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Market Geometry Techniques

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as taught by Yuri Shramenko

Maybe there are a few secrets to trading.
Here you have three techniques with which we can make an analogy to education. Prior to market geometry is elementary school where a trader deploys the statistical methods of technical analysis (technical indicators), or uses advisors and newsletters, or ones "experience and gut feel" to trade the markets. Chart patterns with volume reading and methods such as Elliot Wave and certain Fibonacci Timing techniques can be considered High School level as you're dealing directly with market structure, but also dealing with subjective interpretation of price waves.

- **The [Fib-Fan Projection](#) technique given here is college level but easy to apply and interpret. It will give you an edge over most swing-traders, especially for day-traders who trade for the larger swings of the day and short-term swing-traders. It is best used in trending markets or wide range markets that show simple wave sequences**
- **The [GS Timer](#) technique is like graduate school - you'll begin to call swings in markets and find dynamic support-resistance levels that most traders believe is impossible. It is meant to be used in markets that already have a trend underway**
- **The [Pitchfork Angles](#) technique is PH.D level. It can be used on any type of market other then a flat market and any timeframe greater then 15 minutes. Its ideally used on two timeframes even when opposite trends are underway in those timeframes. If you work with it every trading day, reviewing the technique on two timeframes and several markets every day, its just a matter of a few weeks before you'll be in the upper echelon of successful traders. Its a key for opening the door to master trader status**
- **The [Fib Price Expansion](#) technique, as shown in the last example in its section, will give you valuable information as to where a trend will congest, facilitating profit-taking, often the weak link in the trading process**

What these techniques have in common is that they combine price and time in a "formula-less" manner to present you tradeable market information without the use of statistics, parameter setting, optimization, neural training, modeling - and all the other things that traders try to apply to a non-linear data-stream in a fruitless

attempt to find consistent results in a data-stream that never will be consistent by its very nature. The information presented to you by market geometry consists of times that trends will change and "hidden" support-resistance levels. This information is gleaned from current market structure - so its self-optimizing. The trading that is best facilitated is swing-trading, both overnight and intra-day, where one trades the smallest trend channels found in the timeframe you are monitoring. I can assure you that I've tested these techniques on stock-index data as far back as the 1930's and in grains as far back as the 1950's. The accuracy is the same decade after decade, its simply amazing.

You can apply these techniques to daily and weekly charts, and also any intraday time-frame. Even if you never day-trade please use 30-min charts. There is so much more information offered by the markets in the 30-min timeframe that is appropriate for overnight swing-trading. What's more, to truly master swing-trading with these techniques I urge you to apply them to several timeframes. Its when several timeframes "all agree" that you'll get the largest moves in the shortest time. However, as you'll see in the examples, they work very well in just one timeframe. Its just that my goal is to assist you in becoming a master trader.

In presenting these techniques I'm using MetaStock, Fibonacci Trader, and Galactic Trader. I'm sure other charting software can do the "drawing work" required. Just in case you can't apply the Pitchfork Angles technique with your software, consider switching software soon - its that good!

I hope this sets you on the path towards becoming a master trader. With practice and a little trading experience with these techniques you'll look at the traditional technical analysis methods with disbelief that you ever used them. Email me your questions and concerns, I truly am interested in your success.

Next

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(email note: the first time you send me an email you may get an email from earthlink asking you to verify that you're not a "spammer". Its a one time situation, you'll be added to my address book after that.)

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GS Timing
Drawing Technique

All the drawing techniques in this course share one thing in common in their drawing application - you must first identify pivots, ideally significant pivots. A pivot is a top or bottom in prices such that, for a low pivot, you see higher lows in the prior two price-bars and next two price-bars. In Market Geometry theory most of the price bars on a chart are considered random, sometimes called market noise. In truth, for most any price bar we don't know if its composed of knowledgeable commercial entering the market, speculative small traders entering the market, hedging activity, traders closing positions, etc. However, at significant pivots we know that most market participants agree that we have a top or bottom in place. Even though we see this in hindsight Market Geometry is based on the premise that these significant high s and lows influence the growth and contraction of subsequent market swings. You shouldn't have to struggle finding significant pivots. You can apply a simple techncial indicator called ZigZag to find them. Below is an example of a 1% ZigZag applied to a Stock Index. For Daily Stock Index charts, use a 3% ZigZag. After a short while of practice, well before you actually start using this in your trading, you'll be able to spot them easily.

DJ Index 30-Min
Zig-Zag 1 percent

Zig Zag Properties

Parameters | Color/Style | Horizontal Lines

Price field: Low

Reversal amount: 1

Method
● Percent
○ Points

Defaults...

OK   Cancel   Help

25   26   27   28   1   2   3   4   7   8   9   10   14   15   16   17

June

On this page I'll describe the simple procedure for drawing the Gann Time Square and on the next page will guide you thru the interpretation of it. In all examples the commentary is above the image. The below example is from a 30-minute chart of the DJ Index.

The Fibonacci Trader or Galactic Trader is best for this, though I believe there are several other Gann based charting software that does this. In FT or GT select the Gann Square - the icon is pictured below and the parms to use are also shown.
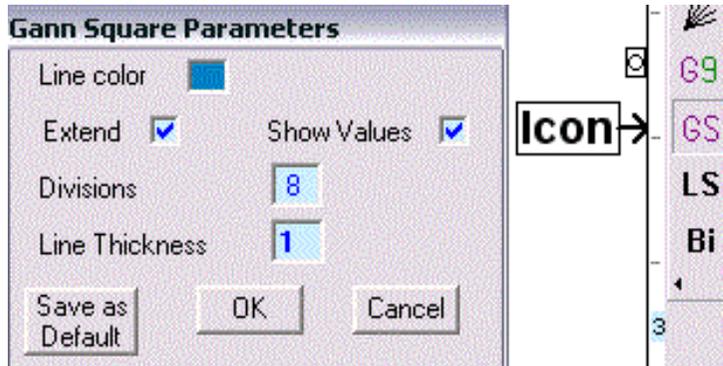
Normally the Gann Square is drawn for a high to a low or from a low to a high pivot. Not with this technique. We're looking for two consecutive high pivots or two consecutive low pivots, as shown below. The second pivot does not have to be higher or lower then the first.
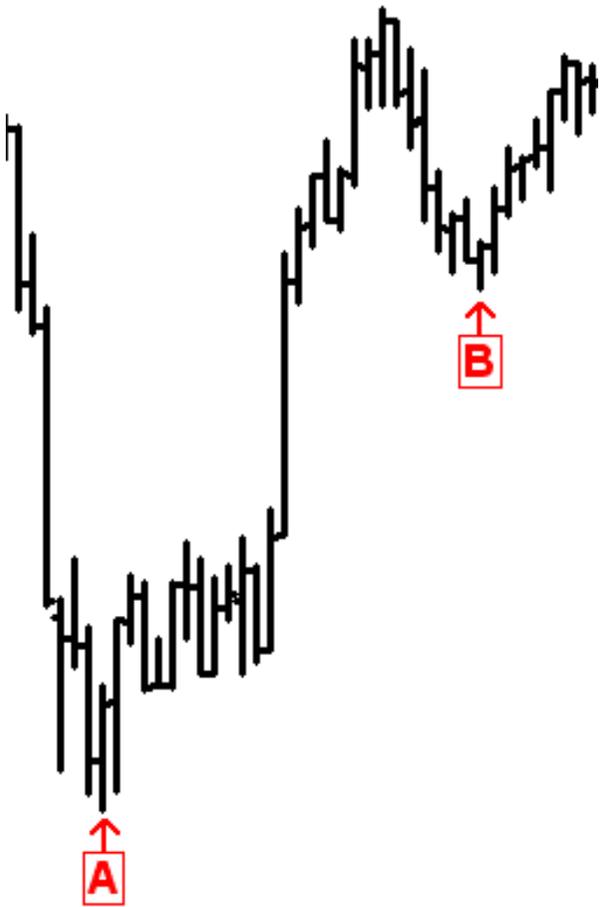
What we're going to do is put "A" of the Gann Square on pivot "A" above, and the center of Gann Square ("B") on the second pivot. You'll have to first draw it generally then fine-tune the placement. You can draw it about 2 bars after that low pivot at "B" forms.
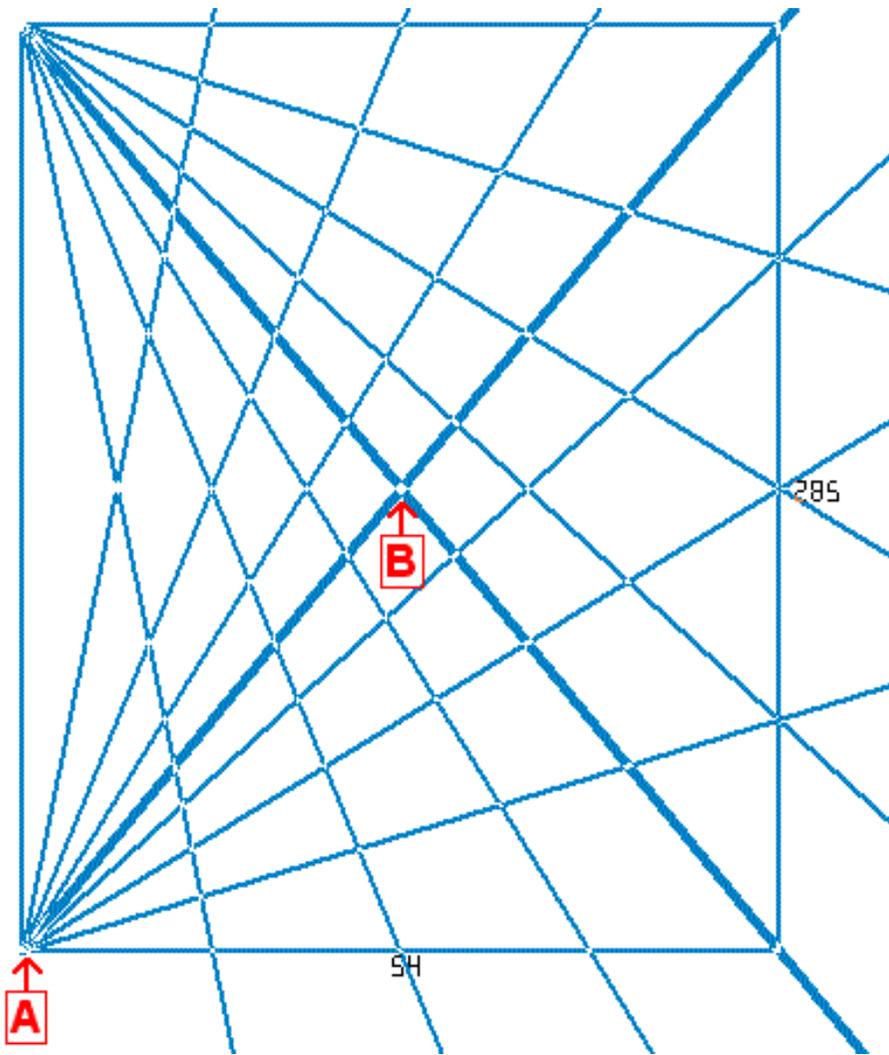
Below is what the finished drawing looks like. Don't try to interpret it on your own, please click "Next" below.
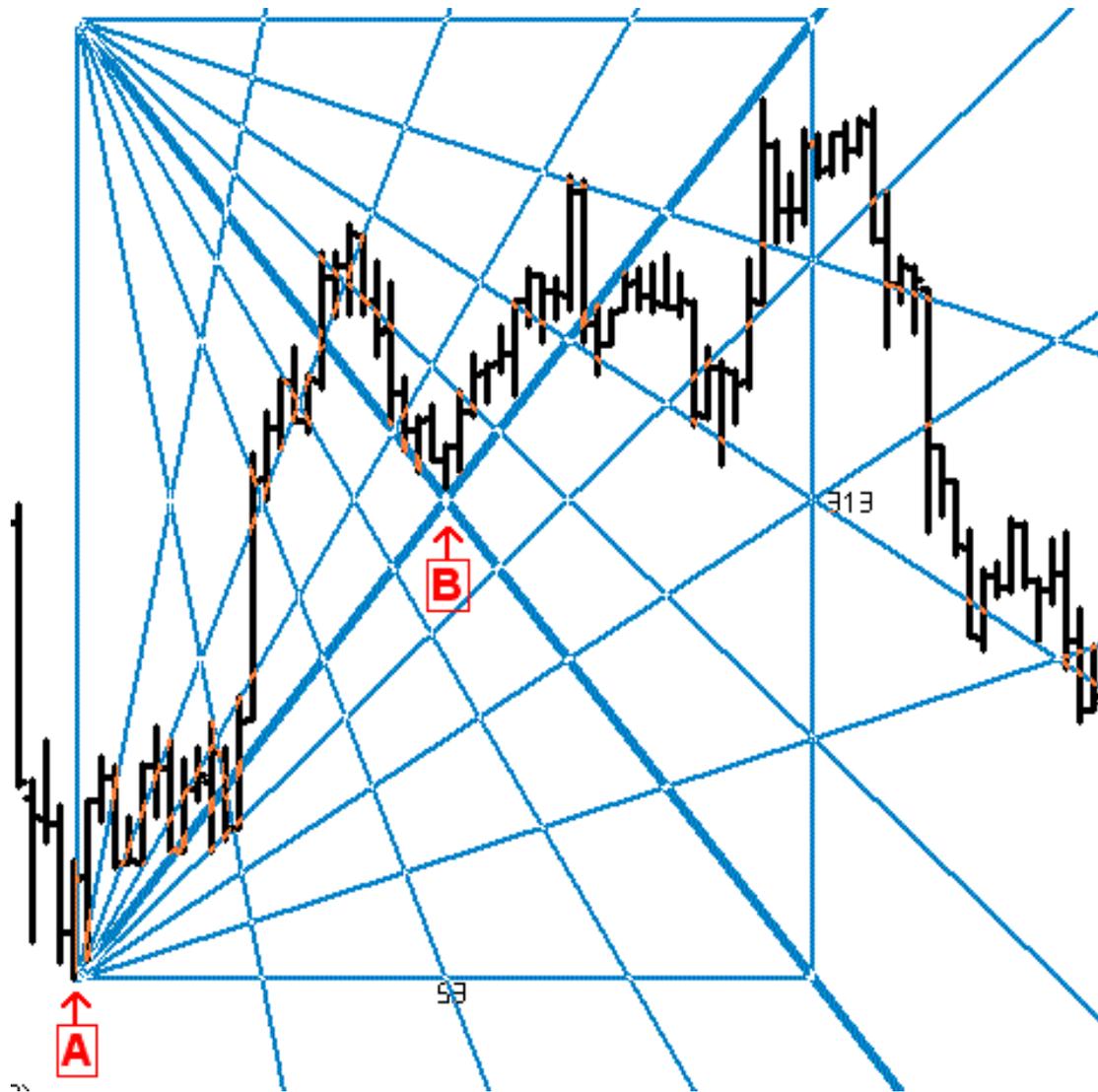
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GS Timing
Interpretation

Just below is the GS Timer we drew on the prior page. Remember you can draw it about 2 bars after that low pivot at "B" forms. At first it looks confusing because of all the lines. After a little practice, only a few hours, you'll be an expert. Its the easiest of the three techniques to use, but in terms of accuracy a little better then the Fib-Fan Projection.

Wherever you have an intersection of two fan lines, denoted by the red circles, you have a potential trend-change. And just like with the Fib-Fan projection the lines are dynamic support-resistance levels. Once one of the lines acts as support or resistance, or you have a failure of support or resistance, your profit objective is the next fan-line emanating from the same corner.

Here we're starting the GS Timer one day before the above chart. You'll find that you can draw these all the time on 30-minute charts. You may want to keep several of them on the same market, but on different charts to avoid confusion. Occasionally you'll get the same time for a trend change from two different GS Timers, and they work exceptionally well in timing trend changes that yield an extended move.
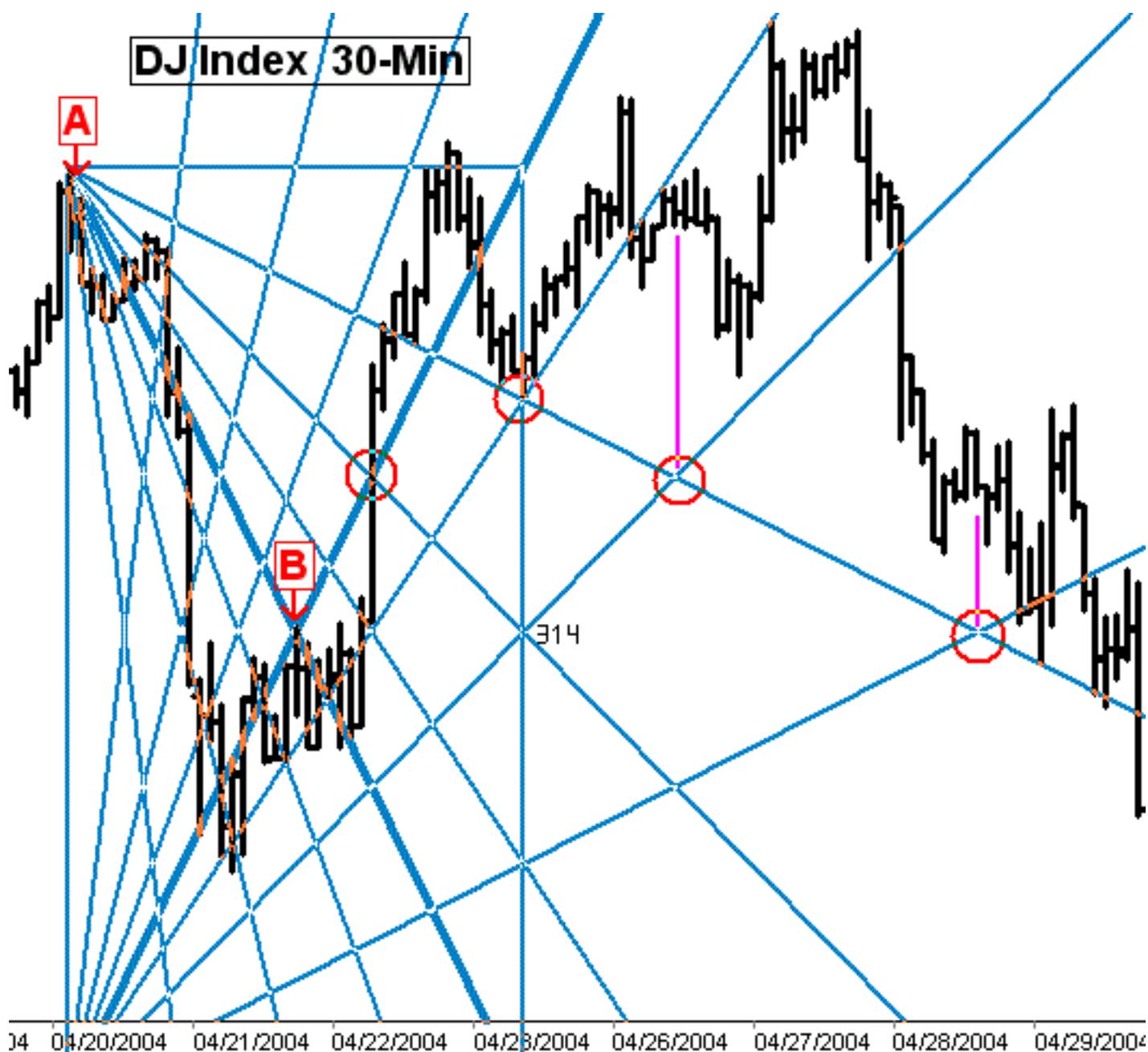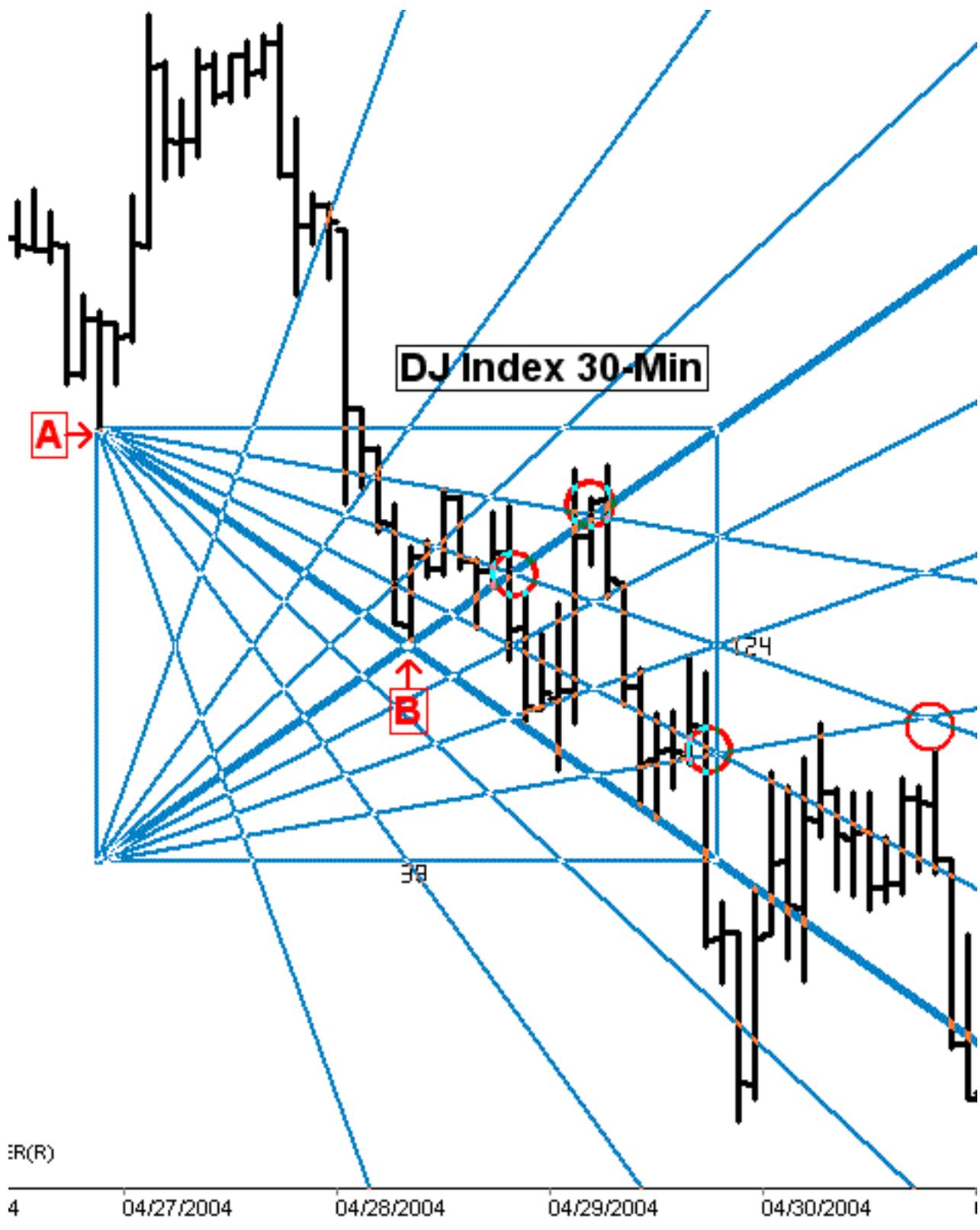

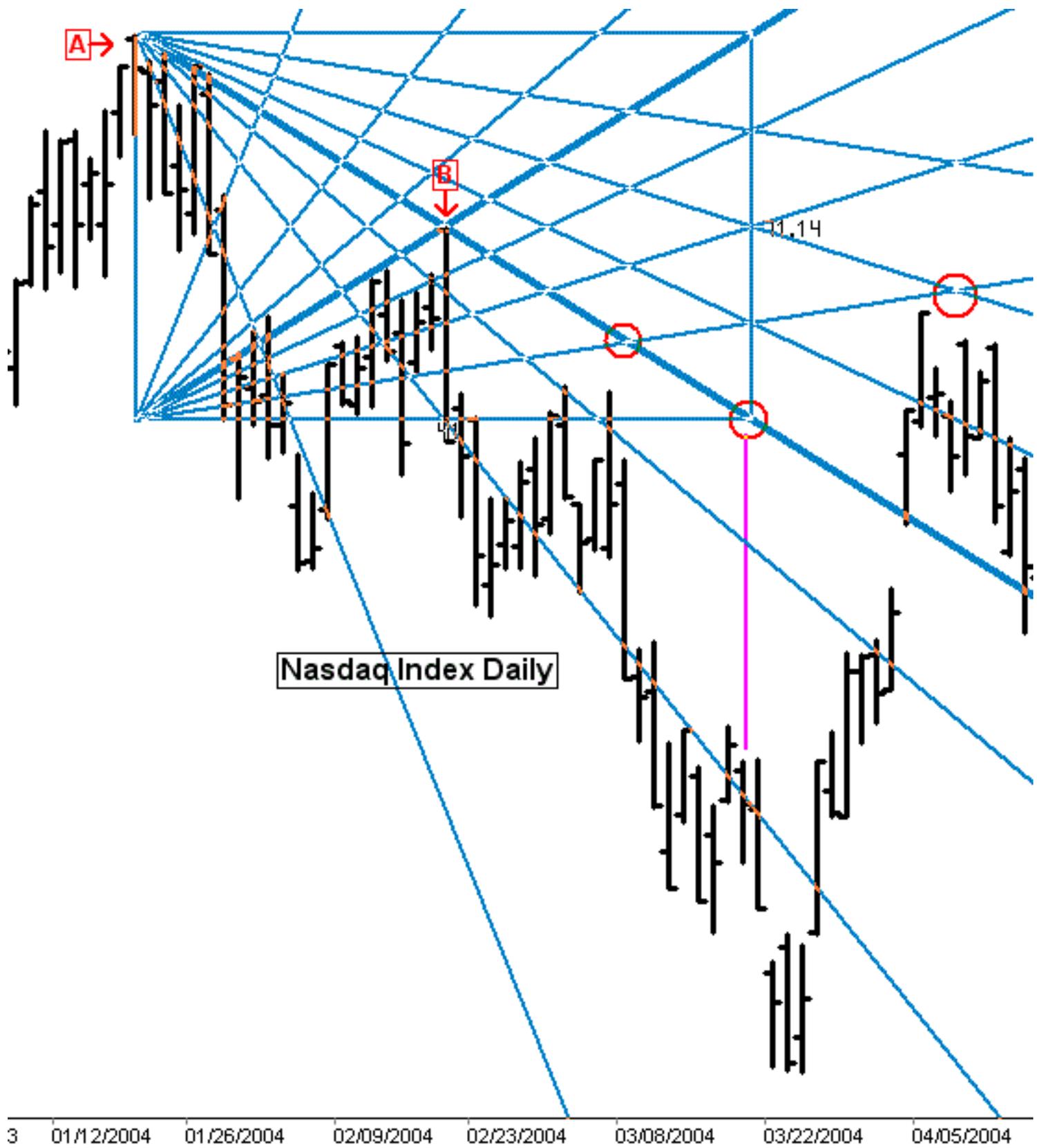
The below chart is a few days after the above charts.

