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TAG XVII • Las Vegas '95

Curtis Arnold — Pattern Probability

Curtis Arnold, a 17 year veteran of the stocks and commodities market, has earned the respect of his peers for his contributions to the field of technical analysis. Curtis has a degree in computer science and had a successful career as a systems analyst. Then, in the mid-seventies, he began applying the computer to market analysis. In 1980, he joined Weiss Research, an economic research firm based in West Palm Beach, Florida, as Director of Research.

Curtis' first book, *Your Personal Computer Can Make You Rich in Stocks and Commodities*, sold over 50,000 copies and contained the actual code for 25 programs that would create and plot technical indicators. His next book, *Timing the Market* (1984) has sold nearly 70,000 copies worldwide. *Changing Times Magazine* chose *Timing the Market* (now in its second edition) as the best investment book of the year in 1992. In 1994 the book made the best seller list in India!

Curtis developed the **Commitment of Traders Index**, a tool which allows traders to spot imbalances in futures open interest among small, large and commercial speculators.

In 1987 Curtis' research in chart patterns led him to quantify and classify classical chart patterns, then produce accurate statistics, rating each as to its probabilities of success. This, in turn led Curtis to develop his **PPS System (Pattern Probability Strategy)**, one of today's more successful and popular trading systems.

After tripling his personal account in 1988, Curtis began training a limited number of students in his methodology. In 1992, one of his students became the number one ranked CTA in the country. That same year, a first year PPS student won the United States Investing Championship with a return of 216.1%. *Supertraders Almanac* then chose PPS as "Trading Methodology of the Year." In 1993 Futures Truth Inc. rated PPS the Number One trading system in the world. Both *Futures Magazine* and *Technical Analysis of Stocks and Commodities* ran feature articles on PPS in 1994.

Note: PPS for TradeStation/Telerate is scheduled for release in the very near future.

Curtis resides in Jupiter, Florida for most of the year but enjoys summers in Maine. He devotes most of his spare time to his two children. Hobbies include guitar, reading and writing fiction. He hopes to have his first suspense novel, *Short Squeeze*, published sometime this year.

• Topic: Pattern Probability Used in a Unified System

The new trader should have no difficulty following this presentation. Concepts progress logically from the basic to the more complex. There are no abstract theories that the trader must accept on faith or complex formulae to intimidate the new practitioner. Step by step, Curtis proves that any trader can duplicate his personal trading success by approaching trading as a business. A trader must have a consistent approach, a long term perspective and must adhere to the four basic tenants of trading (trade with the trend, cut losses short, let profits run and use good money management).

You will learn the #1 reason most traders lose and why success depends upon long term thinking. Curtis will show you a simple way to define a trend, and will describe nine specific patterns that will allow you to follow any trend with minimal risk. You will learn to recognize the most powerful pattern you will find on a chart, and ways to avoid missing a major move. Curtis will teach you how and when to move your stop to break-even and how to combine two powerful exit systems to ensure that you never again give back your open profits. Curtis will also discuss some of the additional considerations which allow a trader to adopt a more aggressive stance when appropriate, including basis relationships, options expiration and first notice days. Finally Curtis will teach you a proven money management system using a fixed fractional approach, that will boost your performance and reduce your longest string of losses.

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Curtis Arnold



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Jupiter, FL 33458
Phone: 407-747-0518

SECTION 1 - PREPARING FOR YOUR TRADING SUCCESS

1. History of a successful trader.

A. The 10 year learning curve.

B. The Stage 2 trader.

2. The History of PPS.

A. Edwards and Magee.

B. 1988 - real time trading.

C. 1989 - student training begins.

D. 1992 - PPS software released.

3. Laying the groundwork for your trading success.

A. Setting goals.

B. Human nature of investing and trading and why most traders lose.

C. Problems associated with short term focus.

D. Must focus on the “big picture” - where will you be five to seven years from now?

E. Learn to assess risk/reward over time.

F. The Power of Compounding.

4. Assessment of current ability - the Chartist's Quiz.

SECTION 2 - LEARNING TO TRADE PROPERLY.

