Dynamic

Gann

Levels

Introduction

There are two basic approaches to market analysis: fundamental and technical.

The trader using fundamental analysis is interested in the underlying supply-demand dynamics of the market. He looks at factors such as the size of this year's crop (if it's an agricultural or food commodity), the industrial supply (if it's an energy or industrial metal), weather conditions in various parts of the world, the impact of government programs, etc.

The technical approach maintains that the only factor that really matters when you are trading stocks or commodities is price action itself. Price action alone reflects all that is known about the impact of fundamentals or crowd psychology on any given date. If the price of silver moves up 10 cents, it is not really important for me to know *why* it moved up; the reality is that it *did* move and I need to concern myself with how I should react to that situation, regardless of what caused it.

The major criticism of technical analysis is that market action is random: up-and-down without any rhyme or reason. Attempts to try to recognize chart formations or patterns to use as signals are futile to those who rely on the fundamental approach. It must be admitted that trying to see a "head and shoulders" top on a chart can be tricky for many of us. Chart patterns tend to be fairly subjective and imprecise.

But what if there is a more precise way of looking at price action . . . what if there is another way of thinking about price and time when it comes to the stock and commodities markets?

That is the subject of this paper.

Whatever has happened before will happen again.
Whatever has been done before will be done again.

Ecclesiastes 1.9

The Theory

GANN

W. D. Gann was a legendary trader from the first half of the 20th century whose theories were based, in part, on geometry. Gann believed in a natural order to the entire universe, and that this order could be seen in mathematical relationships which occurred in nature and in the stock and commodities markets.

Gann used a variety of studies and approaches to predict market action. His most famous prediction involved the wheat market in 1909, when on the last trading day of the month September Wheat hit the high predicted by Gann. Unfortunately, much of his work is shrouded in mystery, with charts and graphs and scrawled notes but little that is usable unless it is reworked.

Gann put much emphasis on understanding the relationship between time and price. In fact, one of his most famous quotes is *"When time and price coincide, change is imminent."* He believed that price action was not random, but the result of the influence of "points of force" found in nature. With his mathematical equations, Gann felt he could confidently predict future targets for both price and time. Using his special charts, astronomical data, Gann dates and angles and lines, seasonal time periods and many other methods, he made his now famous predictions.

While not following Gann in many of his more esoteric methods, the method you are about to learn does recognize the **orderliness of market price movement** and the importance of **mathematical relationships** between past price swings and future price action. As you will discover, there are often key alignments of price and time which you can see developing right before your eyes. Recognizing these critical points, you will be alert to the possibility of imminent change.

Just as a meteorologist studies weather patterns, climate, atmospheric conditions, and many other areas to make an intelligent conclusion based on his research, so we are going to study the action of markets in following certain relationships which can be expressed as mathematical equations. Even with the equations, we cannot say what the markets will, in fact, do -- instead, we are alert to the *possibility* of certain market behavior at specific times and can react when we see the market begin to respond as we had thought. Those who study market cycles find there is often a correlation between the projected cycle highs and lows and the actual market behavior; the big problem with cycles is their imprecise quality.

What we will be learning is much more precise, allowing us to have stop-loss locations, profit objectives, trailing stops, and so forth.

*Please remember this important principle: we're not so much attempting to **predict** what the market will do; instead, we're preparing ourselves to **respond** to what the market itself is doing at certain mathematically calculated points of time and price coincidence.*

Gann used certain ratios to establish price levels defined in terms of percentages of previous price action. He claimed, "Every stock makes tops or bottoms on some exact mathematical point in proportion to some previous move . . . divide the range of fluctuation by 8 to get the 1/8 points".

LEVEL	GANN RATIO	PERCENTAGE
1	**3/8**	**37.5%**
2	**4/8**	**50%**
3	**5/8**	**62.5%**
4	**6/8**	**75%**
5	**7/8**	**87.5%**
6	**8/8**	**100%**

I've taken Gann's basic concept to develop a technique which will not merely establish price levels for retracements, but will project the price levels out into the future. Before we get into the methodology, though, let's meet another famous market analyst whose work has been popularized. As you'll soon see, the two men shared very similar thoughts about the markets.

ELLIOTT

Another famous market technician was Ralph Elliott, who in 1939 propounded a theory that prices are governed by cycles which move in a predetermined number of waves. These waves, said Elliott, are consistent with the Fibonacci sequence of numbers. This is the sequence in which each successive number is the sum of the two numbers just before it (1-1-2-3-5-8-13-21 . . .). Elliott felt that waves move in a 5-wave sequence in the direction of the main trend (impulsive waves) and then in a 3-wave sequence against the main trend (corrective waves). This theory has come to be known as the Elliott Wave Theory, and there are institutes and individuals that specialize in Elliott Wave analysis.

However, if you've ever delved into the Wave Theory, you know that it tends to be pretty subjective and fairly complex. You actually don't know if a particular wave formation has been formed until after it *has* been formed in many cases.

Two aspects of this theory, however, do bear directly on what we will be doing first is the significance of waves within waves. As you zoom in or out of market price action, you are viewing price activity at various *degrees*. For example, a day trader only looks at 15-minute bars while a long-term trend trader may only look at weekly or monthly charts. Even though our immediate focus may be for a short-term (5-10 day) trade, the impact of longer-term price action is still important. The 5-10 day price fluctuations may be just a smaller wave within a larger wave covering several weeks, which in turn may be part of an even larger wave covering months, etc.

The second aspect of Elliott's Wave Theory which is significant for us is his belief that man's progress through history was following a natural law of growth often found in nature's growth/decay and expansion/contraction phenomena. He went on to write that this natural law produced a certain rhythm in nature which caused processes to repeat themselves in mathematically predictable ways. This law, he felt, was mathematically defined by the Fibonacci series, and in his writing he gave many illustrations of the importance of these numbers.

As Robert Prechter, an Elliott Wave authority, has stated "The occurrence of Fibonacci ratios in markets is not coincidence. Empirical evidence reveals the ratio relationships occur throughout the price structure of the markets." See the January 1995 issue of *Scientific American* in the Mathematical Recreations section for an interesting discussion of the Fibonacci series in plant life. Thus another market analyst confirms Gann's belief that there is a geometric relationship to price action.

These basic ideas from Gann and Elliott provide us with the following concepts as the underpinning of the Dynamic Gann Level approach:

1) **market price reflects all that is known about the market at any given time**

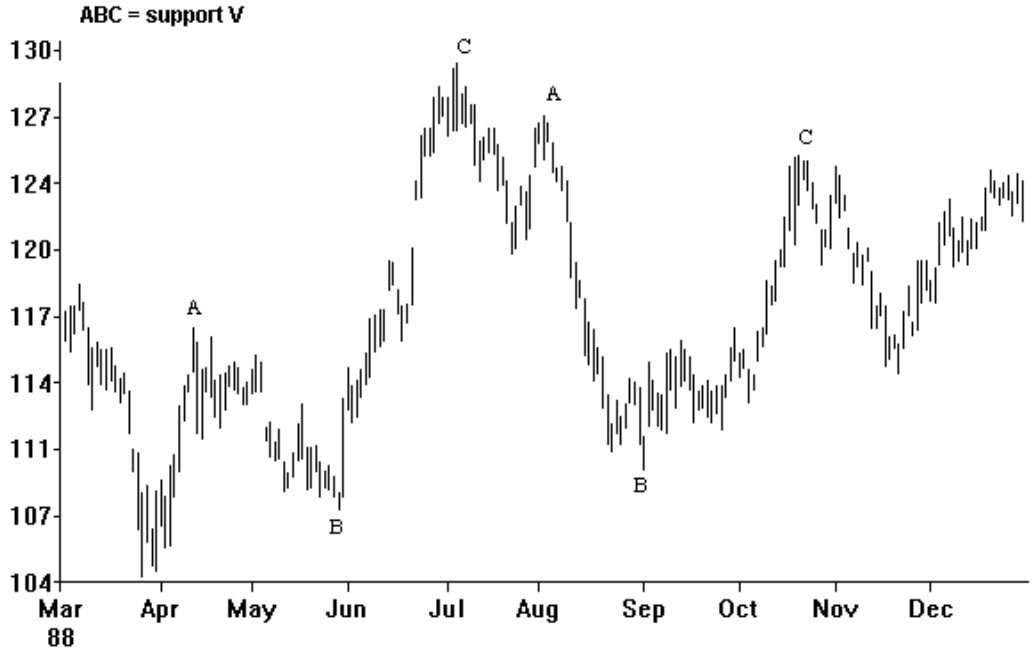
2) **the future is a repetition of the past**

3) **future market action is mathematically related to previous market action**

4) **market price fluctuates between natural support and resistance levels which expand and contract in a natural order based on mathematical ratios.**

The Data You Need

Look at the following chart of IBM stock prices. Can you see "waves" of price motion as they move up to a top and then down to a bottom? It's obvious that some waves are bigger and longer-lasting than others, isn't it?



Look at the high made at the first label C in early July at 129-1/2. We tend to think of highs and lows in terms of price alone, but they represent a point in time as well. That high made in July was not only at a particular price but it was made on a particular day. If you wanted to describe that high point using a graph coordinate in the form (x,y) you might label it like this: C(July 6,129.5). Every high or low turning point on the chart may be defined by an x,y coordinate of time and price, with time being the value along the horizontal x-axis and price the value along the vertical y-axis.

