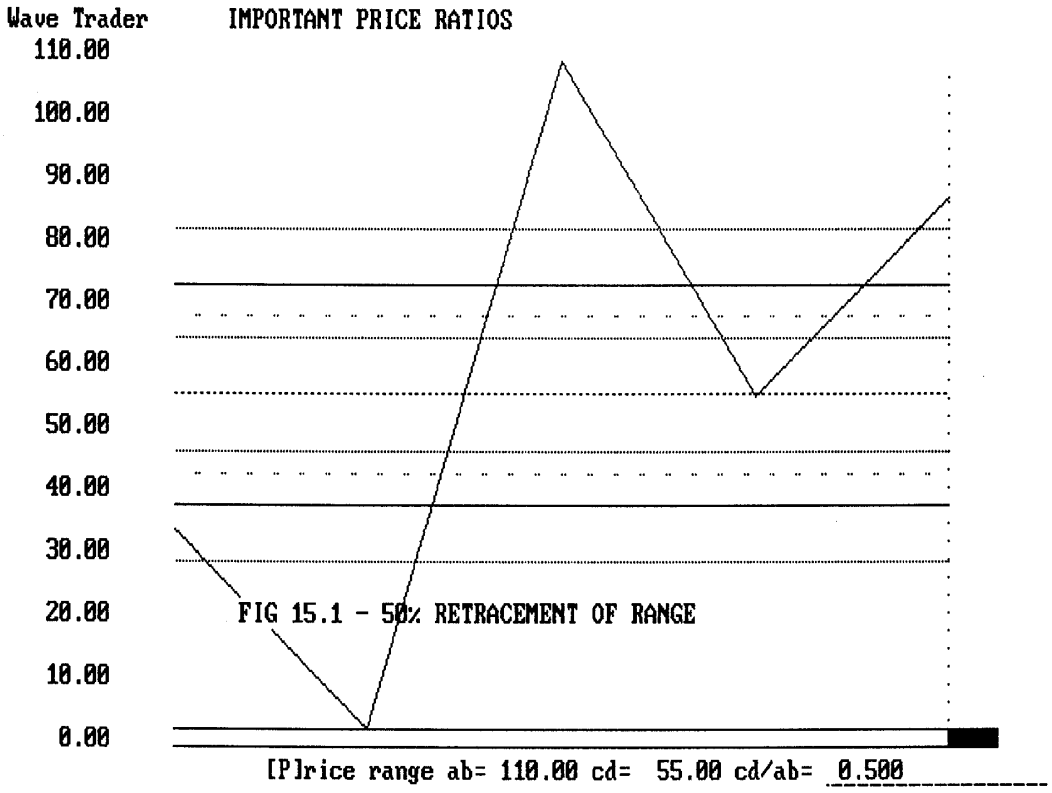
THE MARKET WILL EVENTUALLY SQUARE IMPORTANT RATIOS OF TIME AND PRICE WITH THE PAST, WHEN IT DOES AND YOU ARE CONFIDENT IT HAS! THEN TRADE- NOT BEFORE.

I HAVE NEVER SEEN A MARKET TURNING POINT OF IMPORTANCE THAT I COULD NOT JUSTIFY TECHNICALLY, USING THE METHODS OF TIME AND PRICE RATIO ANALYSIS.

COMMON PRICE RELATIONSHIPS THAT SIGNAL THE END OF A MOVE

The following diagrams of strict wave relationships in price are 95% accurate in determining a trend change when the accompanying confirmation of time is present. Commit these formations to memory and continually look for their occurence.

FIG 15.1 50% RETRACEMENT OF A PREVIOUS WAVE



This **price retracement ratio is** perhaps the strongest psychological force one will ever encounter. This is **an arithmetic mean** - by adding the total value of the move up (in this case 110) and the total move down (in this case 55) you have a total round trip of 165.