1. The four tenets of successful trading.

- A. Trade with the trend.**
- B. Cut losses short.**
- C. Let profits run.**
- D. Use good money management.**

2. How to incorporate the four tenets of successful trading into your trading.

- A. Define the trend so you can trade with it.**
- B. Make rules to place a close initial stop when you enter a trade.**
- C. Make rules to allow your stop to trail.**
- D. Define how much to risk on each trade.**

3. How PPS translates the four tenets of successful trading into specific rules.

A. Trend filters.

- 1. 40 day moving average.**
- 2. 18 day moving average.**

B. Entry system.

- 1. Nine specific chart patterns set up entries.**
- 2. Purpose of patterns.**

C. Exit system.

1. Price based.

2. Time based.

D. Money management system.

SECTION 3 - SPECIFICS OF THE PPS SYSTEM.

1. Patterns for the beginning trader.

A. Symmetrical triangle.

B. Ascending triangle.

C. Head-and-shoulders continuation pattern.

2. Additional PPS patterns.

A. Rectangle.

B. Falling wedge.

C. Minor tops.

D. Rising wedge.

E. Reentry signal.

3. Exit system.

A. Initial stops.

B. Breakeven stops.

1. When profit = double initial risk.

2. Fourth day after entry if a profit in the trade.

C. Trailing stops.

1. Swing supports power of two.

2. Logical trendline.

4. Money Management.

A. Risk a maximum of 2%.

B. Fixed fractional.

SECTION 4 - CHART EXAMPLES AND SELF TEST.

SECTION 5 - ADDITIONAL TECHNICAL CONSIDERATIONS.

1. The big picture.

A. Are we near support/resistance? (weekly chart)

B. How high or low is the commodity? What is the reasonable potential of the trade?

2. Internal Market Composition.

A. Who are the players and what are their trading profiles?

B. How and when to use Commitment of Traders data to your advantage.

C. The C.O.T. Index and Movement Index.

3. First Notice Days and Option Expirations.

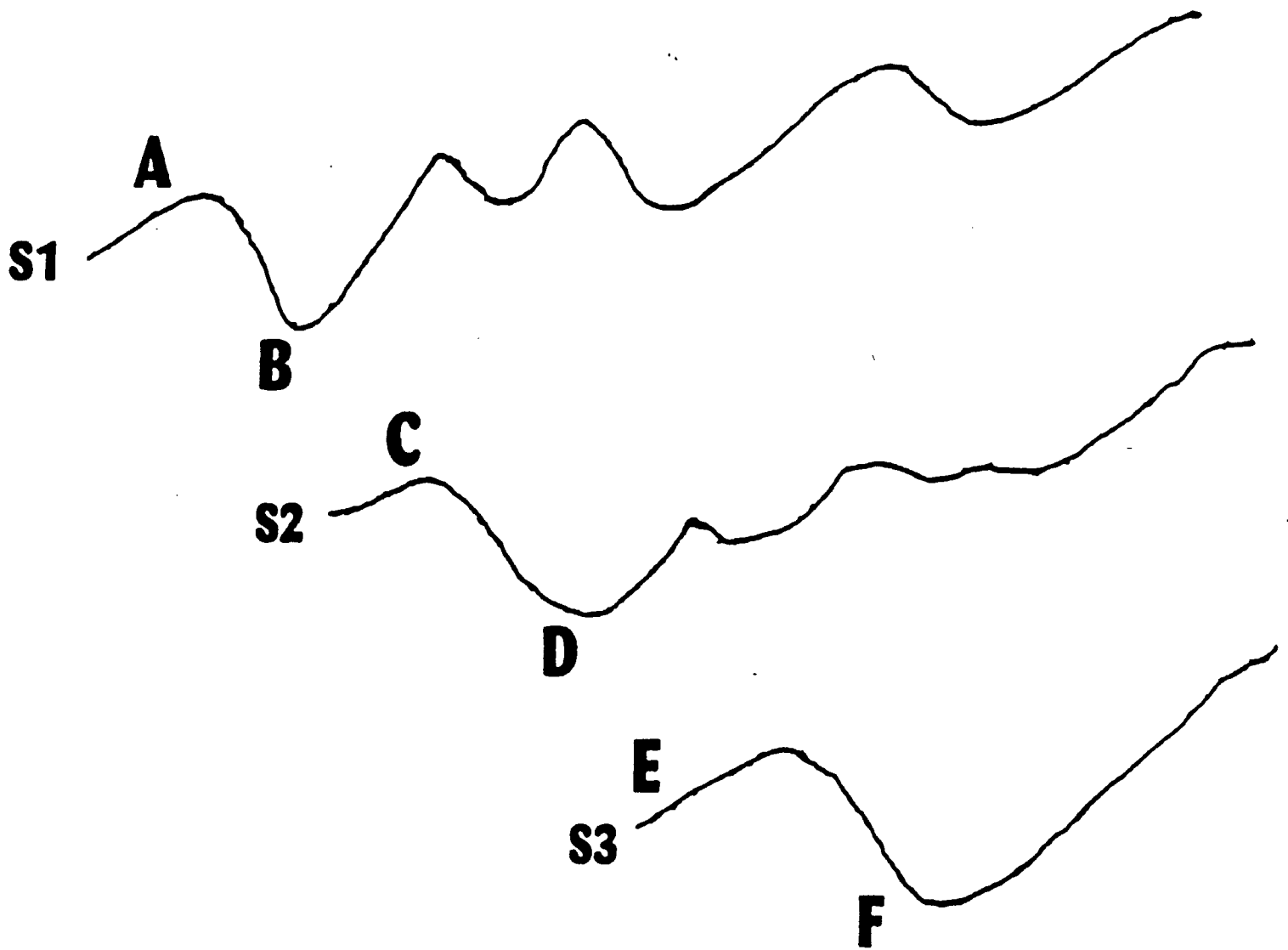
A. The effect of FND on prices.