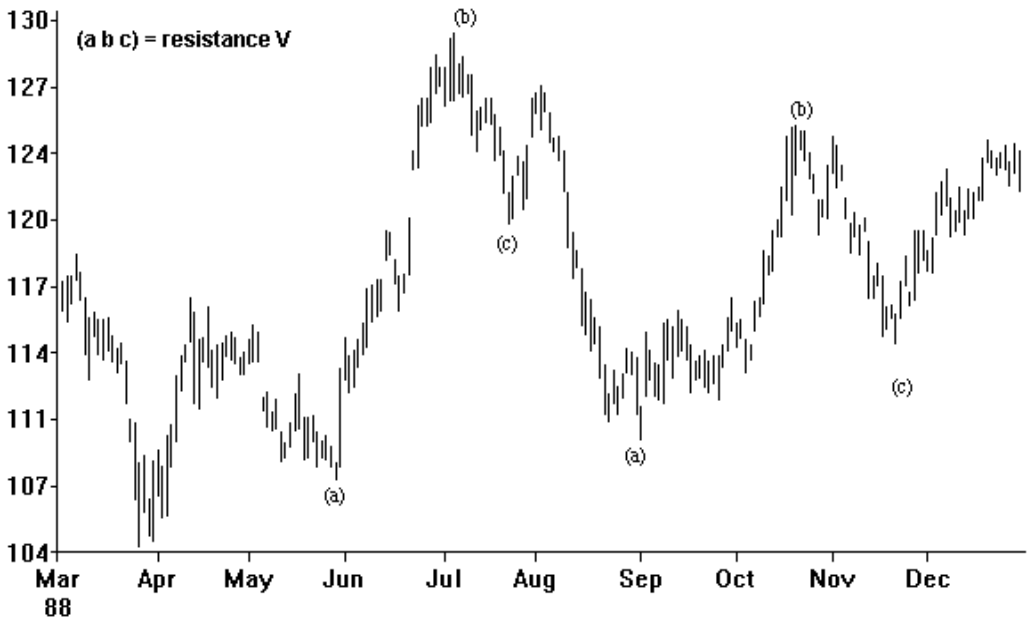
Turning points can all be labeled with coordinates in the form:
Turning point P(x,y) = P(time,price)

Now for each DGL formation, we'll need ***3 consecutive turning points***, which will form a wave in the shape of either a V or an inverted V. A V formation is used to project future support in a market and thus possible turning point lows; an inverted V is used to project future resistance and thus turning point highs. I've labeled two possible support Vs on the previous chart.

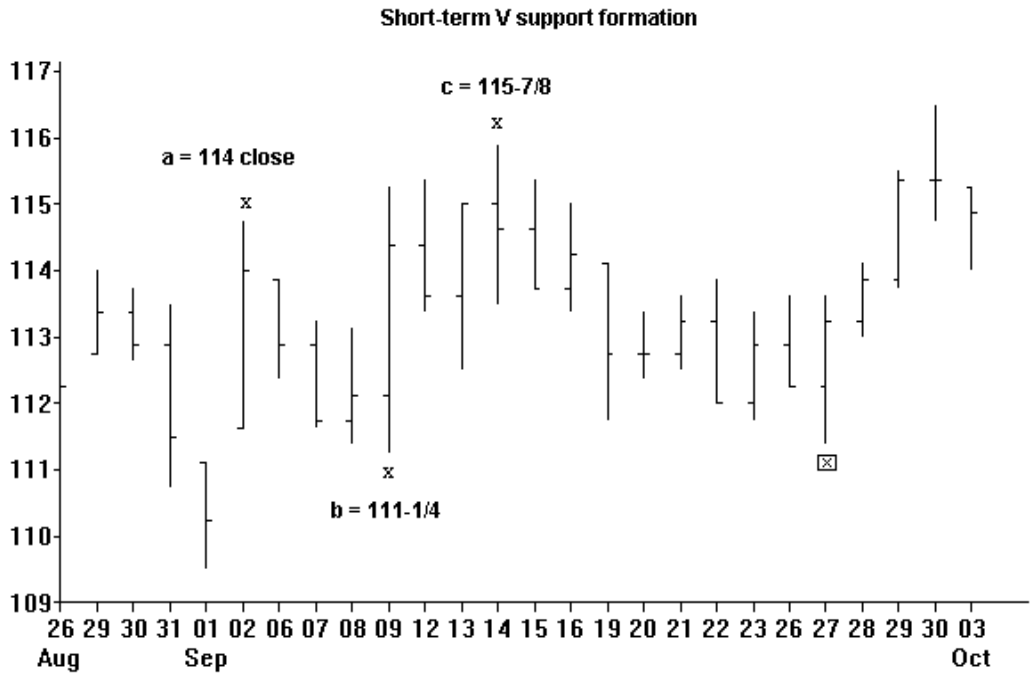
Ideally, the V formations you select should include a longer-term wave, a medium-term wave, and a short-term wave. This relates to Elliotts idea of "degrees". By a short-term wave I mean a V formation which covers a fairly short span of time; a longer-term wave might be one which was completed months ago, or at least has its origin (Point A) back some months.

There is no mechanical way to determine which V formations to use; a lot depends on your trading style. If you are a day trader, a short-term wave might be based on 15-minute bars while the long-term wave might be based on daily bars. The idea is simply to get formations from differing time frames so that your projections cover what Elliott called different *degrees* of waves.

Take a look at the following IBM charts illustrating the turning points and formations. Make sure you understand the concept of V and inverted V formations. In the updates I send out by email to our user group, I will usually include the dates of the formations I'm using to analyze specific markets; you may also feel free to contact me any time to get my perspective on the V formations for any market you might be watching



Now we'll zoom in on our IBM chart and take a look at a short-term DGL formation:



Let's imagine that today is Sept. 27, 1988 -- the price bar is marked with an x on the chart. Here's the price action for the day:

High 113-5/8 Low 111-3/8 Close 113-1/4

Since the market has been moving lower from the swing high made on Sep 14, we are wondering where we might find support and a potential low swing point. To work with support levels, we need to find V formations -- a high turning point, followed by a low turning point, ending with another high point. We would like to find a short-term V (close to the current date), a medium-term V (perhaps covering a few weeks of time) and a long-term V spanning a month or more, if possible.

Working back from the 27th, where the arrow is, we would naturally include the Sep 14 high at 115-7/8, then the low made 3 days earlier at 111-1/4, and finally the high above 114 on Sep 2. This gives us a short-term V formation.

point a (highest **closing** price at swing point) 114 on day 0

point b (lowest low at next swing point) 111-1/4 on day 4

point c (highest high at next swing point) 115-7/8 on day 7

Notice two important facts:

(1) point A of any formation will always be the highest or lowest **closing** price. Experience shows that the calculations are more accurate when using the closing price as the point of origination. This is especially true in commodities, where it is possible to have a notorious "running of the stops" during the day, causing a sharp spike in prices, only to have the market close back in a normal range at the end of the day.
Note that *the high or low closing price at a turning point may not occur on the same day as the highest high or lowest low intraday*. If you look back at the first IBM chart, you'll see that the high of 129.5 made on July 6 occurred the day after the highest closing price was. Point A of the formations is the only point which uses the closing price.

(2) instead of using a *calendar* date for the time of a point, we always assign point A the trading day 0 and then count *trading* days from A to each additional point. Thus, B was made 4 trading days after A and C was made 7 trading days after A. The trading days are counted from day 0, which is point A.

So the 3 points listed above could be given coordinates of the form **P(time, price)** as follows:

a(0,114) b(4,111.25) c(7,115.88)

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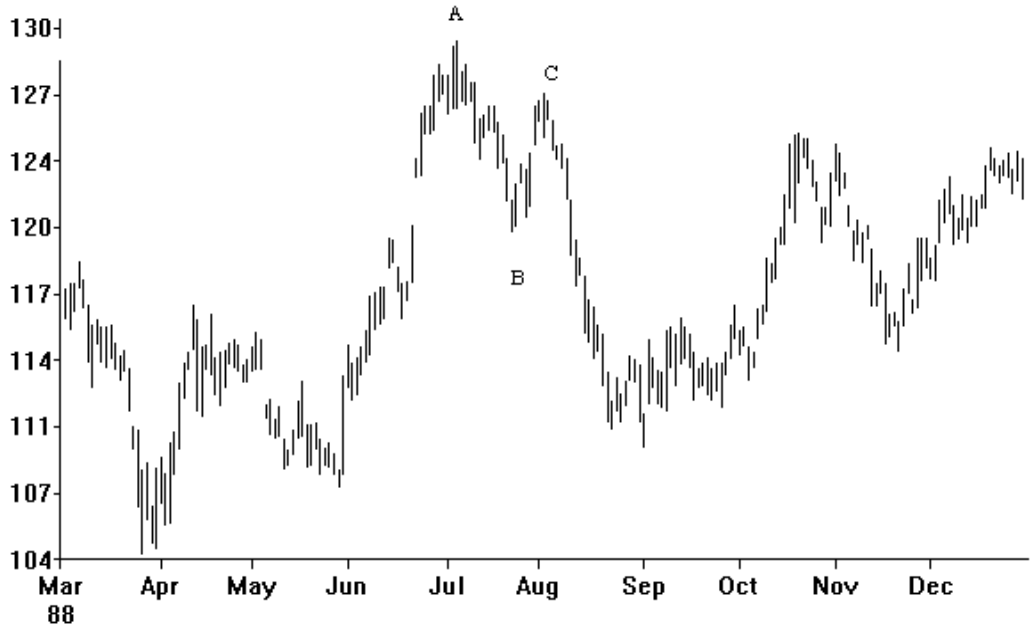
Now that we have a short-term V formation for calculating support, let's find a medium-term V. The most obvious one would be the V formation starting from the extreme high in July.