The next two charts are my way of showing that pivot "B" does not have to be higher then pivot "A".

DJ Index 30-Min

No "B" Pivot

A
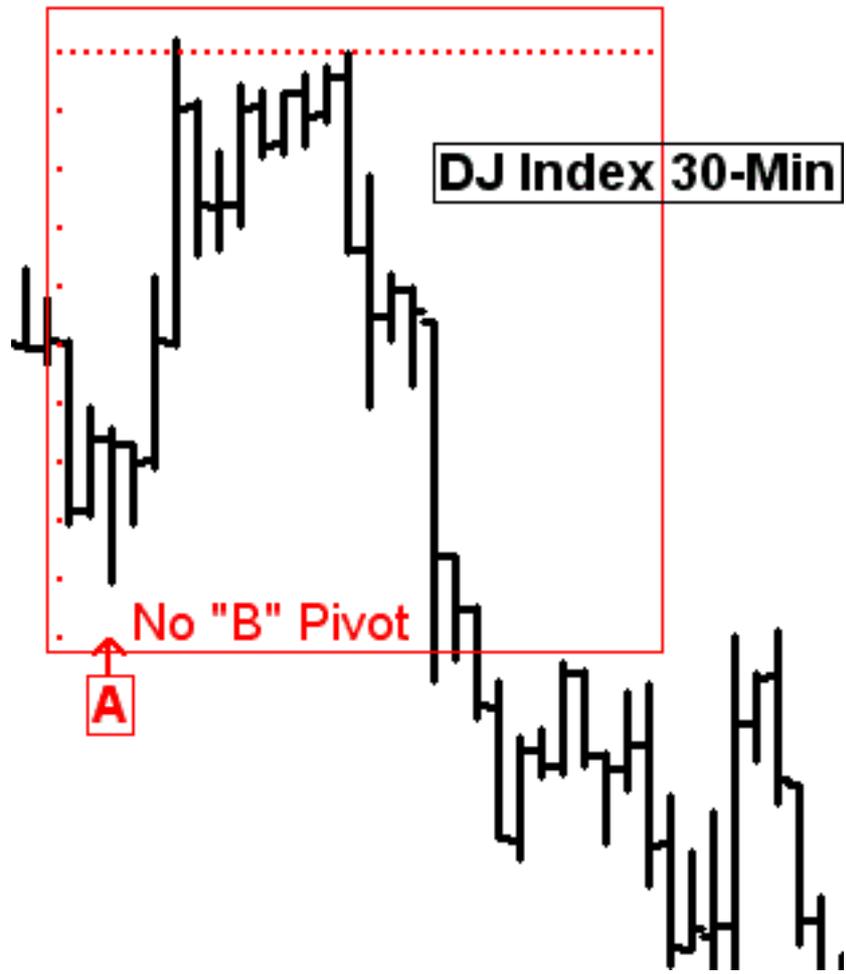
Below we see real market geometry timing at its best. We're just a few days forward of all the above charts. We've covered over a week of the DJ Index, calling just about every single swing.

DJ Index 30-Min

A→

B

(24

39

ER(R)

4   04/27/2004   04/28/2004   04/29/2004   04/30/2004

Below is a Daily chart, the Nasdaq Index

Nasdaq Index Daily

| 3 | 01/12/2004 | 01/26/2004 | 02/09/2004 | 02/23/2004 | 03/08/2004 | 03/22/2004 | 04/05/2004 |

Below is a daily chart of the stock EBAY. The last red circle on the right is one day late. Most every single timing signal on this page was accurate. Again, this technique looks complicated because of all the lines, but once you draw a few you'll see this is a very easy technique to draw and use.

EBAY Daily

| 04 | 02/09/2004 | 02/23/2004 | 03/08/2004 | 03/22/2004 | 04/0 |
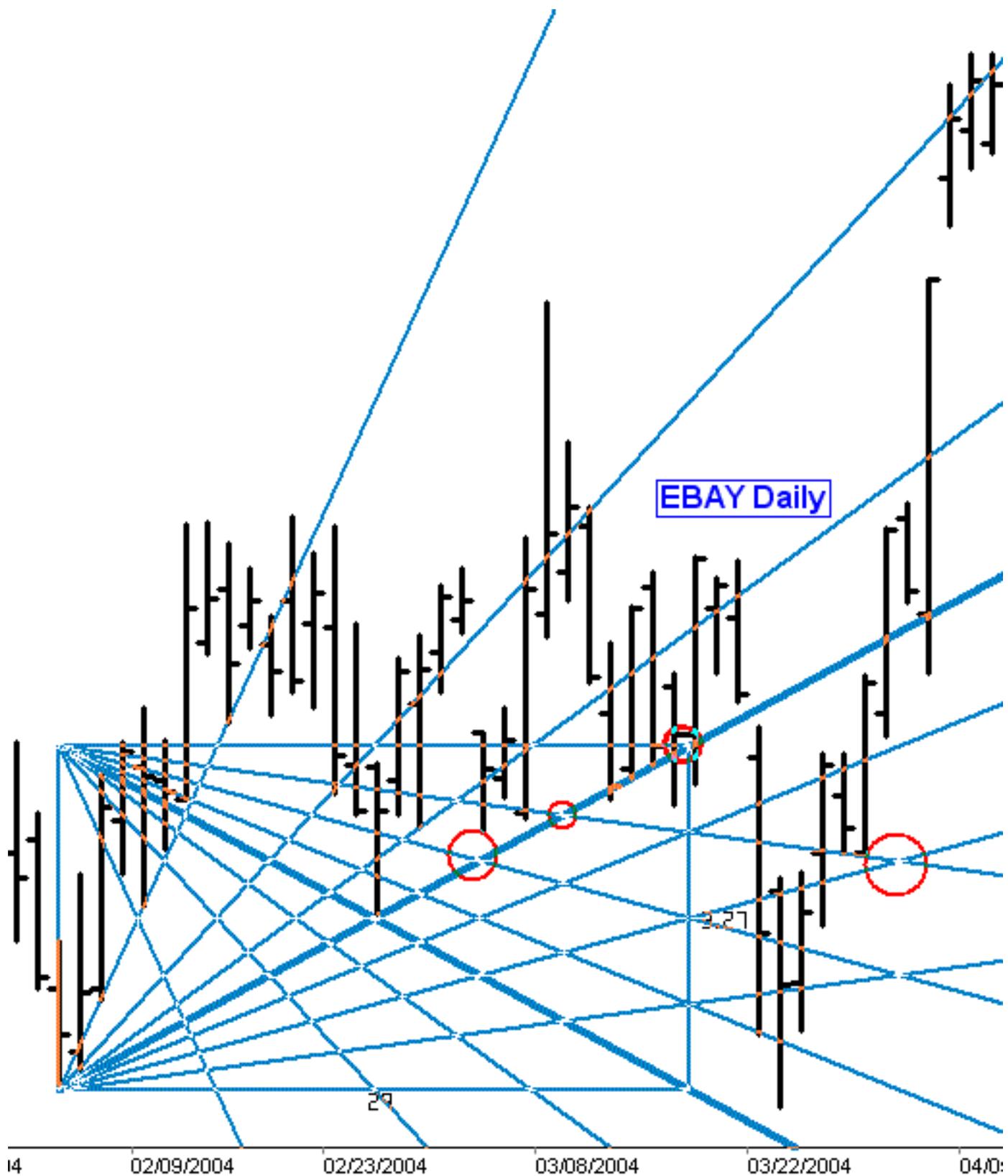
Summary

- draw on two like pivots and it doesn't really matter if one is higher or lower then the other; it can be drawn two bars after the second pivot forms
- draw several on the same market; to avoid confusion because of all the lines I use a different chart for each drawing
- it works best on 30-minute charts and also 15-minute charts when the market shows lots of swings and little congestion

- each intersect is a potential trend-change point, either the bar before or after; most of the time the intersect is between two bars
- the fan lines offer dynamic support and resistance
- the fan-lines can be used as profit objectives and initial stop loss (or if you already have a technical swing system, see if it can be integrated with this technique)

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Pitchfork Angles
Drawing Technique

This powerful technique requires you to allocate sufficient time and exercise patience in learning how to draw it. You'll need to spend time, maybe an hour, in learning how to draw it before thinking about its trading use. "Rushing it" will be counterproductive. After you practice drawing it yourself for a few hours, you'll see its not that complicated. I draw these in FT/GT in about a half-minute, in MetaStock in about a minute. After your learning curve, when you start interpreting it, the learning curve of learning how to draw it will seem like healthy exercise.

If your software doesn't draw pitchforks, and you're adamant about not obtaining software that does (Fibonacci Trader, Galactic Trader, Dynamic Trader, MetaStock, and more) you should know its possible to draw pitchfork manually if your software draws trendlines and the Fib Retracement. Email me and I'll send you instructions.

Its easier to draw in FT/GT, so I'll start there. First locate a series of three pivots, high-low-high or low-high-low.

Use the Pitchfork drawing tool - you must first click "2" and drag to "3" and release, then lastly click "1". In the lower left of the image I'm showing the parameters I'm using.

Dollar Index 30-Min

Expansion Line

Expansion Line

Fork Parameters

Internal lines				External lines	✔
.382				1	
.5				1	
.618				1	

Fork lines   Line Thickness   2

Save as Default   OK   Cancel
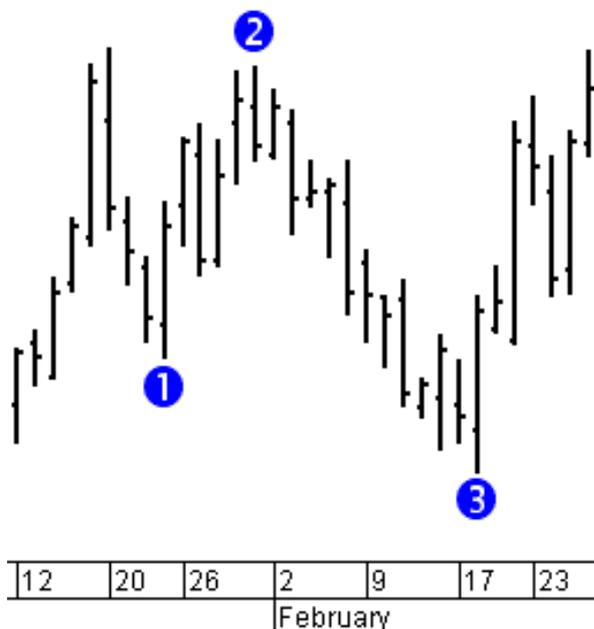
03/31/2004   04/01/2004

Then use the Action-Reaction Lines tool (parameters shown). (note: this is not the same, or even similar, technique as Patrick Mikula's Super Pitchfork which uses Action-Reaction lines) Click on "1" and while holding the left mouse button down drag to "2" and release (exactly as though you were drawing a trendline). Then click once on "3".

Dollar Index 30-min

03/31/2004   04/01/2004

You have another set of Action-Reaction lines to draw. Click on "1" and while holding the left mouse button down drag to "3" and release. Then click once on "2". Next I'll show how to draw this using MetaStock. If you're an FT or GT user, go to the next section by clicking here.
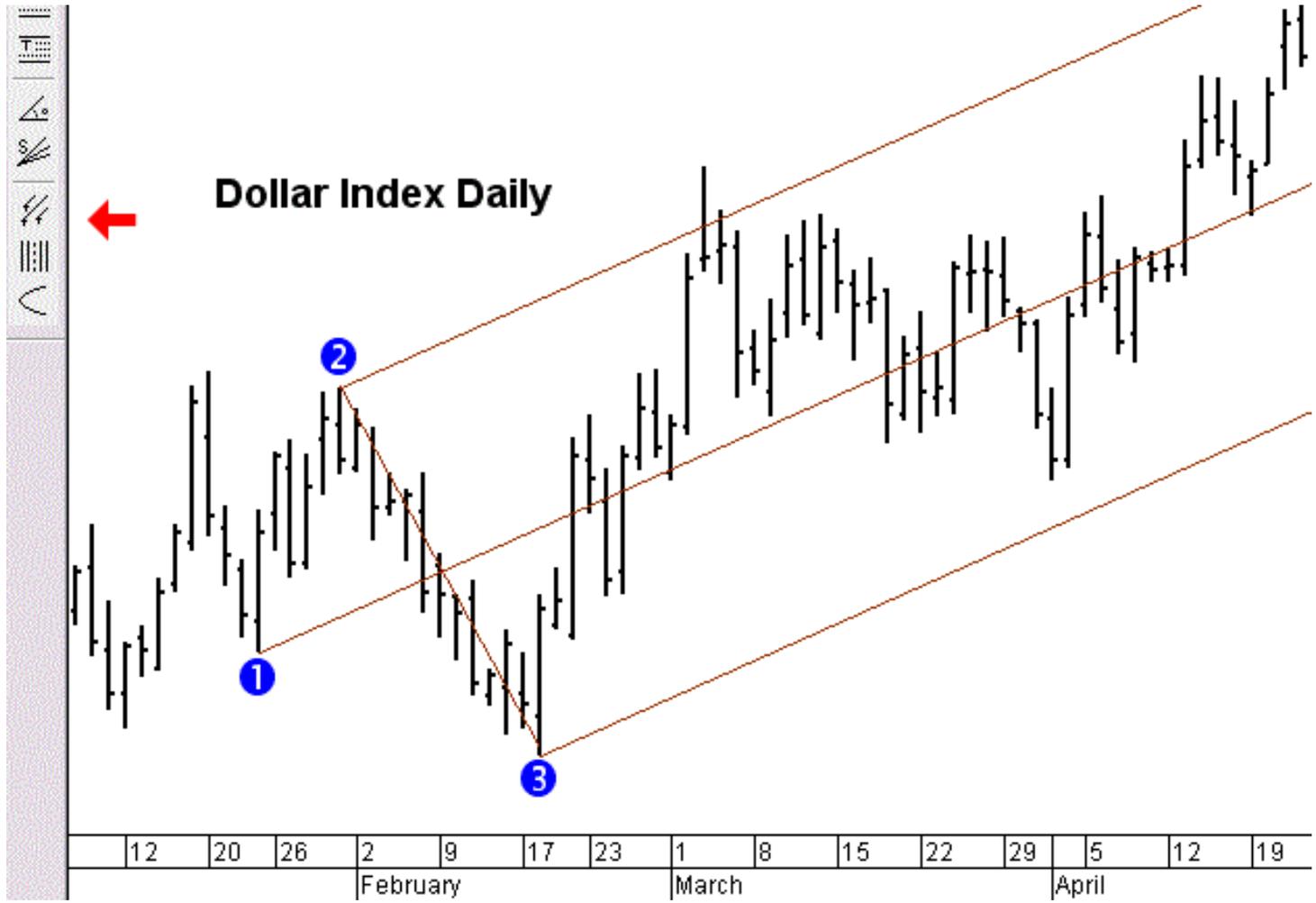
Dollar Index 30-min

TRADER(R)

03/31/2004   04/01/2004

Using MetaStock, first locate a series of three pivots, high-low-high or low-high-low.

| 12 | 20 | 26 | 2 | 9 | 17 | 23 |

February

The red arrow is pointing to the Pitchfork drawing tool in MetaStock. you must use this sequence to draw it: click on "2" and release, click on "3" and release, then click on "1". Note that MetaStock doesn't have

"Expansion Lines" as FT, GT, or Dynamic Trader do, but that's not a major issue as you'll see in the interpretation section.
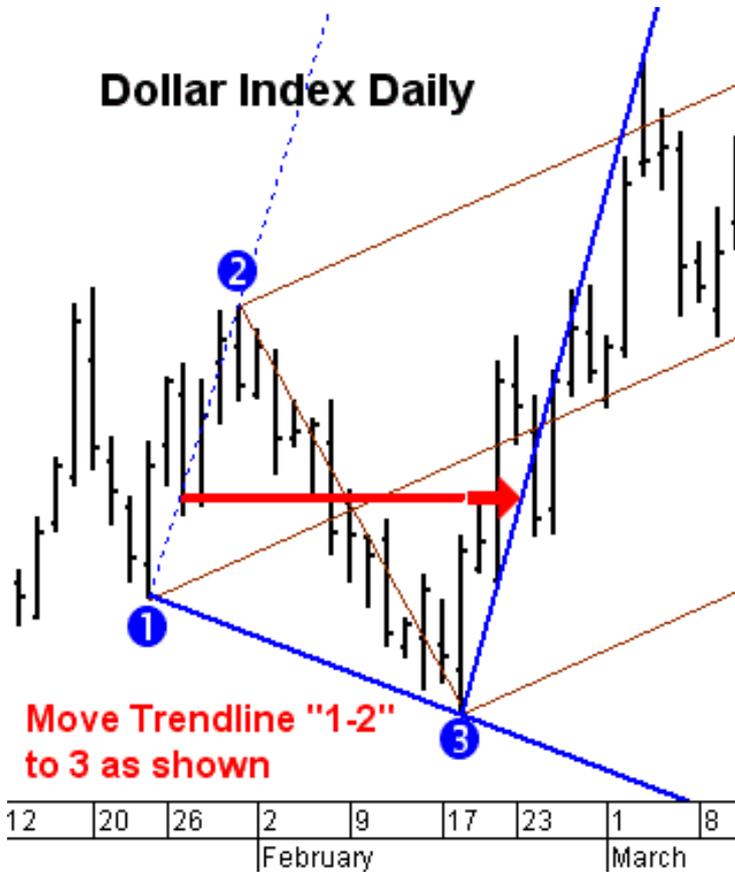

Dollar Index Daily

**Now draw a trendline from 1 to 2 and from 1 to 3. All the trendlines after this set require that they be "extended right".**
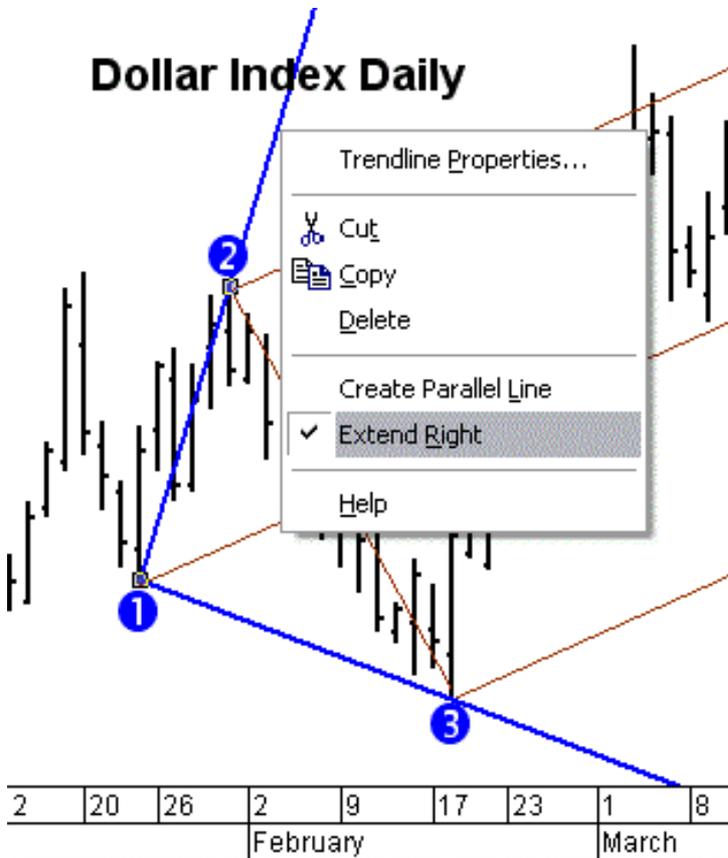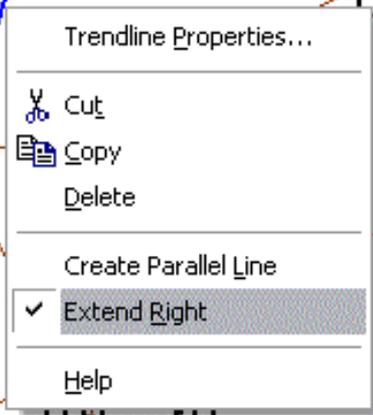
Now move trendline "1-2" to 3 as shown below. Extend it by right-clicking it and selecting "Extend Right" as shown above.

Now move trendline "1-3" to 2 as shown below. Extend it by right-clicking it and selecting "Extend Right".

