TECHNICAL ANALYSIS

Based on the works of Robert D. Edwards, John Magee, & Richard Schabacker

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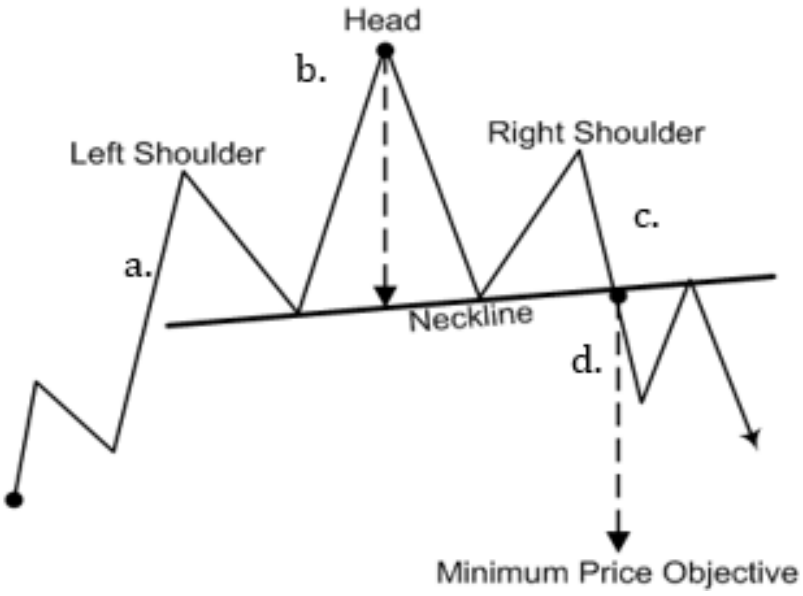
Basics

Technical Analysis

- The study of the price action of the market itself, which represents the supply and demand based on all *known* information.
- Recording the history of price changes and volume transactions in order to deduce from that the probable future trend.
- "If we are to be complete masters of our study and get the fullest benefits from our own analysis it is important that we do not entirely lose sight of the fundamental basis for the formation of pictures and patterns." – Technical Analysis of Stock Market Profits by Richard Schabacker
- The most important element of technical analysis is the judging of important changes in trend, or turning points, i.e. *reversals*.
- Once a major trend is established it must be assumed that such a trend will continue until it is reversed.

Head and Shoulders Top



Requirements

- The Head and Shoulders (H&S) pattern requires a prior trend to reverse; the pattern itself requires at least 6-8 months of price action.
    - A strong rally *with heavy volume* followed by a minor recession *on which volume is considerably less* – this is the **left shoulder.**
    - Another strong advance which reaches higher than the top of the left shoulder, then another reaction *on less volume* that takes prices below the top of the left shoulder and back near the bottom of the preceding correction – this is the **head.**
    - A third rally that fails to reach the height of the head, *on significantly lower volume* – this is the **right shoulder.**
    - Finally, a decisive decline through the "neckline" drawn across the bottom of the reactions – this is **confirmation** or the **trade trigger.**

Up-sloping Neckline

- Reaction low between the head and right shoulder must form appreciably below the general level of the top of the left shoulder.
- Greater profit potential due to the nature of the breakout.

Drooping Neckline

- Indicative of rapidly developing technical weakness.
- **If the rally of the right shoulder carries prices higher than the left shoulder, it does not negate the bearishness of a drooping neckline.**
- Inherently trickier than ascending neck-lines from a tactical perspective.
- Drooping necklines tend to occur most in highlight exited markets with plenty of public involvement.

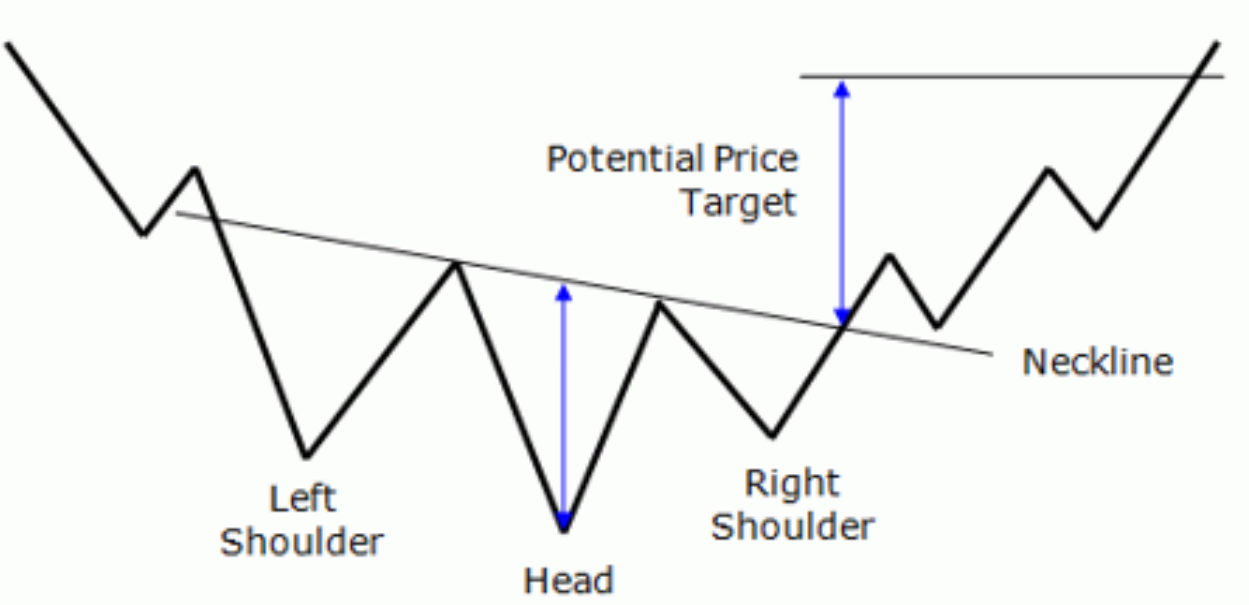
Other Characteristics

- Head and Shoulders reversals must have a prior trend to reverse.
- H&S patterns found in the middle of congestion areas should not be traded.
- H&S patterns cannot be expected to send prices farther than the distance to the beginning of the initial trend.
- H&S patterns are the most reliable chart patterns.
- Symmetry is not essential to a H&S pattern – necklines may slope up or down.
- A Pullback move frequently ensues which brings prices back up to the neckline level – normally this is the "last gasp", and prices *quickly* turn down again.
- The thrust of the head normally takes the form of a one-day reversal on high volume, but the shoulders may be pointed, rounded, flat, or sloping.

Measuring Formula

- Measuring points vertically from the top of the head straight to the neckline, then measure the same distance down from the neckline where prices finally penetrated through following the completion of the right shoulder – this is the *minimum* objective.
- As with other reversal formations, the pattern should not be expected to project a move larger than the prior trend.