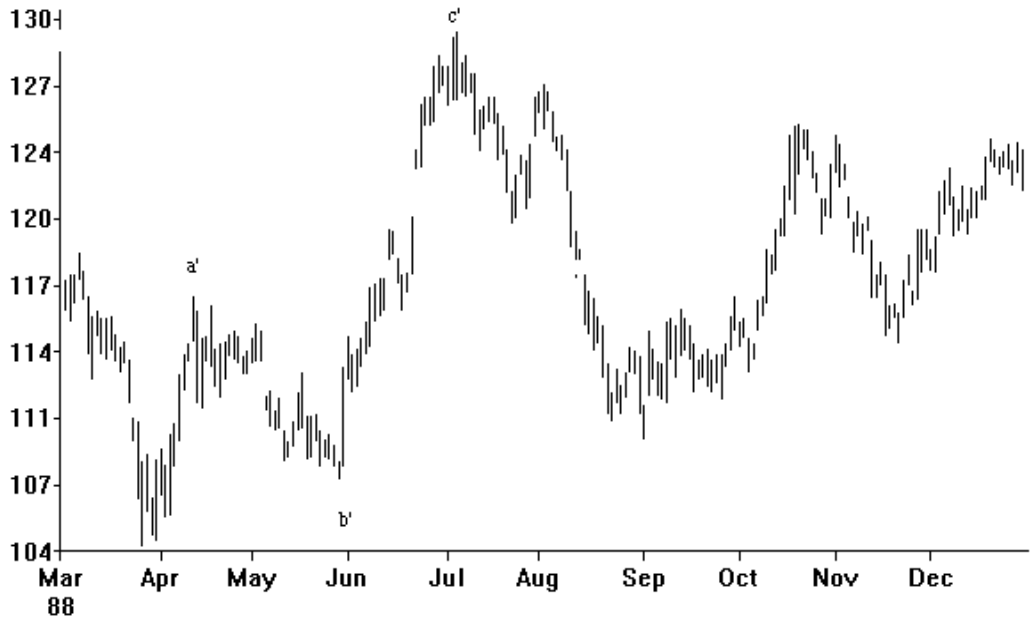
Notice that point A is the highest **close** made the day **before** the actual high.

Here's how this V could be labeled in coordinates

A(0,129.25) B(13,120) C(20,126.88)

We now want to find one more V, and this would the one beginning all the way back in April with the high closing price of 116-1/8. Let's call this formation a'-b'-c' and express the points as follows:

a'(0,116.12) b'(32,107.5) c'(60,129.5)



So we have 3 V formations representing 3 different time frames. Each time frame adds a layer of turning point price potential, as we'll soon discover. Using these 3 formations we're now ready to calculate support levels for the target date of our analysis, Sep 27.

Now we're ready to discuss the formulas for calculating these levels. Although what we are about to get into is somewhat mathematical, you don't need to be a "math whiz" to be able to apply the formulas. The real beauty of these formulas is that they work in all markets across the board in the same way. Since you are using previous price action of the market itself in the calculations, based on the swing points you select, you have a method which is automatically adjusted to the volatility and momentum of each market.

The Formulas

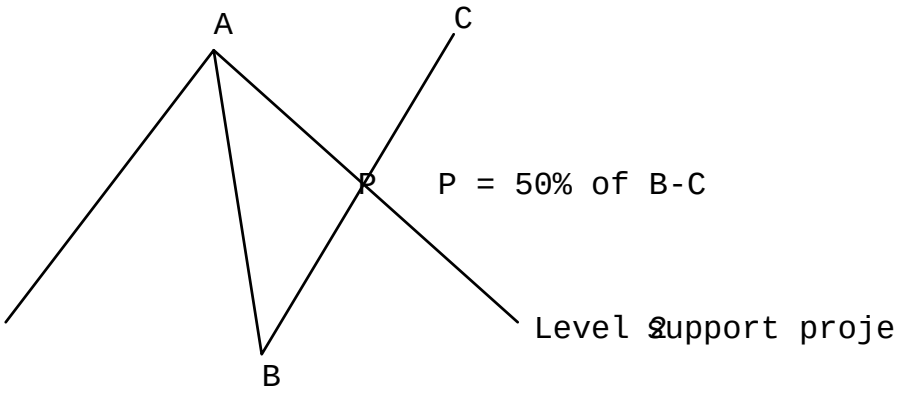
We're now ready to apply the Gann ratios using mathematical formulas. Taking one of the V formations, these formulas are used to find an exact point (let's call it P) along an imaginary line connecting B and C. Point P will be 37.5%, 50%, 62.5%, 75% and 100% of the move from B to C in both price and time.

Here are the ratios again:

LEVEL	GANN RATIO	DECIMAL EQUIVALENT
1	**3/8**	**.375**
2	**4/8**	**.500**
3	**5/8**	**.625**
4	**6/8**	**.750**
5	**7/8**	**.875**
6	**8/8**	**1.00**

For Level 1, we want to calculate 37.5% (.375) of the move between turning points B and C, **in both time and in price**. This will give us a new set of x,y coordinates, which we could call point P(time,price). Level 2 will be 50% of the move from B to C, etc.

Here's a graphic way of illustrating what I mean:



The identical formulas must work equally for both V formations (used to calculate support levels) and inverted V formations (used to calculate resistance levels). They must also work in any market and any time frame (daily data, weekly or monthly).

Here are the formulas used to calculate P(time,price) for each level

Level 1 **P(time) = .625 C(time) + .375 B(time)**
P(price) = .625 C(price) + .375 B(price)

Level 2 **P(time) = .5 C(time) + .5 B(time)**
P(price) = .5 C(price) + .5 B(price)

Level 3 **P(time) = .375 C(time) + .625 B(time)**
P(price) = .375 C(price) + .625 B(price)

Level 4 **P(time) = .25 C(time) + .75 B(time)**
P(price) = .25 C(price) + .75 B(price)

Level 5 **P(time) = .125 C(time) + .875 B(time)**
P(price) = .125 C(price) + .875 B(price)

Level 6 **P(time) = B(time)**
P(price) = B(price)

Let's see how these formulas work with the short-term a-b-c formation we selected earlier. Here are the coordinates for that V formation

a(0,114) b(4,111.25) c(7,115.88)

To find point P for Level 1 we apply the formula as follows

P(time) = .625 C(time) + .375 B(time)
P(price) = .625 C(price) + .375 B(price)

P(time) = (.625 * 7) + (.375 * 4) = 5.88
P(price) = (.625 * 115.88) + (.375 * 111.25) = 114.14

P(time, price) = P(5.88,114.14)

These coordinates for point P represent the exact point which is 37.5% of the move from b to c in both price and time. If you were to connect b and c by drawing a straight line between the two swing points on a chart, you could put a dot along that line at market day 5.88 (counting from day 0 at swing point a) and at a price of 114.14 and that would indicate the point which is 37.5% the total move from b to c.

Now we're ready for the next step -- using point P to make price projections into the future. *This is what makes this approach so powerful, and much more than a mere retracement method*.

In order to accomplish this we're going to draw upon a little coordinate geometry.

These next two formulas are the keys to the whole approach in many ways. They are used for all 6 levels in exactly the same way.

Here is the first formula with the values we would use in this example:

$$\mathbf{M} = \frac{\mathbf{(\ P(price) - A(price)\ )}}{\mathbf{(\ P(time) - A(time)\ )}} = \frac{\mathbf{(\ 114.14 - 114\ )}}{\mathbf{(\ 5.88 - 0\ )}} = \frac{\mathbf{.14}}{\mathbf{5.88}}$$

The result is .02

The value M is the mathematical symbol for the slope of a line.

The second formula requires us to plug in the current date for which we want to find the price levels; in our IBM example we are evaluating the market on Sep 27. Remember that time in all our calculations is based on the number of **trading** days, or the number of actual bars on the chart (this is true whether you are using monthly charts or intraday charts). Sep 27 is 9 bars after point c, which had a time coordinate of 7. So the time coordinate for Sep 27 is 7 + 9 =16 (remember that we are counting **total** trading days from point a). Let's call today our "target day", abbreviated "T".
Here's the second formula:

T(price) = M (T(time) - A(time)) + A(price) = .02 (16-0) + 114 = .32 + 114 = 114.32

THE LEVEL 1 SUPPORT PRICE ON 9/27 WILL BE 114.32

You would follow the same steps for each level until you had all 5 levels completed for V formation a-b-c.

Each day these price levels will change. For years I used these formulas in the exact spreadsheet format provided to you on the diskette. Using the spreadsheet you only have to update one cell each day for each time frame (the "current count from C" value). The next pages show the spreadsheet formulas. Only one column of formulas is printed because the same ones would be pasted into additional columns. The formulas are already set up for you in the accompanying spreadsheet templates provided on the diskette. In addition, user group members have converted these formulas into the appropriate code for Metastock, Tradestation and Supercharts indicators. These indicators are also on the diskette which accompanied the Manual.