Dollar Index Daily
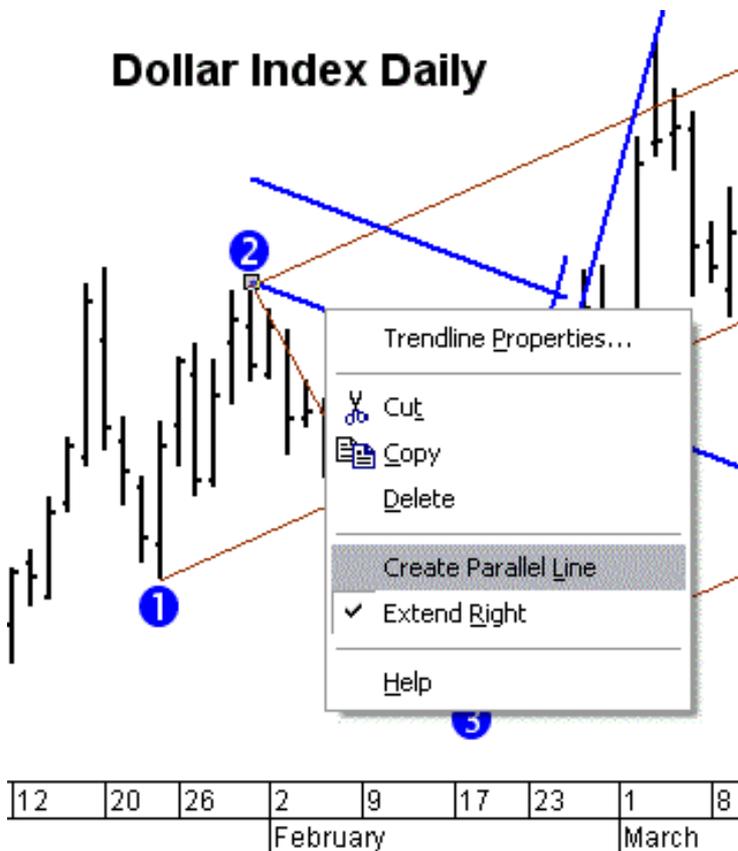
Move Trendline "1-3" to 2

| 2	20	26	2	9	17	23	1	8
			February				March	
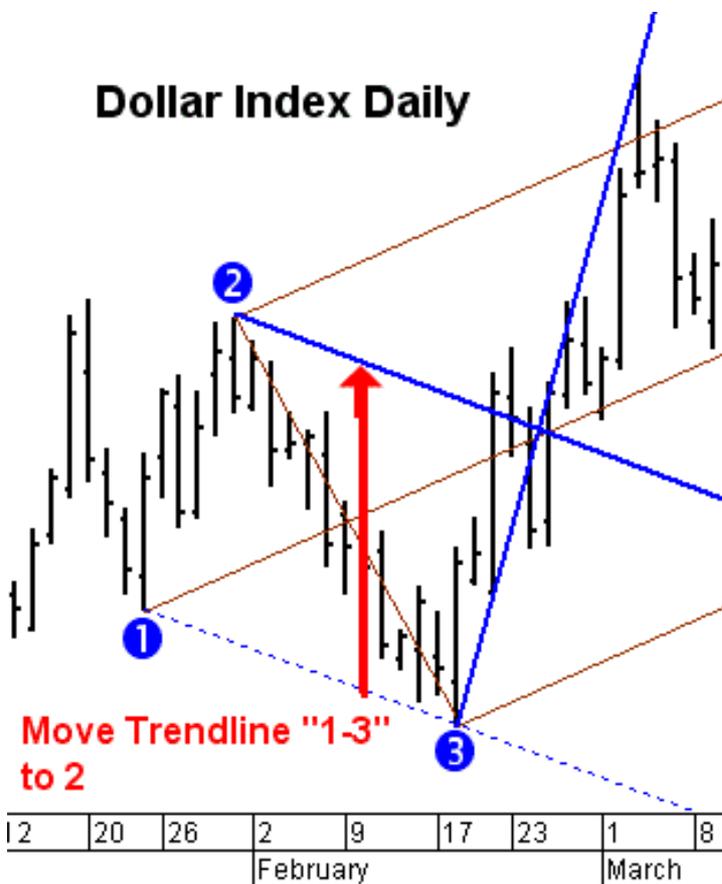
The two trendlines we moved will stay in their new location. We need to create two more. Note that by right-clicking a trendline we can select "Create Parallel Line". Create a parallel line of each trendline.

Dollar Index Daily

Trendline Properties...

- Cut
- Copy
- Delete

Create Parallel Line
- ✓ Extend Right

Help

12	20	26	2	9	17	23	1	8
			February				March	

Move one parallel trendline to 4 and the other to 5 as shown below. We're done drawing Pitchfork Angles. With a little practice its quick and easy. The next section will describe interpretation.

Dollar Index Daily

12	20	26	2	9	17	23	1	8	15	22	29	5	12	19

February | March | April
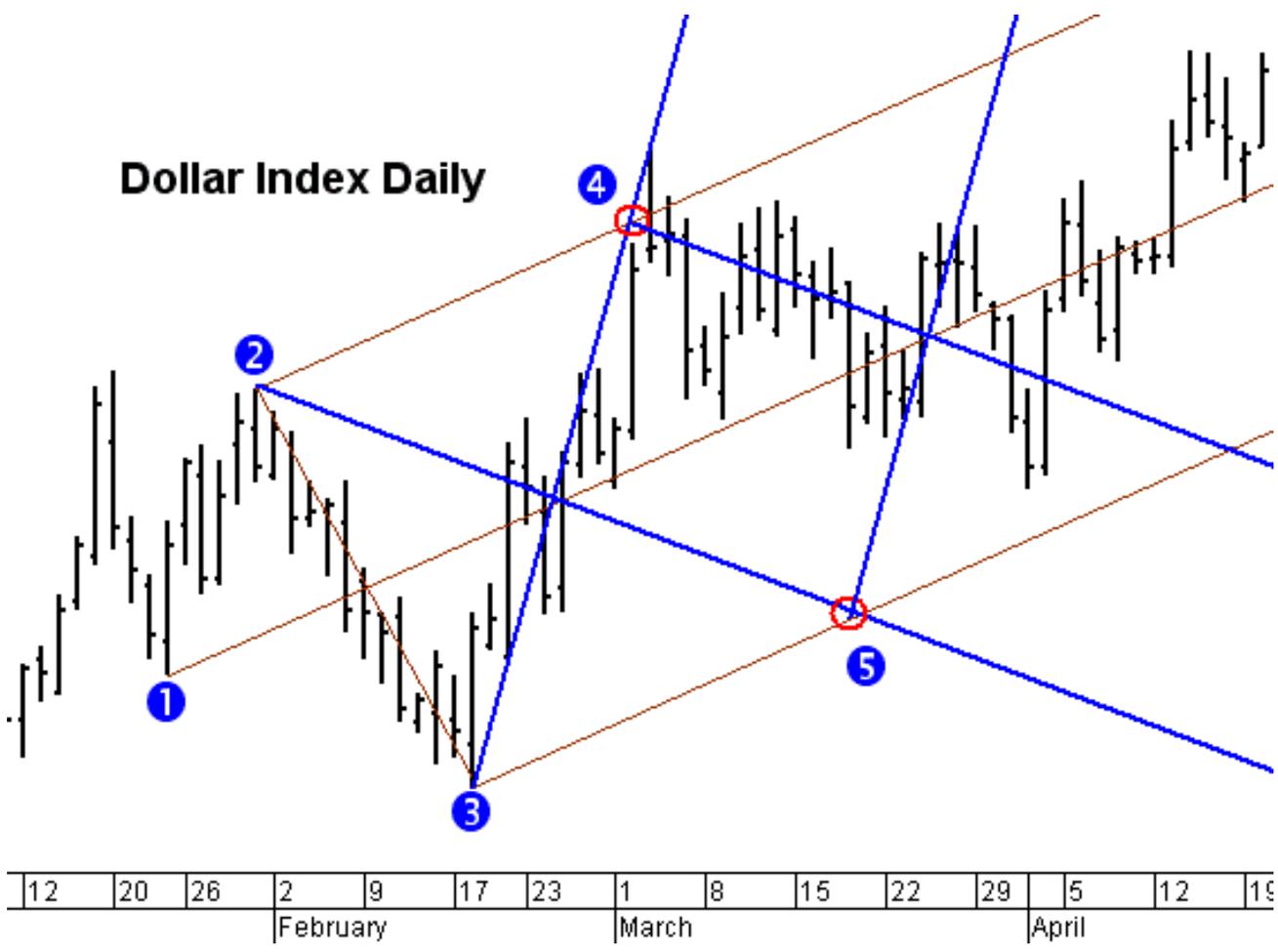
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Pitchfork Angles
Interpretation

This technique will require your patient study. It will not take months to learn though if you practice with it each trading day, no more then an hour a day is required. Please start with historical data, drawing Pitchfork Angles as described in the drawing section, and occasionally re-reading this section. Then spend a few weeks (days if you're a day-trader) paper-trading it with new or real-time data. Since I firmly believe this technique can elevate you to master trader status, consider writing notes on what you find with your backtesting. This process of note taking your observations in your own words has a wonderful effect on speeding the learning process and gaining a sense of ownership of the knowledge.

Pitchfork Angles provides the following trading information:

- accurate forecasted trend-changes
- excellent support and resistance levels
- stop-loss levels
- profit objective levels

The blue trendlines moved in MetaStock (this means creating a trendline, then creating a parallel trendline, then dragging that parallel trendline with your mouse to a new location), or the Action-Reaction lines created in FT/GT are identical to each other. These are the Angles and in the below interpretations I'll just call them "Angles". The brown lines below are the Pitchfork (PF).

The first thing to notice is that where an Angle intersects a PF line you have a trend-change point:

- its strongest if price is very near the intersect (as in 2, 3, and 5 below)
- its acceptable if price is within the same channel as the intersect as in 4 below
- you ignore it if price is in another channel, as in the last Angle-PF intersect to the right of 4

Next, notice that price tends to move at the slope of the Angles. And it tends to move to the next higher or lower PF line. This provides you with short-term profit objectives. A violation of the PF line opposite your trade provides you with an initial stop loss.

Dollar Index Daily

| 20	26	2	9	17	23	1	8	15	22	29	5	12	19
		February				March					April		

Below we also have a Dollar Index daily (I use it for Dollar Index futures and the EurUsd Forex pair). The price activity is a few weeks before the above charts activity. It shows this technique can be used on short swift swings. The red circle shows the intersect of both Angles with the middle PF line, which picked the top of the swing. Note the lower dashed blue line.

Dollar Index Daily
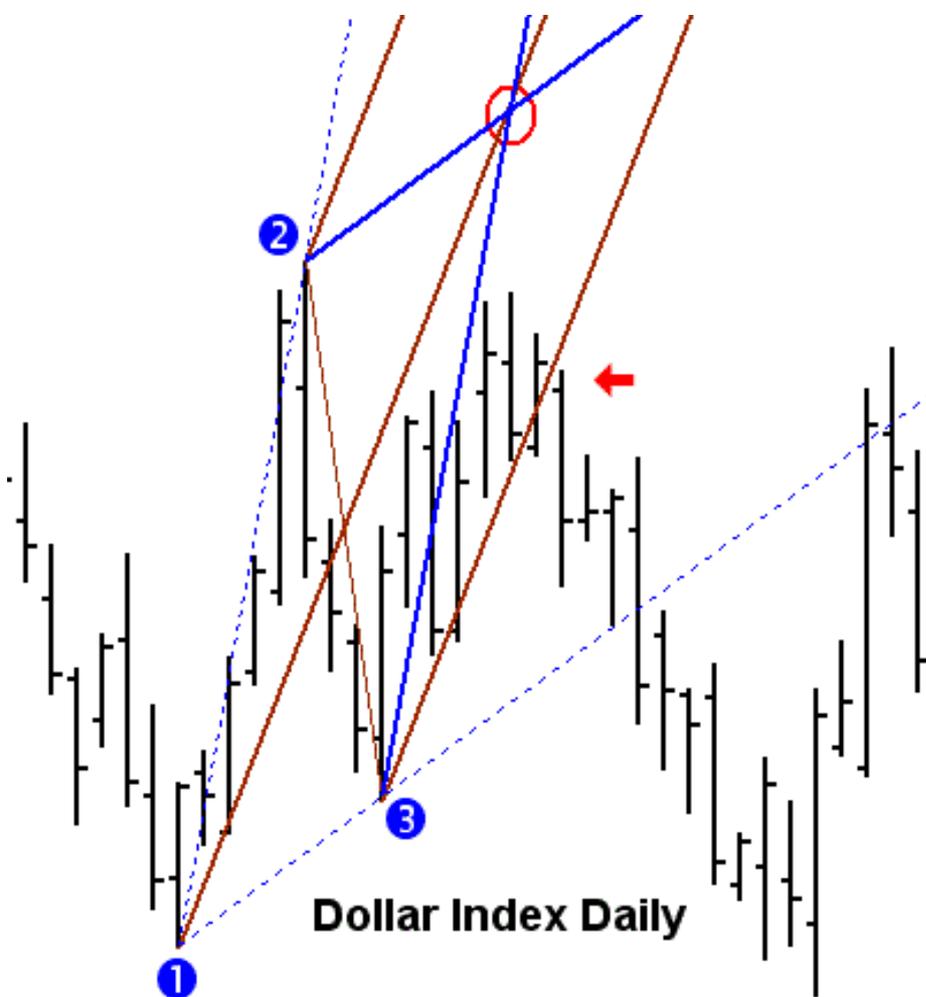
5	12	20	26	2	9	17	23

2004 — February

The below chart is a few days after the above chart, and just before the top chart. I'm trying to show you can step thru market data continuously, as long as the market doesn't go flat for weeks. For clarity I'm just showing the angle that was sourced from the "1" to "3" trendline. Note that the first intersect of the angle (red circle) picked the bottom of the swing nicely. Note the original trendline, shown as a dashed blue line, and market activity around it.

Dollar Index Daily
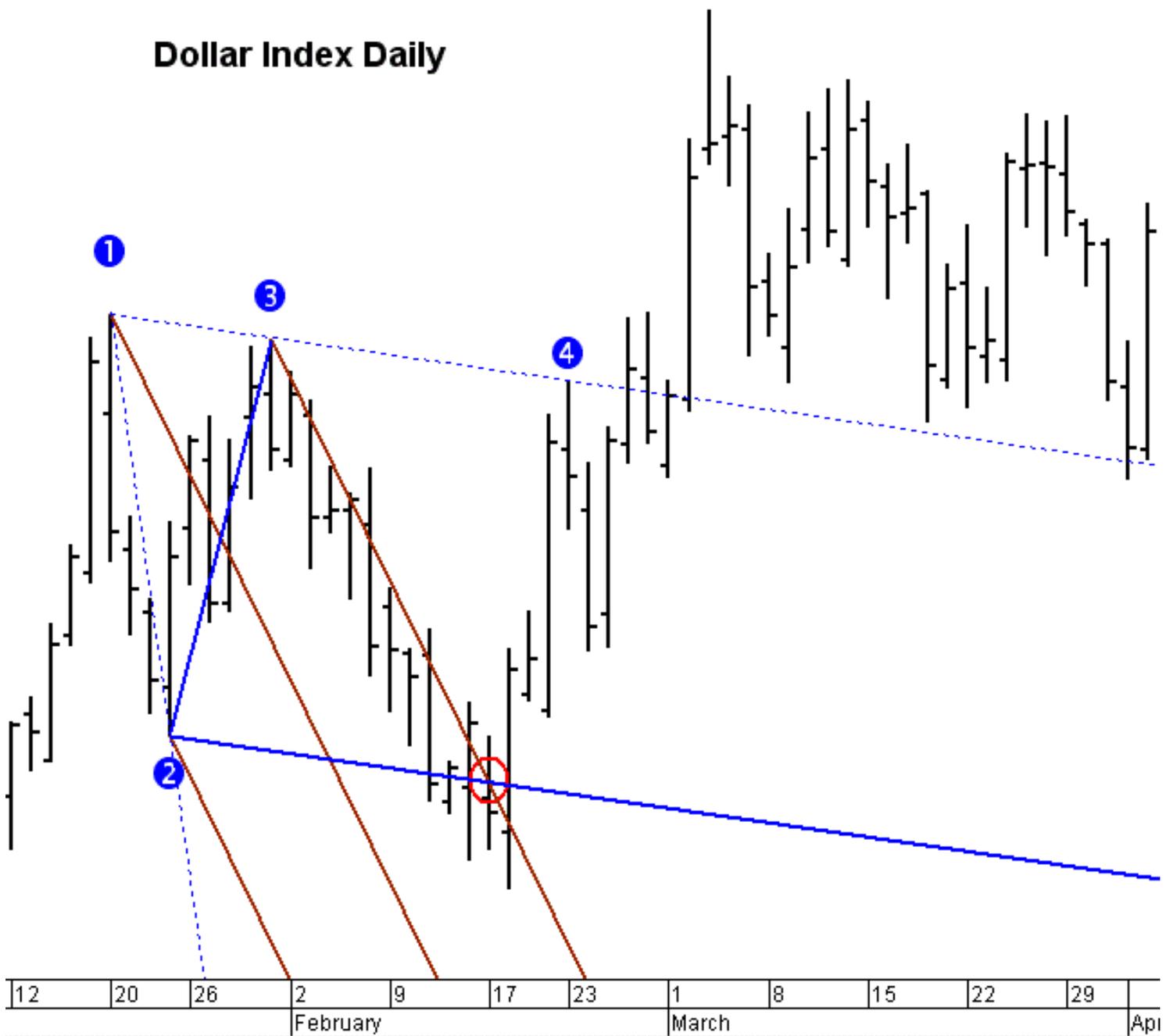
Below we've moved forward a few weeks in the Daily Dollar Index chart. The turning-points and support-resistance are obvious. A new point is that at "5", with price rising and extending above a falling pitchfork - that's when you know to redraw.
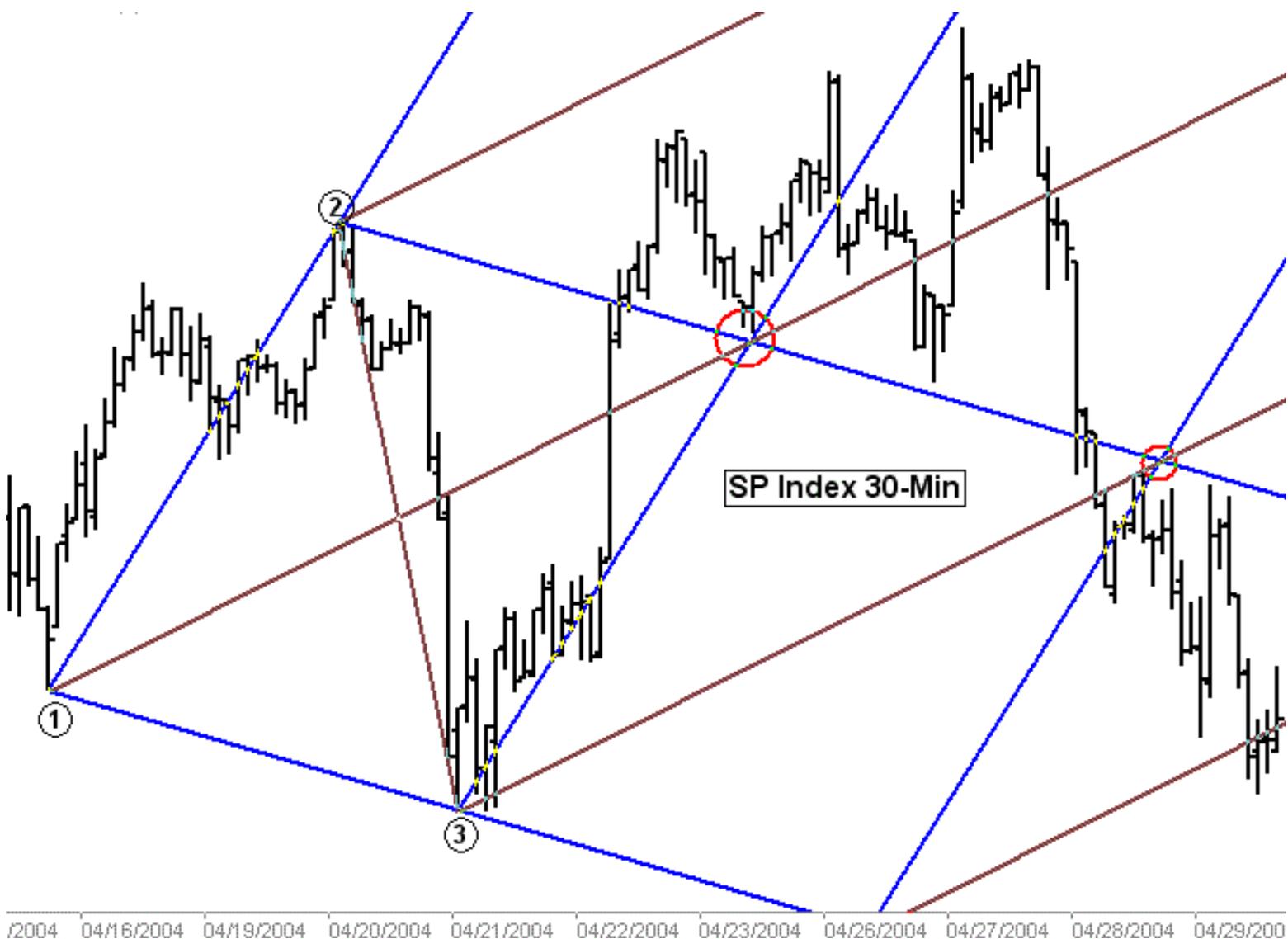
Dollar Index Daily

| 26 | 2 | 9 | 17 | 23 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 |
| | February | | | | March | | | | | April | | |
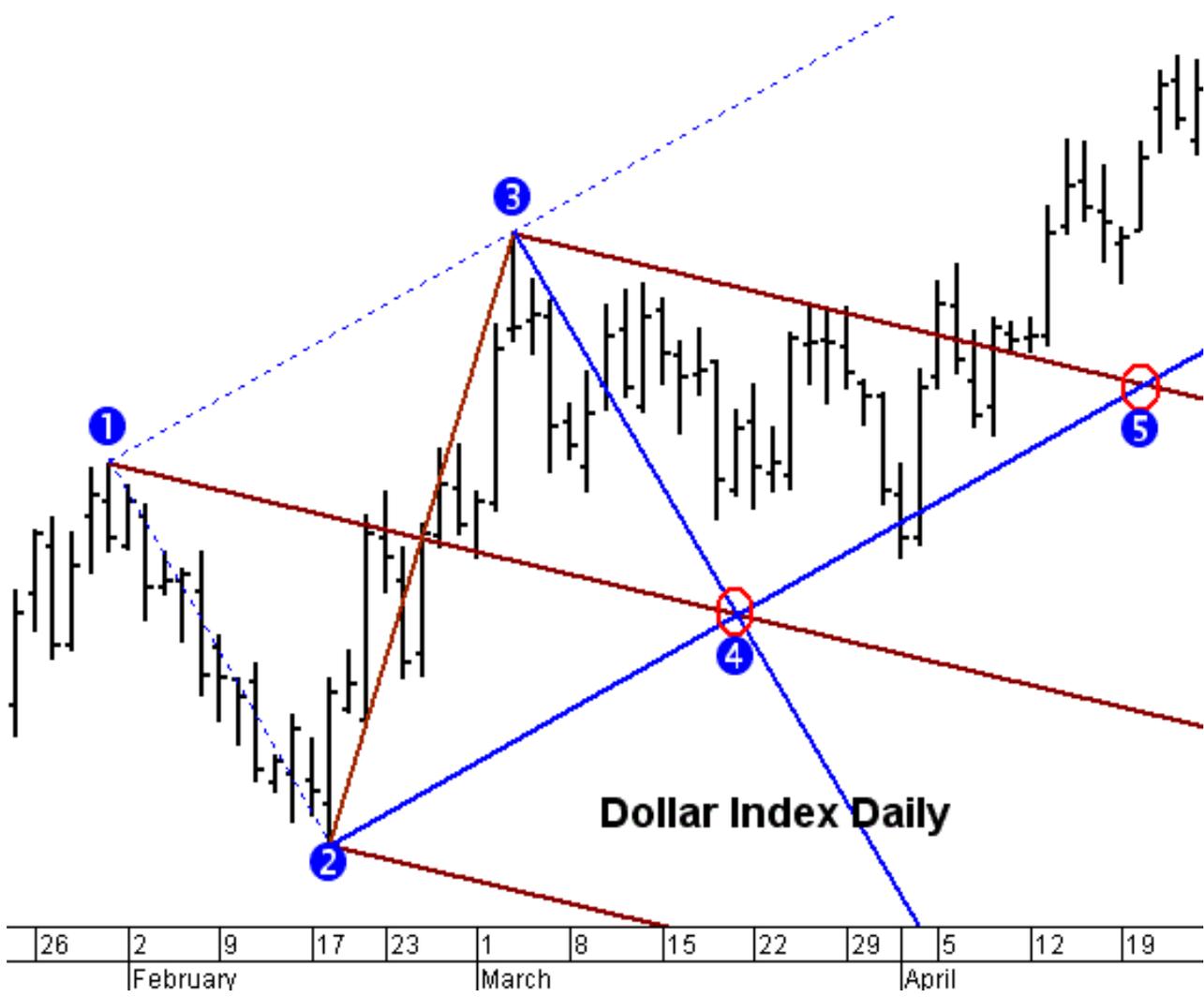
Below I'm using a chart from FT/GT. It looks more complicated, but the only addition is in the PF lines, which now have expansion lines on either side of the original PF lines. This is a 30-minute Dollar Index chart. Note the accuracy of the red-circled intersects. And now please spend a few moments observing how you would use the PF lines for profit objectives in short-term swing-trades. Finally, along the bottom right, you can see the PF Expansion lines are effective support-resistance levels, and can also be used with Angle intersects provided price is nearby.