B. The effect of option expirations on prices.

4. Basis and spread relationships.

A. Basis relationships.

B. Spread relationships.



Human Nature of Investing and Trading

The Power Of Compounding

Investment of \$20,000

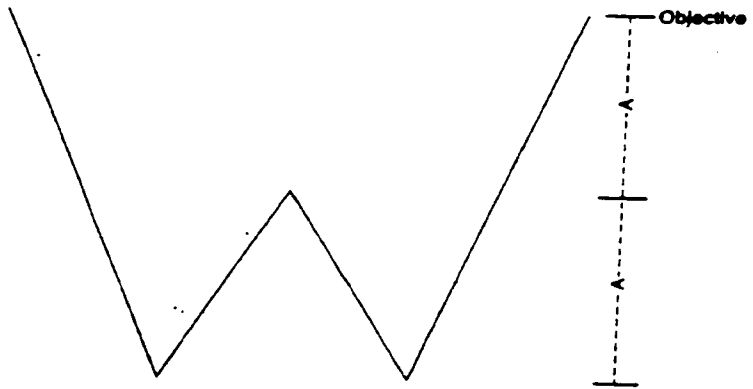
YEARLY RATES COMPOUNDED MONTHLY

	<i>30%</i>	<i>40%</i>	<i>50%</i>
Year 1	26,897	29,642	32,641
Year 2	36,174	43,933	53,274
Year 3	48,650	65,115	86,949
Year 4	65,429	96,509	141,909
Year 5	87,995	143,039	231,609
Year 6	118,344	212,002	378,008
Year 7	159,160	314,214	616,944