55 as a percentage of 165 = **33.3%** : 110 as a percentage of 165 = **66.6%**

FIG 15.2 - 61.8% RETRACEMENT OF A PREVIOUS WAVE

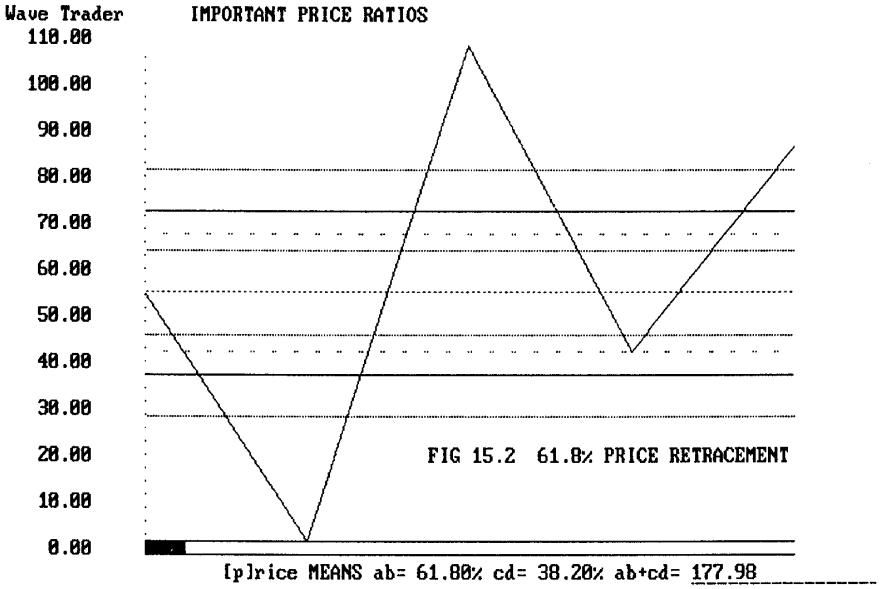


FIG 15.3 - 38.2% RETRACEMENT OF A PREVIOUS RANGE

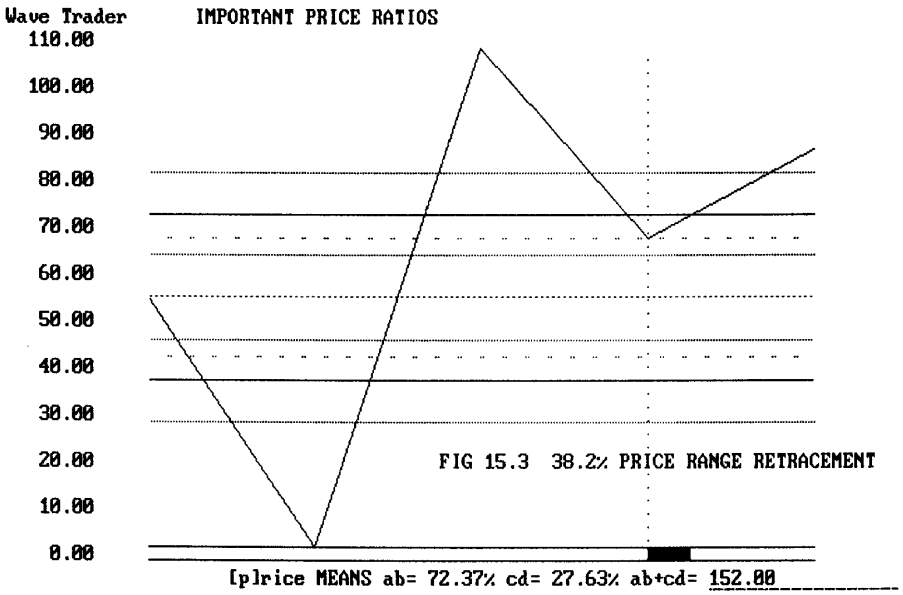


FIG 15.4 - 70.7% (HALF ROOT 2) RETRACEMENT OF A PREVIOUS RANGE

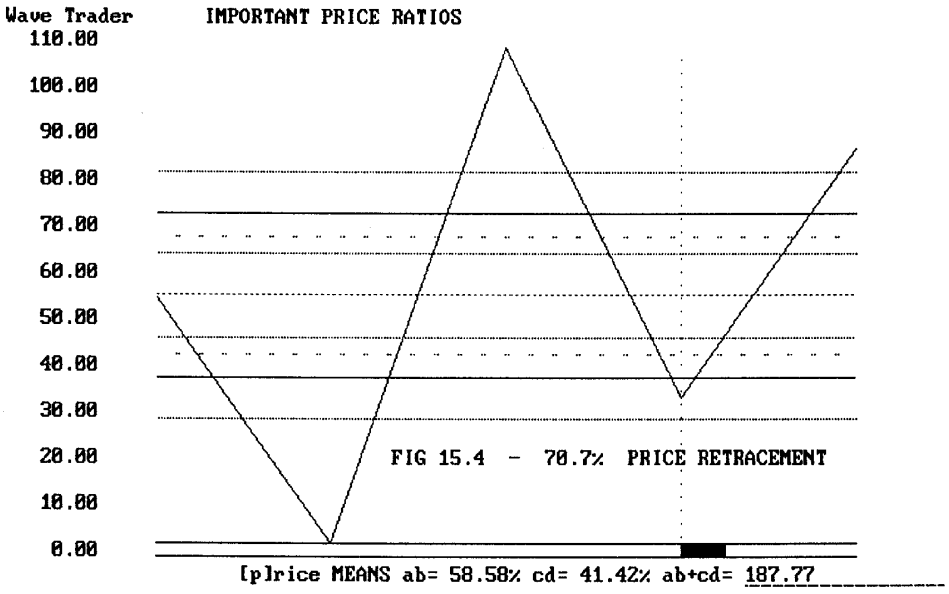


FIG 15.5 - 100% RETRACEMENT OF A PREVIOUS RANGE

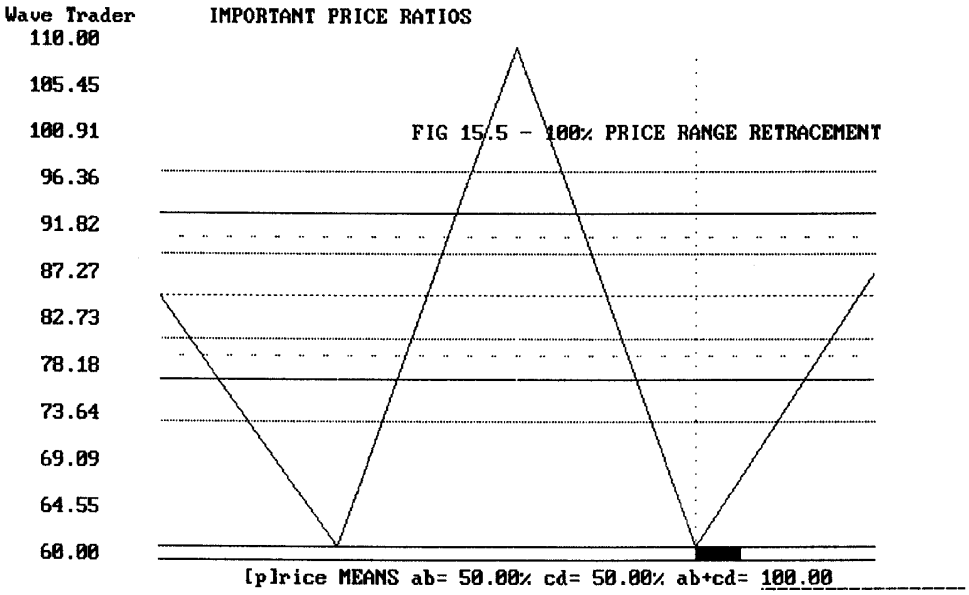


FIG 15.6 - 50%, 61.8%, 66.6% DECLINE IN VALUE FROM A MAJOR HIGH

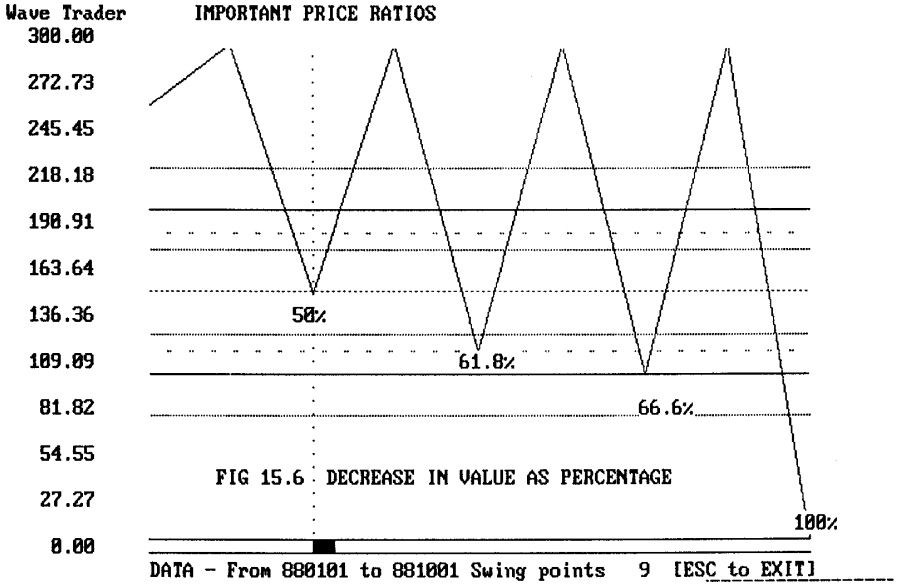


FIG 15.7 - 50%, 100%, 161.8% and 200% INCREASE IN VALUE OVER LOW PRICE

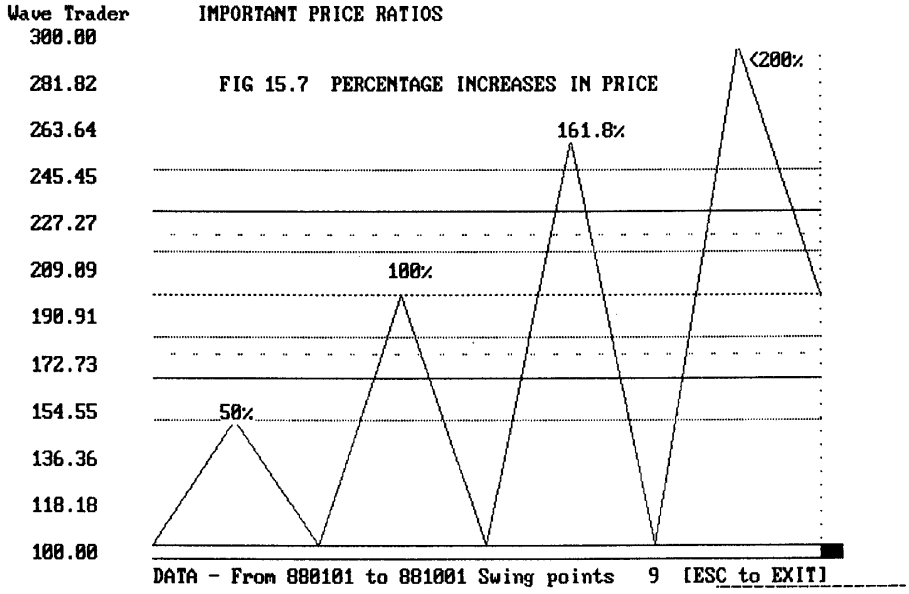


FIG 15.8 - 61.8% and 100% EXPANSION OF RANGE (1) FOR NEXT TARGET

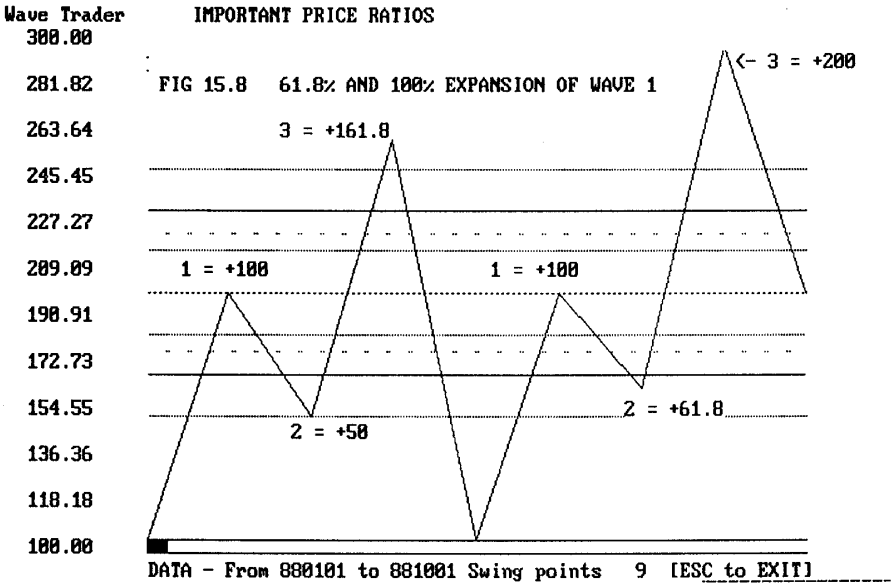
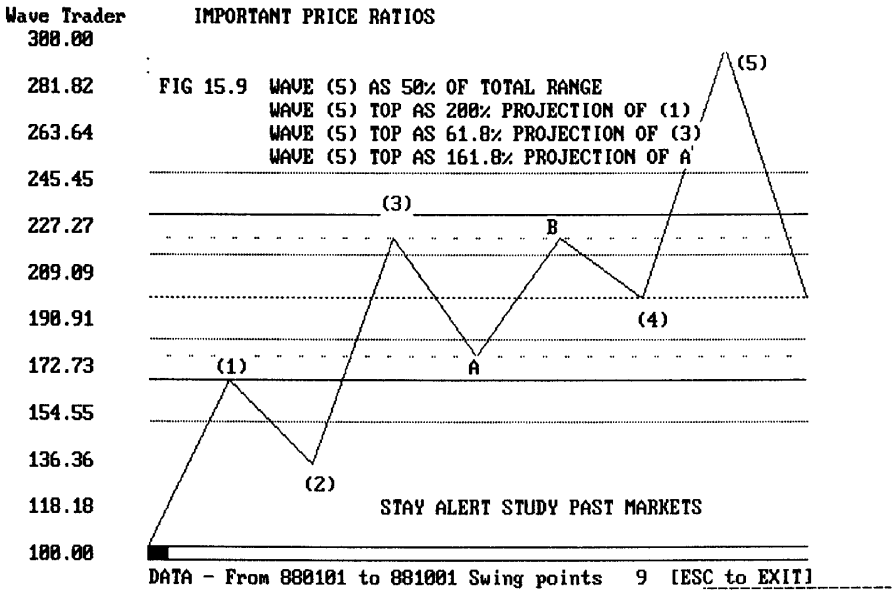


FIG 15.9 - FULLY INTEGRATED WAVE SERIES



TIME RELATIONSHIPS OF EXPANSIONS AND CORRECTIONS MUST RELATE TO PAST WAVES OF SIMILAR DEGREE.

The major ratios of time are strictly determined using ancient geometry. The Circle, Square and Golden Mean are the only means of explaining the irrational connection in this regard.

Unity of a cycle is 1, 100% time periods forward from high to high or low to low that mark a new high or low are convincing areas for a reversal of trend.

Because CYCLES ARE NOT ALWAYS STATIC, divisions and expansions of 1 in strict natural ratios must always be monitored.