Dollar Index 30-min

IC TRADER(R)

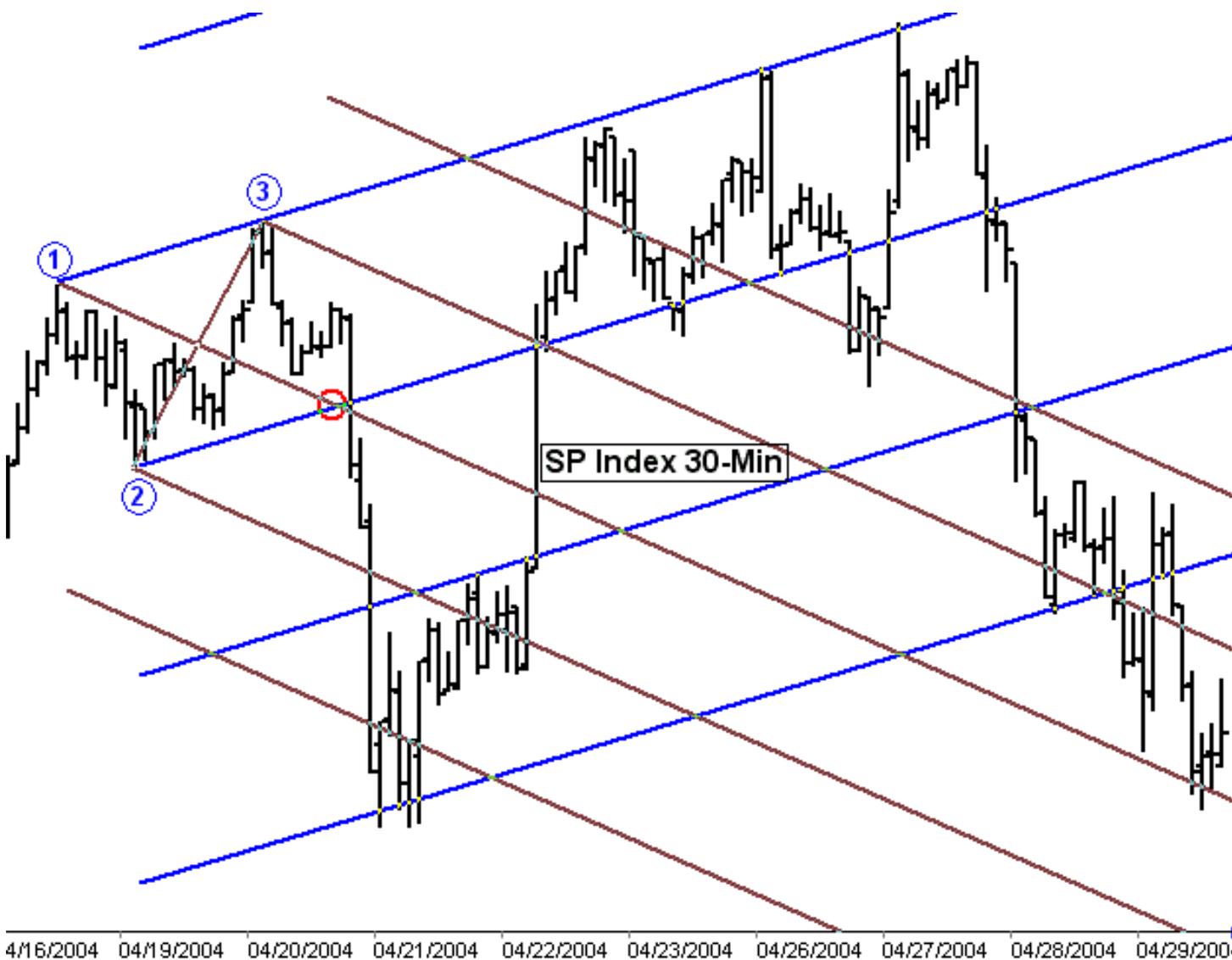03/31/2004   04/01/2004
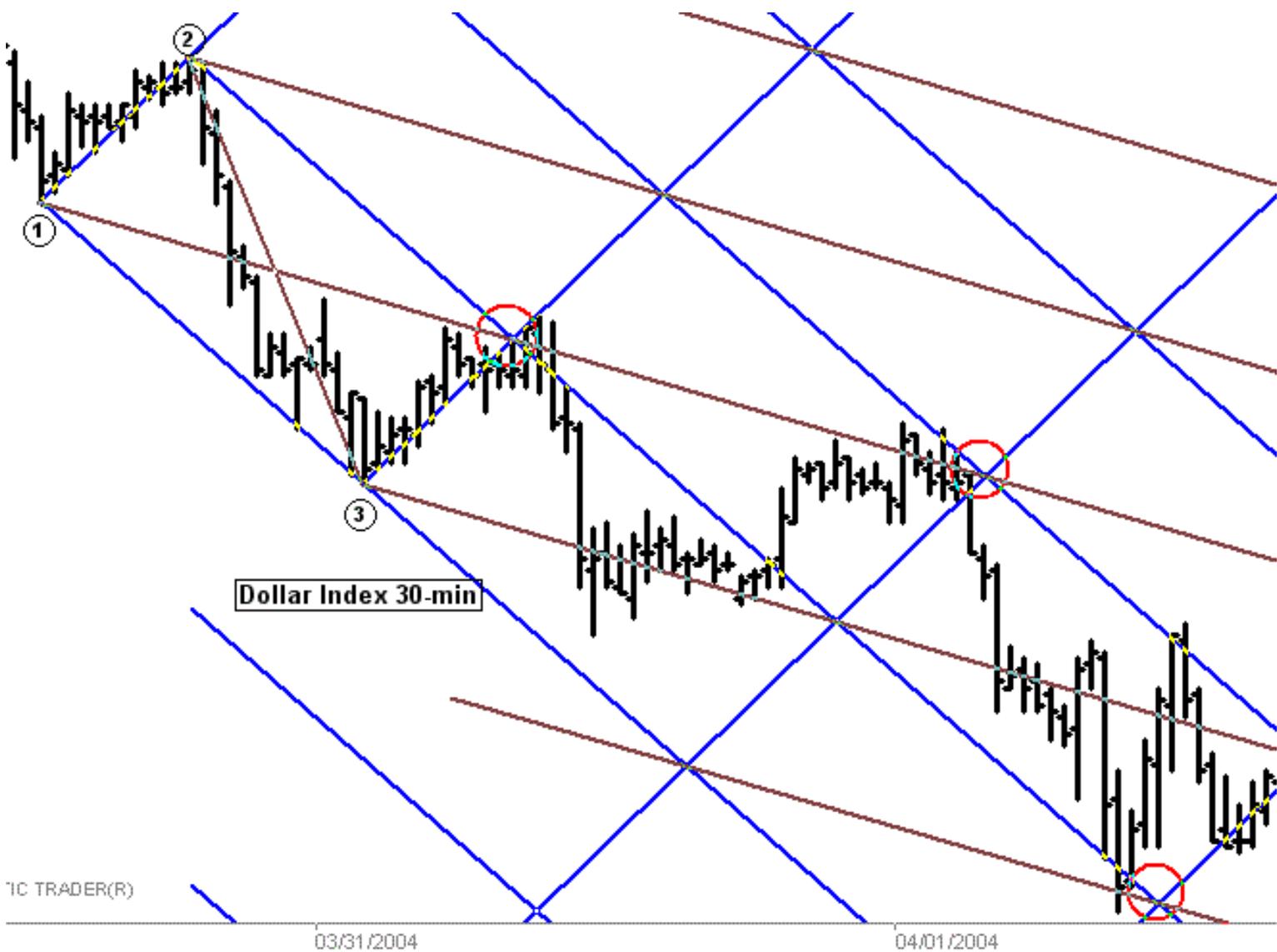
The below chart is 2 days forward on the 30-minute Dollar Index chart. The first red circled intersect got price from its lows to the middle PF line. The second red-circled intersect acted to accelerate price rather then reverse it. The last red-circled intersect changed trend also, but not as a reversal - price went flat. This points out that trend-changes are not always reversals. Up or down to sideways is a trend change, and a slight rise changing to a rapid acceleration is also a trend change. Fortunately, more then half the time a trend change is a price reversal. Hint: when you see that after point "3" price is not moving at the speed of any of the Angles and is hugging PF lines instead, the profit opportunities are fewer.

Dollar Index 30-min

03/31/2004   04/01/2004

Below is the SP500 Index, 30-minute chart. The first red-circled intersect timed the start of a swing, but price never reached the upper PF line. As seen below if it falls below the rising angle its time to abandon the initial profit objective. The second circled intersect worked well. This chart shows very choppy volatility, yet the PitchFork Angles technique gives a few trades - and the Angle lines do show valid (maybe even amazing) support-resistance levels inside this choppy market activity.

SP Index 30-Min

/2004 | 04/16/2004 | 04/19/2004 | 04/20/2004 | 04/21/2004 | 04/22/2004 | 04/23/2004 | 04/26/2004 | 04/27/2004 | 04/28/2004 | 04/29/200

The below chart is using the same price activity as the above chart, but different PF Angles are used. I just circled the first intersect, I'll let you visually inspect the others. Remember, ideally price should be in the same channel as the intersect of Angle and PF line. Then take a few minutes to review the support-resistance given by the blue Angle lines. **Hint**: if the PF is falling and price is rising above it, use the initial trendline from "1" to "3" (and vice-versa if PF is rising and price falling below it).

SP Index 30-Min

4/16/2004   04/19/2004   04/20/2004   04/21/2004   04/22/2004   04/23/2004   04/26/2004   04/27/2004   04/28/2004   04/29/200

Below we're moving forward a couple if days in the SP Index 30-minute chart. The first couple of Angle - PF intersects look very good. The second one is using a PF Expansion line. This brings us to a very important point. The last 3 charts were of the same time-period in the SP. Don't draw all three PF-Angles in the same chart! FT/ GT allows multiple same time-frame charts to be opened simultaneously, and in MetaStock you create a layout with several same timeframe or different timeframe charts of the same market. Expand the chart and/or zoom as needed. As you can see from the preceding three examples, you can pick just about every trend-change in a market, but you'll have to draw several PF-Angles to do it. If this isn't clear email me with questions or concerns. This multiple PF-Angle approach, though maybe more work then you're used to, is well worth it.
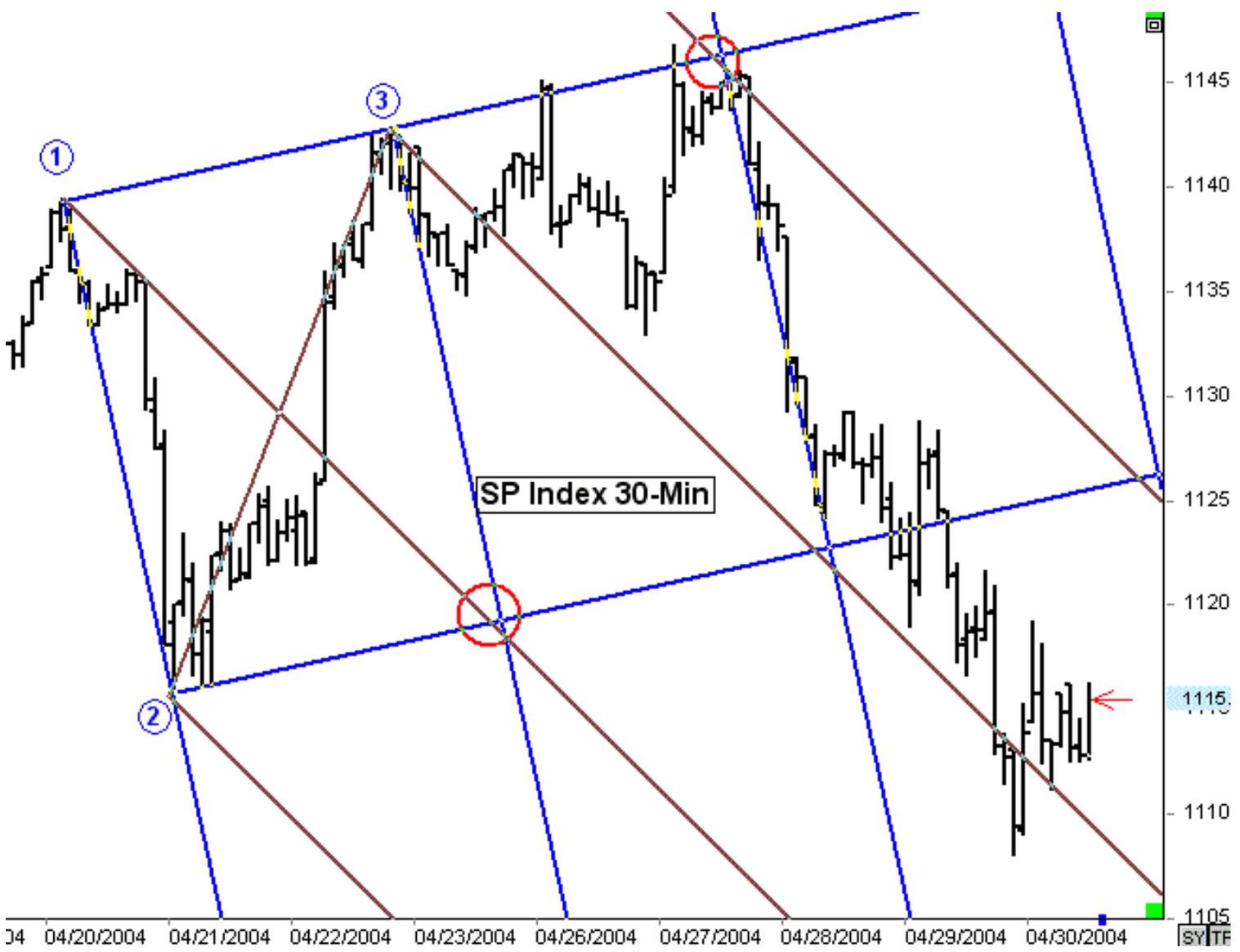
Below is a 10-minute chart of the SP Index. The red-circled intersects worked fine. Hint: A clue is that shortly after price left "3" it first moved at the speed of the falling Angle line, then at the speed of the rising angle line below it, not at the speed of the PF lines. This tells me that price will respond to the Angle-PF intersects and the PF lines can be used for as profit objectives, and the angle lines can be used as dynamic support resistance lines.

http://trott.tv
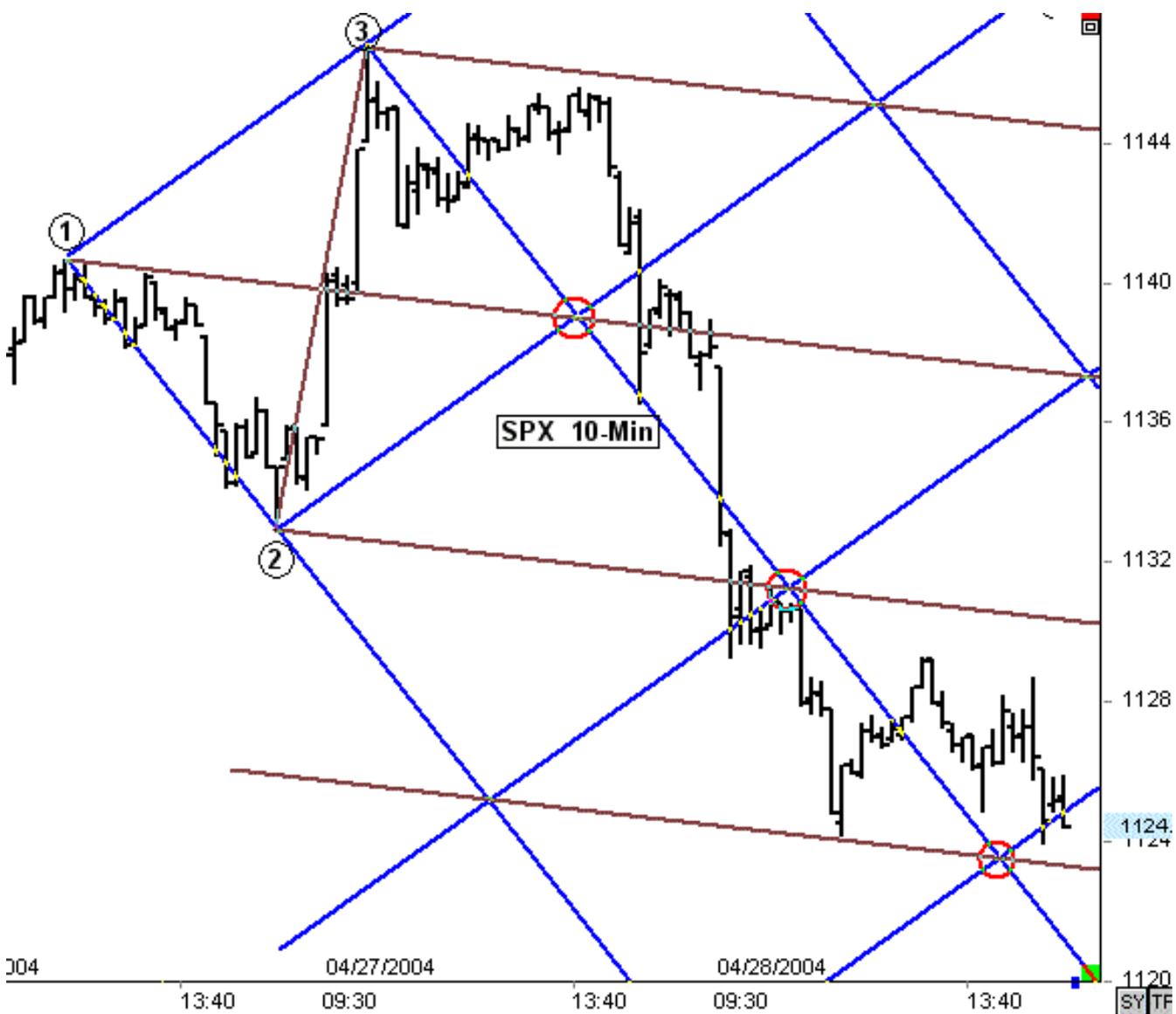
I'm hoping this section showed you a vision of possibilities for your future trading. It takes practice to master this technique and also there's the extra work involved in plotting several of these for the same market on different charts. But is there a better trading technique?

Summary

- Angle intersects to PF lines are trend change points, the closer price is to the intersect the better

- Profit objectives are the next PF line in the direction of your trade (or use a trailing stop)

- The initial stop-loss is the opposite PF line, or (using going long as an example) the lower Angle line if price is just below the PF line at the start of a trade

- Observe price as it moves within the PF - if price is accelerating at the same rate as one of the Angle lines it means the technique will work well

- If price is hugging PF lines and not accelerating at the speed of angles lines, the techniques may not work as well

- Pivots formed within a few ticks of PF lines or Angle lines are tradeable! Especially by experienced swing-traders, if you're not one, then I give a simple technique in the next section

- PF Angles is weak in timeframes under 10-minutes due to "market noise" (large traders exiting trades or

getting into long-term trades, stop running, market-makers adjusting their inventory, etc). This noise creates pivots that don't really reflect market geometry in those short time-frames

- results are improved dramatically when you draw several of these PF-Angles on different pivots for the same market over the same time periods; **Note:** often you'll be in a profitable swing-trade form one PF-Angle setup and an Angle-PF intersect from another chart (using different pivots) will tell you to take profits and change direction for the next profitable trade. Now that's trading mastery!

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Fib-Fan Projection
Drawing Technique

This technique is meant to be used in trending markets, either early or late in a trend of any timeframe. The trend is in the timeframe you are trading, The daily chart may be showing a ranged market, but a 30 or 5 minute chart may be showing trend so this technique can be used. It's ideal for day-traders when they encounter either a trend-day or on a 30-min chart see a trend over the past few days. While it works on daily charts, there are far fewer opportunities. Note that 30-min charts may be ideal for overnight swing-trading decision-making. This technique uses the Fibonacci Fan which is available in many charting software, but not all. If your software allows Trendline drawing and has the Fib Retracement you can draw your own Fib Fan's if your software draws trendlines and has the Fib Retracement drawing tool. Email me for instructions.

The Fib-Fan Projection can be used on rising or falling markets. This technique can be applied just 2 bars after the bar labeled 3, when a pivot is confirmed. In this drawing example I'm using a rising trend on a 5-min chart of the DJ Mini futures (it works the same or slightly better on the DJ Index). You need to be able to see 4 pivots as shown below. The "0", or lowest pivot, does not have to be a major or significant low. I recommend that it be the lowest low in the past 15 bars minimum. Very important is that you see two high pivots like "1" and "3" below (in a falling market "1" and "3" would be low pivots).