Head and Shoulders Bottom



Requirements

- **Left Shoulder** - the climax of an extensive downtrend, followed by a minor recovery.
- **Head** – another decline past the bottom of the left shoulder, followed by another recovery above the bottom of the left shoulder.
- **Right Shoulder** – a third decline which fails to reach the low level of the head before another rally begins.
- **Confirmation** – On a burst of activity, an advance pushes prices up through the neckline and closes above it decisively.

Other Characteristics

The difference between a Head and Shoulders Top and Bottom pattern is the volume criteria. In H&S *Bottoms*, an increase in volume *must* be present on the breakout through the neckline, or it is not decisive.

- "It takes buying to put stocks up, but they can fall on their own."
- Bottom formations characteristically take longer to form than tops, and are rounder in nature.

Therefore, we trust and regard as conclusive a price breakthrough of the neckline of a Head and Shoulders TOP, but we do not trust a breakthrough of the neckline of a Head and Shoulders BOTTOM *unless it is attended by a pickup in volume.*

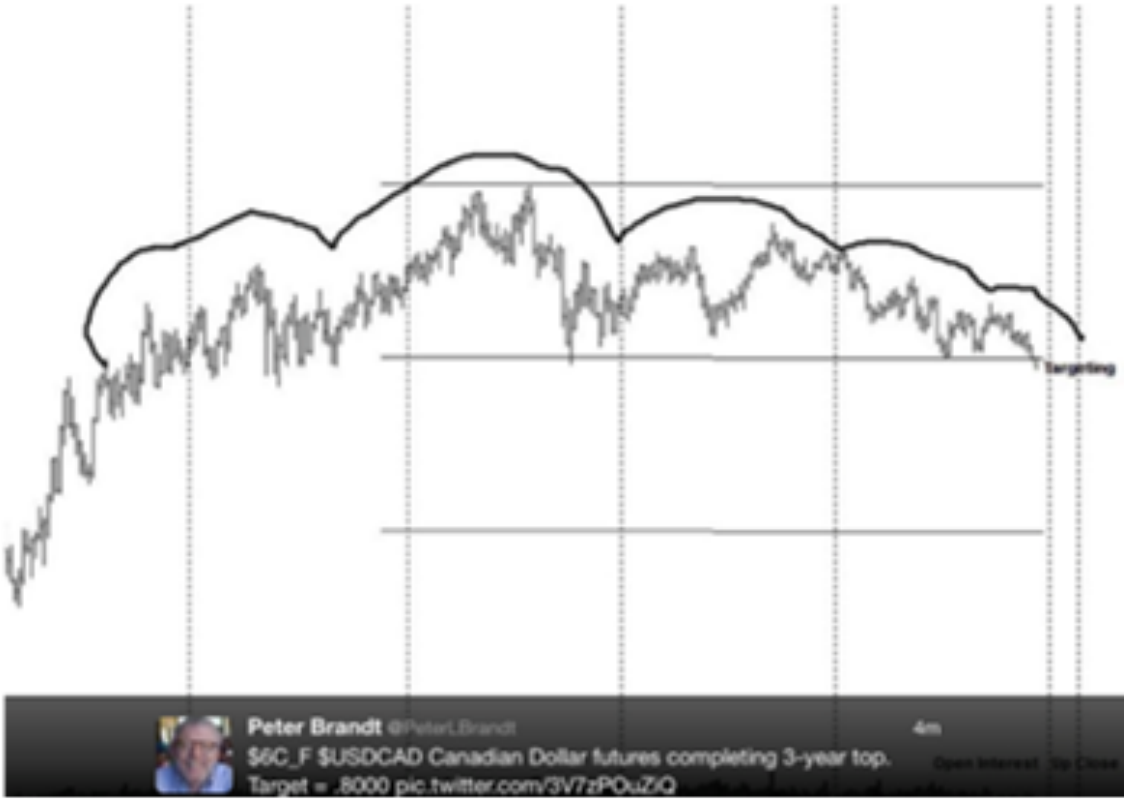
The **Measuring Formula** is the same as it is for **Head and Shoulders Tops**.

Although Head and Shoulders patterns are usually reversal patterns, "occasionally prices will go through a series of fluctuations which construct a sort of inverted Head-and Shoulders picture, which in turn leads to *continuation* of the previous trend".

Multiple or Complex Head and Shoulders

- Complex formations – the head or shoulders (or both) have been elongated, doubled, or proliferated into several distinct ways.
- Complex H&S are stronger than normal H&S, and therefore are found less frequently.
- Complex patterns require stronger symmetry.
    - Two shoulders on the left = two shoulders on the right, of nearly the same size and duration.
- These appear frequently at primary bottoms and tops, but more frequently at bottoms than at tops.
    - They appear less frequently at intermediate reversals.
- Complex H&S have same **measuring** features as other H&S patterns.

Rounding Tops & Bottoms



The rounded nature shows gradual, progressive, symmetrical change in trend direction. What starts with buying power fades as sellers gain momentum (top).

Characteristics of Rounding Bottoms

- Extended flat bottom form takes months to form.
- Pattern is more important after an extensive decline.
- Volume in a Bottom begins strong, fades at the bottom, then picks up again as the pattern completes.

Measuring Implications

- Cannot be expected to move farther than the preceding price swing.
- The implications may be roughly estimated by the magnitude of the trend that led up to that pattern.

Symmetrical Triangles

The Triangles

"No technical chart formation is 100% reliable, and of all, triangles are the worst offender." Technical Analysis of Stock Trends by Edwards & Magee

- Consolidation – temporarily terminating an up or down trend and setting the stage for another strong move, usually in the same direction.
    - ¾ of triangles are continuation patterns, rather than reversals.

Requirements

- A series of price fluctuations each smaller than its predecessor.
    - Each top fails to attain the height of the preceding rally.
    - Each recession stops above the level of the preceding bottom.
- Just as it takes 2 points to determine a line, triangles require at least 4 points
- Bounded by converging trendlines.
- The first point must be in the direction of the preceding trend - if it comes after an advance, (1) a top, then (2) a bottom, then (3) a top, then (4) a bottom.

- Breakout requires a decisive close above (or below) pattern boundary.
- Continuation triangles may only have four points, while reversals have five.
- Trading activity diminishes as prices continue to congest.