RESISTANCE

A low close (time)	0
A low close (price)	111.38
B high (time)	3
B high (price)	116
C low (time)	31
C low (price)	107.5
Point C caldendar date	5/27
current count from C	87
1 P (time)	=(0.625*B8)+(0.375*B6)
1 P (price)	=(0.625*B9)+(0.375*B7)
1 m	=(B5-B16)/(B4-B15)
2 P (time)	=(0.5*B8)+(0.5*B6)
2 P (price)	=(0.5*B9)+(0.5*B7)
2 m	=(B5-B20)/(B4-B19)
3 P (time)	=(0.375*B8)+(0.625*B6)
3 P (price)	=(0.375*B9)+(0.625*B7)
3 m	=(B5-B24)/(B4-B23)
4 P (time)	=(0.25*B8)+(0.75*B6)
4 P (price)	=(0.25*B9)+(0.75*B7)
4 m	=(B5-B28)/(B4-B27)
5 P (time)	=(0.125*B8)+(0.875*B6)
5 P (price)	=(0.125*B9)+(0.875*B7)
5 m	=(B5-B32)/(B4-B31)
6 P (time)	=B6
6 P (price)	=B7
6 m	=(B5-B36)/(B4-B35)
LEVEL 1	=B17*((B8+B12)-B4)+B5
LEVEL 2	=B21*((B8+B12)-B4)+B5
LEVEL 3	=B25*((B8+B12)-B4)+B5
LEVEL 4	=B29*((B8+B12)-B4)+B5
LEVEL 5	=B33*((B8+B12)-B4)+B5
LEVEL 6	=B37*((B8+B12)-B4)+B5
LEVEL 2 CHANNEL	=B21*(B12)+B9

SUPPORT

A high close (time)	0
A high close (price)	116.12
B low (time)	32
B low (price)	107.5
C high (time)	60
C high (price)	129.5
Point C caldendar date	7/6
current count from C	59

1 P (time)	=(0.625*G8)+(0.375*G6)
1 P (price)	=(0.625*G9)+(0.375*G7)
1 m	=(G5-G16)/(G4-G15)
2 P (time)	=(0.5*G8)+(0.5*G6)
2 P (price)	=(0.5*G9)+(0.5*G7)
2 m	=(G5-G20)/(G4-G19)
3 P (time)	=(0.375*G8)+(0.625*G6)
3 P (price)	=(0.375*G9)+(0.625*G7)
3 m	=(G5-G24)/(G4-G23)
4 P (time)	=(0.25*G8)+(0.75*G6)
4 P (price)	=(0.25*G9)+(0.75*G7)
4 m	=(G5-G28)/(G4-G27)
5 P (time)	=(0.125*G8)+(0.875*G6)
5 P (price)	=(0.125*G9)+(0.875*G7)
5 m	=(G5-G32)/(G4-G31)
6 P (time)	=G6
6 P (price)	=G7
6 m	=(G5-G36)/(G4-G35)
LEVEL 1	=G17*((G8+G12)-G4)+G5
LEVEL 2	=G21*((G8+G12)-G4)+G5
LEVEL 3	=G25*((G8+G12)-G4)+G5
LEVEL 4	=G29*((G8+G12)-G4)+G5
LEVEL 5	=G33*((G8+G12)-G4)+G5
LEVEL 6	=G37*((G8+G12)-G4)+G5
LEVEL 2 CHANNEL	=G21*(G12)+G9

To recap what we're attempting to do:

1. identify A-B-C formations based on turning points. V formations for support levels, inverted V formations for resistance.

2. use either the highest or lowest close for A.

3. measure percentages of the move from B to C in both time and price to give an exact time and price coordinate for each of the 6 levels.

4. project each price forward to give us a price level for the current date.

If the math is confusing to you, don't worry about it; as we get into the next section you'll see how to use the price level information to actually guide your trading decisions. After the spreadsheets you'll find a worksheet which will help you pull out the pertinent info you need from your charts or price logs.

WORKSHEET FOR RESISTANCE AND SUPPORT DATA

Resistance Formation (inverted V)

Long term *Mid* *Short*

A price (low close)

B time (market days from A)

B price

C time (market days from A)

C price

C calendar date

Support Formation (V)

Long term *Mid* *Short*

A price (high close)

B time (market days from A)

B price

C time (market days from A)

C price

C calendar date

Using the Technique

Each price level you calculate represents a degree of increasing strength from 1 to 6.

A Level 1 price for support or resistance, for example, is usually penetrated (if it isn't, that in itself tells you something about the weakness of the market).

The key level is Level 3 -- it represents a 62.5% correction of a prior price swing which may have happened months earlier, yet still exerts an influence on the market. Many times you will see the market move up to a Level 3 price and stop right there. When a Level 3 projection is broken, it is a signal that the next formation *back* in time should now be evaluated. For instance, if an L3 projection from a short-term formation is broken, move back to the medium-term formation and see where prices are in relation to it.

Each time frame also contributes to the picture.

When you have 2 time frames giving prices which are close to one another on the same date, you have a stronger support or resistance area than if you had only one price from one time frame -- this is what I call DGL "convergence".

When you look at the various price levels, what you want to notice are any clusters of prices close to one another (assuming they are also close to where the market is currently trading). Each price is one layer of support or resistance; if you have 3 prices clustered together on the same date, that reflects 3 layers the market would need to penetrate and so it represents greater turning point potential than if you had merely one projection for that date.

Let's go back to the IBM chart and see how this works in practice. Again, we're imagining that the date is 9/27/88 and we are evaluating the market at the end of the day, in order to determine if we should take any action in the near future. Since the market has been moving down from a prior swing high, we are curious about where to look for support for a possible opportunity to go long. Having collected the necessary data for our support formulas using V-shaped formations, the next page shows what our worksheet might look like:

Support Formation (V)

	Long term	Mid	Short
A time	0	0	0
A price (high close)	116.12	129.25	114.0
B time (market days from A)	32	13	4
B price	107.50	120.00	111.25
C time (market days from A)	60	20	7
C price	129.50	126.88	115.88
C calendar date	7/6/88	8/2/88	9/14/88

The figures from the worksheet can be transposed to the spreadsheet as shown on the next page. Since my spreadsheet program can't work with fractions directly, I've converted the 1/8 stock increments to decimals (ie. 100-3/8 = 100.38, etc).

The only other number we need is the number of market days from point C in each time frame to the date we're interested in -- which is 9/27.

The "current count from point C" is all that needs to be updated when calculating new levels.

You don't even need to update the spreadsheet every day, if prices are not moving close to one of the price levels. All of the information below the "current count" row is automatically calculated by the spreadsheet formulas.

You'll see that since we were using 3 time frames we wind up with 18 potential support price levels at the bottom of the spreadsheet. I know you're initial reaction is going to be "What do I do with all those numbers!?" Remember that we are wanting to align price and time; *so the only prices in that group of 18 that really matter to us on 9/27 are the prices which are near where the market is actually trading on this date*. All other prices calculated by the spreadsheet are irrelevant except the cluster of prices close to where the market is actually trading on the day I'm doing my analysis.

As it turns out, the market on the 27th had a low of 111.38 (111-3/8), while the spreadsheet had calculated nearby support levels as follows:

Level 1 = 112.44 from the second formation
Level 2 = 112.73 and Level 3 = 110.84 from the third formation

SUPPORT

A high close (time)	0.00	0.00	0.00
A high close (price)	116.12	129.25	114.00
B low (time)	32.00	13.00	4.00
B low (price)	107.50	120.00	111.25
C high (time)	60.00	20.00	7.00
C high (price)	129.50	126.88	115.88
Point C caldendar date	7/6	8/2	9/14
current count from C	59	39	9
1 P (time)	49.50	17.38	5.88
1 P (price)	121.25	124.30	114.14
1 m	0.10	-0.28	0.02
2 P (time)	46.00	16.50	5.50
2 P (price)	118.50	123.44	113.57
2 m	0.05	-0.35	-0.08
3 P (time)	42.50	15.63	5.13
3 P (price)	115.75	122.58	112.99
3 m	-0.01	-0.43	-0.20
4 P (time)	39.00	14.75	4.75
4 P (price)	113.00	121.72	112.41
4 m	-0.08	-0.51	-0.34
5 P (time)	35.50	13.88	4.38
5 P (price)	110.25	120.86	111.83
5 m	-0.17	-0.60	-0.50
6 P (time)	32.00	13.00	4.00
6 P (price)	107.50	120.00	111.25
6 m	-0.27	-0.71	-0.69
LEVEL 1	128.45	112.44	114.39
LEVEL 2	122.28	108.47	112.73
LEVEL 3	115.08	104.06	110.84
LEVEL 4	106.60	99.13	108.64
LEVEL 5	96.44	93.57	106.06
LEVEL 6	84.06	87.27	103.00
LEVEL 2 CHANNEL	132.55	113.15	115.17

You will often find that when you have Level 3 coinciding with another level, you have a strong possibility of a turning point. As mentioned earlier, Level 3, especially in the short-term, most recent V formation, is a key level all by itself. When other levels line up close in price to Level 3, its importance is heightened. The L2 support had been broken and now it was time to see if L3 would hold up.

> *We did not know yet whether this low was a turning point, but we certainly should have been prepared for the possibility if the market confirmed it.*

The Gann levels give me a kind of road map of the market; I can see where the support and resistance levels are and where the market is currently trading in relation to them.

An aggressive trader might have considered entering the market right at this point, using the fact of the key Level 3 just below 111 as good indicator of strong support. A stop would need to be placed below 110.84 because if Level 3 is broken it usually signifies the market's intention to move further. We'll assume a more conservative posture, however, and wait for market confirmation of a turn, if there is one.

On the next day (9/28) we have confirmation of the turning point by a sharply higher opening, a higher low and a higher close. This confirmation signal consisting of a higher low and higher close after a potential turning point low is a favorite reversal signal of mine; I often use it as the "trigger" to enter the market. An entry is made at the open the day *after* the signal. This is not as aggressive as using the fact of multiple levels converging at the same price and so you don't enter the market at the best possible price, but it does allow for confirmation of the turning point and is therefore safer.

Since we have confirmation that the 27th was a turning point low, we can now calculate future *resistance* levels using that low as a new short-term point C in an inverted V resistance formation.

Let's imagine that it is now the evening of the 28th. Today the market gave me the trigger confirmation signal mentioned above.