Most Important ratios are :-

PHI(1.618) and 1/PHI(0.618)

Square root of PHI = 1.272

Square root of 2 = 1.4142

Square root of 3 = 1.732

Square root of 4 = 2.000

Square root of 5 = 2.236

At every major turn in market trend a natural triangular relationship between time and price will exist in strict ratios. These relationships may at first seem difficult to recognize. Only study and a clear appreciation for the aesthetic side of the market will be the answer to this problem. The right brain (which has the intellectual capacity to identify patterns in space) will recognize these situations once we have the knowledge, all we need to do is convince the left brain (the emotive and analytic side of our intelligence) that action is required.

The book "SACRED GEOMETRY"* by Robert Lawlor. Goes into great depth explaining natural ratios and their history, this should be considered a must for any student of market analysis.

* Thames and Hudson Ltd. London, 1982, reprinted 1987.

TRACK UNFOLDING RATIOS OF CYCLES WITHIN CYCLES

Each completed two phase cycle, ie., High-low-high-low OR Low-high-low-high, should contain relationships in waves of similar degree.

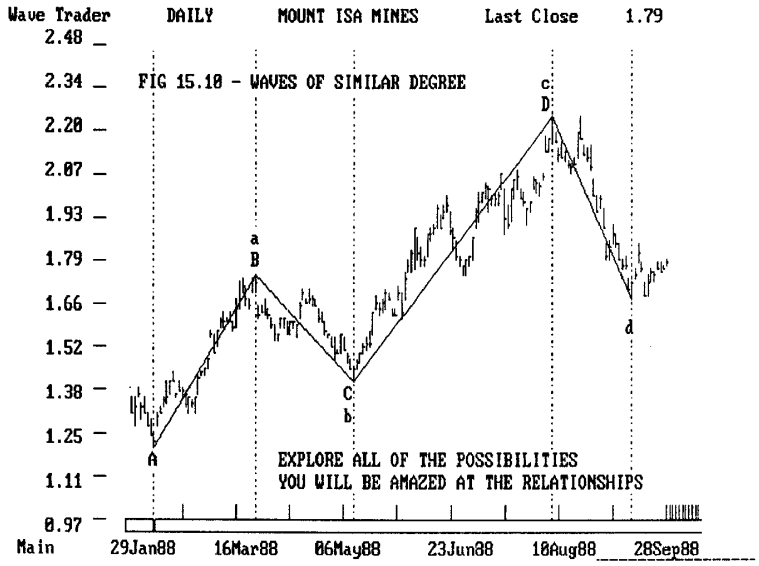
For instance if we were to label cycle turning points as A = start of first impulse, B = first exhaustion point, C = reaction exhaustion point, D = end of next impulse.