Other Characteristics

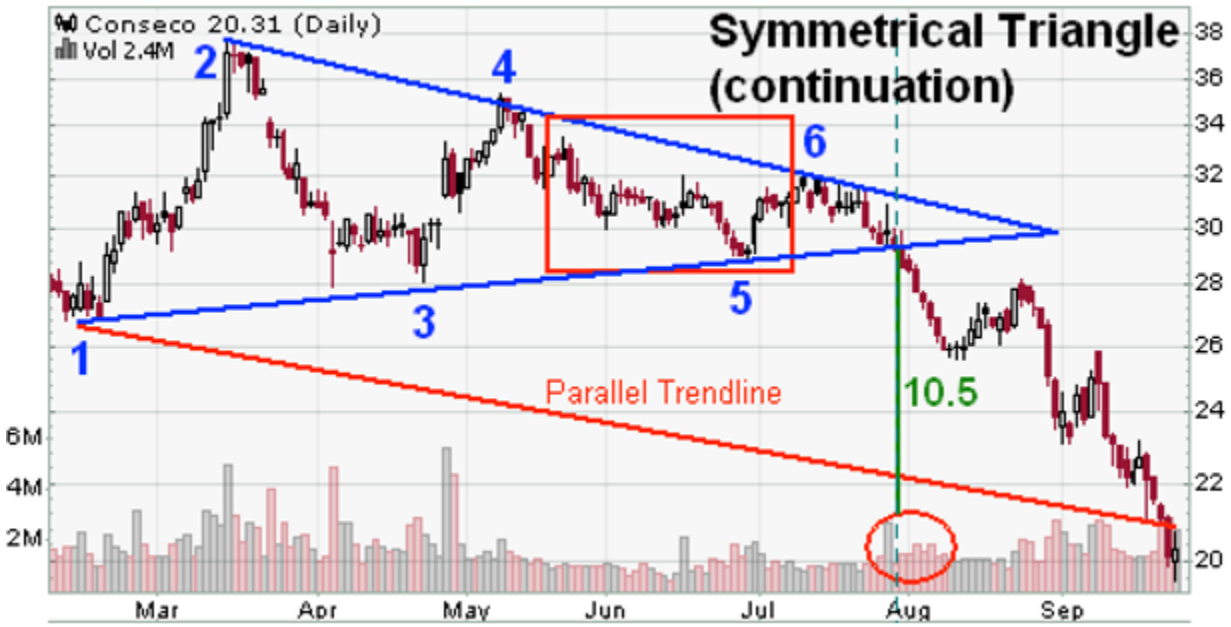
- Triangles are the most susceptible to false moves, especially at the apex.
- If the initial line is broken and, for example, a third top is formed higher than the second top, it is necessary to redraw the line from the first point to the new and higher third high.
- There is usually no clue as to which side the breakout will occur.
- Continuation patterns are more likely to occur in early stages of a primary trend, with chances of a reversal increasing as major trends mature.
- If the previous movement was long without a nearby halt or corrections, then the symmetrical triangle is more likely to be a reversal.
- After the breakout, the apex of the triangle may serve as future support or resistance before resuming in the direction of the breakout.
- The further out into the apex the triangle pushes without bursting its boundaries, the less force or power the patterns seem to have.
- Further into the "coil" prices go, the weaker the force of the breakout
- **Beware** a downside breakout that is attended right from the start with heavy volume – it is more likely to be a false signal than the start of a new trend; this is truer the further prices move into the apex.
- Low trading volume in any consolidation formation indicates a strong technical situation.
- Breakout requires noticeable pickup in volume a decisive close above/below the pattern boundary.

Measuring Implications

- Prices will move about the same distance (in points) from the breakout level to the next halt or reversal, as they moved from the price range at the open end of the triangle, or the greatest vertical depth of the pattern itself. (Schabacker)

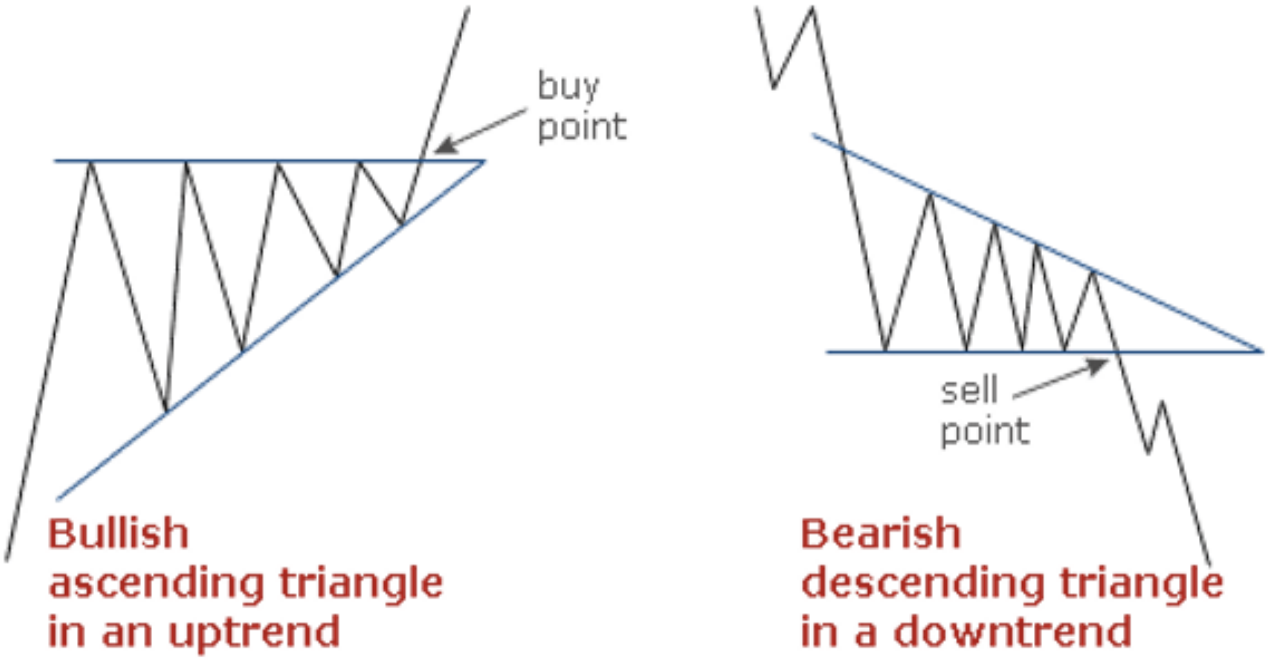
OR

- Draw a trendline parallel to the pattern's trend line that slopes in the direction of the breakout. The extension of this line from the breakout point will mark a potential minimum target (Edwards, Magee)
- As a rule, prices will climb (or fall) following the breakout from the pattern, at the same angle or rate that characterized the trend prior to entering the pattern.



***Symmetrical Triangles may produce a move that equals the move preceding the Triangle.**

Right-Angle Triangles (Ascending & Descending Triangles)



Right-Angle Triangles (Ascending & Descending Triangles) actually give advance notice of their intentions. These patterns are distinguished by a nearly horizontal boundary while the other line slants toward it.

Ascending Triangles – Bullish Pattern

The logic: growing demand meets a large block for sale at a fixed price. If/when demand continues to rise; the supply being distributed is eventually absorbed. An Ascending Triangle found in a downtrend is more likely to be a reversal than a continuation.

Descending Triangles – Bearish Pattern

Opposite to the ascending triangle, this pattern represents a large group trying to sell at a specific price, represented by a horizontal lower boundary and upper-boundary line that slants toward it. A Descending Triangle in an uptrend is more likely to be a reversal.

Measuring Implications

- Prices will move about the same distance (in points) from the breakout level to the next halt or reversal, as they moved from the price range at the open end of the triangle, or the greatest vertical depth of the pattern itself. (Schabacker)

OR

- Draw a trendline parallel to the pattern's trend line that slopes in the direction of the breakout. The extension of this line from the breakout point will mark a potential minimum target. (Edwards, Magee)
- As a rule, prices will climb (or fall) following the breakout from the pattern, at the same angle or rate that characterized the trend prior to entering the pattern.