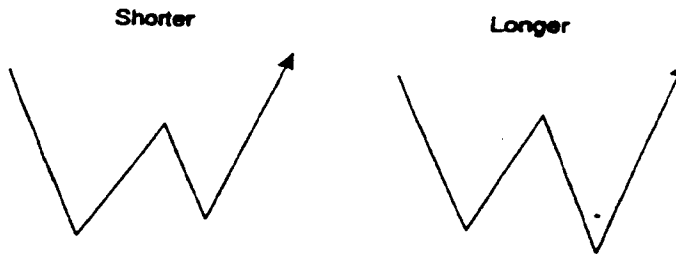
1. After a double bottom has formed, what is the probability that prices will reach their objective?
 - A. 78.5 percent
 - B. 62.5 percent
 - C. 51.5 percent
 - D. 42.5 percent
2. A double bottom is generally more reliable if the second bottom does not drop below the first bottom.
 - A. True
 - B. False
3. If the double bottom also breaks a downtrend line, the pattern is more likely to be successful.
 - A. True
 - B. False
4. Assume that a double top forms over 15 days. On the day prices break the neckline, you sell an out-of-the-money call with 15 days remaining before expiration, having a strike price equal to the highest point of the double top. What is the probability that the call will expire worthless?
 - A. 49 percent
 - B. 68 percent
 - C. 85 percent
 - D. 95 percent
5. Rectangles are reversal patterns what percentage of the time?
 - A. 20
 - B. 31
 - C. 44
 - D. 59
6. Head-and-shoulders tops are more likely to reach their objective than head-and-shoulders bottoms.
 - A. True
 - B. False
7. Ascending triangles occur in uptrends what percentage of the time?
 - A. 46
 - B. 68
 - C. 84
 - D. 93
8. Ascending triangles occur less frequently than symmetrical triangles.
 - A. True
 - B. False
9. Descending triangles should be traded as continuation patterns.
 - A. True
 - B. False
10. A symmetrical triangle will continue the trend what percentage of the time?
 - A. 48
 - B. 62
 - C. 72
 - D. 86

4
Chartist's Quiz Illustrations

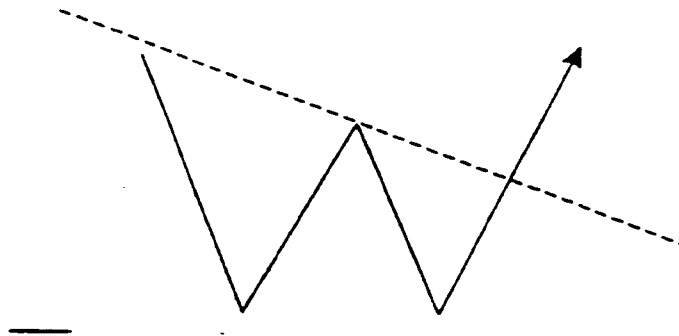
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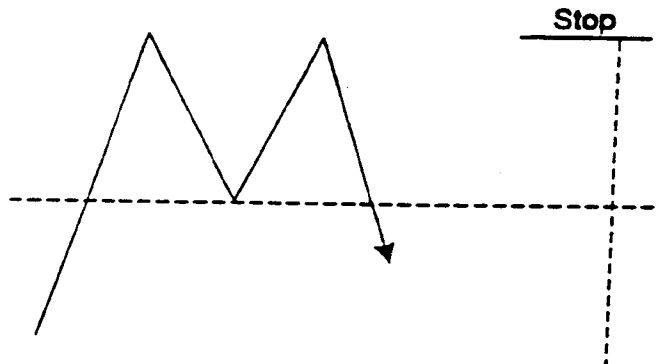
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3