Relationships in strict ratios could exist in the following way :-

PRICE RANGE OF WAVE C-D as a percentage of B-C range, A-B range or A-B + B-C range. Price at point D as a percentage increase or decrease of price at points A, B or C.

TIME RANGE OF WAVE C-D as a percentage of time range A-C, A-B or B-C.

Always investigate each option, waves may be impulsing or alternating depending upon the market forces at work. Practical experience will guide you in the long term to appreciate what is important.



16. HELIOCENTRIC PLANETARY CYCLES

This book would not be a complete work unless I were to publish my findings in this area. In modern times there has been a popular trend towards market analysis using the age old art of astrology. Astro-economics as it is known remains in my view a subjective subject. Although the basis of astrology, (the movement of the planets in their respective cycles), holds an intriguing connection to the numbers and ratios put forward earlier in this text.

I am not convinced from a market analysis viewpoint that one needs to know more than the basics in this area as the methods and procedures already discussed will pinpoint areas for change in markets more precisely. In the interests of a better understanding of time cycles and human nature it is better to include this section rather than leave it out.

Firstly, it would appear that the planetary positions are important in as much as the psychological factor they generate. This alone warrants watching their progressions. Astrology in its various forms is probably the most written about subject in this world. Passed down through the ages, records of events have been connected with the aspects of certain planets in the universe. Some aspects are interpreted as having favorable meanings whilst others portray adverse meanings. The belief, by so many indivuals, that planetary aspects have a bearing on the the day to day events causes one to at least investigate this phenomena.

ASTRO ECONOMICS is the study of regular economic cycles as they relate to planetary positions. Some schools of thought have devised ways of weighting planetary aspects as either positive or negative, by using a cumulative total an oscillator can be plotted and compared with the past. Future predictions are based on past observations.

MUNDANE astrology is the study of planetary aspects for a particular place or institution, ie., a town, country, stock exchange et cetera. Astrologers prepare a birth chart to interpret the future effects of planetary aspects in general relationship to the masses of a town or country in a similar way to NATAL astrology.

ELECTRO MAGNETIC FORCES

Scientific evidence exists to say that ELECTRO MAGNETIC forces surrounding the EARTH's surface go through regular periods of change associated with the movement of the MAJOR planets. The SUN SPOT cycle is also another area of interest to students of ASTRO ECONOMICS. The SUN SPOT cycle goes through two phases in each 22 3/4 year period, the popular belief that a cycle only lasts 11.11 years has been disproved by Dr G. E. HALE who discovered the MASTER sun spot cycle. 2.5 cycles is very close to 55 years and the KONDRATIEFF 54 year cycle, also 5 half cycles make up an important harmonic vibration.

HELIOCENTRIC ASTRONOMY

From a scientific viewpoint and the study of cycles the approach I have made is in the area of HELIOCENTRIC PLANETARY POSITIONS. Heliocentric means the relationship of the planets to the SUN. These cycles of planetary movement are not distorted by retrogression of planets as occurs in GEOCENTRIC ASTRONOMY. Geocentric astronomy tracks the position of the planets relative to the planet Earth. One of course needs to keep an open mind as these periods of retrogression could have some psychological effect on the masses, in fact some work to light compares the stock market corrective cycles each year with the phases of retrogression experienced by JUPITER and SATURN.

> The planets of our universe, which is SUN centered, are positioned in the following order:-
>
> SUN - MERCURY - VENUS - EARTH - MARS - JUPITER - SATURN - URANUS - NEPTUNE - PLUTO

The relative distances of the planets from the SUN are measured in Astronomical Units (A.U.), with one A.U. equal to the mean distance of the Earth to the Sun. The exact distance of a planet from the Sun is called the Radius Vector by astronomers. As each planet moves through its orbit around the Sun it travels in an ellipse, this causes variations in its radius vector. The shortest radius vector is referred to as the Perihelion of the planet whilst the Aphelion is the point of greatest distance from the Sun. The shortest and longest distances are known as PERIGEE and APOGEE. As a planet moves through each orbit its velocity varies in proportion to the area of the el-

lipse that it transits (KEPLERS LAW) and these velocities can be calculated with amazing mathematical accuracy. The exact time of each orbit around the Sun is constant yet the time of each transit through a star sign (12 signs of the Zodiac) will vary depending upon the radius vector at that time. Planets travel at their slowest as they approach their Aphelion and at their fastest as they approach their Perihelion. There is some thought that planetary aspects that occur at times when velocity is at its greatest have a stronger effect.

My current research is based on the planets VENUS, EARTH, MARS, JUPITER and SATURN. To give you an idea of the variations in these planets velocity one needs to understand the star signs that the progressions move through.

Looking from the Sun a planet will travel through 360 degrees for each full planetary year, one orbit. If we assign 0 degrees to the entry point into ARIES (as viewed from the Sun) then each 30 degree progression will have the planet progressing into another star sign.

In order from 0 degrees ARIES we have TAURUS, GEMINI, CANCER, LEO, VIRGO, LIBRA, SCORPIO, SAGITTARIUS, CAPRICORN, AQUARIUS and PISCES. The orbit is complete as the phase has then returned to 0 degrees ARIES and starts again. An EPHEMERIS plots the planets positions as viewed from 0 to 30 degrees of each star sign.

I have found that the average speed of a planet through each star sign will give its position within +1 or -1 degree thus allowing simpler calculations to be made to find the relative aspects of each planet to the Sun. I make my studies by viewing the planetary aspects below a bar chart to determine if any regular price trends are associated with the important aspects.

ORBITAL TIME -The actual time of the following planets orbits around the SUN are again as follows:-

VENUS	224.695 days (0.618 years)
EARTH	365.2403 days (1.000658 years)
MARS	686.936 days (close to 34x20)
JUPITER	4331.242 days or 11.86 years
SATURN	10736 days or 29.394 years

TIME IN DAYS FOR EACH STAR SIGN TRANSIT

POSITION	VENUS	EARTH	MARS	JUPITER	SATURN
ARIES	18.815	30.36	49.37	327.61	870
TAURUS	18.719	29.87	53.26	332.37	828
GEMINI	18.612	29.54	58.54	344.39	806
CANCER	18.514	29.44	63.98	361.22	805
LEO	18.460	29.60	67.76	378.77	825
VIRGO	18.449	29.82	68.29	391.93	864
LIBRA	18.638	30.49	65.34	396.34	913
SCORPIO	18.758	30.99	60.16	390.41	958
SAGITTARIUS	18.899	31.35	54.66	376.27	990
CAPRICORN	18.969	31.45	50.28	358.52	992
AQUARIUS	18.962	31.28	47.80	342.21	966
PISCES	18.900	30.88	47.49	331.21	919

A quick observation will reveal that the Aphelion of EARTH occurs in the transit of Capricorn (as viewed from the Earth the Sun would be in Cancer, this is between June 21 and July 22). The Perihelion of EARTH occurs in the transit of Cancer (as viewed from the Earth the Sun would be in Capricorn, this is between December 22nd and January 20).