The action for the market today was:

Hi 114.12 Lo 113 Close 113.88

I find my inverted V formation and enter the data into the spreadsheet (see spreadsheet printout). I can calculate the levels for tomorrow, Sept. 29, by just incrementing the "current count from C" by the proper number. Since I'm doing this calculation for the 29th, 2 market days away from the point C made on the 27th, I would put a 2 in the cell for this new formation, and increment the other "current count" cells in the row by 2.

Once you have your spreadsheet set up, the only rows you need to update (using my spreadsheet printouts to illustrate) are the basic data input rows 4 - 12. Rows 4-9 are only changed when you add a new formation or delete an old one. Row 12 can be incremented by any number you want! You could increment the current count from C by 5 days, 10 days, or whatever and see where price levels are projected to be in the future.

The price levels calculated for 9/29 are shown in the printout on the next page. Again, remembering that not all the prices have bearing on the current market, I would select the following prices as the ones which cluster near the current market action (remember the high was 114.12):

Level 1 114.18 Level 2 114.97 115.38 **Level 3 116.84**

When you see numbers clustering this close together, chances are pretty good that a change is at hand. Remember, we're pretending to be evaluating the market the night of our confirmation signal (the 28th). Would I expect the market to top out right at this 114 area? Probably not, since L3 is still up another couple of points, and there is also an L2 projection just above 115.

Using DGLs, you not only have an idea of when to put on a trade, but when *not* to. Have you ever entered a trade just as the move fizzled and the market made a U-turn on you? This approach will help you to avoid over-trading, and will also help keep you from entering at the wrong price.

On the next day, Sept. 29, the high was 115.50, right near one of the Level 2 projections, but still under Level 3. This suggested that the market could still go higher.

Finally, the following day, on 9/30, the market hit a new short-term high. The resistance level projections for 9/30 which are relevant were 115.56 and 117.18. The high of the day was 116.50, right between these figures, and just below the level 3 calculation of the previous day. Prices turn down from here and we now begin to watch for another swing low.

Two market days later, on Oct. 4, you check your calculations again. The market had a low on this day of 114.38. Your support levels were:

L1	114.51 114.47	L2 112.34
L3	**112.71**	L4 111.73

The current low is right at L1, which is normally not strong enough to provide much support, unless the bears are extremely weak. With the 112 area so important at L2 and L3, it would make sense to wait for the market at least one more day, just to see if it will come down to 112.

RESISTANCE

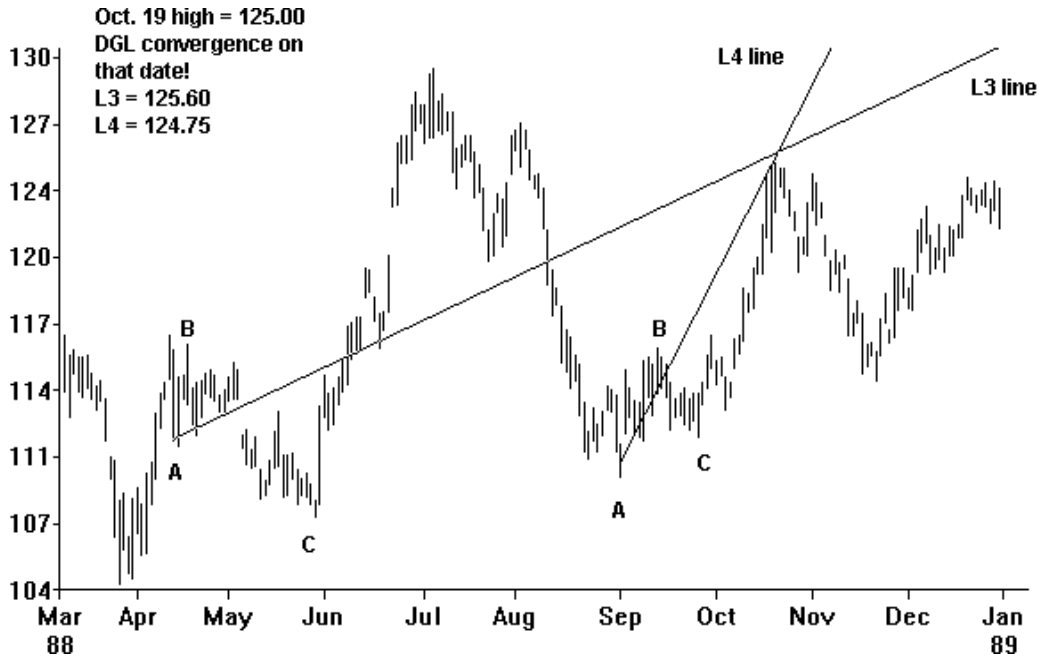
A low close (time)	0.00	0.00	0.00
A low close (price)	111.38	120.12	110.25
B high (time)	3.00	7.00	8.00
B high (price)	116.00	126.88	115.88
C low (time)	31.00	29.00	17.00
C low (price)	107.50	109.50	111.38
Point C caldendar date	5/27	9/1	9/27
current count from C	89	19	2
1 P (time)	20.50	20.75	13.63
1 P (price)	110.69	116.02	113.07
1 m	-0.03	-0.20	0.21
2 P (time)	17.00	18.00	12.50
2 P (price)	111.75	118.19	113.63
2 m	0.02	-0.11	0.27
3 P (time)	13.50	15.25	11.38
3 P (price)	112.81	120.36	114.19
3 m	0.11	0.02	0.35
4 P (time)	10.00	12.50	10.25
4 P (price)	113.88	122.54	114.76
4 m	0.25	0.19	0.44
5 P (time)	6.50	9.75	9.13
5 P (price)	114.94	124.71	115.32
5 m	0.55	0.47	0.56
6 P (time)	3.00	7.00	8.00
6 P (price)	116.00	126.88	115.88
6 m	1.54	0.97	0.70
LEVEL 1	107.33	110.63	114.18
LEVEL 2	113.99	114.97	115.39
LEVEL 3	124.11	120.88	116.84
LEVEL 4	141.32	129.39	118.60
LEVEL 5	177.06	142.70	120.80
LEVEL 6	296.18	166.47	123.62
LEVEL 2 CHANNEL	109.44	107.46	111.92

You will discover, as you use this system, that this kind of multiple level price convergence is such a strong indication that you could've picked up your phone and called your broker with an order to go long, in this case, if the market hit the 112 area with a stop just below 111.73.
Sure enough, on the next day the market moves down *to a low of 112.75;* and as if that weren't enough, the day after that we have our "trigger" of a higher low with a higher close *plus* an inside reversal day.

From this low the market moves all the way up to a major high of 125 on Oct. 19. I'm sure you're curious, so here are the relevant resistance level projections for that date:

L3 125.60 L4 124.75

Here's a chart made by WaveWi$e software, courtesy of Jerome Technology. The DGL projections are drawn as lines from point A of each formation. Jerome Tech is a third-party software vendor which now offers a DGL version of their program, only for members of the DGL Group.



The thing that I want you to notice is that the L3 price of 125.60 is calculated from the very first inverted V formation way back in April-May!

Here's the spreadsheet printout:

RESISTANCE

A low close (time)	0.00	0.00	0.00	0.00
A low close (price)	111.38	120.12	110.25	112.00
B high (time)	3.00	7.00	8.00	6.00
B high (price)	116.00	126.88	115.88	116.50
C low (time)	31.00	29.00	17.00	9.00
C low (price)	107.50	109.50	111.38	112.75
Point C caldendar date	5/27	9/1	9/27	10/5
current count from C	103	33	16	10
1 P (time)	20.50	20.75	13.63	7.88
1 P (price)	110.69	116.02	113.07	114.16
1 m	-0.03	-0.20	0.21	0.27
2 P (time)	17.00	18.00	12.50	7.50
2 P (price)	111.75	118.19	113.63	114.63
2 m	0.02	-0.11	0.27	0.35
3 P (time)	13.50	15.25	11.38	7.13
3 P (price)	112.81	120.36	114.19	115.09
3 m	0.11	0.02	0.35	0.43
4 P (time)	10.00	12.50	10.25	6.75
4 P (price)	113.88	122.54	114.76	115.56
4 m	0.25	0.19	0.44	0.53
5 P (time)	6.50	9.75	9.13	6.38
5 P (price)	114.94	124.71	115.32	116.03
5 m	0.55	0.47	0.56	0.63
6 P (time)	3.00	7.00	8.00	6.00
6 P (price)	116.00	126.88	115.88	116.50
6 m	1.54	0.97	0.70	0.75
LEVEL 1	106.85	107.86	117.07	117.20
LEVEL 2	114.30	113.47	119.17	118.65
LEVEL 3	125.60	121.11	121.69	120.25
LEVEL 4	144.81	132.10	124.75	122.03
LEVEL 5	184.72	149.29	128.58	124.01
LEVEL 6	317.74	179.99	133.47	126.25
LEVEL 2 CHANNEL	109.74	105.96	115.71	116.25

From this example with IBM we learn a number of important trading tips to keep in mind when using DGLs:

1) **Level 3 is the key level** to watch for possible turning points, especially from the most recent V formation. Reactions can take place at any price level, but "3 is the key".

2) When you have **a cluster of levels coinciding** in a price area, you frequently have a strong point at which to enter the market with very low risk. Three or four layers of support or resistance are generally strong enough to hold firm. A stop may be placed just beyond the last layer with a very high degree of confidence.

3) The price/time convergence areas are no accident; Gann enthusiasts often use Gann lines intersecting as indications of a likely turning point; DGLs are a similar idea, but without having to worry about drawing accurate lines at certain angles on scaled charts.

4) As each Level is broken, you can usually expect the market to move to at least the next Level. Back on Oct. 4 the market had a low of 114.38, just breaking L1. It then broke through L2 support and stopped at L3.