Rectangles

Pictures of conflict between sellers who wish to dispose at a price and buyers who wish to accumulate at a lower price. Rectangles consist of price fluctuations resulting in a "trading area", bounded by *horizontal* lines.

Other Characteristics of Rectangles

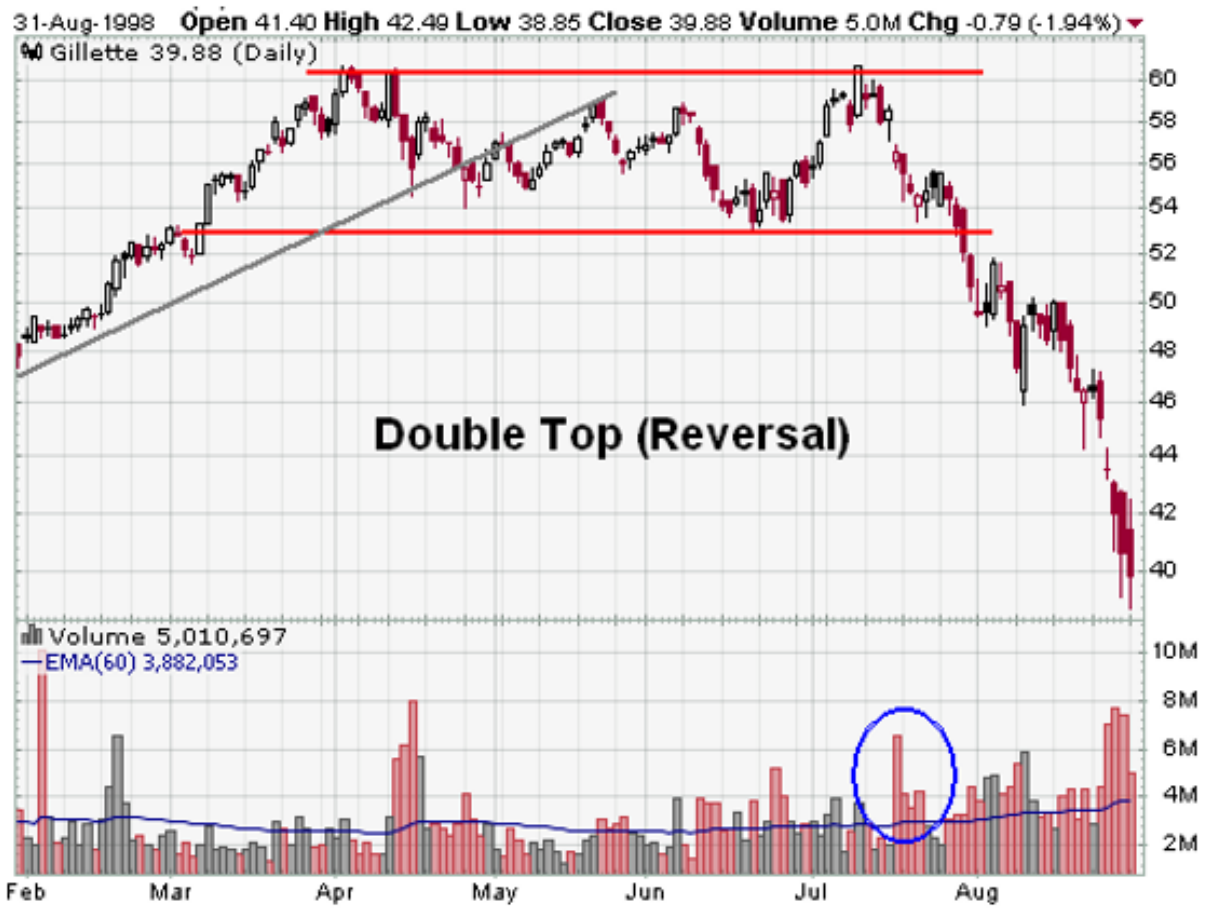
- False breakouts occur *less frequently* in rectangles than triangles.
- Premature breakouts occur more frequently in rectangles than triangles.
- 75% of rectangles are continuation patterns and not reversals; however, reversal rectangles appear more at bottoms than at tops.
- Rectangles appear most frequently in the first stepping up of prices after a major bottom has formed, representing accumulation in a period of comparatively little public excitement.
- Brief, nearly square rectangles tend to have more forceful breakouts than long and narrow range rectangles.

- Pullbacks **-** return of prices to the boundary following the initial breakout is more common with rectangles than with symmetrical triangles.

Measuring Implications

Prices should go *at least* as far in points beyond the pattern as the difference between the top and bottom of the rectangle.

Double (Triple) Tops & Bottoms



Double tops and bottoms are RARE!

Requirements

- As with any reversal pattern, there must be a prior trend to reverse - for a Double Top Reversal, a multi-month uptrend should be in place.
- The first peak should mark the highest point of the current trend, *usually with high volume at and approaching the top.*
- Prices retreat at least 20% *with diminishing volume* for some long, dull, deep and inactive period lasting at the **very least** 1 month.
- Prices then again rise to (nearly) the same top price as before *with some pick-up in volume, but not as much as on the first peak.*
- Finally prices turn down for a second time, but this time through the bottom level of the valley – this is confirmation.

Supply/Demand Situation

Demand is met with sufficient supply to halt the advance of the uptrend. This causes a reaction. If that reaction was simply profit taking, the trend is likely to push on up after a brief setback, but if the reaction drifts lower and flattens out without prompt and vigorous rebound, it becomes evident that demand was pretty well played out on the last advance or that selling there represented more than short-term profit taking.

Other Characteristics

- Pullbacks to the valley area following the first breakout are common.
- Small Head and Shoulders or Descending Triangle patterns often begin to develop at the second top.
- True double tops seldom appear at turns in the intermediate trend; they are characteristically a primary reversal phenomenon.
- Double Tops can never be foretold or identified as soon as they occur from chart data alone.
- Not more than 1/3 of double tops signal a reversal, but if it comes after a long-preceding uptrend, then it is more likely to be reliable.
- Time element between tops [bottoms] is more important than the depth of the consolidation between tops [bottoms].
- Price difference between tops [bottoms] should generally be the same, and no more than 3% of price.

Measuring Formula

It is safe to assume that the decline will continue at least as far below the valley level as the distance from peak to valley (like Head and Shoulders). Keep in mind the general rule that a reversal formation can be expected to produce no more than a retracement of the trend that preceded it.

Double Bottoms

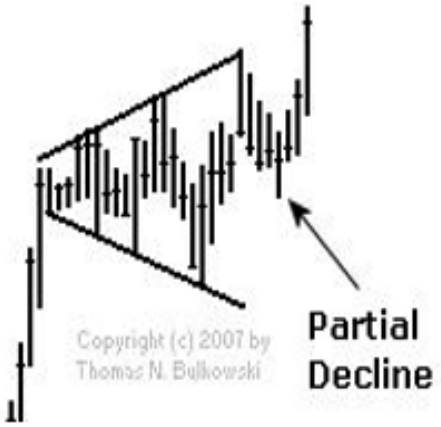
The same picture of the Double Top, but upside down. For bottoms, the move is not confirmed until prices have risen *on increasing volume*.