SIMPLE PICTURE

If you could stand on the SUN and observe the rotations of the EARTH (heliocentric astronomy) in relation to the INNER and OUTER planets you would at regular intervals observe what is known as planetary CONJUNCTIONS and OPPOSITIONS. Conjunctions are the times when the planets line up outwardly from the SUN, oppositions

occur at times when the Sun is between two planets. There are other configurations known as SEXTILE, SQUARE and TRINE used by astronomers. A planet is SEXTILE with another in heliocentric terms when the angle between the radius vectors from the Sun are at 60 degrees. SQUARE is 90 degrees and TRINE is 120 degrees. I feel from my research that other aspects such as 51.5 degrees SEPTILE (one seventh), 72 degrees PENTILE (one fifth) are areas that should be given consideration when studying cycles.

Relationships of the planets in any of these values are said to form hard and soft aspects. OPPOSITIONS and SQUARE are said to be hard aspects, CONJUNCTIONS can be either hard or soft, SEXTILE and TRINE are soft aspects. Donald Bradley in his book STOCK MARKET PREDICTION offers a table on the relative meaning of planetary conjunctions.

The planetary conjunctions of the SUN and planets with which EARTH participates are very regular in length and in fact Jupiter, Saturn, Uranus, Neptune and Pluto's conjunction cycles and opposition are between 13 months and 1 year.

Considering the number of OUTER planets that conjunct in roughly 1 year to 13 months or 55 weeks to 60 weeks or 367 to 400 days we have a solid foundation for the annual cycle of market performance. Gann theory explicitly tells us to watch anniversaries of previous major turning points for a change of trend. Both astronomically and psychologically these times have a sound basis.

Before we run off and program these time periods we must remember that these are average times only. Because of the ellipse type orbits of the planets we have them traveling faster and slower through their respective orbits as they are approaching their perigee and apogee (closest and most distant from the Sun).

This of course means that cycle times for future conjunctions and oppositions will be irregular. The correct manner of observation for these phenomena should be followed by a table from a HELIOCENTRIC EPHEMERIS. THE AMERICAN HELIOCENTRIC EPHEMERIS 1901-2000 prepared by Neil F. Michelsen is recommended.

OBSERVATIONS THAT SUPPORT FURTHER STUDY IN THIS AREA

FIG 16.1 - DOW JONES HIGH 1987

As an aside it is worth mentioning that the DOW JONES INDUSTRIAL AVERAGE high that occurred on August 25th 1987 at 2746.7 points intraday fulfilled a price projection target in Fibonacci degree of 1.618 times the rise from 1932 to 1973. Many other time factors were present such as 55 years from the 1932 low, 13 years from the 1974 low, 5 years from the 1982 low, what was absolutely amazing was that the number of days from the BULL MARKET HIGH of September 3rd 1929 to the high August 25th 1987 was exactly 21175 days or the square of 55 in weeks. 55x55 = 3025 3025x7 = 21175 55 as we know is a Fibonacci number and for two such important highs to fall to an exact time period of a natural square is perplexing to say the least. Just the same what is even more thought provoking is the fact that also on the 23rd, 24th and 25th of August 1987 we had an EARTH SUN VENUS opposition, an EARTH SUN MARS opposition, a SUN VENUS MARS conjunction and a NEW MOON.

For a graphic picture of the planets positions at the time of the Dow high we can look at the following charts.

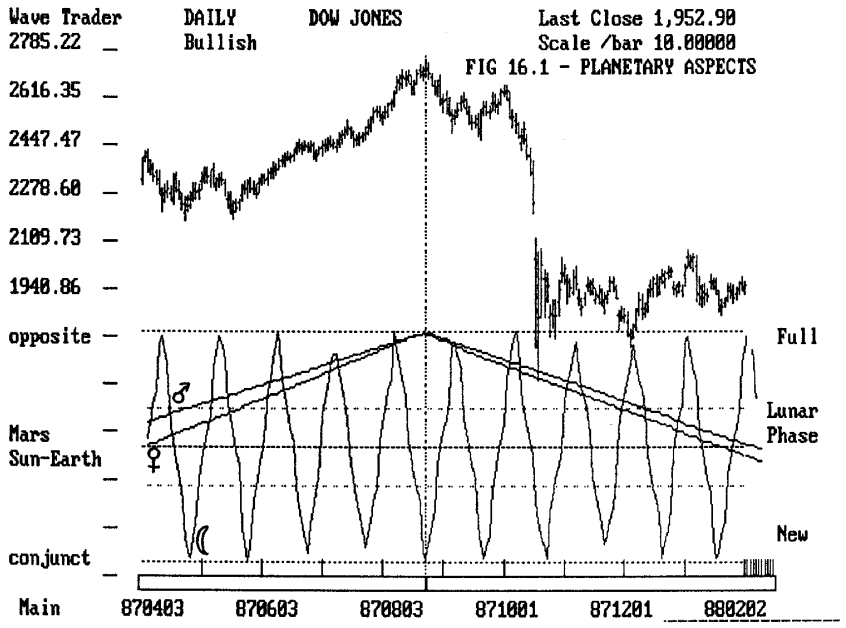
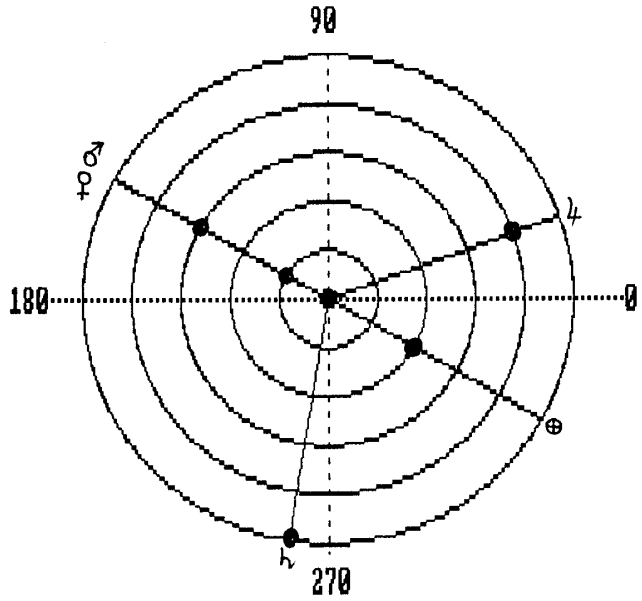


FIG 16.1 This bar chart of the DOW JONES INDUSTRIAL AVERAGES with the planetary cycle phases for Mars, Venus and the Moon relative to the Sun and Earth visually depicts an important cycle in time on the exact day of the top.