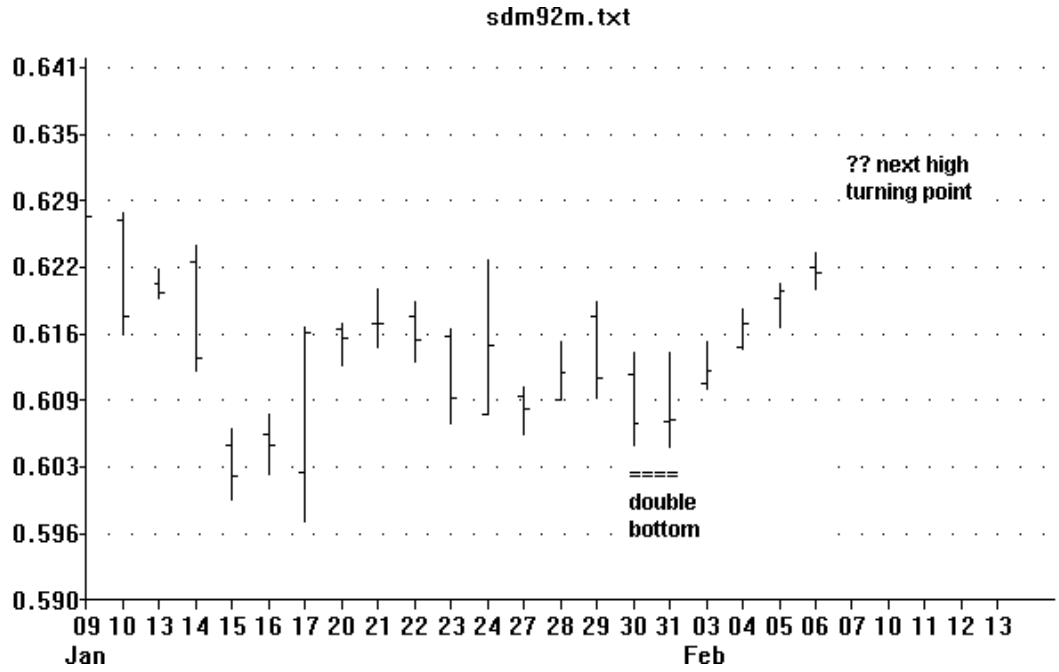
5) **When a level is broken, it tends to reverse its role**: support levels become resistance, and vice versa. Quite frequently a market will retest a broken level; this is actually what causes the famous 1-2-3 tops and bottoms which many traders look for in chart formations.

6) As each turning point is confirmed, you then add a new formation to your spreadsheet, using the just-confirmed turning point as a new Point C. For example, when the low on 9/27 was confirmed, we used that low as point C of a new short-term inverted V formation, for calculating resistance. In fact, it was this inverted V (with A at the low close in early September, B at the high in mid-Sept. and C the low on 9/27) that gave a Level 4 price of 124.75 for Oct. 19.

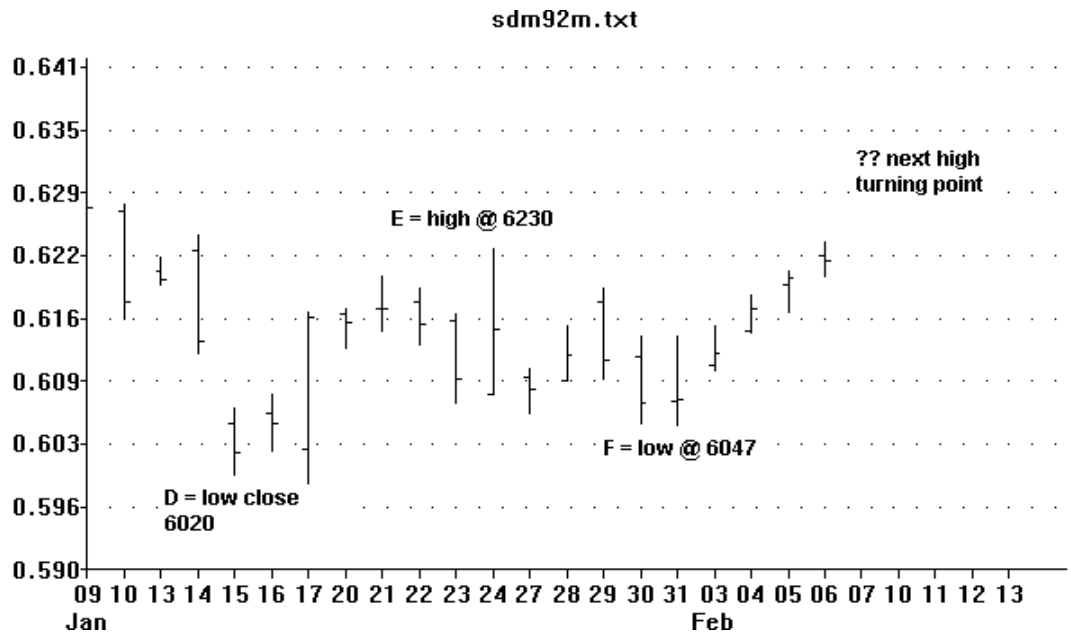
A Commodities Example

The Gann levels are based on the fact that markets often react after a move and reverse direction, "bouncing" off a support or resistance level and retracing the move just completed. The Gann levels measure the percentage of bounce one might expect in a reaction. Most traders are well acquainted with the "50% retracement" rule, which was actually first popularized by Gann. However, unlike Fibonacci retracements which are static (ie. fixed price calculations representing retracement percentages of a prior swing) this method uses dynamic calculations which result in changing price projections with the passing of time. If you draw a V on a piece of paper, for example, what we've been doing is calculating the move back down from the high point at C by means of a series of support lines drawn from the closing price at point A through the swing from B to C.

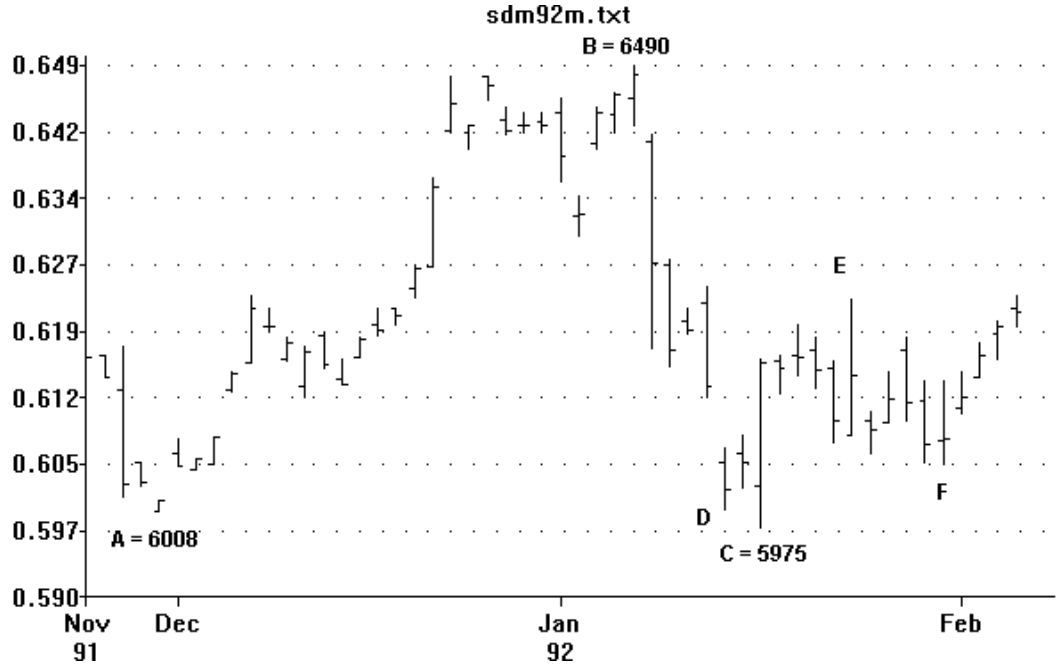
Now let's see how the DGL formulas work with a commodity.



This is a chart of the June '92 D-Mark. In late January there was a double bottom near 6050 and we'll imagine that we've been watching the market move up to Feb. 6 Since we're in an upswing, we are curious about resistance where the market might make the next turning point high.



Selecting the nearest inverted V to project resistance, we'd pick the swings at points DEF. Remember, though, that it's a good idea to have at least two formations (and no more than 4-5) for your analysis. So we'll zoom out and look at more data to see if we can find another possible inverted V formation to use:



Now let's take a look at how this data would be set up in the spreadsheet:

RESISTANCE

A low close (time)	0	0
A low close (price)	6008	6020
B high (time)	26	7
B high (price)	6490	6230
C low (time)	33	12
C low (price)	5975	6047
Point C caldendar date	1/17	1/31
current count from C	14	4
1 P (time)	30.38	10.13
1 P (price)	6168.13	6115.63
1 m	5.27	9.44
2 P (time)	29.50	9.50
2 P (price)	6232.50	6138.50
2 m	7.61	12.47
3 P (time)	28.63	8.88
3 P (price)	6296.88	6161.38
3 m	10.09	15.93
4 P (time)	27.75	8.25
4 P (price)	6361.25	6184.25
4 m	12.73	19.91
5 P (time)	26.88	7.63
5 P (price)	6425.63	6207.13
5 m	15.54	24.54
6 P (time)	26.00	7.00
6 P (price)	6490.00	6230.00
6 m	18.54	30.00
LEVEL 1	**6256**	6171
LEVEL 2	6366	**6220**
LEVEL 3	6482	**6275**
LEVEL 4	6606	6339
LEVEL 5	6738	6413
LEVEL 6	6879	6500
LEVEL 2 CHANNEL	6082	6097

Since the high on Feb. 6 was 6236, there are three projections which seem significant.