Triple Tops & Bottoms

Require the same important time element between tops as double tops and bottoms – if the two or more tops are at the very least one month apart, they are probably not part of the same consolidation pattern, and most likely reflect the lack of vitality of the up-trend (or down-trend for bottoms). True triple tops and bottoms seldom fail following confirmation.

Double Tops and bottoms and Triple Tops and bottoms may take a long time to reach their targets.

Broadening Formations (Inverted Triangles)



Requirements

- Prices must be in an upward trend leading to the pattern.
- Megaphone shape – higher peaks and lower valleys.
- Diverging trendlines – tops sloping up and bottoms sloping down.
- At least 4 points – two peaks and two valleys should touch the lines.
- The orthodox Broadening Top has three peaks and two bottoms with the second lower than the first.
- A reaction from the third peak carrying prices below the level of its second bottom – this is **confirmation**.
- Volume may be seen as a "U" shape", or irregular and chaotic.

Supply/Demand Picture

Broadening patterns represent a market lacking intelligent sponsorship and out of control – a situation usually in which the "public" is excitedly committed and which is being whipped around by wild rumors. *Hence, trading activity may remain high and irregular.*

Other Characteristics of Broadening Patterns

- Broadening patterns eventually widen out, increasing in size.
- This pattern occurs mostly in the final phases of a long bull market.

- 90% of broadening tops carry bearish implications.
- Broadening Tops are rarer than true triangles and rectangles, and are the most difficult reversal patterns to trade.
- Broadening Tops usually precede moves of more than average proportions.
- Must have five and only five fairly compact, minor price reversals, with the first in the opposite direction of the Primary Trend.
- If a sixth turn appears, the formation is negated, and that sixth swing will likely carry prices higher, into a continuation, rather than a reversal, of the Major Trend.

Measuring Formula

Measure the difference between the highest peak and lowest valley in the pattern to get the height of the price target following pattern completion.

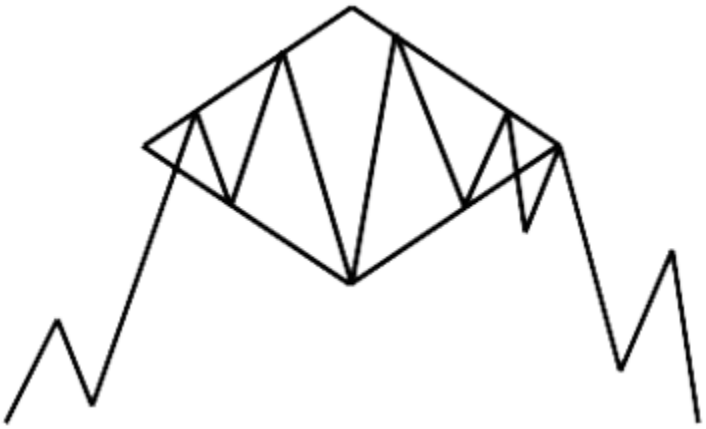
Right Angled Broadening Formations

Bearish chart pattern with a horizontal top or bottom boundary; a horizontal side indicates accumulation or distribution at a fixed price, depending on which side is horizontal. Any decisive break through that horizontal side has immediate and forceful significance.

Inverted Triangles with Descending or Ascending Hypotenuse

The ascending and descending hypotenuse triangle type suggest by their horizontal lines support and resistance at well-defined supply or demand levels. However, the picture as a whole is one of differences of opinions without leadership, with the final decision as to future price trend awaiting some resumption of control or some decisive news.

Diamond Formation



Requirements

- As a reversal pattern, the Diamond must have a prior trend to reverse.
- Since its development requires fairly active markets, it rarely occurs at bottom reversals.

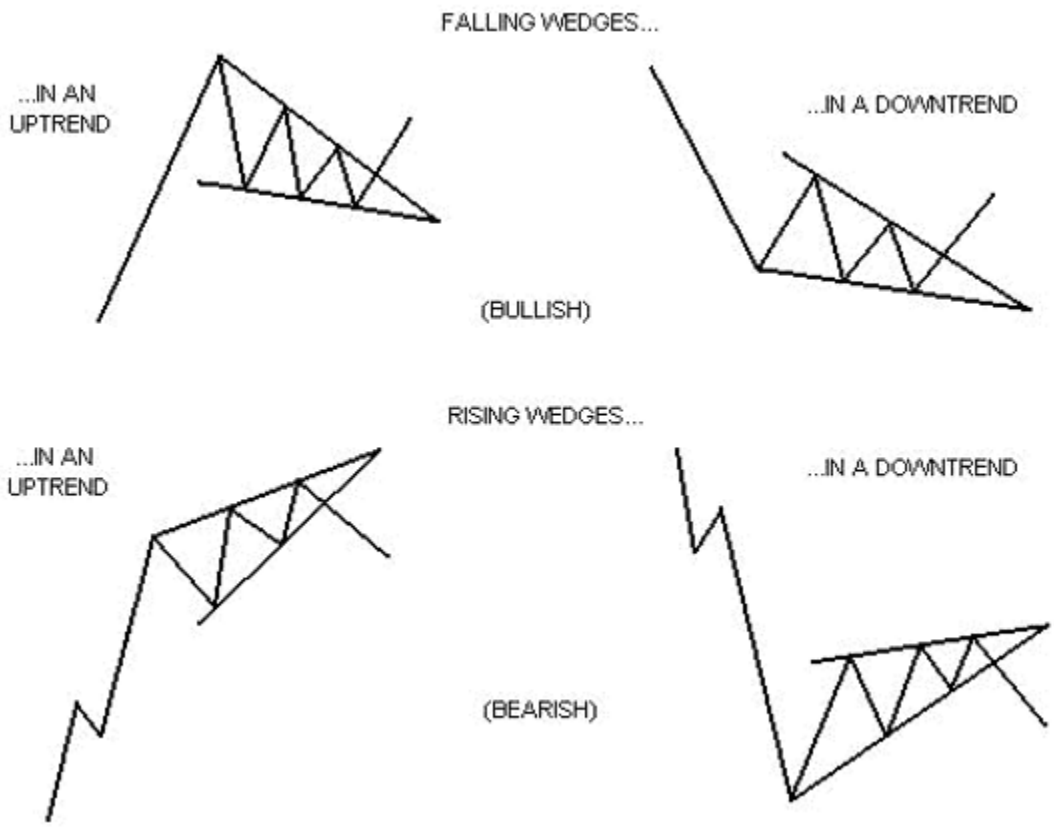
Measuring Implications

Prices should move at least as far from the breakout point as the greatest width in points of the pattern from its top (head) to bottom (v-neckline). This is a minimum rule and is subject to the usual regard that it may not be expected to produce a move that sends prices further than the start of the initial trend.