FIG 16.2 - HELIOCENTRIC PLANETARY POSITIONS - 24th AUGUST 1987

```
Report date = 870824
Heliocentric Planets
SUN      VIEW   ORBIT

VENUS♀ 150.9   0.419
transit  virgo

EARTH⊕ 330.4   0.918
transit  pisces

MARS♂  150.6   0.418
transit  virgo

JUPITER♃ 19.7   0.055
transit  aries

SATURN♄ 260.5   0.724
transit  sagitarius
```

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Radius vector readouts ....
SOLAR    Venus-Aspect     Earth-Aspect     Mars-Aspect     Jupiter-Aspect
Earth    179.6 OPPOSITE♂
Mars       0.2 CONJUNCT♂  179.8 OPPOSITE♂
Jupiter  131.2             49.2            131.0
Saturn   109.6             70.0            109.8           119.2 TRINE
```

If you imagine the planetary system lies on an horizontal plane this overlay depicts the positions of each planet in its orbit around the Sun. In addition to the so called hard aspects of Mars and Venus we also had a TRINE (120 degrees angle) between the radius vectors of Jupiter and Saturn.

GOLD MARKET DECLINE - 14th DECEMBER 1987 TO 26th SEPTEMBER 1988

Whilst I have been working on the manuscript for this book I have been actively trading the Gold market. Its been very interesting following this decline and looking to pick the bottom. The low occurred on Monday 26th, September 1988 at $391.50 basis Comex 1st month futures, $395.50 basis Comex December futures and made a double bottom on the Comex June futures at $412.00 (a low of $412.00 was made two days earlier on the Equinox). The 1st month futures completed a 50% retracement within $1.00 of the total rise from 1985 to 1987, December futures made a 61.8% retracement of the same rise. Two standard price and time angles on the December chart at 50 cents a week emanating from the February 1985 low and the 8th October 1986 intermediate high crossed in that week at $395.00. A week prior to the low day I addressed a small band of analysts at a WAVE TRADER demonstration and alerted them to the time and price supports that were just around the

corner. It took most of them several weeks before they acknowledged the accuracy of this form of analysis but I am used to that, in any case I positioned myself right at the bottom of the market and that what counts.

If one is patient all the signals for an imminent trend change will be telegraphed at the right time.

Using standard time and price procedures was ample in identifying this bottom. The total decline lasted 287 calendar days (2x144), trading time was 198 (lucas series), the price decline of the last wave down on the December contract was $89.50 (Fibonacci) and the three wave corrective formation adhered to a .382 and .618 relationship of GEOMETRIC mean which probably means that the next rise will unfold in an ARITHMETIC or HARMONIC relationship (see Sacred Geometry by Robert Lawlor page 84).

Insofar as the planetary observations were concerned the bottom was marked by a Mars-Earth-Sun conjunction which would have been common knowledge to any student of astronomy.

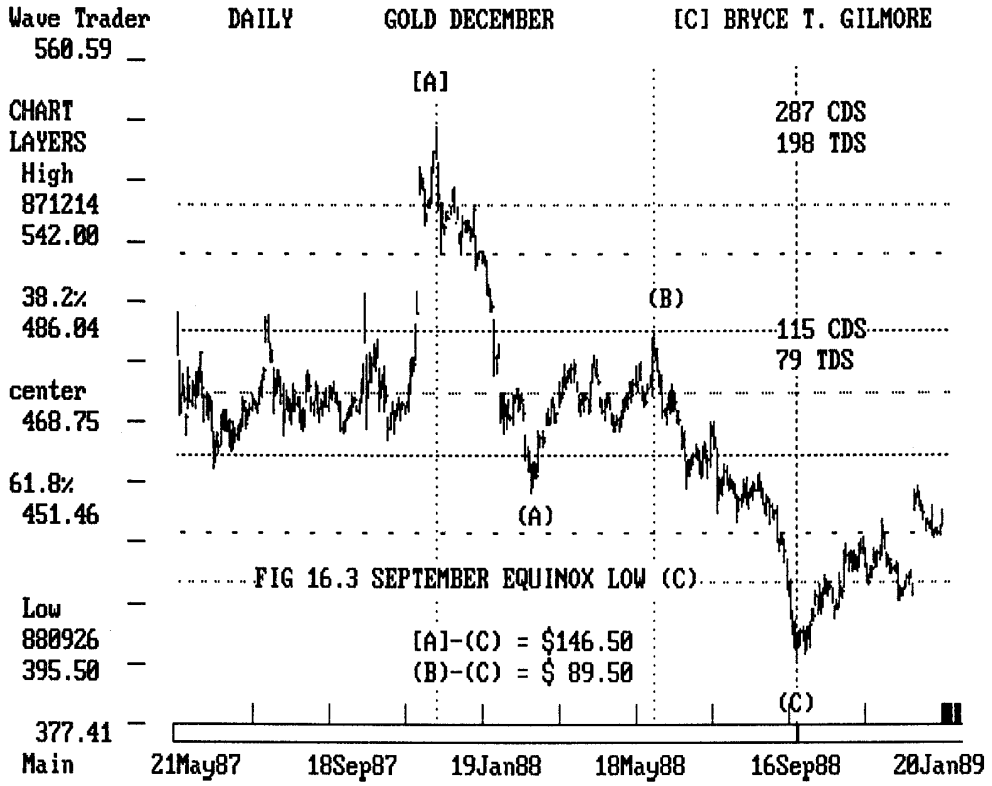
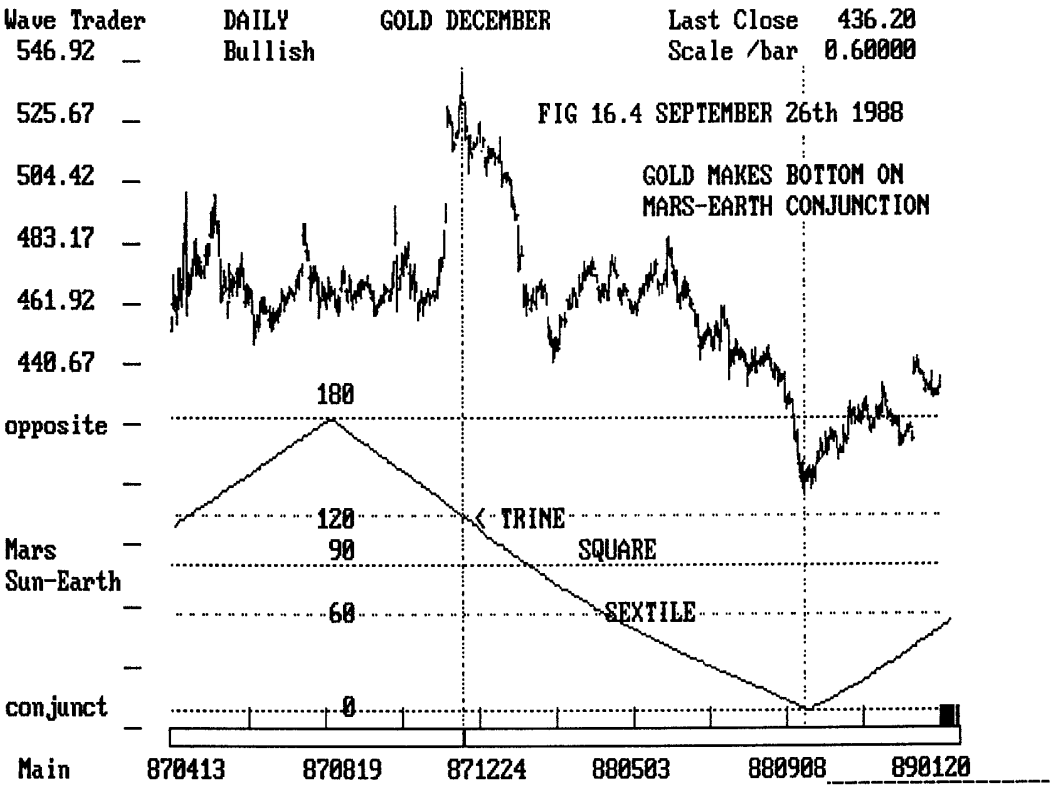


FIG 16.3 - GEOMETRIC AND FIBONACCI RELATIONSHIPS IN THE DECEMBER GOLD CONTRACT

FIG 16.4 - HELIOCENTRIC CYCLE PHASES OF MARS - SUN - EARTH



What I found extremely interesting about the whole corrective phase was the relationship in time of the Jupiter-Earth cycle.

If you look at the heliocentric overlay for the top on December 14th, 1987, (See FIG 16.5) you will see that Earth was SEPTILE Jupiter at a vector of 51.8 degrees (this is the angle of inclination of the Great Pyramid of GIZA). Also Saturn was in orb of opposition to Earth, we must not overlook that aspect.

HELIOCENTRIC OVERLAY FOR 14TH DECEMBER 1987