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7

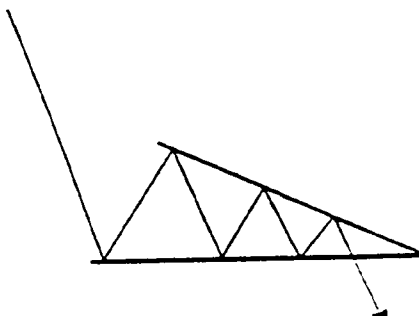


Figure 5

Symmetrical Triangle—Stop

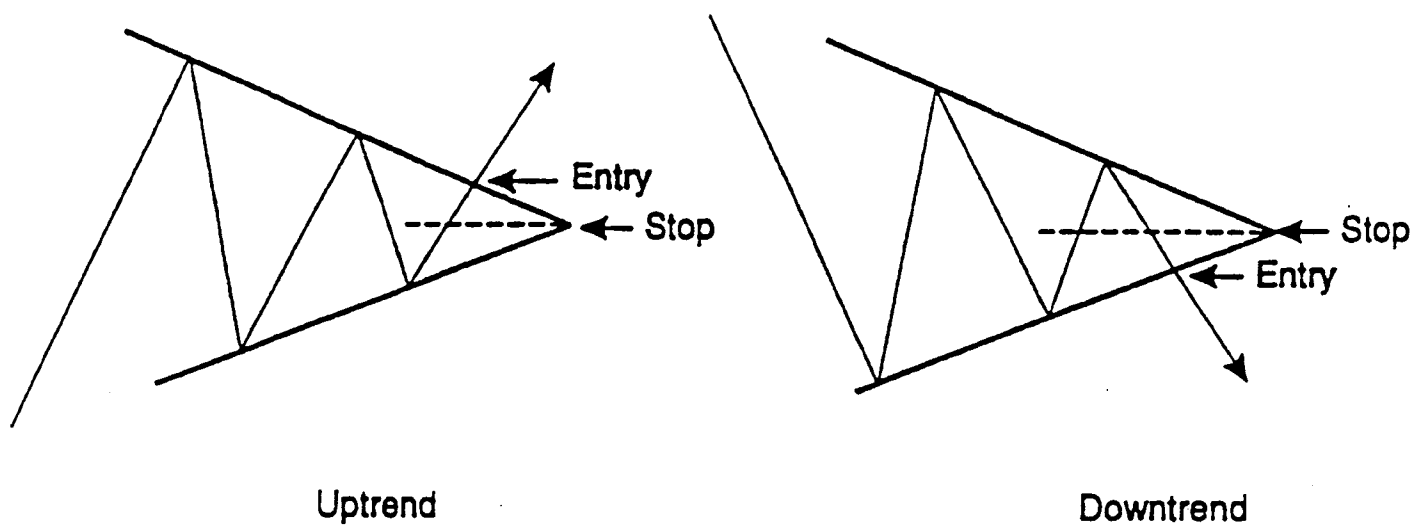


Figure 6

Ascending Triangle—Stop

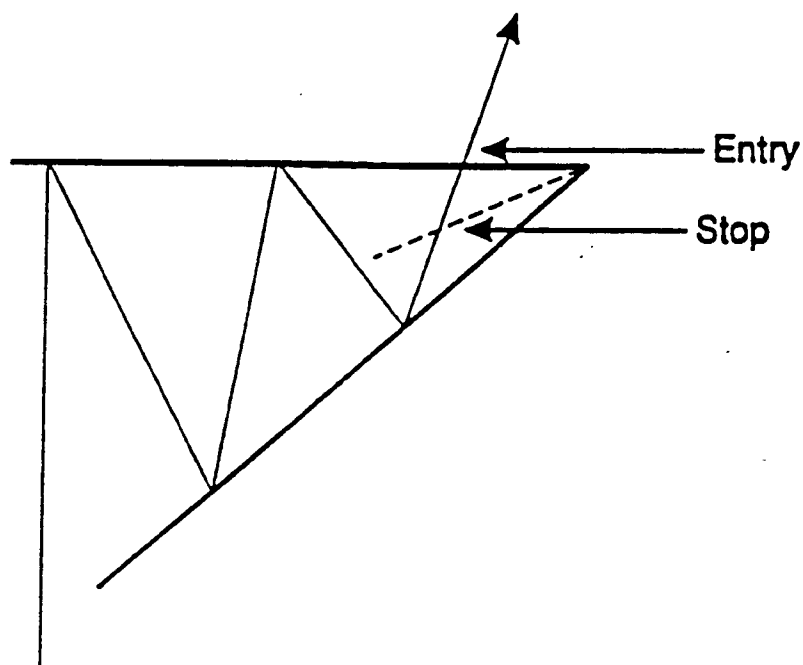