Other Characteristics

- Beware of confusing the Diamond formation with Head and Shoulders patterns in an attempt to allow for an "earlier" breakout.
- Diamonds appear as two Triangles, base-to-base, with their apexes pointing in opposite directions.
- Diamonds are rarely found in perfectly symmetrical and clearly defined form.
- Diamonds are found more often at tops than bottoms, and precede extensive intermediate reactions, but are equally as reliable when found as bottom reversals.

Wedge Formation



Supply/Demand Situation

Contrasting to the ascending triangle, with no evidence of a supply barrier, a Rising Wedge shows a gradual decline of investment interest. Each new up-wave is feebler than the last, until demand finally fails and the trend reverses.

Rising Wedges

- Require a lower line steeper than a top line.
- The difference between rising wedge and a normal trend channel is that the rising wedge sets a limit to the advance with its converging boundary lines.
- It may develop either as a topping out pattern on an existing uptrend, or start to form right at the bottom of a proceeding down trend.
- Normally takes +3 weeks to complete (smaller is a pennant).
- Prices almost always confine for 2/3 of the distance from the base to the apex, and in some cases they actually go beyond the apex.

- Once prices break out of a rising wedge to the downside they usually waste little time before declining significantly.

Falling Wedge

The Falling Wedge appears in all respects just like the Rising Wedge, except the difference in action of prices following its completion. When prices break out of a falling wedge they are more apt to drift sideways or in a dull saucer movement before they begin to rise.

Other Characteristics of Wedge Formations

- Price fluctuations are confined within converging straight lines.
- Different from a triangle in that both lines either slope up or slope down.
- Most wedges are too short-lived to recognize on a monthly chart, but they may be occasionally spotted on weekly charts.
- Rising wedges are most commonly seen as Bear Market rallies.
- The wedge is reliable only when it conforms strictly to the definition.
- *Trading volume in a wedge diminishes gradually as prices move up toward the ape of the wedge.*

Measuring Implications

The ensuing advance usually retraces all of the ground gained within the wedge itself, and sometimes more.

One-Day Reversal

On a day of *unusually high volume, more than any day's volume of several months past…*

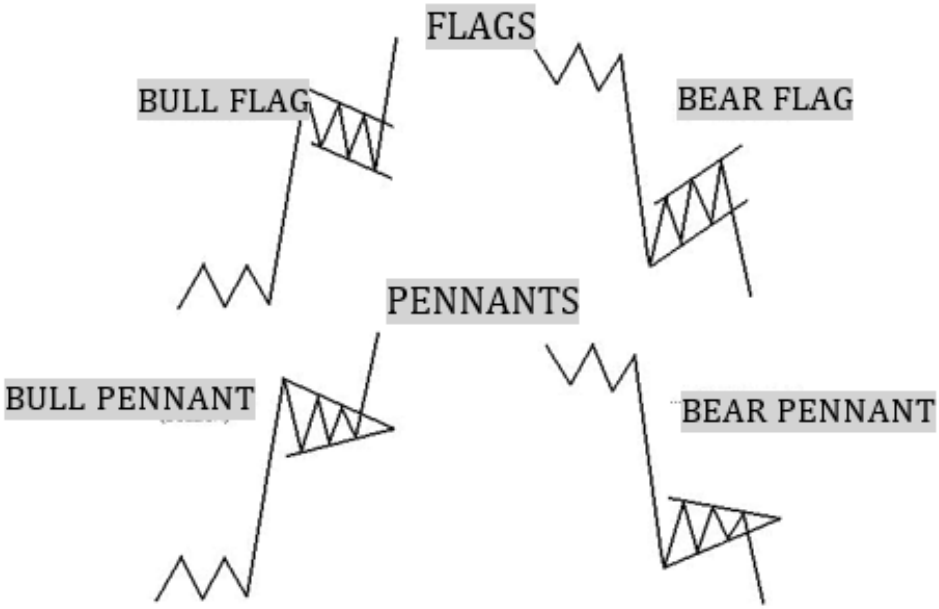
Requirements

- Must come after a fairly long and steady advance or decline *with increasing activity.*
- Prices open higher immediately, sometimes leaving a large gap.
- Prices carry on higher in an uptrend, and lower in a downtrend, for the first 2-3 hours of trading, and move as much as they normally would in 3-4 days.
- Suddenly prices halt and move down just as fast as they moved up.
- A *burst of activity* pushes prices back to close where they started on the same day.

Other Characteristics

One-day reversals occur most frequently in issues that have had an active advance and attracted a large public following. One-day reversal bottoms, or Selling Climax Days, are found conspicuously at the end of abnormal or panic declines. The one-day reversal serves as an urgent warning to watch closely the chart in which it has appeared to see what pattern of price action may follow.

Flags & Pennants



Flags look like flags and are constructed of a small, compact parallelogram of price fluctuations.

Requirements

- A nearly vertical price movement either up or down, with a *progressive increase in trading volume* – this is a warning that many holders are taking profits after the extensive trend.
- *Activity diminishes* and a series of minor price fluctuations ensues, each of whose tops and bottoms are lower than its predecessor.
- Prices should break away in not more than four weeks in the expected direction.
- Flags may have a duration of 5 days to 3 weeks.

Characteristics of Flags

- The trend comes to a halt and prices react a few points *on reduced activity.*
- A new rally occurs but fails to equal the previous high *or attain the previous top volume.*
- The stronger flags form horizontally and look like small squares.
- In most cases, the bounding parallel lines slope downward and vice versa, but may be in the same direction of the trend.

- Suddenly prices erupt *with a burst of activity* from the end of the flag and push straight up in move that practically duplicates the original "mast" atop which the flag was constructed.
- At the end of the flag, there is a sharp breakout with a pick-up in volume and a resumption of the rapid price movement of the previous trend.

Pennants are bounded by convergent boundary lines, while Flags are bounded by parallel lines.

Characteristics of Pennants

- The Pennant is a pointed flag.
- Pennants slope down in an up-trend, and slant up in a down-trend.
- Pennants form after a rapid advance or decline.
- Pennants typically do not go to/thru the apex, unlike wedges, which usually do.
- *Trading volume shrinks noticeably during its construction.*
- *Activity in Pennants diminish even more rapidly than in Flags.*

Measuring Implications

The same measuring formula applies to both Flags and Pennants. Measure from the beginning of the preceding move - the point where it broke away from the previous consolidation or reversal formation or through a significant trend line or resistance level - then measure the distance from the point where prices break out of that move to the level at which the flag or pennant started to form. Then measure in the same direction that distance from the point where prices break out of the Flag or Pennant. This is the *minimum target.*

Advances in pennants and flags in an uptrend generally go farther than the preceding move, while declines may not carry quite so far. Hence, the formula is best applied on a *semi-logarithmic chart* by measuring actual chart distance rather than counting points.

"**Flags and Pennants are regarded as among the most dependable of chart formations, both as to directional and measuring implications."**

Where?

They show up most frequently in the later, dynamic phase of Bull markets and hence may be taken as a warning that an end is near.