```
Report date = 871214
Heliocentric Planets
SUN      VIEW   ORBIT

VENUS   329.8   0.916
transit  aquarius

EARTH    81.7   0.227
transit  gemini

MARS    200.7   0.558
transit  libra

JUPITER  29.9   0.083
transit  aries

SATURN  263.9   0.733
transit  sagitarius
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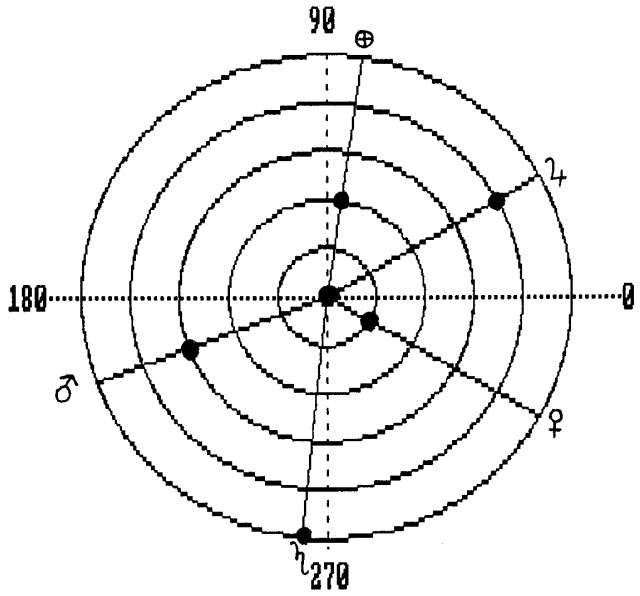


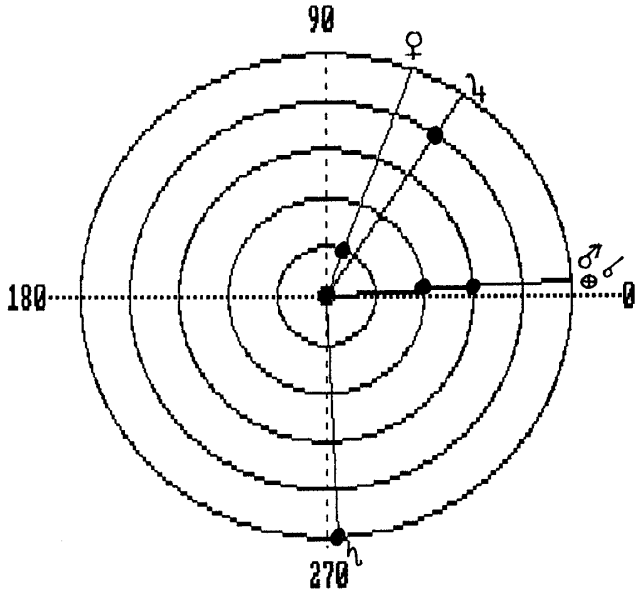

```
Radius vector readouts ....
SOLAR    Venus-Aspect     Earth-Aspect     Mars-Aspect     Jupiter-Aspect
Earth    111.9
Mars     129.1            119.1 TRINE
Jupiter   60.1 SEXTILE     51.8 SEPTILE   170.8
Saturn    65.9            177.8           63.1            126.0
```

FIG 16.5 - HELIOCENTRIC PLANETARY OVERLAY - AT TIME OF HIGH MADE IN THE GOLD MARKET PRIOR TO 287 DAY DECLINE.

HELIOCENTRIC OVERLAY FOR 26TH SEPTEMBER 1988

Report date = 880926
Heliocentric Planets

SUN	VIEW	ORBIT
VENUS	69.3	0.192
transit	gemini	
EARTH	3.4	0.009
transit	aries	
MARS	3.9	0.011
transit	aries	
JUPITER	55.8	0.155
transit	taurus	
SATURN	272.6	0.757
transit	capricorn	



Radius vector readouts ....

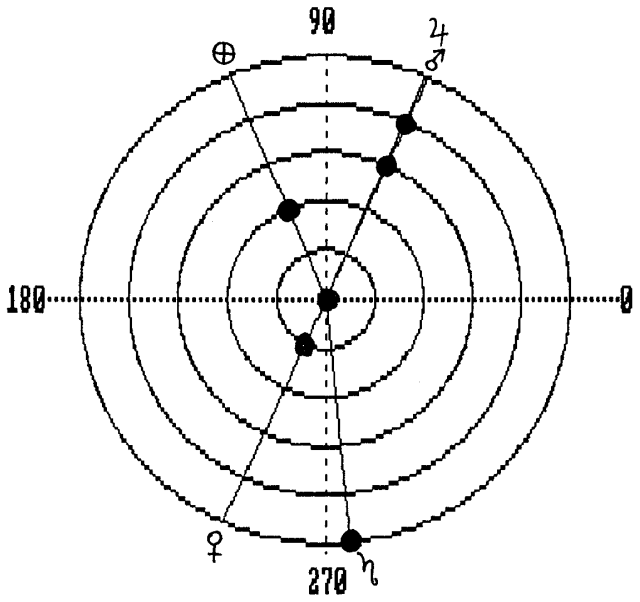
SOLAR	Venus-Aspect	Earth-Aspect	Mars-Aspect	Jupiter-Aspect
Earth	65.8			
Mars	65.3	0.5 CONJUNCT		
Jupiter	13.4	52.4 SEPTILE	51.9 SEPTILE	
Saturn	156.7	90.8 SQUARE	91.4 SQUARE	143.3 2-5THS

FIG 16.6 - PLANETARY ASPECTS WHEN GOLD MAKES LOW AFTER 287 DAY DECLINE

Now look at the heliocentric overlay for the low day September 26th, 1988. Both Earth and Mars are SEPTILE Jupiter whilst conjunct each other. Earth had closed in on Mars from 120 degrees TRINE, one third of its cycle (Arithmetic mean). Earth had transited 5/7 ths of its cycle (.714 very close to half of root 2) with Jupiter at the same time.