Resistance
(calculated from inverted V)

L1	6256	from formation ending 1/17
L2	6220	from formation ending 1/31
L3	6275	" " " " " "

The market high on 2/6 is 16 ticks above L2 resistance but still below L3; when a Gann level is penetrated, it is often a signal that the market will move up to the next level. So although it is possible the market could come to a halt right at this high, there is still the potential for prices to move a little higher.

WE DO NOT TRY TO OUTGUESS THE MARKET --
WE SIMPLY WANT TO HAVE AN "EARLY WARNING" ALERT
TO POSSIBLE CHANGES.

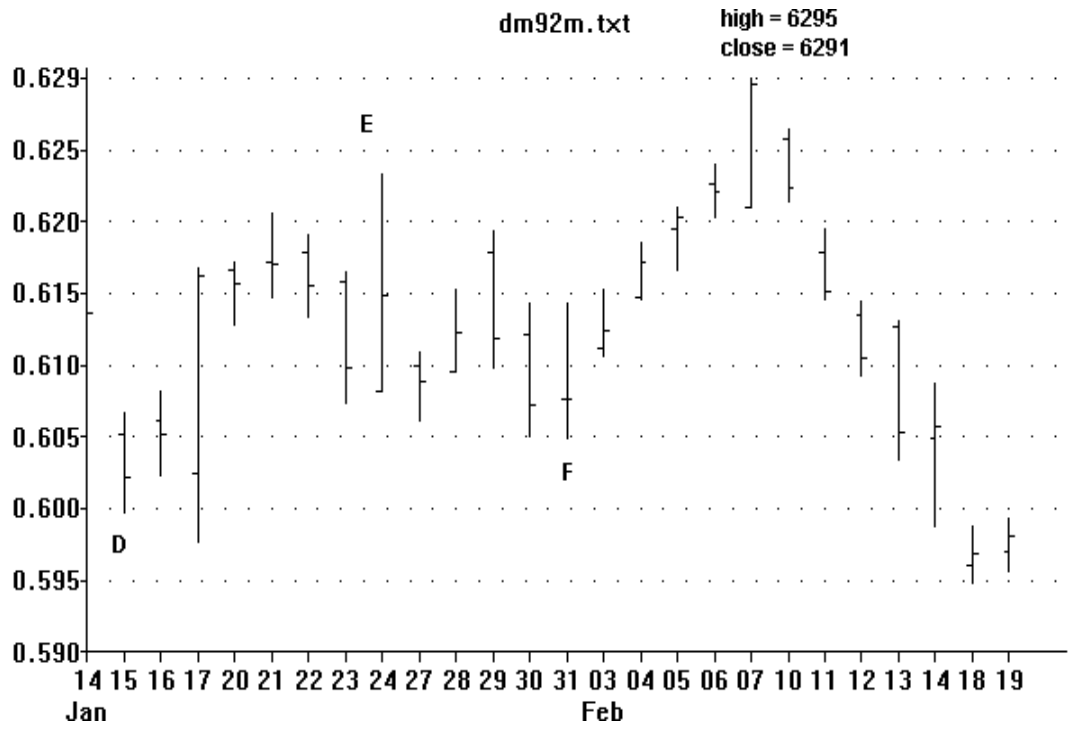
Now we can run the calculations for the next day (Feb. 7) by simply incrementing row 12 of the spreadsheet ("current count from C"). When we do this, we get the following results:

RESISTANCE

A low close (time)	0	0
A low close (price)	6008	6020
B high (time)	26	7
B high (price)	6490	6230
C low (time)	33	12
C low (price)	5975	6047
Point C caldendar date	1/17	1/31
current count from C	**15**	**5**
LEVEL 1	6261	6181
LEVEL 2	6373	**6232**
LEVEL 3	6492	**6291**
LEVEL 4	6619	6358
LEVEL 5	6754	6437
LEVEL 6	6898	6530
LEVEL 2 CHANNEL	6089	6109

Level 3 for Feb. 7 has a value of 6291; 60-70% of all turning points occur at either L2 or L3. Once L2 is broken the odds of a turn at L3 are even greater. An ambitious trader wanting to try a counter-trend trade using DGLs might have taken a gamble and placed an order to short the market at that L3 price, risking some reasonable amount (but no more than $200-$300) as a stop-loss.

Let's take a look at a chart now, to see what transpired:



On February 7 the market went to a new high of 6295 with a close at 6291, right at L3.

Even though you may not have been enough of a risk-taker to try shorting the market just based on the L3 value, this is getting pretty interesting . . . so you might be looking now for some signal that the market is going to reverse. The signal comes on the next day, when the market makes a lower high and lower close. This is a favorite trigger entry of mine, indicating that I should go short at the open on the next day.

The day after the signal, Feb. 11, the market gaps lower (a good sign), opening at 6176 – and we take a short position. We'll use a money-management stop as our initial stop. By this I mean, how much am I willing to lose if I'm wrong? I keep my stops between $200-$300 most of the time. If I'm wrong, I don't want to lose $500 per trade before I get the message!

Let's assume we go short at the opening price and decide we're willing to risk $250.

Potential reward can be calculated by using the following method. Assume that 6295 is, in fact, a new point C high. Enter the data for a new V **support** formation (since you're wondering where to anticipate the next swing **low**), ending with 6295 as your new point C. Increment the count so that you are projecting prices 4-5 days away. Level 1 support for that date will give you a conservative estimate of where prices could possibly be; Level 2 will give you a bit more aggressive estimate.

Here's how this would look in the spreadsheet:

SUPPORT

A high close (time)	0	
A high close (price)	6481	Jan. 8
B low (time)	7	
B low (price)	5975	Jan. 17
C high (time)	22	
C high (price)	6295	Feb. 7
Point C caldendar date	2/7	
current count from C	5	bringing us to Feb. 14

LEVEL 1	**5976**
LEVEL 2	5837
LEVEL 3	5655
LEVEL 4	5411
LEVEL 5	5063
LEVEL 6	4529
LEVEL 2 CHANNEL	6176

So the 5-day target is 5976. This is a difference of 6176 - 5976 = 200 ticks @ $12.50 per tick = $2500, a 10/1 risk-reward ratio. In other words, the question now is am I willing to risk $250 for a potential gain of $2500?

As you can see from the chart, the market really begins to move in our favor. Now it's time to think about when to exit! One way to exit is simply by setting a price target and getting out once it is hit . . . we might use our just-calculated L1 projection and seek to exit at somewhere around 6000.

Another technique for exiting is to use a money-management stop, again. How much money am I willing to give back to the market if a profitable move begins to go sour? If this DMark begins to head higher, how far do I want it to go before I take my profits?

Still another way is to use a trailing stop, one which follows the market and protects our profits if the market begins to move up. But where do we put it; how do we actually "trail" the market?

Using DGLs when in a **short** position, I calculate trailing stop placement by using **each day's low** price as a new, temporary point C in an **inverted V** formation (because I want to get out of my short position if the market moves through the first layer of resistance). With today's low as Point C, I would then go back to the most recent swing high for point B, and the preceding low close for point A. This would give us an L1 resistance price which we could use as a stop price, figuring that if the market did reverse and move back up to that point, we would want out. Of course, this assumes a market moving lower from a high; you would reverse the procedure in a market moving up from a new low.

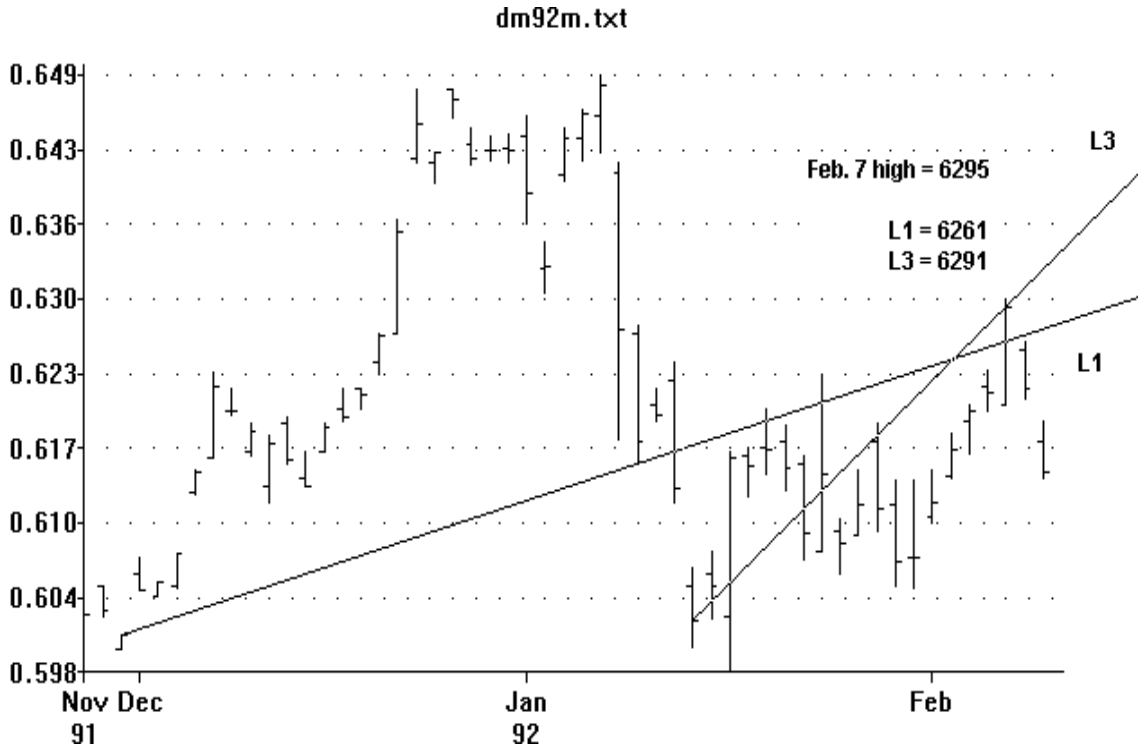
However, always keep this in mind:

a money management stop should always have "veto power" over any calculated stops, since risk control and preservation of capital are keys to successful trading.