- don't confuse the labeled pivots as Elliot Waves - they're just simple pivots
- these pivots don't require a specific retracement before or after the pivot bar as in filtered-waves or the zig-zag indicator - they're just the simplest of pivots; the only stipulation is that you have a rising or falling market in the timeframe you are observing
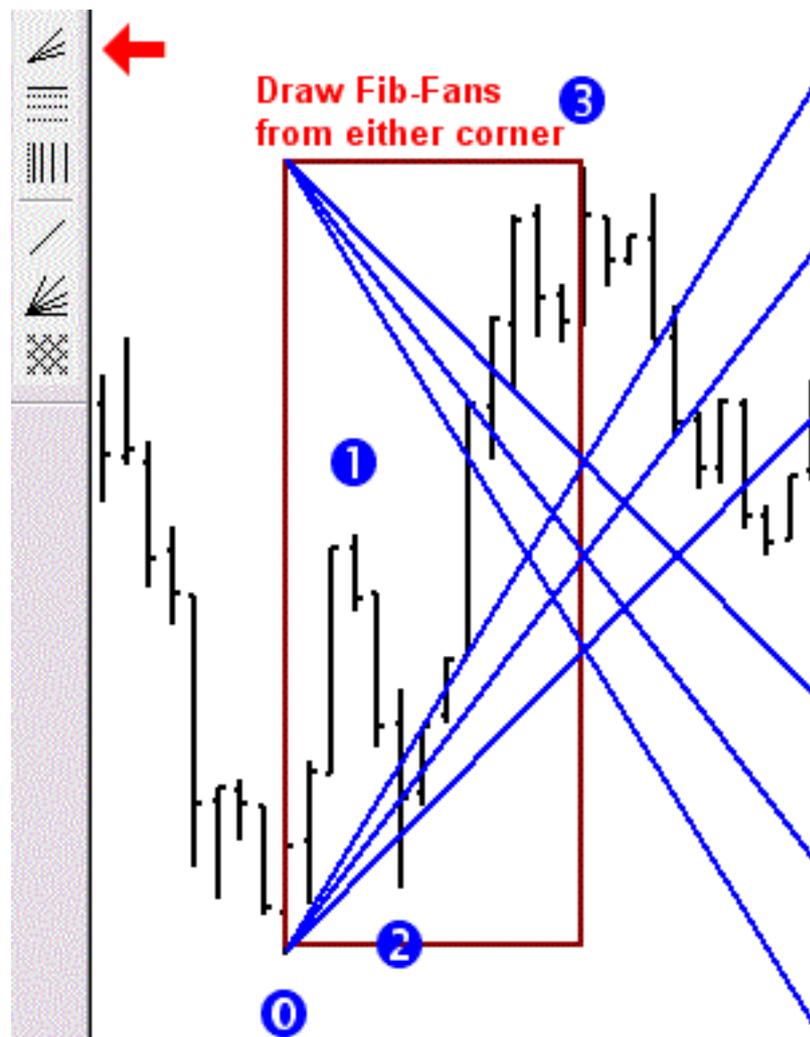

From a low point,
locate 2 high pivots
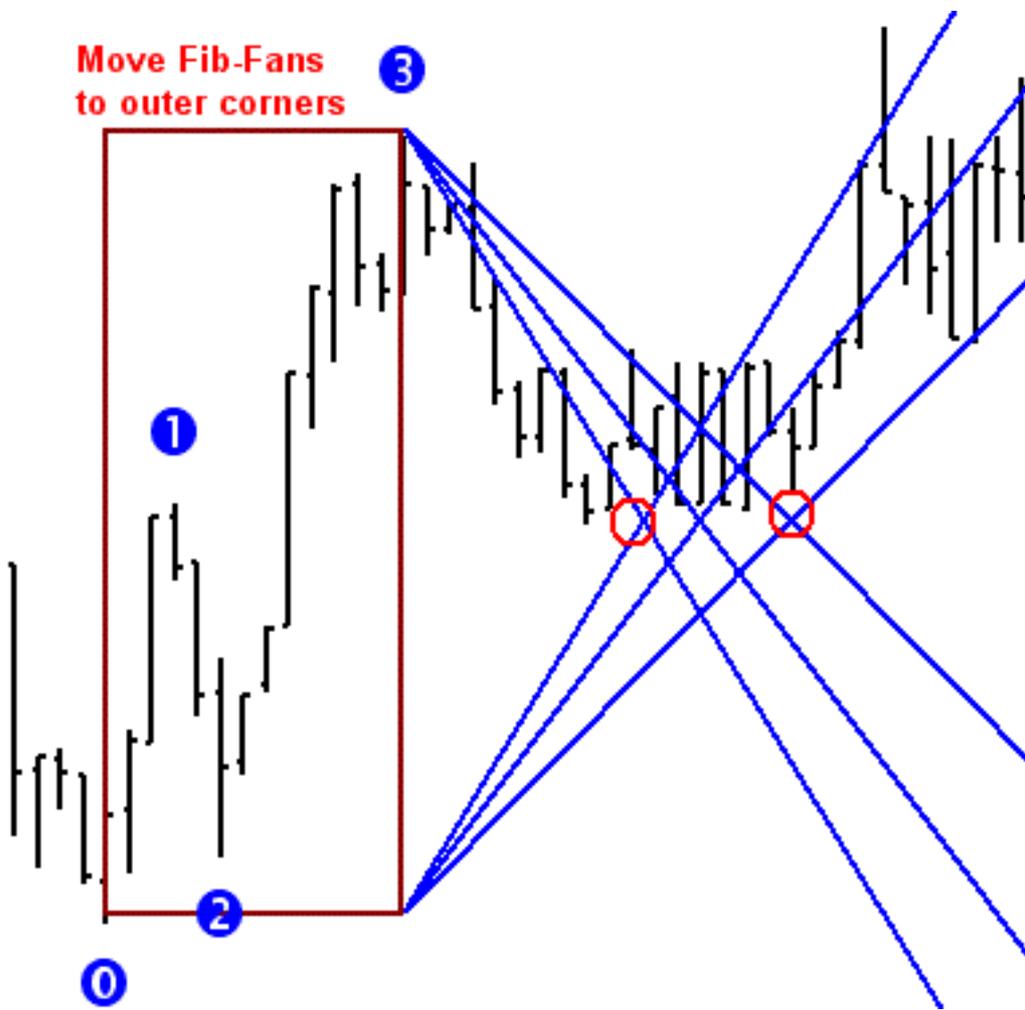
Now draw a rectangle using "0" and "3" as the corners.

Now draw a Fibonacci Fan (FF) in the upper left and another in the lower left corners. For MetaStock users the red arrow points to the FF icon.

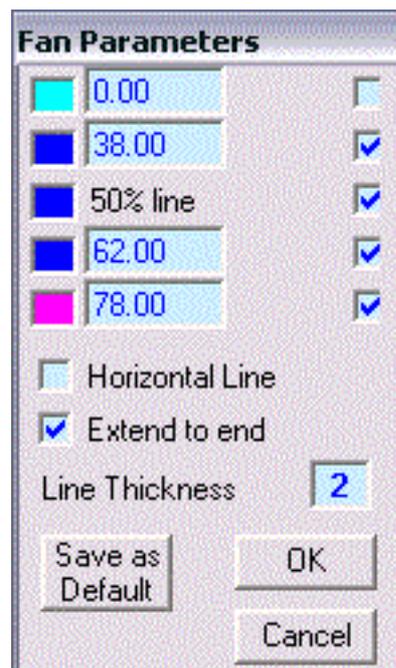Draw Fib-Fans
from either corner

Now move the FF's horizontally forward to the right corners of the rectangle (interpretation in the next section).

**Move Fib-Fans to outer corners**

If you use the Fibonacci Trader or Galactic Trader (FT/GT) software you can draw an extra useful line. First select the Fan properties and set it as shown below. The new Fan line is the 78% line.

In FT/GT you won't have to draw a rectangle, as the software draws a horizontal line from its start (the left corner) to the pivot you connect it to (the right corner). Simply looking at the below example should clarify my slightly confusing wording.
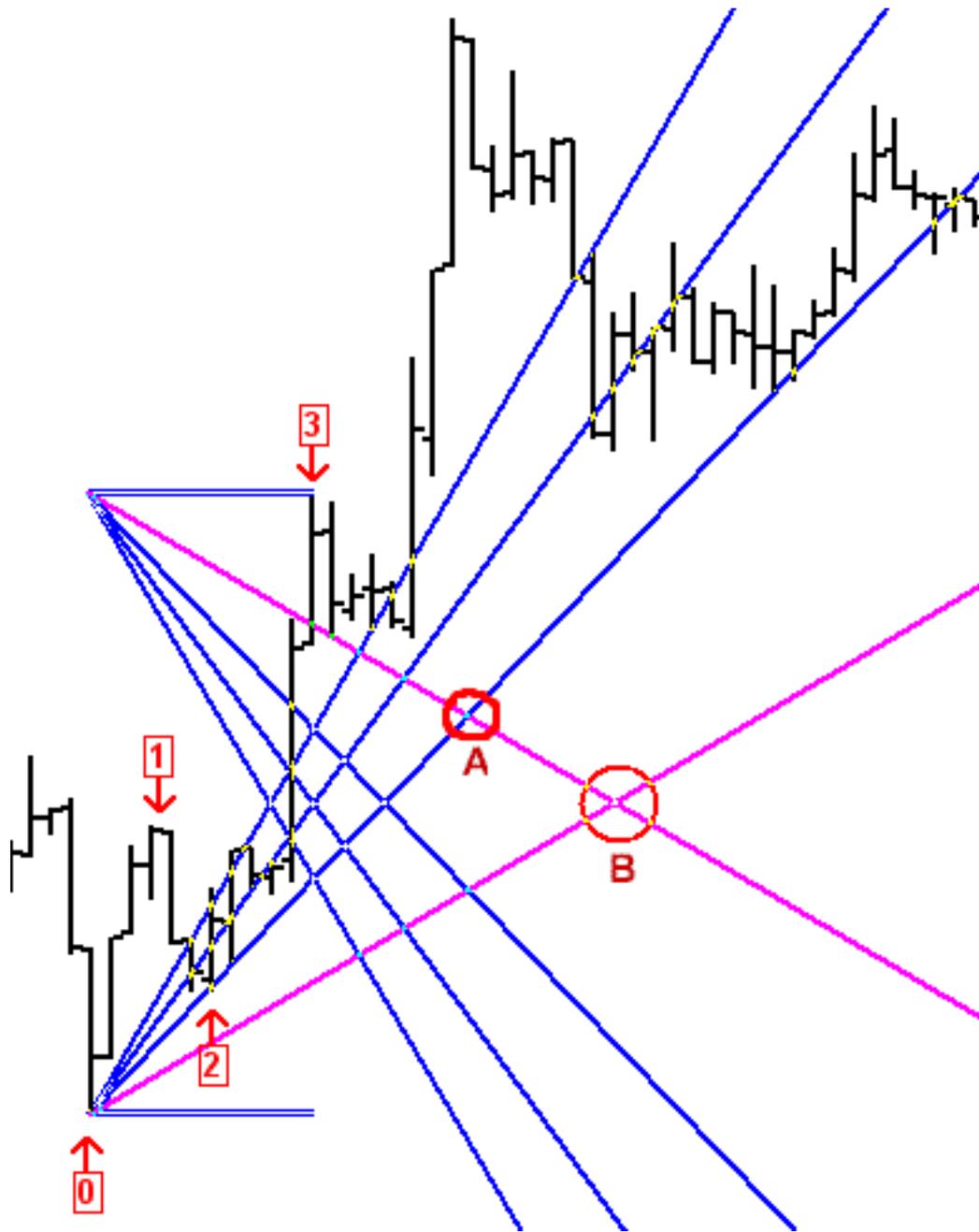
As shown below, each FF can be moved horizontally forward from "0" to "3" (interpretation in next section).
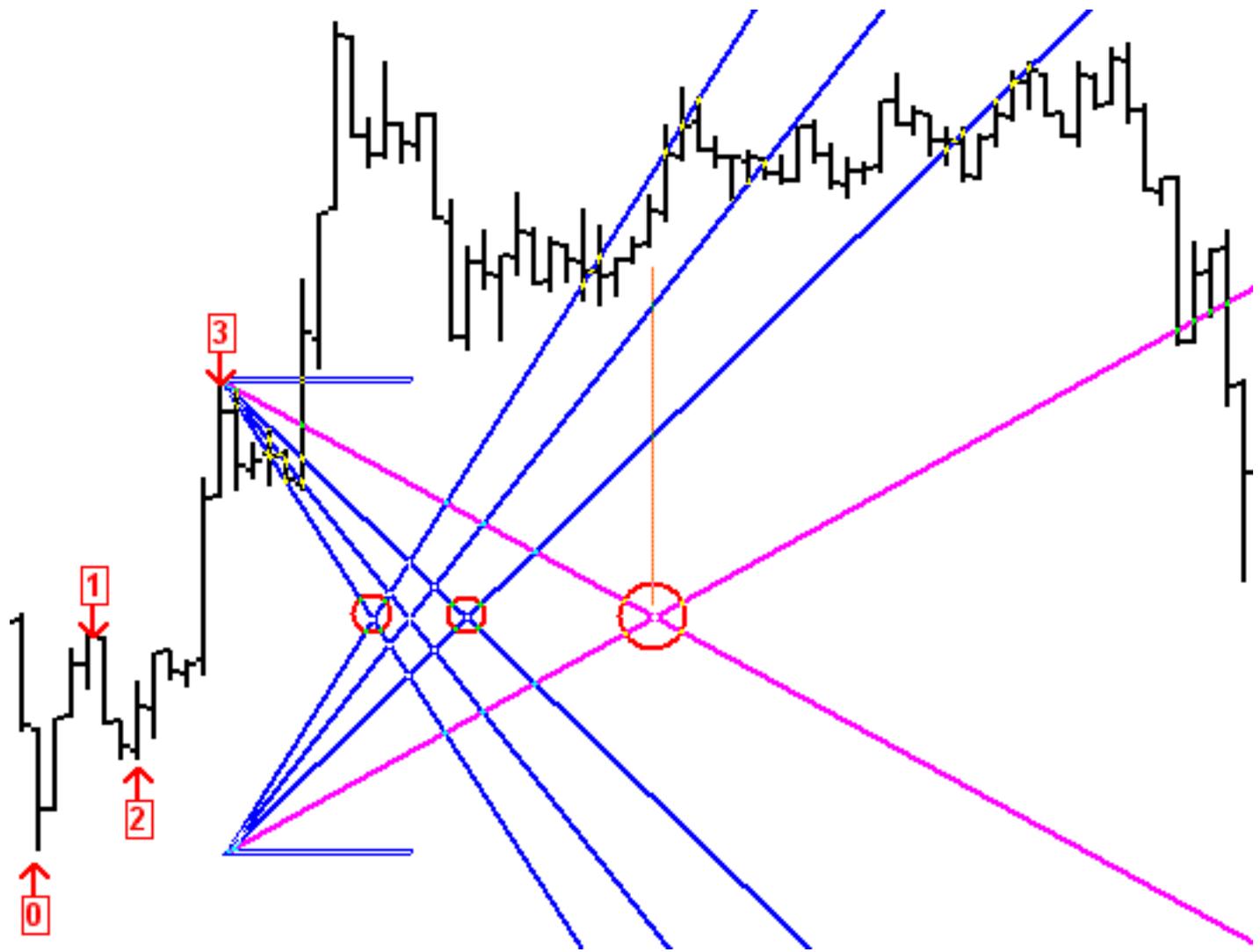
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Fib-Fan Projection
Interpretation

This technique is used for two purposes:

1. time the start and end of the next short-term swing up or down
2. provide future rising (or falling) support-resistance levels that let you determine trend strength

Regarding my use of the phrase "short-term trend", its specific to the timeframe observed. So when a day-trader uses it on a 30-min chart they actually get a large swing in the timeframe they are trading, either the 5 or 1 minute timeframe. When used on a daily chart, they provide the overnight swing trader a larger move based on the 30-minute timeframe they may (or should) be monitoring. And when found on a weekly chart, the weekly short-term trend is an intermediate trend on the daily charts.
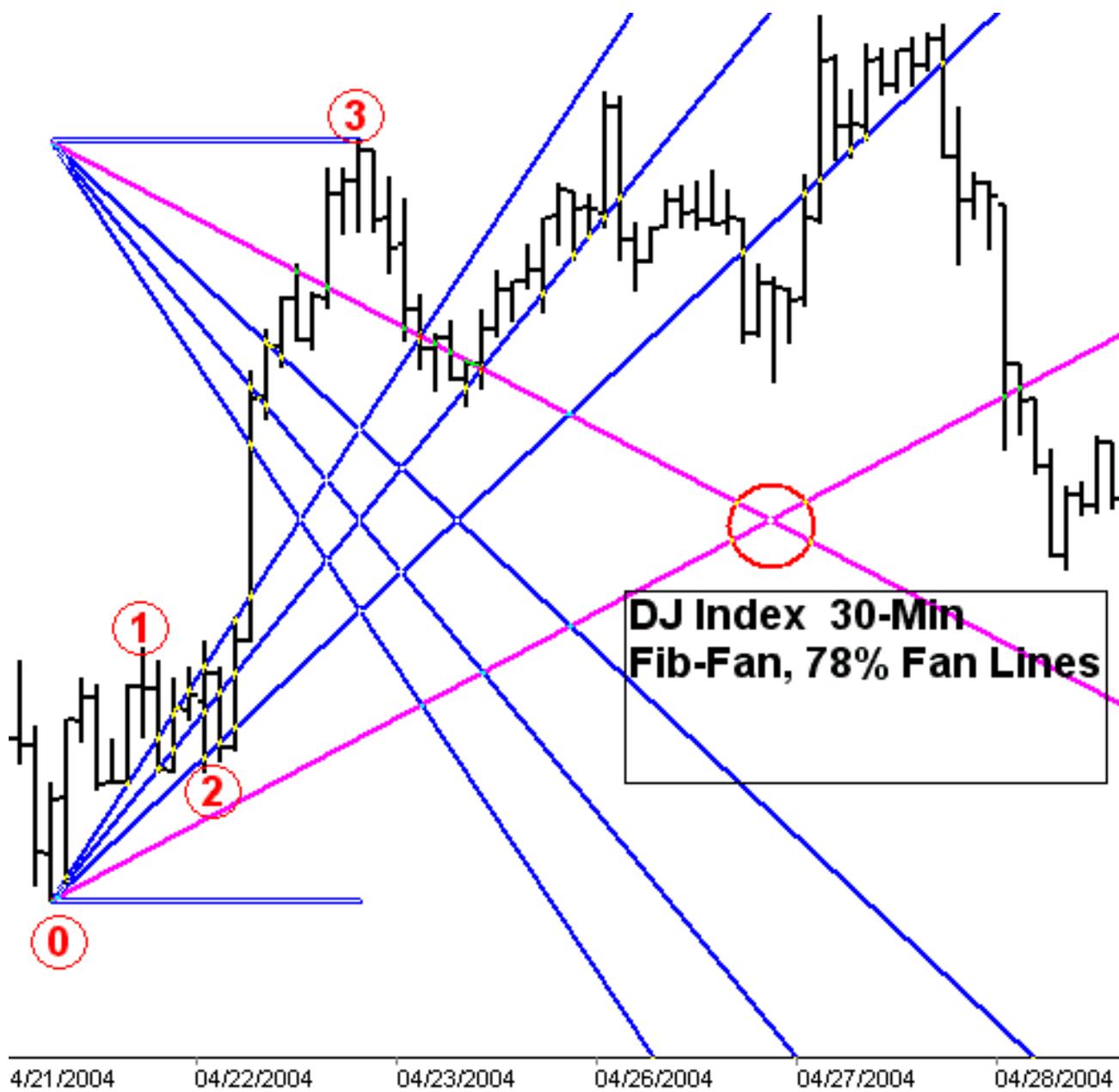
The first example is a 5-min chart of the DJ mini futures. For those using FT/GT, the 78% line is the magenta line - most software packages don't have this. In the below chart I have not moved the fib-fan's forward yet. Note the red circles - looking straight up you can see that they each timed a turning-point. They both require the 78% fan line. "A" is the 78% line intersecting the 62% fan line. "B" is the intersection of the two 78% fan lines.
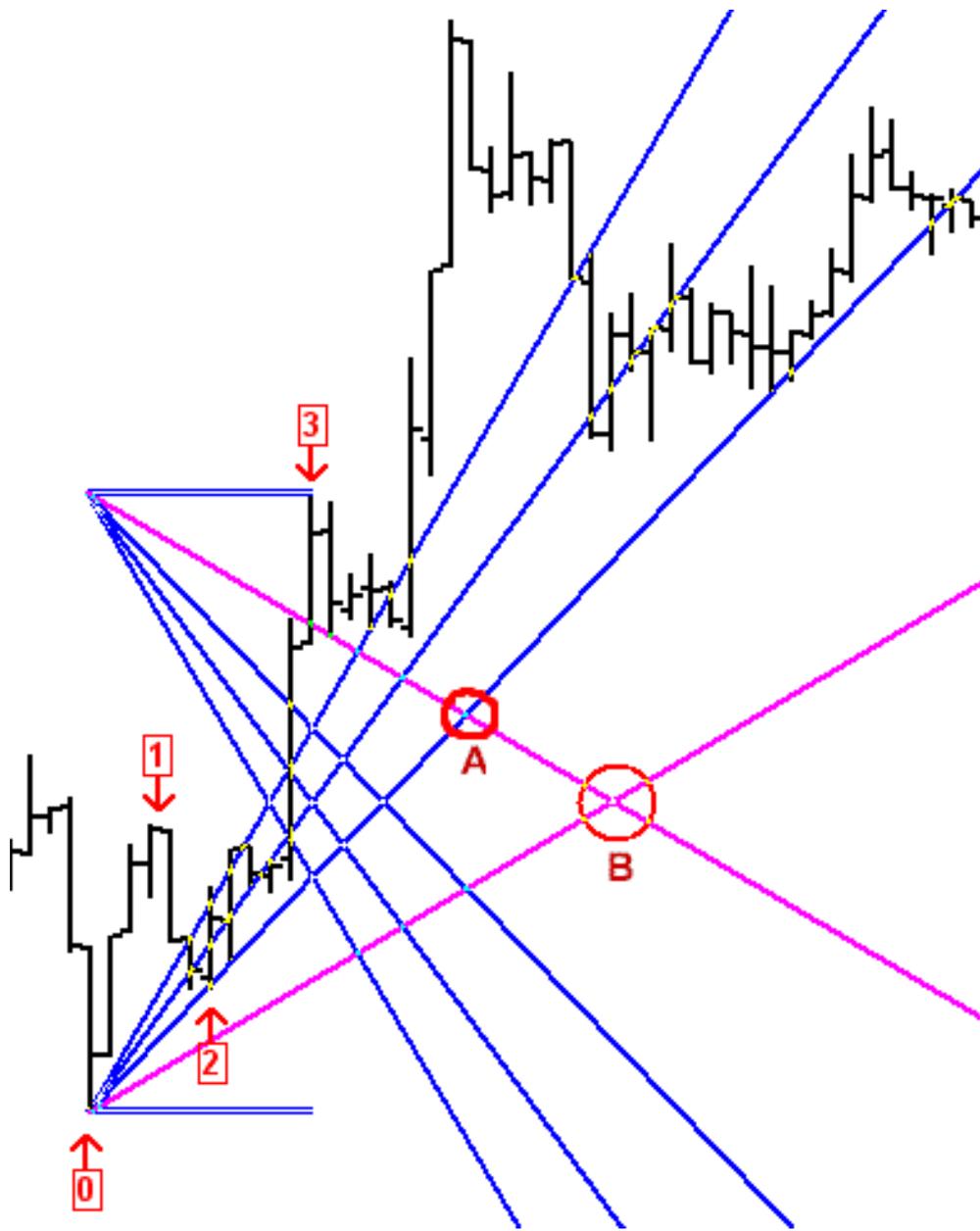
Below the two fans have been moved forward as described in the Drawing section. The blue lines are the "traditional" fan lines of 38%, 50% and 62%. You are interested in the first two red circles, which show the intersects of the 38% lines (the first circle) and the 62% lines (the second circle). These often time the start and end of a short-tern swing. The third circle (the 78% intersects) isn't as relevant - usually you will have new pivots in place and will have redrawn this technique. I have found the projected 78% line to be a nice profit-objective when the three traditional fan-lines aren't supporting price.
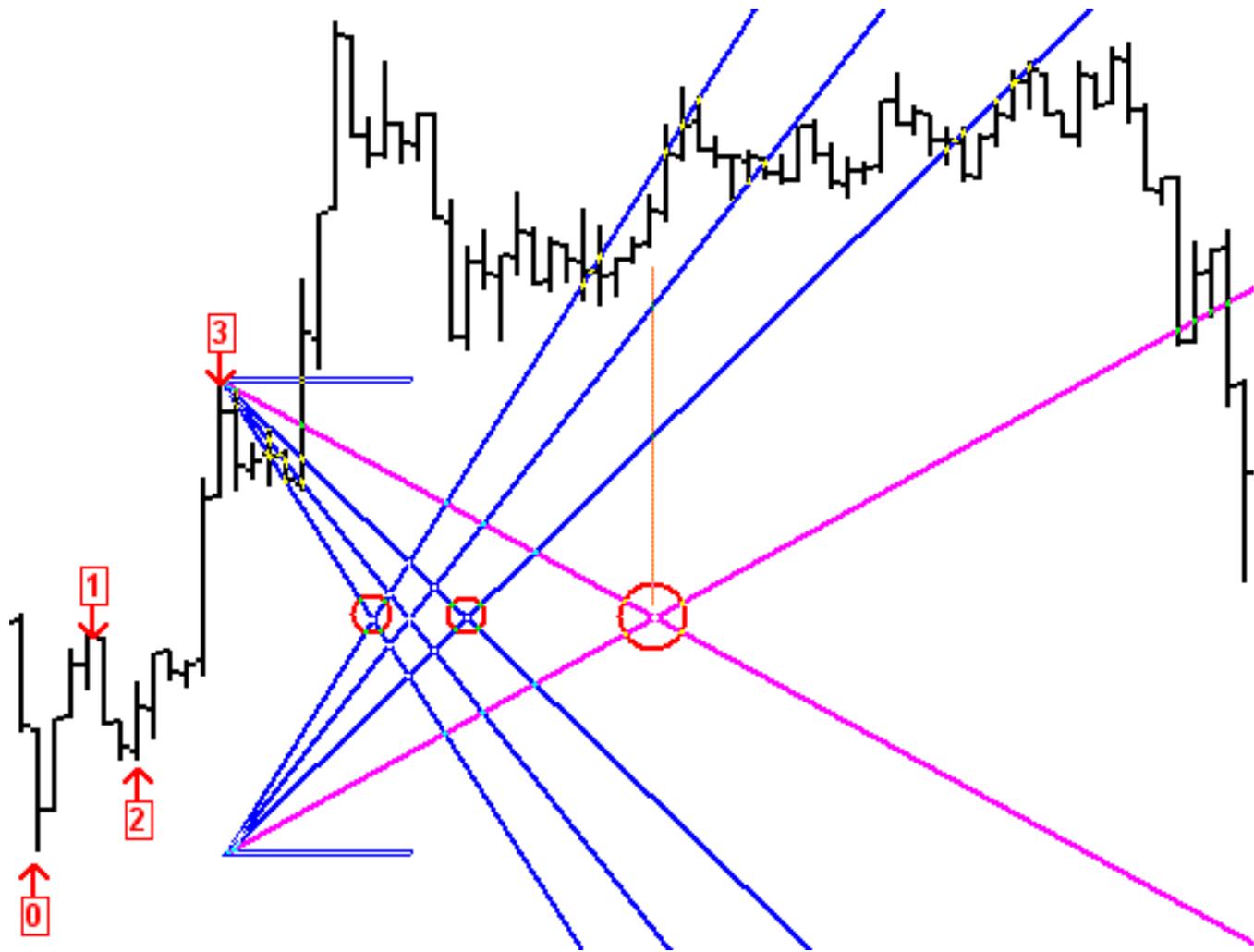
Below is a 30-min DJ index chart. Before we move the fans forward, we can see that the (magenta) 78% line intersects are again timing a short-term change. The intersect of the falling 78% line and rising 62% line is one bar off from the high bar above it.