HELIOCENTRIC OVERLAY FOR 13TH JANUARY 1989

```
Report date = 890113
Heliocentric Planets
SUN      VIEW   ORBIT

VENUS   245.2   0.681
transit  sagitarius

EARTH   113.0   0.314
transit  cancer

MARS     66.6   0.185
transit  gemini

JUPITER  65.5   0.182
transit  gemini

SATURN  275.9   0.766
transit  capricorn
```




```
Radius vector readouts ....
SOLAR    Venus-Aspect     Earth-Aspect    Mars-Aspect     Jupiter-Aspect
Earth    132.3
Mars     178.7 OPPOSITE    46.4
Jupiter  179.8 OPPOSITE    47.5            1.1 CONJUNCT
Saturn    30.6             162.9          150.7 HARMONIC  149.6 HARMONIC
```

FIG 16.7 - HELIOCENTRIC ASPECTS FOR FRIDAY 13TH JAUARY 1989

Whilst working my way forward to investigate when Earth and Jupiter reach SEPTILE again (I have a notion that the planetary cycles once in motion give a clear insight into the workings of Fibonacci numbers and cycle ratios amongst other things), I came across this planetary aspect on the 13th January 1989. Mars-Jupiter conjunction with Venus in opposition. I was alerted to several important time squarings falling in the Gold complex over the next week. This prompted an early issue of WAVE TRADERS DIGEST on the 12th January, 1989, which stated, QUOTE "Decline that

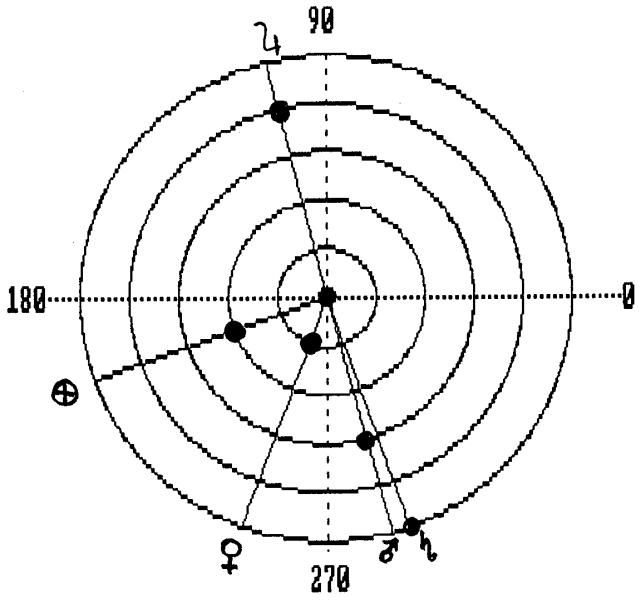
began December 2nd, 1988 to end Monday 16th January 1989", "Maximum downside target US$ 392 (basis spot) - double bottom with 26th September 1988".

The date of the next SEPTILE Earth-Jupiter was 17th January, 1989 and a period of 113 calendar days from September 26th, 1988. This time has balanced 100% of the last wave down in the December 1987-September 1988 bear market. Wave (B)-(C) refer FIG 16.3 page 204. On cue a series of lows came in throughout the early part of this week at the US$ 400 level (basis spot), by Friday the 20th close, two days ago the market had made a respectable rally to US$ 408.50. All momentum indicators have now turned up.

My long term forecast for gold as you probably have read (Chapter 14, page 188) is for Gold prices to enter an inflationary spiral, the next major squaring of time, in cycle degree, will not be balanced until early April 1990. During the period from now until then I expect to see fireworks in the Gold market and the financial system generally.

Report date = 900410
Heliocentric Planets

SUN	VIEW	ORBIT
VENUS	249.4	0.693
transit	sagitarius	
EARTH	200.0	0.555
transit	libra	
MARS	285.6	0.793
transit	capricorn	
JUPITER	104.2	0.289
transit	cancer	
SATURN	289.5	0.804
transit	capricorn	



Radius vector readouts ....

SOLAR	Venus-Aspect	Earth-Aspect	Mars-Aspect	Jupiter-Aspect
Earth	49.4			
Mars	36.2	85.6		
Jupiter	145.2 2-5THS	95.8	178.6 OPPOSITE	
Saturn	40.2	89.6 SQUARE	4.0	174.6

COMBINING PLANETARY CYCLES WITH CONVENTIONAL TIMING AND ANALYSIS TOOLS

I have developed a practice of tracking heliocentric planetary cycles as a secondary timing tool. I would never try using the planets as a stand alone tool to forecast market highs and lows as some do; mostly with limited success. I have seen the same strong planetary aspects coincide with major turning points in two entirely different markets, the dilemma was that each market was trending in a different direction, one bearish the other bullish. The end result was that they both reversed and both went on to make extreme highs and lows. Who's to say whether a particular planetary aspect is hard or soft under those circumstances.

If you develop an opinion based on mere expectation of what an aspect may mean (this is pure astrology) you leave yourself open to miss a profitable move.

WAVE FORM, MARKET SENTIMENT and GEOMETRY OF TIME AND PRICE should be your primary guide to market direction. If the planets help identify a major SUPPORT or RESISTANCE zone in TIME then all the better.

STUDY THE PLANETARY CYCLES AS A SCIENCE

Even if you never understand how to interpret planetary aspects you have lost nothing. The knowledge of ORDER IN THE UNIVERSE will be lesson enough to enrich your life.

KNOWLEDGE IS POWER, without it we are mere sheep. Sheep follow each other unwittingly, they allow themselves to be manipulated, they feel comfort in numbers and so long as they are all being treated the same, they are happy with their lot.

A Lion on the other hand is the master of his own destiny, he is a king, he can provide for himself and has no equal. The king of the jungle controls his own realm.

We live in a financial jungle.

WHICH IS IT GOING TO BE ?.... SHEEP OR LION.

GEOMETRY OF MARKETS - EPILOGUE

Understanding this text may at first seem difficult and complex to new students. I can assure you, you will become a LION in regards to the financial markets, if you can grasp the principles outlined in GEOMETRY OF MARKETS. The techniques of analysis put forward here are within the grasp of any human being, given that they apply themselves and work for the knowledge. I wish I could have had an introduction such as this, it certainly would have saved me many years of hard work.

Trading commodity and stock markets for profit is akin to competing in a formula one motor racing championship. If you have the best car, any mishaps can only be due to your own lack of control and incompetence.

A champion driver smooths out the course by anticipating, when to accelerate, when to slow down. A novice or fool bounces from kerb to kerb until he either learns the circuit or the wheels fall off.

Spectators who have little knowledge of the skills involved, watch on, never realizing the work and effort a champion must go to in fulfilling his ambitions. I have realized this and so should you, hard work, study, common sense and dedication is the only answer.

The competition is ever changing, we must adapt to each new environment if we are to succeed. Every course is a little different, constant pressure is upon us to calculate the odds and act accordingly.

To be a winner we must be trained and knowledgable, we must also be flexible and evaluate future events using known experiences from the past.

There are only three ingredients required for success, these are KNOWLEDGE - ABILITY - APPLICATION.

Good luck and successful trading,

BRYCE T. GILMORE .... 23rd January 1989.