Getting back to the D-Mark, a few days after our entry, on Feb. 14, the low was 5985 - pretty close to the L1 target and thus I might well have exited my position. However, another option would have been to just keep tracking my L1 price until it was actually hit before getting out.

Remember, the DGLs are a ***tool*** and are not intended to make decisions for you; your own trading style and analysis using other tools which are important to you will determine how you use the DGLs. We have users who follow everything from Seasonal patterns to Elliott Wave, from astrological approaches to fundamental elements like mid-west weather reports . . . but all have reported that the DGLs help give precision in forecasting market turning points.

Before leaving the D-Mark, I want you to see a WaveWi$e chart, using the built-in DGL feature to display the projections for the Feb. 7 turning point.



DEVELOPING A TRADING STATEGY

THOUGHTS ON SURVIVING AS A TRADER
Ray Barros, a professional trader and DGL group member from Sydney, Australia has written the following section which I believe is very helpful.

The transition from "mug trader" to "consistent profitability" needs the learning of three lessons:

1 thinking in terms of probabilities. Ultimately, this needs the development of a trading plan (including a money management plan).

2 executing that plan as flawlessly as possible and

3 accepting the profits the markets gives a trader as a reward for his efforts.

The first lesson is both technical (ie. acquisition of the relevant knowledge) and psychological (ie. application of the knowledge). The other two lessons are mainly psychological.

Generally I have found that most novice traders fail to have a plan; in other words they fail at the first gate. To have discipline means to "execute your plan flawlessly"; if you don't have a plan, then discipline means little.

So what must a trading plan contain?

NUMBER ONE PRIORITY: **Identification of the timeframe you are trading**

This means you have some means of measuring moves of a like magnitude and identifying the trend of that timeframe: up, down or sideways. It also means you have some means of identifying changes in trend. Once you have identified the trend and answered the question "continuation or change", you have established your strategy:

in uptrends:	buy
in downtrends:	sell
in congestion:	buy the bottom end of congestion and sell the top end or just stand aside until a trend resumes.

Once you have your strategy, then you need to establish:

NUMBER TWO PRIORITY: **low risk entry**

Sounds wonderful, doesn't it? But it's a bit more complicated than it sounds.

To do this, you need to have some means of establishing support or resistance areas where the market is likely to stall. For instance, let's say you're in an uptrend, a correction (pullback) is in place, you need to establish an area where there is a high probability the correction will end. Or, you're in an uptrend and given the structure of the market, you are looking for a change in trend. You need to establish an area where there is a high probability the trend will end. DGL's are great for this.

You then need to define a series of high probability setups. I define this idea as indications that the support/resistance areas are likely to be effective. My personal preference for determining this is to use momentum indicators, which signal me when the acceleration of the market is about to change.

Finally you need to establish an entry technique and initial stop. The principle here is you need some means of identifying price reaction away from the support/resistance zone.

NUMBER THREE PRIORITY: **Trade Management**

Once you are in a trade, you need to manage it. At its most basic, this involves a trailing stop. When the trading plan is in place, you need to establish a money management approach.

This has two purposes:

a to determine how much capital is needed to fund each contract

b to determine the stop loss for each position

Both issues are impacted by four factors:

a financial capacity to lose (ie. your capital base)

b psychological capacity for loss

c the profitability profile of your methodology

d the volatility of the markets you are trading

DON'S SPECIFIC TRADING STRATEGY

Analysis tools I use:

A. Price and Time Squaring -- DGLs

B. Trend – 18 and 70 period exponential moving averages

C. Bollinger Bands -- standard parameters. I use the BBands to lend further confirmation to the other indicators. For instance, even though the other indicators will be suggesting a buy, I will seldom do so if I see that prices are near the upper BBand.

D. Overbought/oversold indicators. There are many of these to choose from, and I'm not sure that any one of them is preferable over another. Certainly, standard stochastics or RSI can be used. Many in the DGL group like to use a stochastic of an RSI, which I also prefer over the usual ones. I like to use an 8-period RSI, and then insert its value into an 8-period stochastic with 5 %k and 3 %d.

Another increasingly popular indicator of this type is the "Double Stochastic", twice-smoothed 5 and 10-period raw stochastics. Walter Bressert has done some work with these and feels they are helpful in catching the short term and intermediate terms cycles of many markets.

In the DGL Group updates, I refer to these as Cycle indicators; here's how they're calculated:

Cycle #1: Begin with a 5-period raw stochastic. Now calculate a 3-period ema of it. Using this ema value, calculate a 5-period raw stochastic (using the ema value in place of the high, low, close normally used in the stochastic formula). Finally, use a 3-period ema of this latest value and plot it on a chart.

Cycle #2: Same as above except based on a 10-period for the raw stochastics.

See the gif of the S&P Index in the Tutorial folder called "cycles.gif" for an illustration of how they could be used.

If you happen to own Jerome Technology's "WaveWi$e Market Spreadsheet" (http://members.aol.com/JTIWARE), I will gladly send you my Study which includes all these indicators; just drop me an email requesting it.

Analysis is only the homework that needs to be done before placing the actual trade. Analysis has one goal in view: to put the odds of success in my favor by indentifying the type of trading set-up I am comfortable with. This is important to keep in mind, because it reminds me that I am not trying to pinpoint every market turn, nor to catch the exact high or low of a trend reversal.

One of the biggest mistakes I made when first trading was to feel like I always had to swing for a "home run" every time I placed a trade. I now know that, at least for me, consistently hitting singles works well -- and every so often the wind carries the ball well into the outfield. The second biggest mistake I made was trying to predict the market. I still try to do this, and we all get drawn into wanting to forecast what's going to happen next. But the fact is, more money is made by reacting to what the market is actually doing rather than predicting what it's going to do.

Trading Strategy

My strategy, which I would categorize as "pullback trading", is built around the following aims:

[A] to let the market speak for itself; market reality is reflected by the price chart I'm looking at. My job is not to predict the future (as much fun as that may be) but to recognize what's happening in the present. This is much harder than it might seem, since there is constant pressure to "know" what is going to happen next. But my goal is to prepare based on what is happening now.

[B] to seek to control the only factor I can control: potential loss. In other words, when I see what looks like a good opportunity, I also need to ask myself what it would take to prove I was wrong. This is how I determine my stop-loss. I never trade without using a stop. Often I will use the second Trade Band (see below) as an initial stop.

[C] to try to take advantage of the only market behavior which can help me -- the trend. If there is a clear trend, I must not try to trade against it! If there is not an obvious trend within the time frame I'm considering, I will then consider more of a "swing" trading style and rely more heavily on the Cycles mentioned above.

[D] to allow the market itself put me into a trade and take me out. Avoid setting artificial profit objectives which are nothing more than calculated guesses. I do utilize some of the common tech analysis methods for "projecting" possible price targets, but never view them as anything more than calculated guesses. Like the weather man on television, they're sometimes wrong.

The Rules

Now, based on this strategy, there are specific rules I try to follow. Since they may be only applicable to me, I won't give them all to you, but here's the general idea:

[1] Look for buying opportunities in an uptrend as the market momentum temporarily pauses (pulls back) during an uptrend. Reverse the process for a downtrend, watching for selling opportunities when prices rally during a downtrend. I use the cycle indicators as my initial filter: if the trend is up then I want to look for pullbacks which are creating a

cycle bottom. If the trend is down, I am watching for rallies which create a cycle top. As the cycles begin to top or bottom, I check DGLs to see the relevant price/time area.

[2] Use specific entry/exit and profit protection techniques for actually placing trades and leaving trades.

For my entry/exit points, I use two values which are calculated each day for the following trading day. They are entry/exit "trade bands"; two for buying and two for selling. These can also be used as stops once a trade is entered; ie. if you are short, use one of the "buy" bands as a trailing stop. For example, you might use Sell-1 to help in entering a short position, and then use a price just above Buy-2 as a trailing stop.

Buy-1 2*((HIGH+LOW+CLOSE)/3)-LOW
Buy-2 ((HIGH+LOW+CLOSE)/3)+(HIGH-LOW)
Sell-1 2*((HIGH+LOW+CLOSE)/3)-HIGH
Sell-2 ((HIGH+LOW+CLOSE/3)-(HIGH-LOW)

I use them like this:

If there is cycle confirmation near a DGL, I look to see if there has been a bearish/bullish reversal session (close < open at a cycle high, or close > open at a cycle low). If so, I would then look to enter just past Buy1 or Sell1 in the next session.

Buy2 and Sell2 represent breakout points; one way to use them would be if there is a close beyond them, enter the next session at the Buy1 or Sell1 price. See the "tradebands.gif" in the Tutor folder for an example of using this strategy in July '99 Corn.

CONCLUSION

I trust that you will find the Dynamic Gann Level approach to be a real help in your own trading. While no indicator or strategy is perfect, and nothing will “work” all of the time when dealing with equity and futures markets, I believe that when given a fair chance, the ideas presented here will prove to be a worthwhile adjunct to your own trading.