Figure 7

**Head-and-Shoulders
Continuation Pattern—Initial Stop**

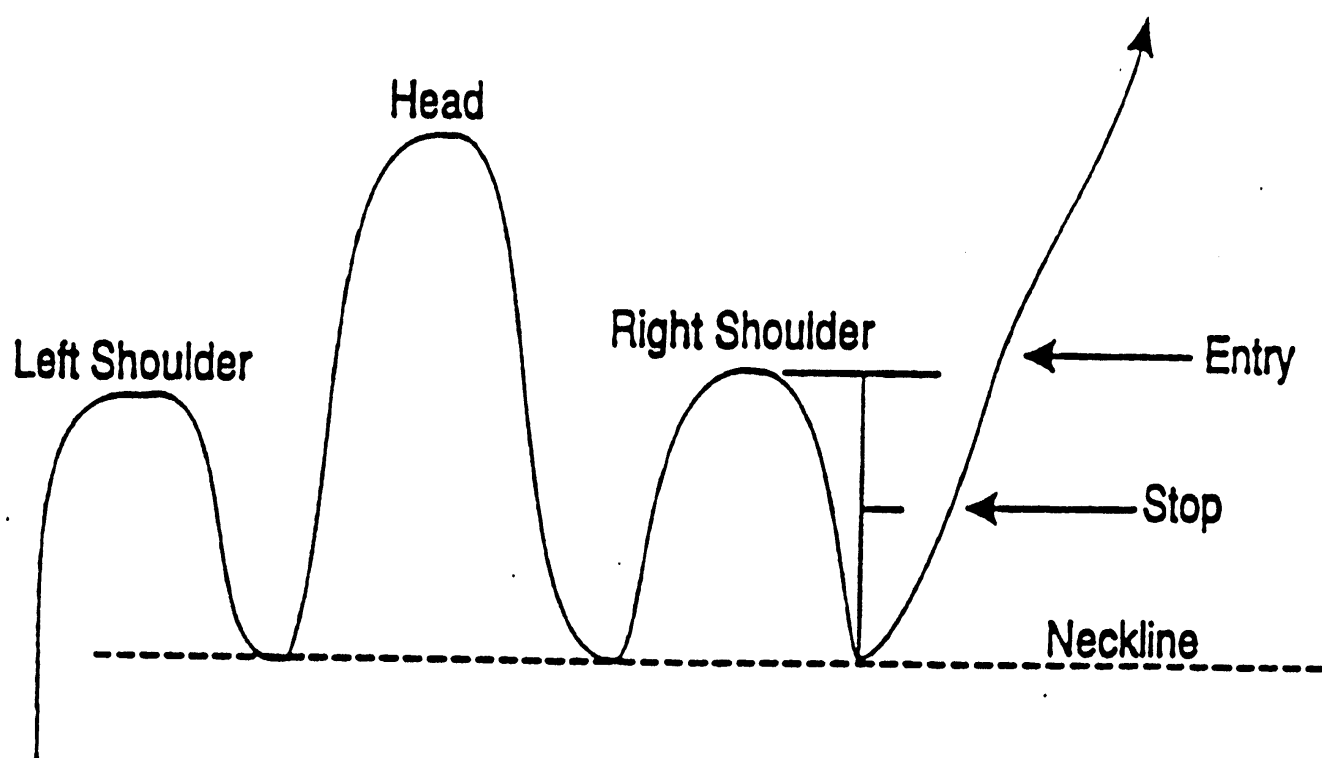


Figure 8

Rectangle

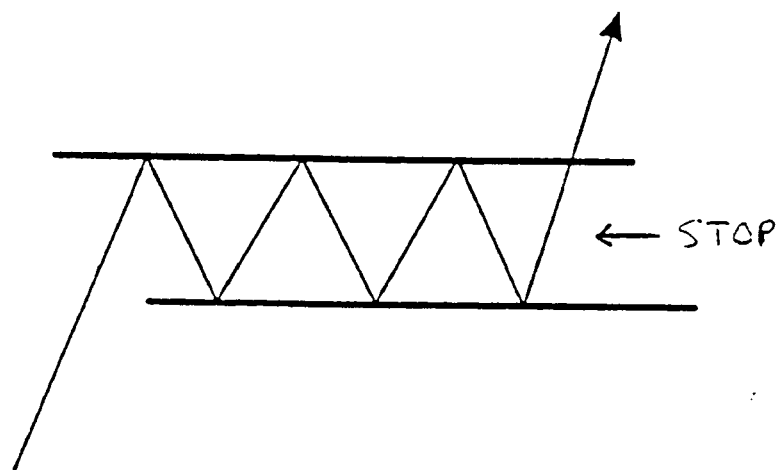
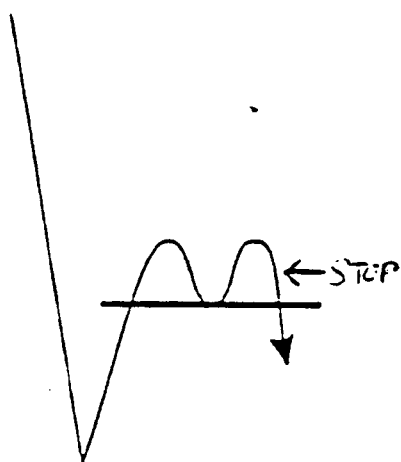
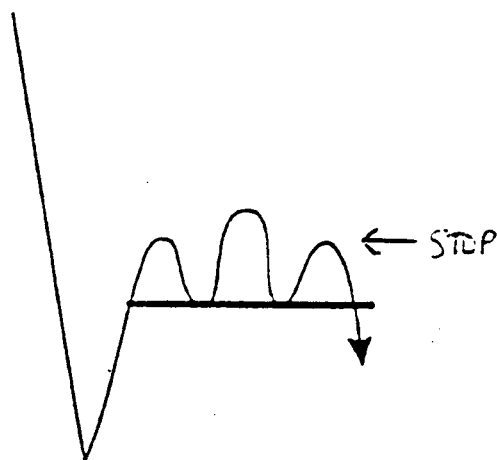