If a pattern begins to develop on the chart that resembles a Flag or Pennant, but during its creation the volume remains high instead of diminishing, then it is more likely to be a quick minor reaction against the trend, rather than a true consolidation preceding continuation of the previous trend.

Half-Mast Congestion Pattern

We can hardly refer to this as a pattern for it does not take any single definite form. The Half-Mast Congestion is simply a very compact price congestion that forms on a "mast" and extends for five days up to three weeks, its duration depending roughly on the length of the mast. This congestion may take the form of a very small "solid" triangle or rectangle, with volume tending to shrink as it forms. The dependable Half-Mast pattern forecasts a rapid continuation of prices in the same direction and about the same distance as the mast that preceded it, and more often than not suggests a good level at which to take profits.

Gaps

Gaps are price ranges at which no shares change hands at the time they occur. Gaps on daily charts are produced when the lowest price for the day is higher than the highest price of the preceding day – or – when the highest price of one day is lower than the lowest price of the previous day.

Closing the Gap

Gaps do not have to be filled, but will *probably* be closed eventually. However, there are hundreds of gaps on 1929-1930 charts that have never been covered, and its safe to say, never will be closed. If a chart normally shows numerous gaps, none of them are special.

Common Gaps or "Area Gaps"

These occur within trading ranges or price congestion patterns like triangles and rectangles. Gaps tend to appear near or at the top and bottom edges of the supply and demand lines. The area in-between is sort of "no-man's land" so its easy to see why gaps are present. *The forecasting significance of common/area gaps is practically nil.*

Breakaway Gaps

These occur near price congestion lines, but develop at the *completion* of the formation. Most breakouts through horizontal pattern boundaries are attended by a gap, yet may not appear as one because they happen during the day instead of between the close and opening. These gaps should emphasize the "steam" behind a breakout, but otherwise provide no measuring information. *If volume decreases as prices move away from the breakout, there is a 50/50 chance that the next minor reaction will fill the gap.*

Continuation or "Measuring" Gaps

Less frequent than Breakaway Gaps and Area Gaps, but are of greatest technical significance because they afford a rough indication of the probable extent of the move to follow. Unlike Area Gaps and Breakaway Gaps, Continuation/Measuring Gaps occur in the course of rapid, straight-line advances or declines. Measurement implications are that prices will go as far beyond the gap as they have already gone between the beginning of the move and the gap, as measured directly and vertically on the chart. This tends to happen a little more on the upside and a little less on the downside.

Exhaustion Gaps

These are especially significant if they occur after reaching the implied target of the trend from which it came, as they tend to signal the end of a move and are associated with rapid, extensive advances or declines. They should not be read as a sign of a major reversal by itself*. Exhaustion Gaps occur with great volume,* and should be closed in 2-5 days.

Island Reversal

A reversal pattern related to gaps, which by itself is not of major significance in the sense of denoting a long-term top or bottom, but it does as a rule send prices back for a complete retracement of the minor move which preceded it. The island reversal is seen as a compact trading range separating from the preceding move by an Exhaustion Gap; the trading range may be 1 day or several weeks. Another Exhaustion Gap carries prices down after the congestion area. *It is characterized by relatively high volume.* Watch for other patterns developing within islands.

Saucers

- The rising end always carries price a little higher than the preceding top at the beginning of the saucer.
- The net gain of each saucering movement varies by each issue, but tends to be about 10-15% of the price.
- The total reaction from the left hand lip of a saucer to its bottom is usually 20-30%
- The duration is normally 5-7 weeks, rarely less than three weeks.
- The overall advance is slow but steady like climbing out of a well 3 steps at a time for each 2 steps we fell down.
- Saucers resemble in both price *and volume action* the reversal formation of Rounding Bottoms, but slightly up-tilted.

Support & Resistance

Support is a price level at which sufficient buying, actual or potential, is enough to halt a downtrend in prices for an appreciable period, and possibly reverse it to start moving prices up again. *Resistance* is the antithesis of support; it is a price level at which selling, actual or potential, is sufficient enough to satisfy all bids and hence stop prices from going higher for a time, and possibly reverse lower. Support is a concentration of demand, while Resistance is a concentration of supply.

Any break in support or resistance suggests that a trend change may be in place, *especially if it comes with increasing activity as or after the support or resistance has been violated*. The breaking of minor support or resistance should always be regarded as the first step in the reversal of the intermediate trend. Likewise, a break in intermediate support or resistance signifies the beginning of the reversal of the Major or Primary trend.

Support & Resistance of Pattern Boundaries

Boundaries of classic charting patterns represent significant support and resistance lines. On a *Descending Triangle*, for example, when prices break down, the horizontal lower boundary, originally the demand line, reverses its role and becomes a resistance level. The neckline of a *Head and Shoulders Top*, a former demand line, becomes a resistance level after it has been broken. The top, or supply line, of a Rectangle becomes support

after prices have pushed above it. If prices break out of a *Symmetrical Triangle* and go straight through the minimum target, that target will likely serve as a resistance area. However, if the breakout move does not immediately carry beyond the Triangle's first reversal level, there will probably be a throwback to the pattern boundary. If the breakout did not occur until prices worked into or beyond the Triangle's apex, then the throwback will probably not meet support or resistance until it has re-tested the level of the apex. The apex itself represents the concentration level or axis of Triangle's support and Resistance. Supply and Demand lines are probably more reliable than the average pattern. Weekly charts show much more plainly the levels of significant congestion due to their longer durations. Any place where two converging trendlines cross, called a "cradle", is doubly difficult for prices to penetrate.

Trendlines

A Trend Line is a straight line drawn on the chart through or across the significant limits of any price range to define the trend of market movement. They may be of any length – the longer they extend, the more valuable and important they become in technical forecasting. The steepness of a trend is a reliable clue to the probability of a reversal – when a trend starts steep, we should expect it to be broken and corrected to a more moderate angle before any actual reversal into a movement in the opposite direction. Log scale graphs are better for determining trendlines, as stocks in bull markets tend to accelerate at an increasing rate as they move further away from what would appear to be a straight trendline on an arithmetic scale.

How Trend Lines are Drawn

A straight line is mathematically determined by any two points along it, so trendlines require two points – two established top reversal points to fix a down trendline and two established bottom reversal points to fix an up trendline. Due to this, we may say that the boundary lines of Triangles and Rectangles, and necklines of Head and Shoulders formations, are simply special trendlines.

Major Up Trends

The most useful lines are drawn, not from the absolute low of the preceding market, but rather from the next Intermediate. This is because the accumulation area at the beginning of a Bull Market is usually long and drawn out in time and relatively flat.

Major Down Trends

Normal major Bear Market trends are much steeper than normal Bull trends because Bear Markets last on average only about half as long as Bull Markets.

If a small reversal top pattern forms on the chart well up and away from the intermediate up trendline so that there is apparently room to the downside *before* the trendline is broken, then that small reversal pattern may be ignored until the trend line is broken.