DJ Index 30-Min
Fib-Fan, 78% Fan Lines

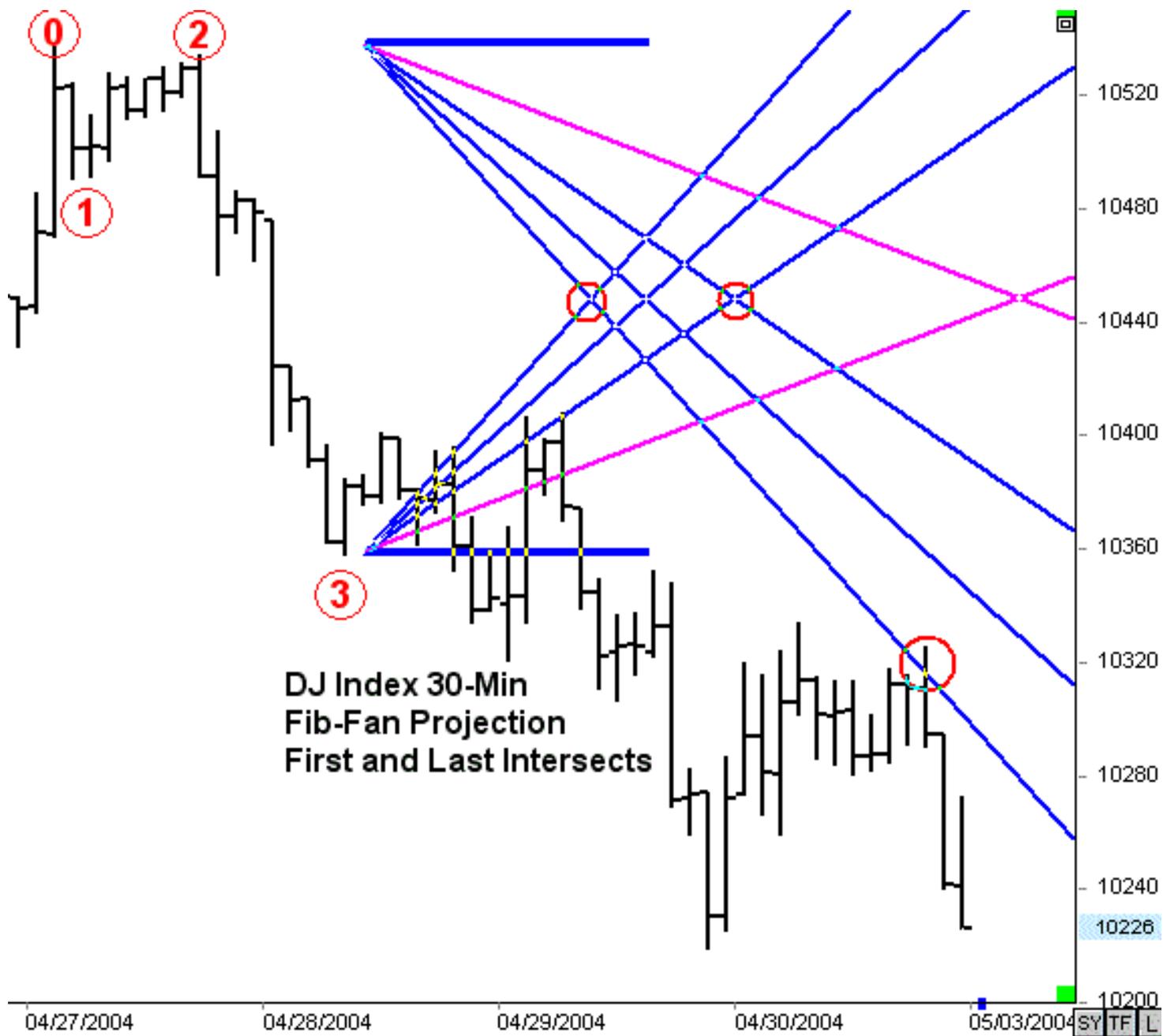4/21/2004   04/22/2004   04/23/2004   04/26/2004   04/27/2004   04/28/2004

Below we have moved the fan-lines forward. Again, note that the two circled areas timed a swing perfectly. These show the intersects of the 38% lines (the first circle) and the 62% lines (the second circle), as in the 5-min chart example above. In all these examples please observe the behavior of price around the projected fan lines.

DJ Index 30-Min
Fib-Fan Projection
first and last intersect
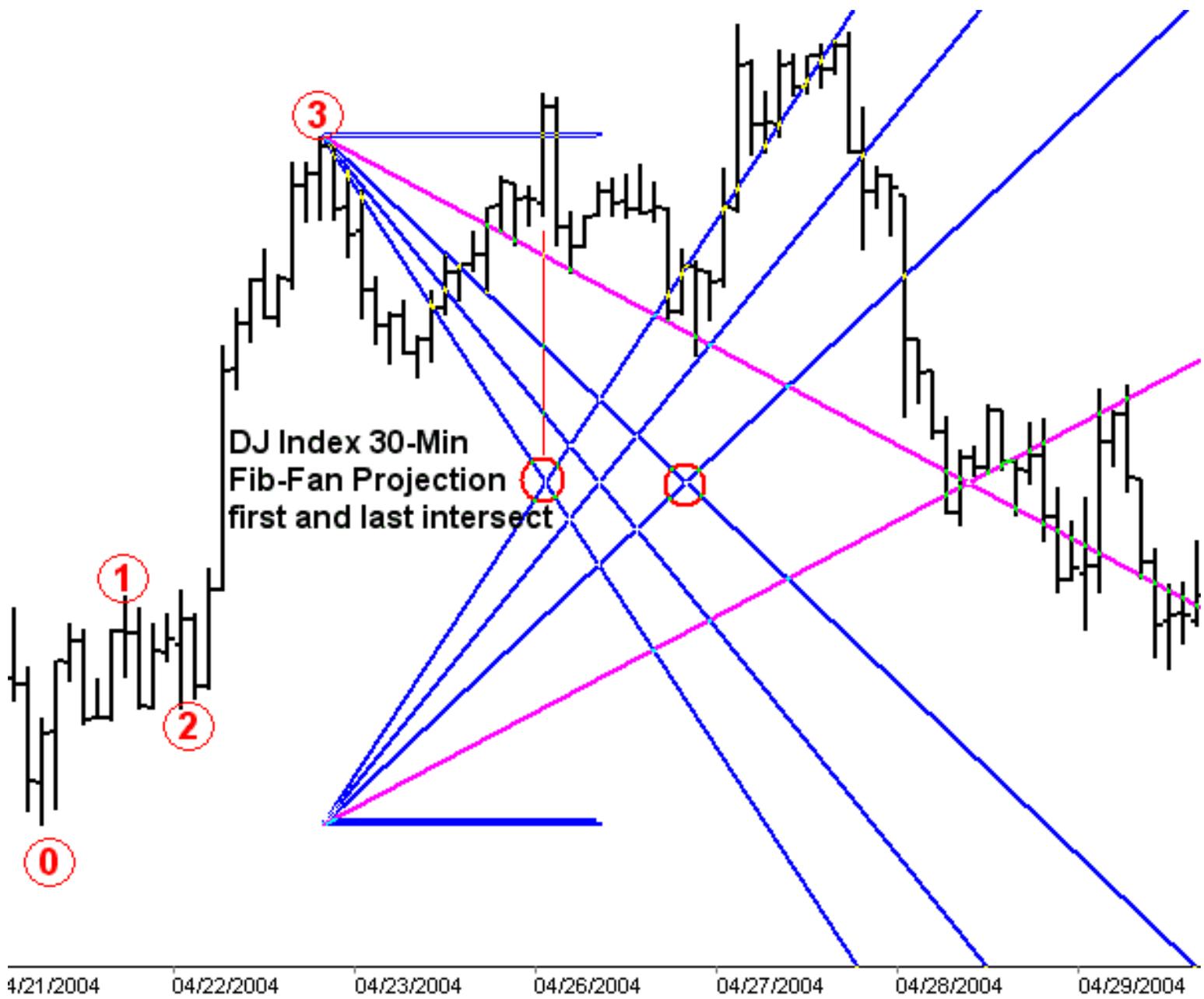
The below chart is also a 30-min DJ index chart, about a week after the above chart. Before we move the fan-lines forward note the intersect of the (magenta) 78% lines, which are timing a turning-point nicely. Also, the intersect of the 78% and 62% lines are timing a turning-point, as in all three examples.

DJ Index 30-Min
Fib-Fan 78% Lines

Now we are moving the fan-lines forward, which is the "proper technique", and we see that the two circled areas timed a swing. These show the intersects of the 38% lines (the first circle) and the 62% lines (the second circle) as in the above examples.

DJ Index 30-Min
Fib-Fan Projection
First and Last Intersects

Next we're back to a 5-min chart of the DJ mini futures. I'm using MetaStock to draw the Fan Lines.

Below I'm moving the fan-lines forward. As in the above examples, note that the intersects of the 38% lines and the intersects of the 62% lines timed a swing.
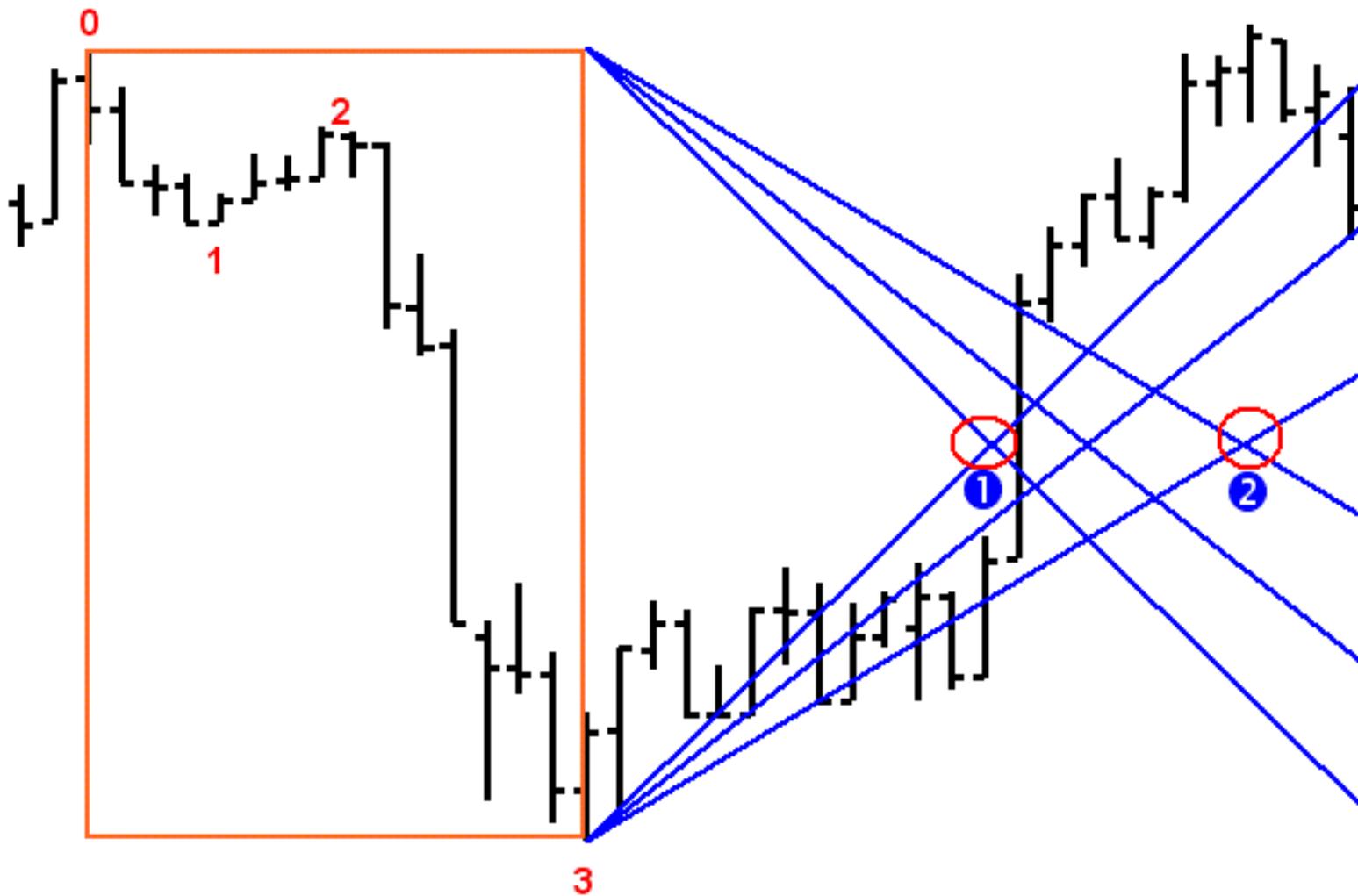
Summary

This technique requires that a market show at least a few rising and falling swings in the timeframe you are monitoring. Please don't use it in sideways markets - use the Acceleration Projection instead. In markets that are already showing swings this Fib-Fan Projection technique is preferred over Acceleration Projection. In markets that are showing wide ranges, wider then normal, use both techniques (until you're comfortable with Pitchfork Angles, and advanced technique).

1. the primary purpose of this technique is to time the beginning and end of a short-term swing, using the intersects of the first and last "traditional" fan lines
2. if your software allows the use of a 78% fan line, prior to projecting the fans its intersects with itself and the 62% line are frequently turning points (but note that this 78% intersect is often within a bar of the projected 62% intersect)
3. the projected fan-lines appear to provide rising or falling short-term support and resistance

[Next](#)

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Additional Market Geometry Aids
Explanation

This section contains three time-proven market geometry tools; please note that their composition and use have been around for years and are considered in "the public domain". Over the years I've tested many techniques and have found these three to be particularly useful for day-trading or swing-trading and am including them here for your review. I'll be providing recommendations on how to draw them and what their intended use is. However I'm leaving it up to you as to how to incorporate them into your trade-setups. I don't recommend making a trade based on any one of these tools alone, but rather using them in conjunction with the "Big 3" market geometry tools (Fib-Fan Projection, GS Timer, and PF Angles) or with any other trading system or tools you're currently using. These tools can only help your trading style.

Lets examine the practical consideration of profit objectives next.

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Fib Price Expansions

This is a very valuable technique that you should incorporate into your trading. The reason its listed as an "aid" instead of as a main technique is that you use it after you enter a trade - its meant for setting a profit-objective. In my opinion this issue of profit-objectives is the least understood component in the trading-process. Its often "glossed over" with the cliché "You can't go broke taking a profit". Hopefully this technique will assist you in your profit-taking strategy.

The Fib Expansion drawing tool found in FT and GT is the only one that allows you to select three consecutive pivots. You can also draw this in MetaStock but its not as potent as you use two pivots in MetaStock. As shown later in this section there are times that's appropriate, though.

You're looking for an A-B-C pattern. You can see the parameters I'm using. The central idea is that each of the price-expansion levels acts as a resistance level (in a downtrend they act as support levels) and are good places to consider taking profits. Starting with the second level (the 1.0 expansion) you're simply looking for a pivot to form on or just below the level as a confirmation that a correction to the trend is imminent. (MetaStock Example below)

Below is another simple example. Both of these examples are the traditional "vanilla" use of this technique.
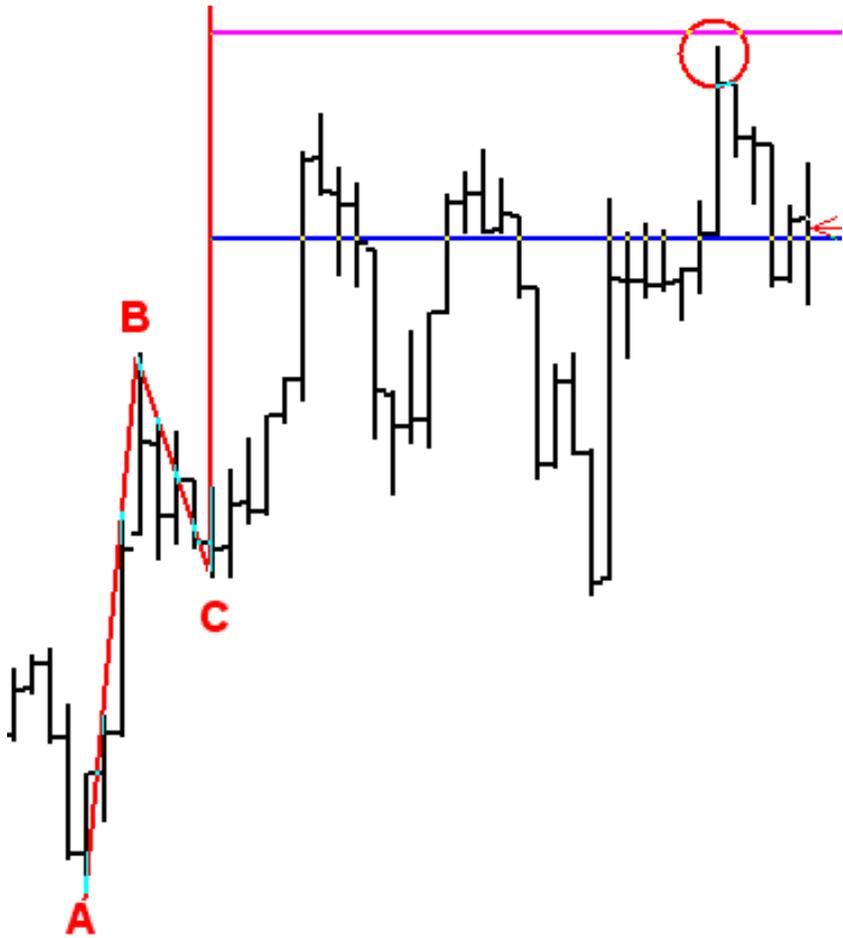

In my own use, if pivot C exceeds a 62% retracement of A - B, as shown below, then I draw it differently.
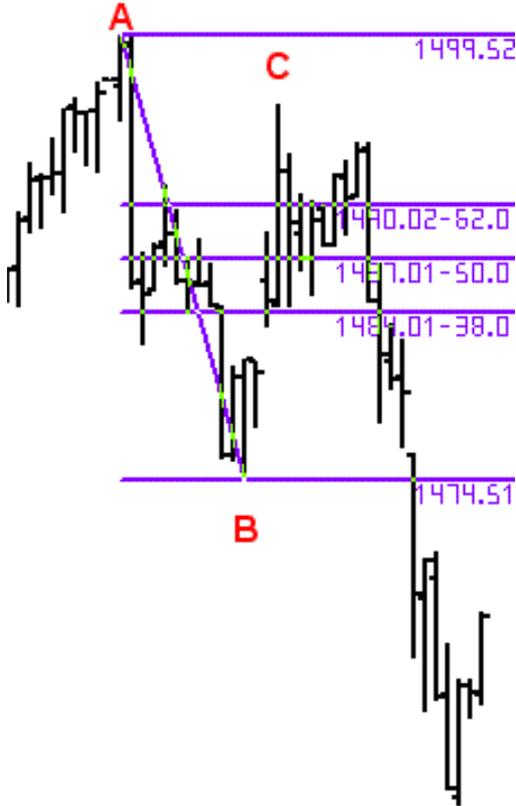
Just use the A - B pivots if pivot C exceeds a 62% retracement. If you're using FT or GT then click twice on pivot B. If you're using MetaStock or any other program, they just allow two pivots anyway. In the below example note that each level seems to have supported price.
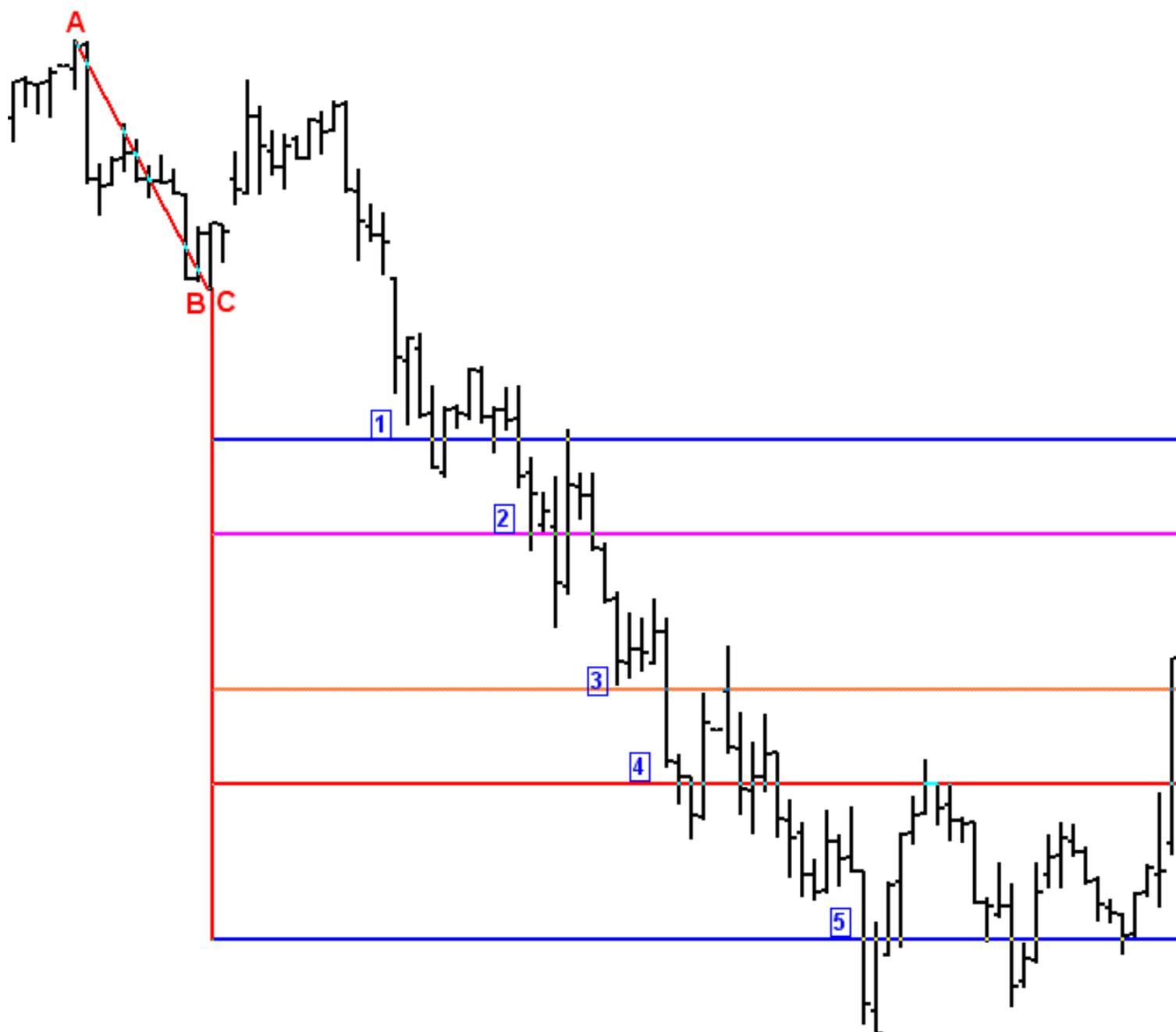
Let me show you how I use it in my own trading. I draw both the 3 pivot and 2 pivot Fib Expansion. Where levels cluster together, as shown in the area within the red circle, price often congests. As a swing-trader I DO NOT want to be in a trade here!
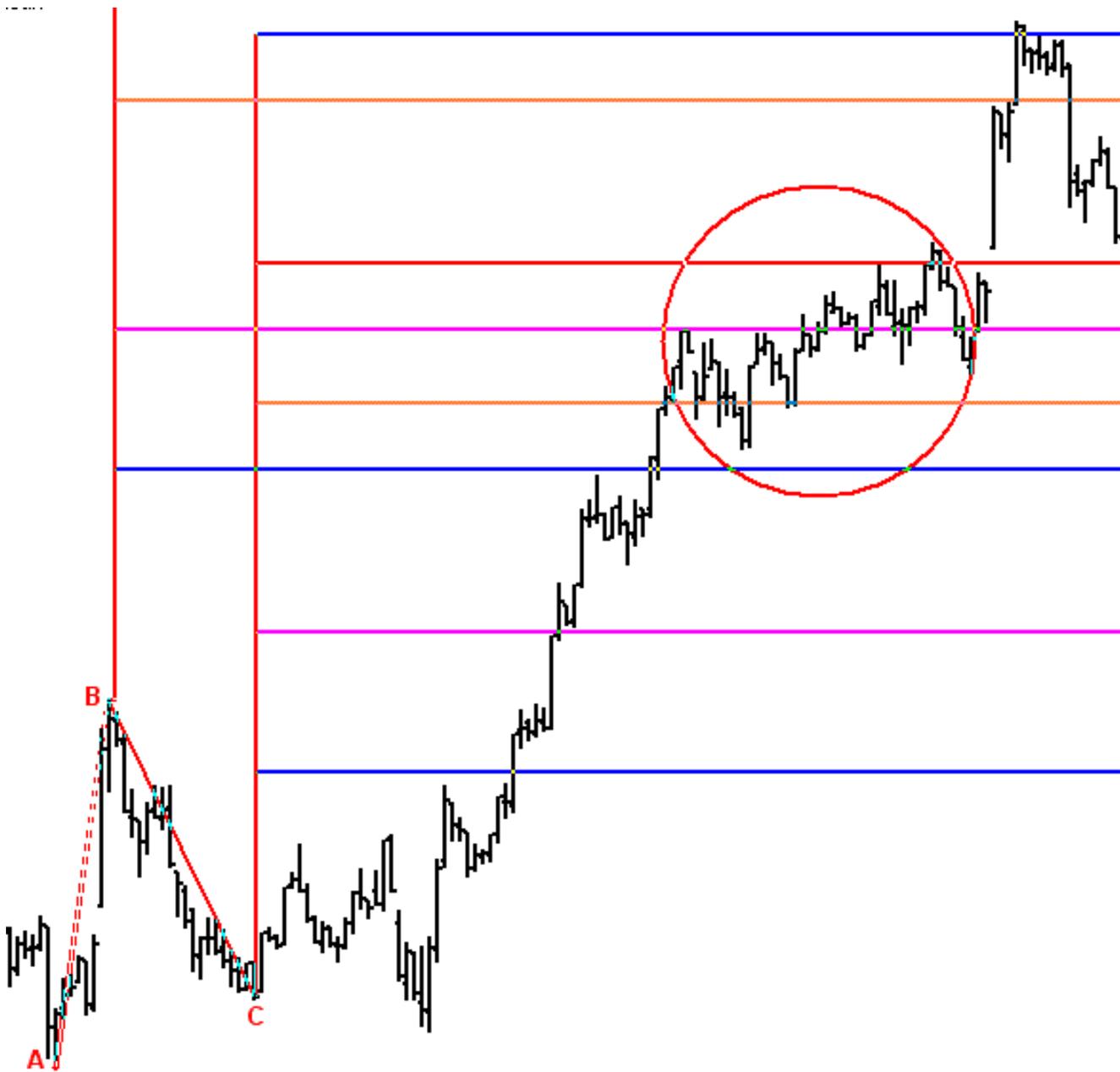
Below I've defined two sets of 3 pivots, allowing me to draw a total of 4 Fib Expansions. Now we have a sophisticated way of seeing where price will congest. This information is invaluable to an active trader.
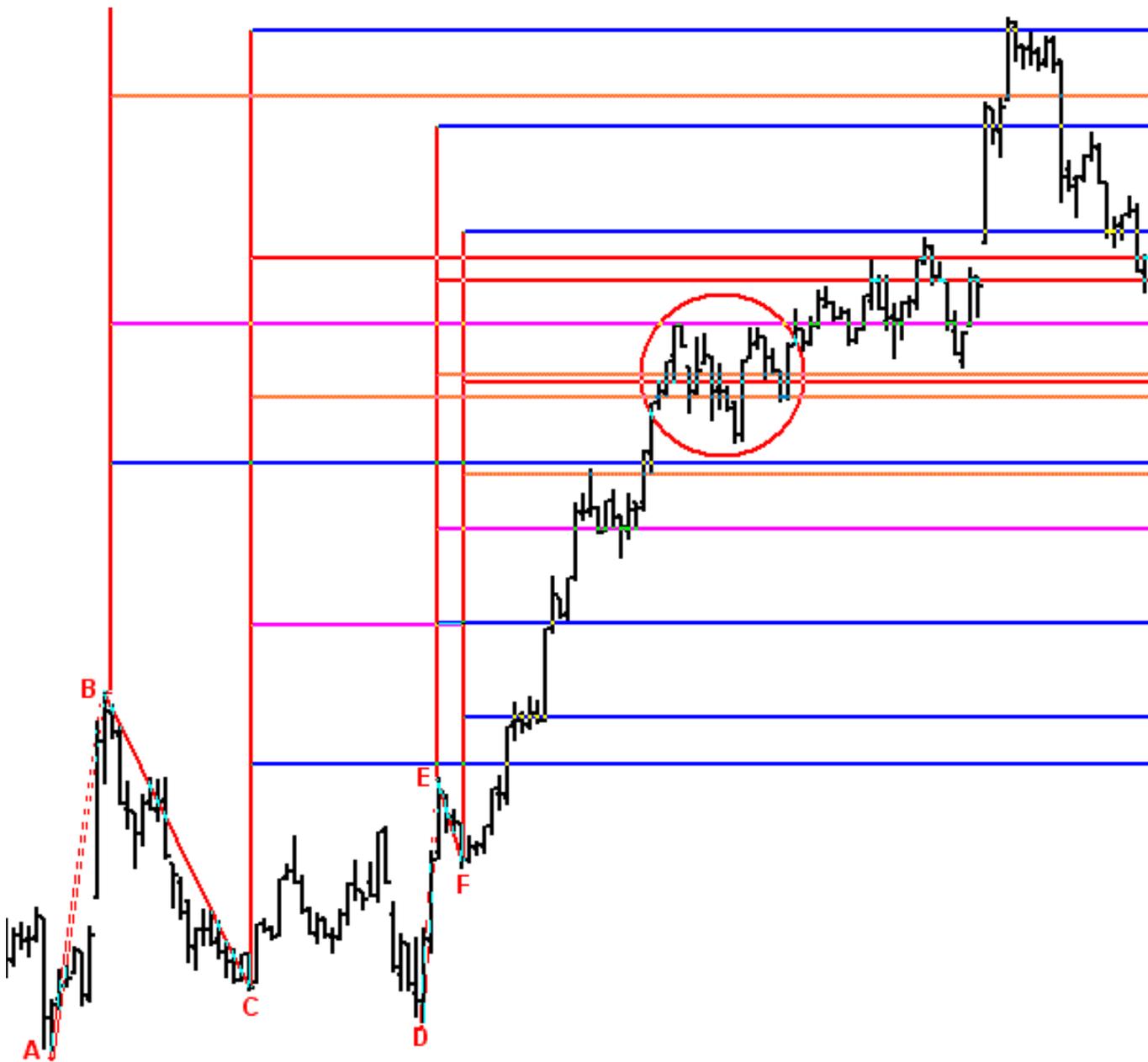
I truly hope you make this part of your trading routine. Profit objectives and having an idea where price will congest is something all traders have either have trouble with or they ignore the issue entirely.

MetaStock Example

MetaStock allows you to connect two points, not three, in drawing Fib Price Expansions. You can still connect multiple pivots and find it to be a useful technique. Note: to use the clustering technique first connect a low to a high - the traditional approach - then connect a low to the next low. Many MetaStock users are unaware that the Fib Retracement drawing tool can be used to draw Fib Price Expansions. To draw a Fib Retracement you'd connect A to B (see below). To draw the Expansion while drawing move the mouse cursor to the left of A (point C, which is anyplace to the left of A) and the expansion lines will draw. Once drawn you can right-click any of the lines and select "Properties" to set which Fib Levels you want to use, plus you can add your own levels.
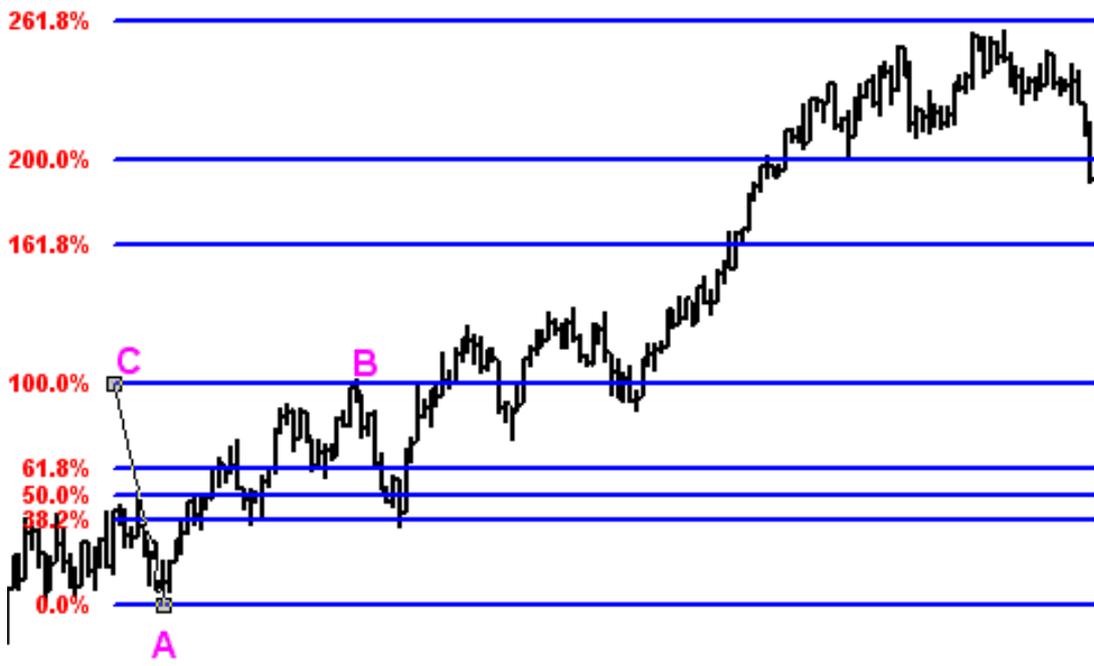
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Fib Time Arc

This is a good technique for supporting the other timing techniques in this course. Please don't make a trade using this tool alone, though. Both FT/GT and MetaStock offer this drawing tool. Very easy to draw. You just need two clear pivots in the early stages of a trend. The first pivot does not have to belong to the trend that's underway, as shown below. Where each arc ends is trend-change time. Below, only number 3 was weak. Below are recommended parms for FT/GT, with MetaStock you just right click on the drawing and select "Properties". Feel free to try the traditional.62 and 1.62 on your market of choice. For Stock Indexes I like the ones shown below.
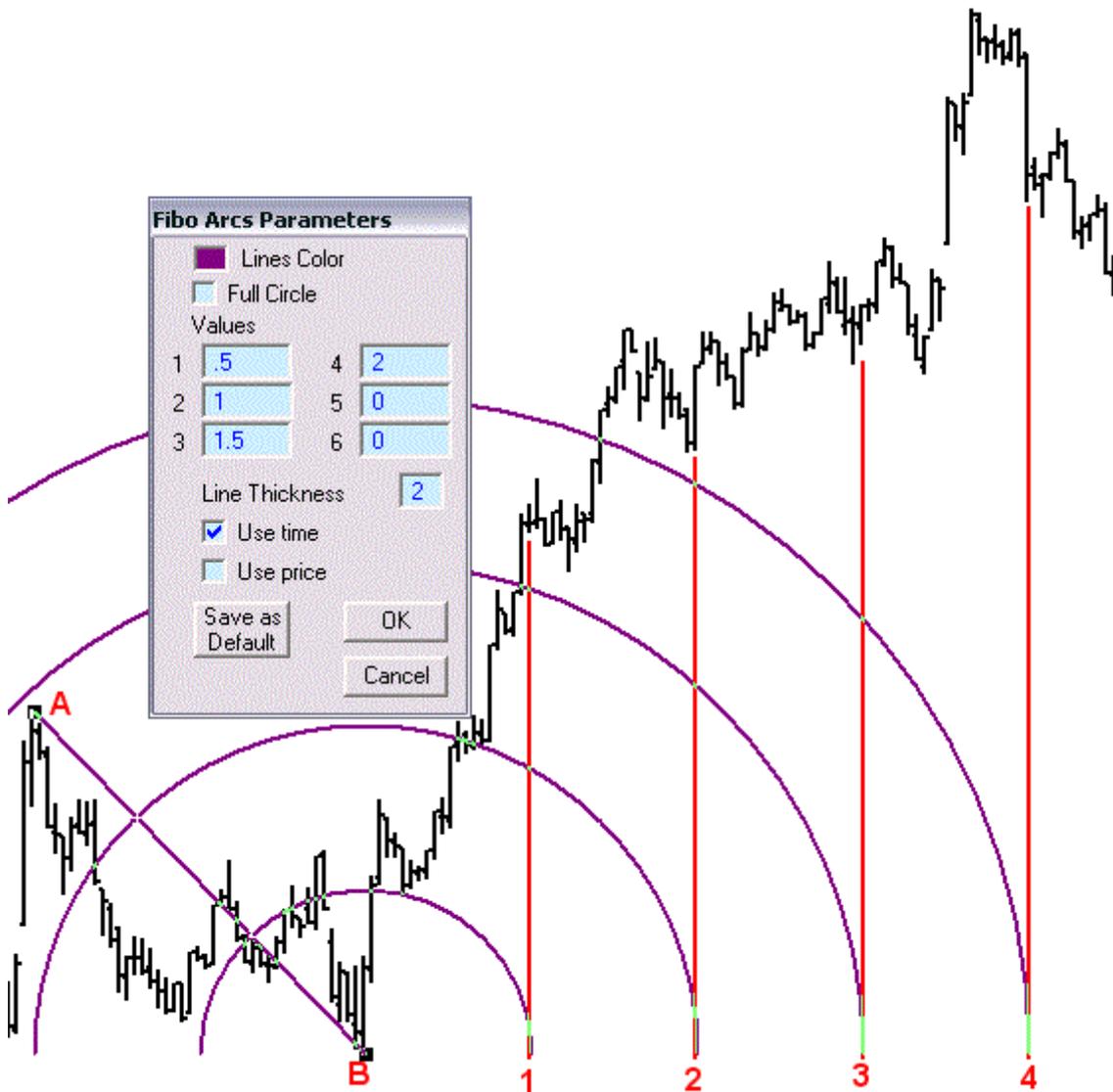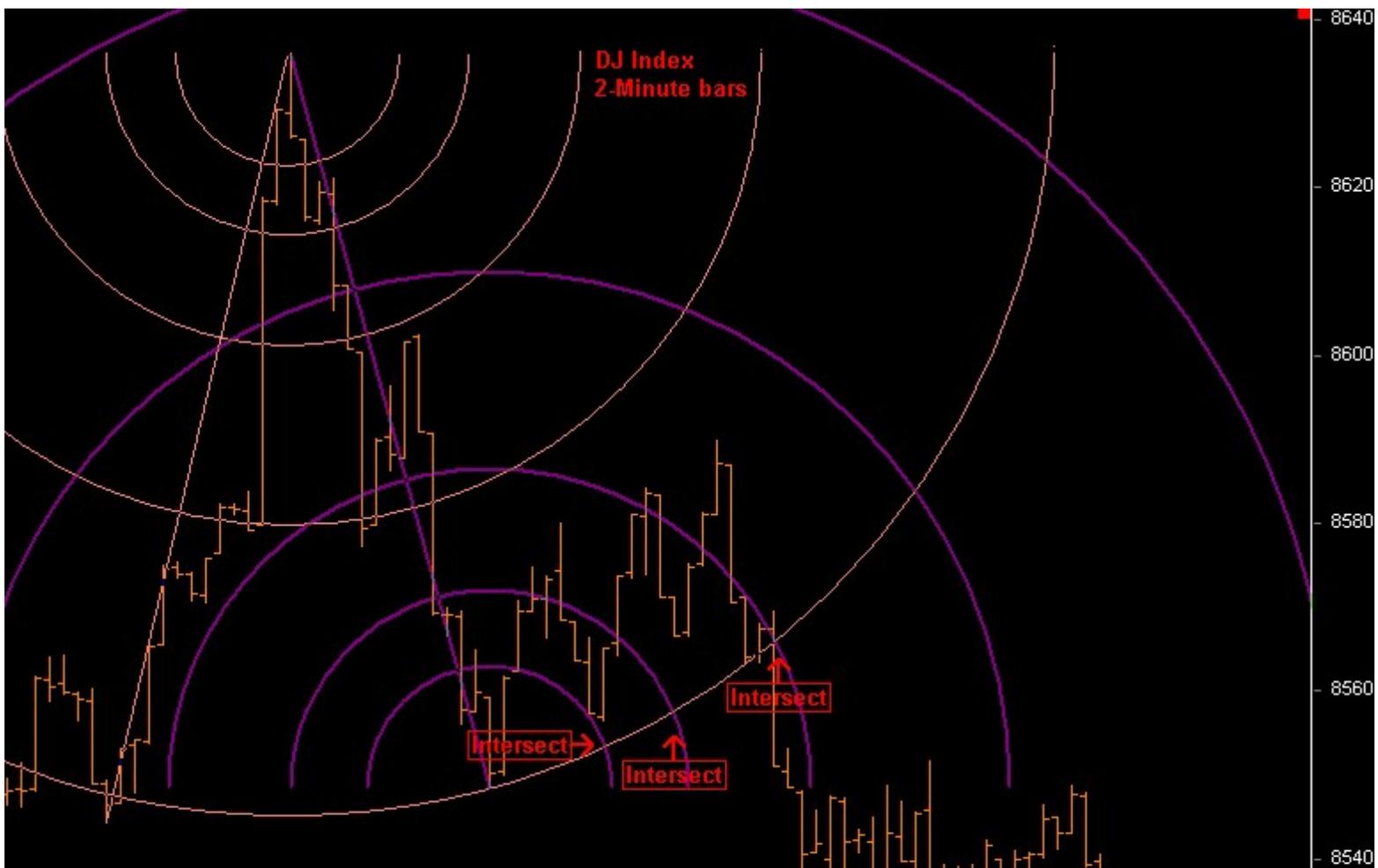

Another example.