The Test of Validity

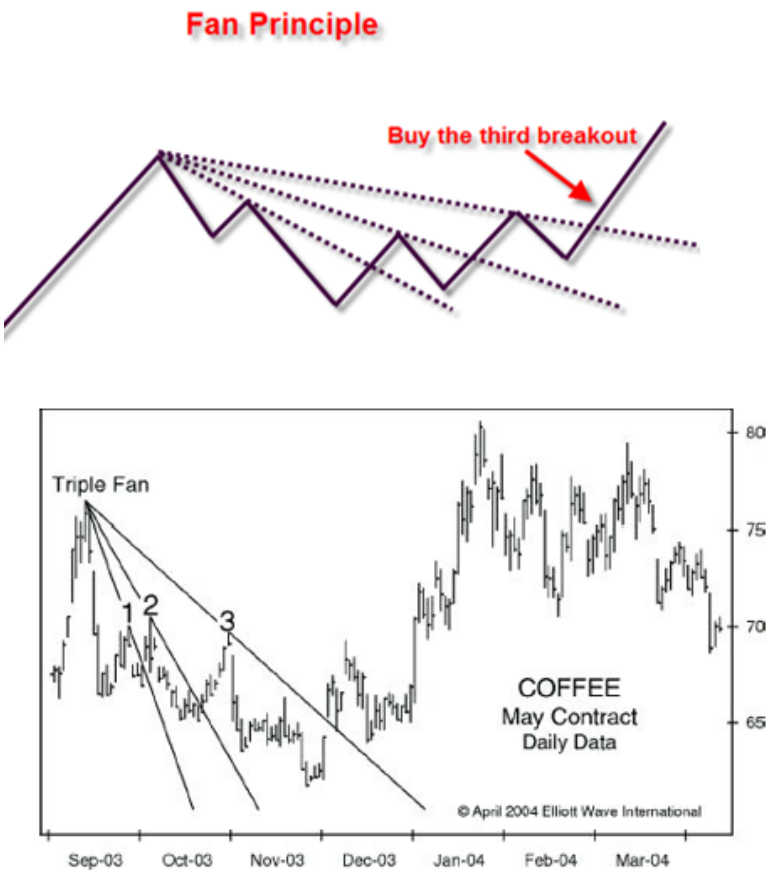
- The greater the number of bottoms that have developed in the course of a trendline that consists of minor up waves, the greater the importance of that line.
- The longer the line, the greater its technical significance
    - Of these two tests, greater weight should be given to the number of times prices have touched the trendline
- The flatter, more horizontal the trendline, the more important it is technically, and in consequence, the greater the significance of any downside break through it.
- Closing prices are better for drawing trendlines than intraday spikes
- As usual, *heavy volume is expected to accompany a valid upside breakout, but increasing activity is <u>not</u> required for a valid downside breakout.*

When a trendline is broken by a margin that is less than decisive and prices subsequently rally back through it again, the line should be redrawn from the first to the new third bottom. A **cradle** refers to a point where two trend lines come together, thus making them doubly difficult for prices to penetrate.

The area in between the upper and lower trendlines is called the **Trend Channel**. Once a trend channel has been clearly established, any failure of a rally to reach the upper trendline is taken as a sign of deterioration of the trend. The margin by which a rally fails to return to the basic trendline frequently equals the margin by which the basic trendline is penetrated before a halt or throwback to the trend channel occurs.

Fan of Trend Lines

This method of drawing trend lines happens when trends evolve, and eventually flatten out. The whole move may, by the time of the third trendline, has taken a “saucering out” form. The rule is that when the third fan line is broken to the upside, for example, the low of the Intermediate correction of a major bull market has been established.



The **Fan Principle** is normally applied to corrective moves, to determine the end of intermediate moves.

Technical Analysis of Commodity Charts

The price trends of anything whose market is determined solely by supply and demand will, when graphically projected, show the same pictorial phenomena of rise and fall, accumulation and distribution, congestion, consolidation and reversal. However, unlike stocks, commodities have no fixed supply, or shares outstanding, and an unlimited number of contracts may be created. The limited life of commodity contracts also inhibits the use of volume in commodity charts.

After 1942, charting became difficult due to the denomination of markets by government intervention and regulations, loans and purchases, so completely subject to the changing (and often conflicting) policies and acts of government agencies – these distort the normal evaluative machinery of the market. By 1952, it appeared that the intervention by governments had in fact created a more orderly market, and had not destroyed their evaluative functions.

Under normal market conditions, certain reliable chart patterns, such as *Head and Shoulders formations, rounding Tops and Bottoms, and basic Trendlines*, carry the same weight in commodity charts as they do in stock prices. However, chart formations which are associated in stocks with shorter-term trading or group distribution and accumulation, such as Triangles, Rectangles, Flags, etc. appear less frequently and are far less reliable in commodities, as to either direction or extent of ensuing the move.

Glossary

1. **Continuation:** Intermediate pattern that interrupts temporarily the previous major trend, and forecasts continuation f that preceding major trend when the formation has been completed.
2. **End-Run:** Following a valid breakout from a strong pattern, prices fail to carry as far as the pattern forecasts, and instead quickly reverse into a considerable movement in the opposite direction.
3. **False breakout**: A breakout that eventually proves to be false as prices move in the direction opposite to the one originally implied. False breakouts tend to occur on *low volume*, whereas a genuine breakout is a strong movement.
4. **Hard retest:** Following a breakout, prices either go back to touch the boundary of the pattern or return inside of the pattern, but do not close within the pattern.
5. **Out of Line Move**: A move that occurs on fair volume in the direction that the chart formation already implies.
6. **Out-of-line movement:** A sharp thrust of prices away from an established pattern; most often found in triangles.
7. **Premature breakout**: A breakout that eventually proves to be correct in its direction, but not before prices retreat into the pattern boundary to resume consolidation.
8. **Pullback:** After a breakout to the downside, a return of prices to the pattern boundary, which now acts as resistance, before prices continue downwards.
9. **Reversal**: Change in trend direction.
10. **Shake-out:** A one or two-day move engineered by insiders/operators in order to cause confusion in the markets.
11. **Throwback:** After a breakout to the upside, a return of prices to the pattern boundary before continuing the up-trend once again.
12. **Turnover Day:** A One-Day reversal, a volume shake-out.

Appendix

Summary of Patterns

1. Formations Which Lead to Either Reversal or Continuation
    a. Symmetrical Triangle
    b. Inverted Triangle
    c. Rectangle
2. Formations Which Forecast Continuation Only
    a. In an established up-trend
        i. Ascending Right-Angle Triangle
        ii. Flag (usually pointing down)
        iii. Pennant (pointing down)
        iv. Continuation H&S with head hanging down
    b. In an established down-trend
        i. Descending Right-Angle Triangle
        ii. Flag (usually pointing up)
        iii. Pennant (pointing up)
        iv. Continuation H&S with head up
2. Special Cases Forecasting Reversal Only
    a. In an established up-trend
        i. Descending Right-Angle Triangle
        ii. H&S with head up
    b. In an established down-trend
        i. Ascending Right-Angle Triangle
        ii. H&S with head down