Dow Jones Index 30 Minute Chart
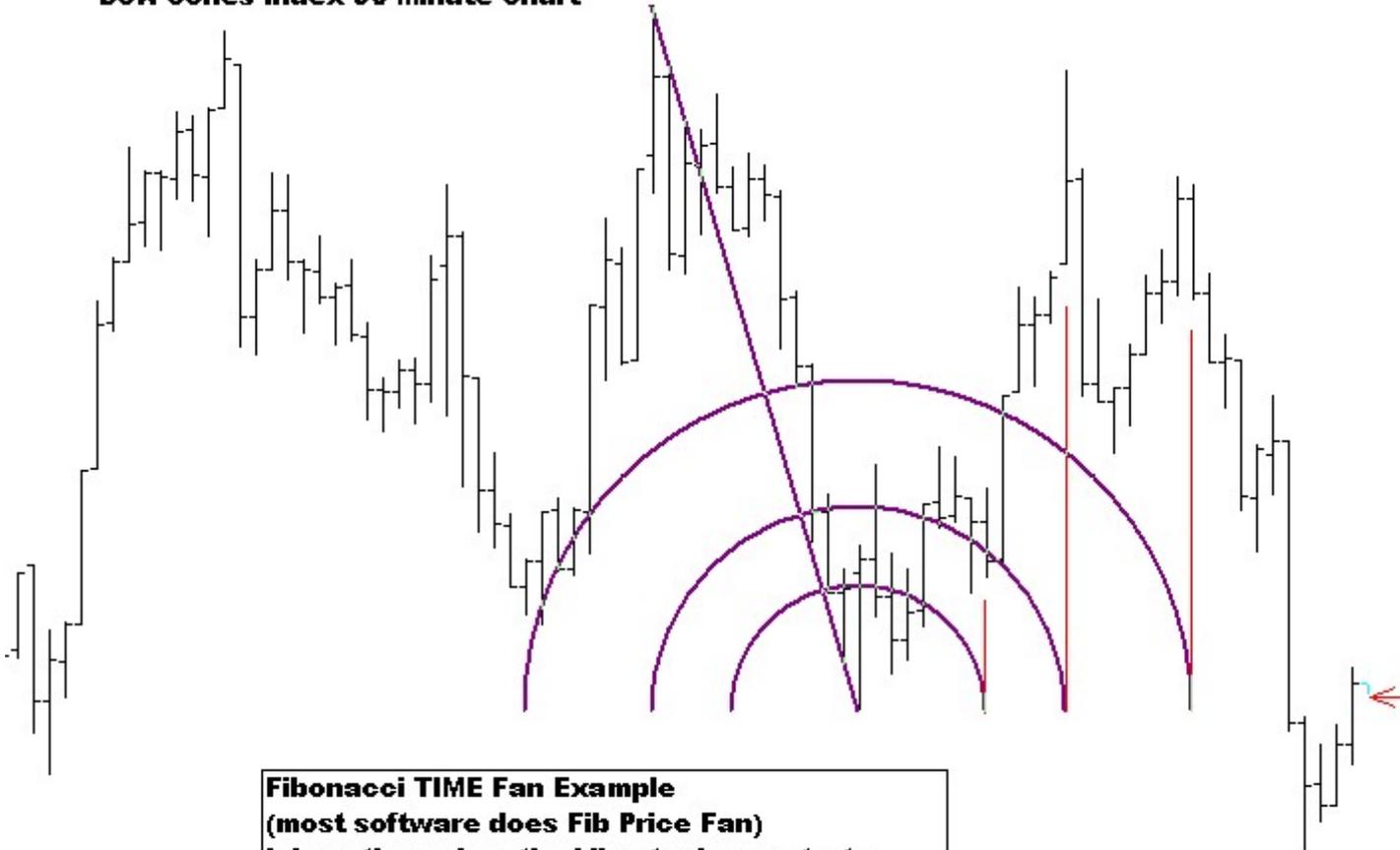
Fibonacci TIME Fan Example
(most software does Fib Price Fan)
I drew the red vertical line to demonstrate...
where the fan line ends a trend change occurs.
Amazing accuracy !!!

If you can identify three clear pivots in a row, try drawing two consecutive Fib Time Arc's. The below image is from my archives. I encourage you to practice with it - see if when two arcs intersect you don't get a trend change. Note: price should be within a few points of the intersection.

DJ Index
2-Minute bars

Intersect
Intersect
Intersect

Fib Arc Technique
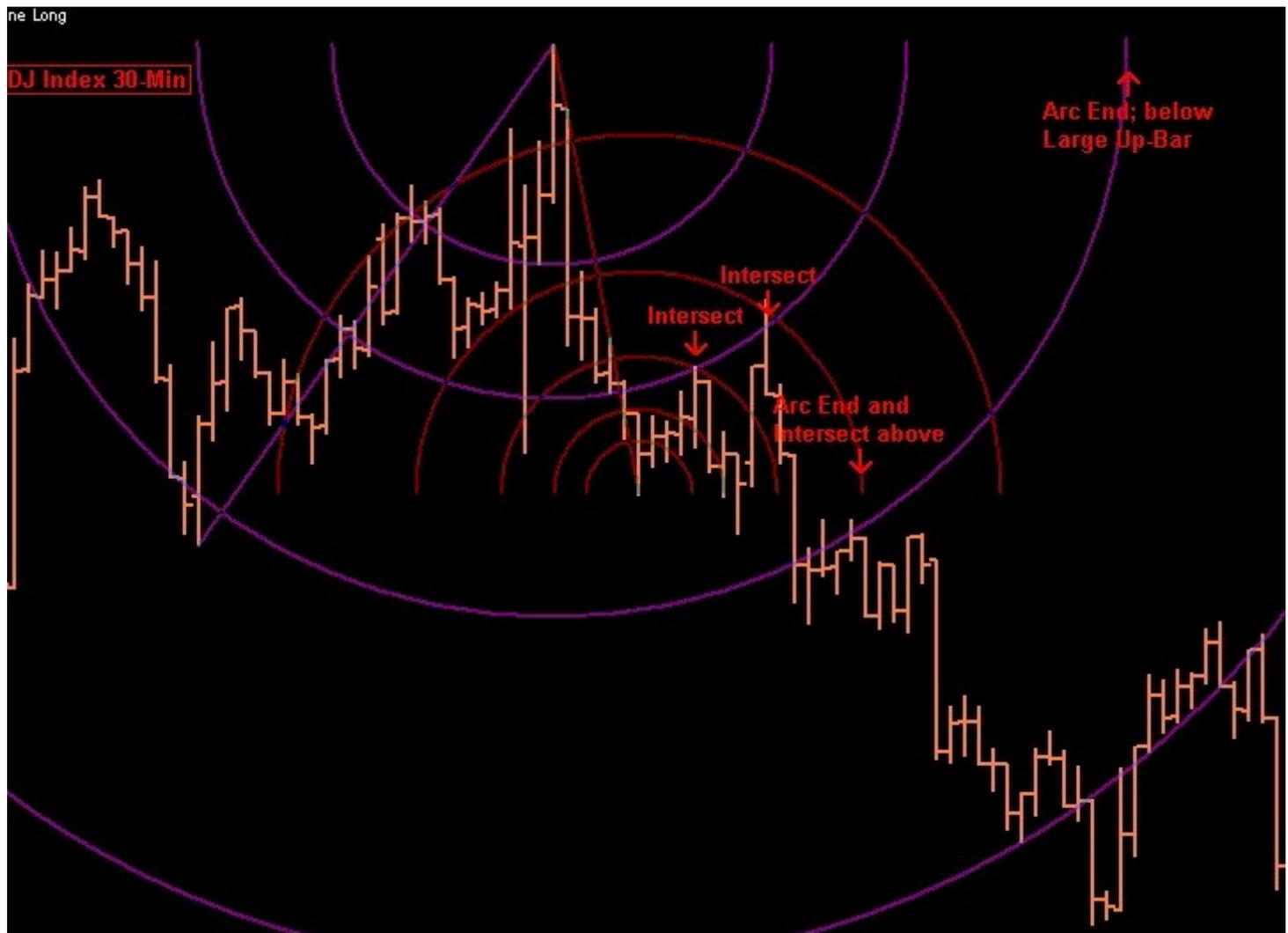**Use on 2 Successive Swings**
View intersects and "arc end"

11/18/2002

Another example of Fib Time Arc intersects.

If you practice with this technique you'll notice that the arcs often stop a swing and price moves along the arc. However, in all honesty, its difficult to come up with trading rules for this. However, if your Timing Matrix (described in the Integration chapter) shows its time for a trend-change you may find that price breaking thru an arc confirms that a new price swing has begun.

Next

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Pitchfork Intersects

Think of this technique as an ancestor in the evolution of Pitchfork Angles. It provides outstanding trend-change times, and respectable dynamic support-resistance levels. The only reason its not listed as one of the "main" market geometry techniques is that its not always possible to draw it. This technique requires four consecutive clear pivots within a maximum of 200 price bars, and is best applied in wide-range markets. You often won't be able to draw it in trending markets. You can easily draw this technique with MetaStock or FT/GT.

Start by identifying 4 consecutive pivots, shown as A thru D below. Draw a Pitchfork by first connecting B to C then click on A.
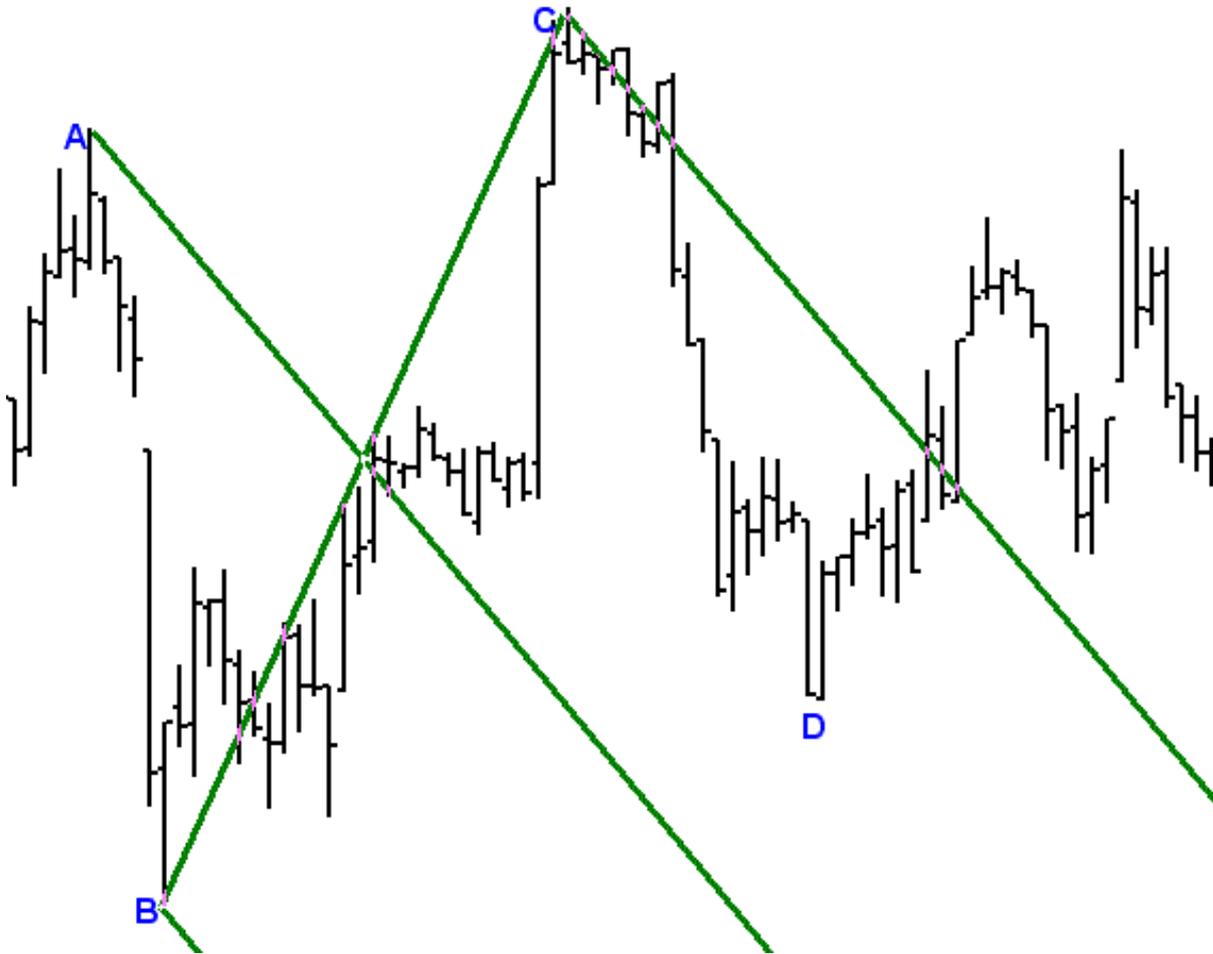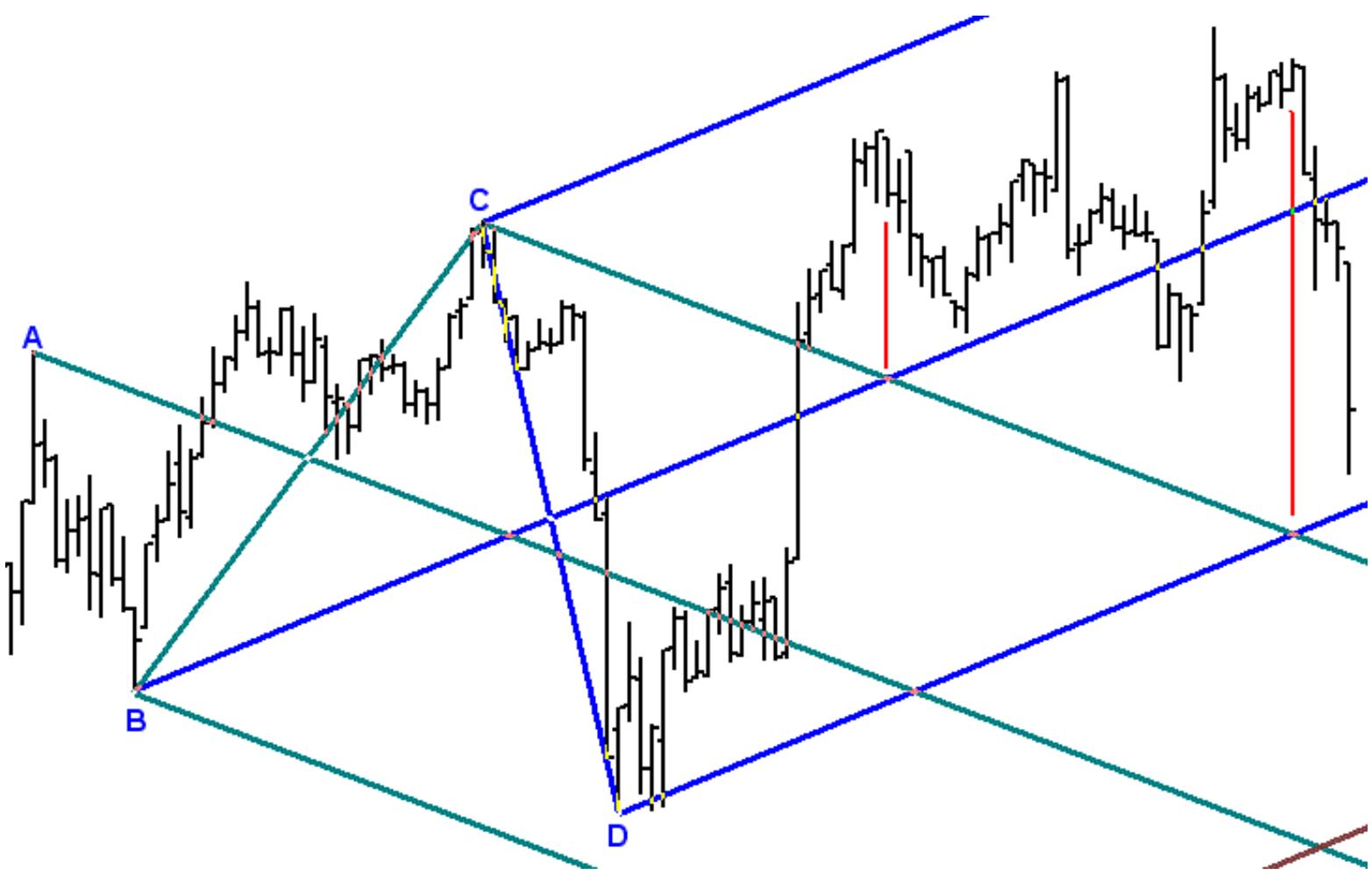

I removed the Pitchfork drawn above for clarity. Now we'll draw the second pitchfork by connecting C to D and clicking on B.

Below are the two pitchforks together. I drew red vertical lines where the pitchfork lines intersect. They often mark trend-change points.
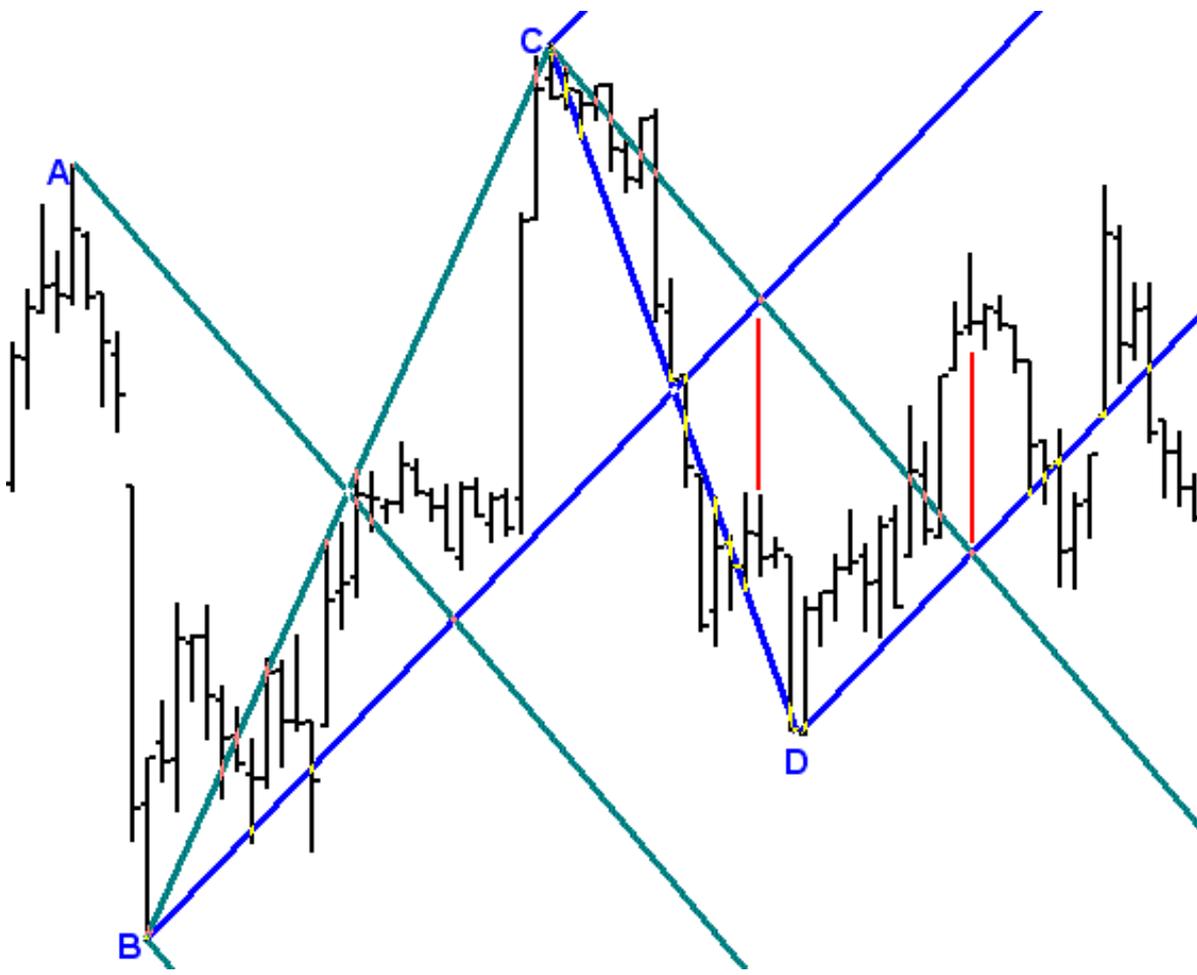
Below is another example.

Like most market geometry when you first see it, it looks confusing. This is a very simple technique though. When its possible to find four consecutive clear pivots within 200 price bars this is a great technique. When drawn you may want to keep this on its own chart, not drawing the PF Angle lines on the same chart. Please note: as with most market geometry techniques it works best on 30-minute charts. But if you're trading Forex, please try it on 240-minute charts of any major currency pair or on the Dollar Index.

[Next](#)

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Integrating Techniques

Please take time to practice on historical price data. Using a combination of Daily and 30-min charts for overnight swing-trading and 15-minute or 5-minute charts for day-trading is recommended. Using daily charts is fine though there will be fewer trading opportunities. For the PF Angle technique Daily and 30-minute charts are best. You can use 15 or even 10 minute charts when the trading range is wide and the market already shows swings.

Before I write about integrating the techniques, I know from experience its very important that I pass on another bit of trading advise. I didn't mention it before this but if you use these techniques you have become a time analyst. In virtually all the different technical analysis methods <u>price leads</u> in the analysis. In all these techniques we <u>projected a future time for a trend-change</u> to occur. In Fib-Fan Projection we're even timing swings from start to finish that haven't even started yet. The lines we extend into the future for dynamic support-resistance are a union of price and time, they're both equal partners in the formation of the line. The only thing we looked at historical price for was simple pivot points - in drawing the techniques we ignored all other price activity. Certainly we didn't use any technical indicators, chart pattern reading, Elliot Wave analysis, Fibonacci Retracement, etc. I'm asking you to consider that not all the data in a price series is of equal importance. It appears, from what you've seen in this course, that pivot point sequences contain information about the times of upcoming swings in the market.

This represents a paradigm shift in the trading approach of most traders. It should affect your trading style. Rather then analyzing historical data and re-acting, you're tabulating future times when you will act. The decision-making process becomes very simple. You've become "analyst light" and "administrator heavy". The current geometry of the markets tells you how price will evolve. If you've been using automated or mechanical trading-systems then this paradigm shift is even greater. Gone are historical backtest reports, Sharpe ratios, maximum draw-down, etc. However, what an experienced trader will get from these techniques is a level of accuracy a systems trader only dreams of. As such, these techniques are for experienced traders. A novice will have trouble applying them as simply knowing a trend-change time doesn't let you know in advance whether to go long or short. These techniques by themselves are not particularly good for setting stop losses. You should have received my "Trading Forecasts" manual that will help you in trade entry and exit. If you're an experienced swing-trader, you shouldn't have much trouble incorporating these techniques into your trade-setups.

With this strategic change in trading style, I'll get on with the tactics of integrating these techniques. First, please consider using a table (like in a spreadsheet) for each market you trade where the columns are these techniques and the rows are times. <u>The idea is to tabulate all your projected trend-change times in one source from these techniques, in different timeframes</u> (daily and 30-minute; if you're a day-trader use 10 and 30 minute charts). Several times a month you'll see a clustering of projected trend-change times. Make no mistake about it - its finding these clusters of trend-change times from several techniques that is the purpose of this course. While each technique alone is very good, when they combine to "vote by committee"

that a trend-change is due you have a high probability trade-setup. And please <u>remember to use multiple PF Angles on all reasonable pivots.</u> Those times produce the best trades - I don't believe we'll ever see a better technique then PF Angles.

Next, remember that you can be doing analysis on daily charts and find a timing signal, and use a shorter timeframe to fine-tune your entry. For daily charts use 30-minutes to fine tune. Day-traders who trade for the larger intraday swings can use 30-minute charts (where PF Angles is best) and fine-tune entry on the 5 or 10-minute timeframe. Here's a summary of what to look for:

- For all trades that use the Projected Fib-Fan Lines or Angle lines as support-resistance the idea is to make sure that one of timing techniques is giving a signal at that time. A pivot formed on a Fan or PF or Angle or GS line at the same time you're having a timing signal from any one of them is one of the teaching goals of this course. You can also use the 3x3 DMA for the entry price on a stop-limit order (it gives values for the next two bars)
- use the above table of timing signals. If you have two or more techniques telling you to anticipate a trend change, its time to look for a setup using the 3x3 DMA or a pivot on one of dynamic support-resistance lines. And don't forget that any one of these techniques can be applied several times in one chart and sometimes two of them will issue a timing signal at the same time
- a Fib-Fan timed trade on a 30-minute chart doesn't tell the day-trader exactly when to enter. Futures contracts can move a lot in 30 minutes! In this same example you can use PF-Angles and see if price is forming a pivot on one of the Angle or PF lines
- when possible use the Pitchfork Intersects - remember they require 4 consecutive clear pivots (by clear I mean you don't have congestion caused by several price bars at about the same price)

This process of getting signals from one timeframe and using a shorter timeframe to enter and exit your trades with is also another facet of being a time analyst, rather then a price analyst. You're adjusting time to suit your needs.

Finally, you have here one more edge over most traders. Once a trade is profitable and you are in a trend, begin applying the Fib Price Expansion technique as shown in the last example of that section. If the trend corrects there you'll get most of the profit out of that swing, and don't be surprised if these techniques get you into the next swing very early. I hope that with minimal training time market geometry is as valuable to you as it is for me.

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