Figure 9

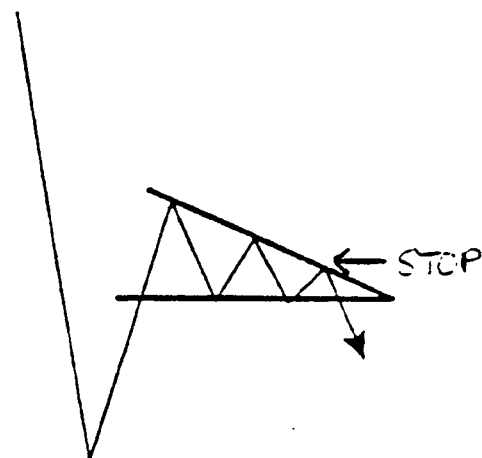
Minor Tops



Double Top



H & S Top



Descending Triangle

Figure 10

**Falling Wedges Found In
Uptrends and Downtrends**

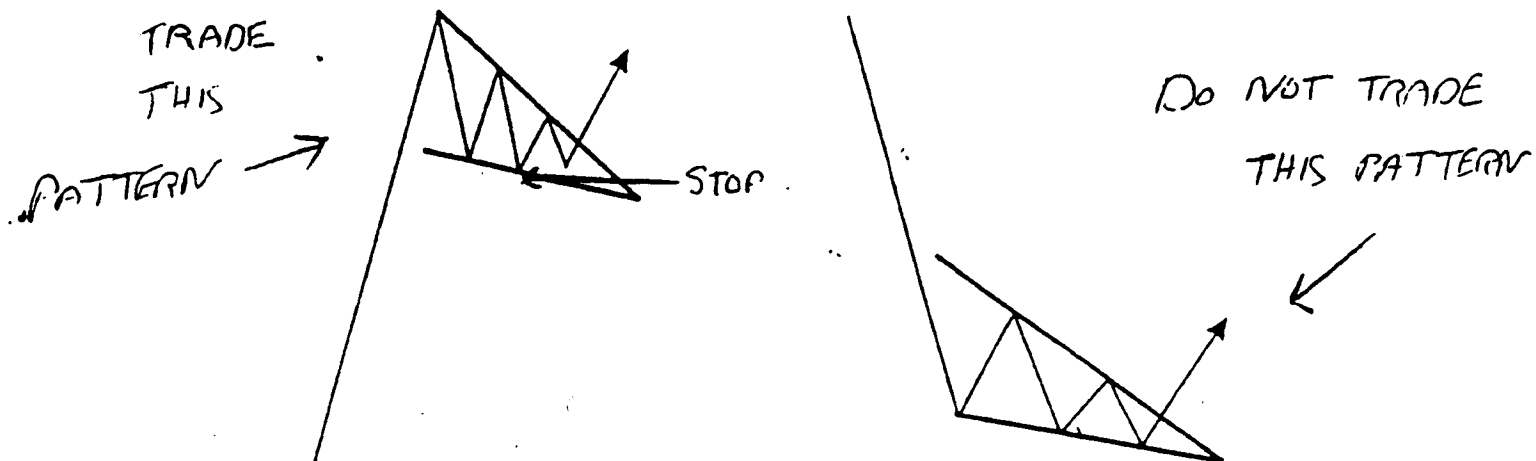
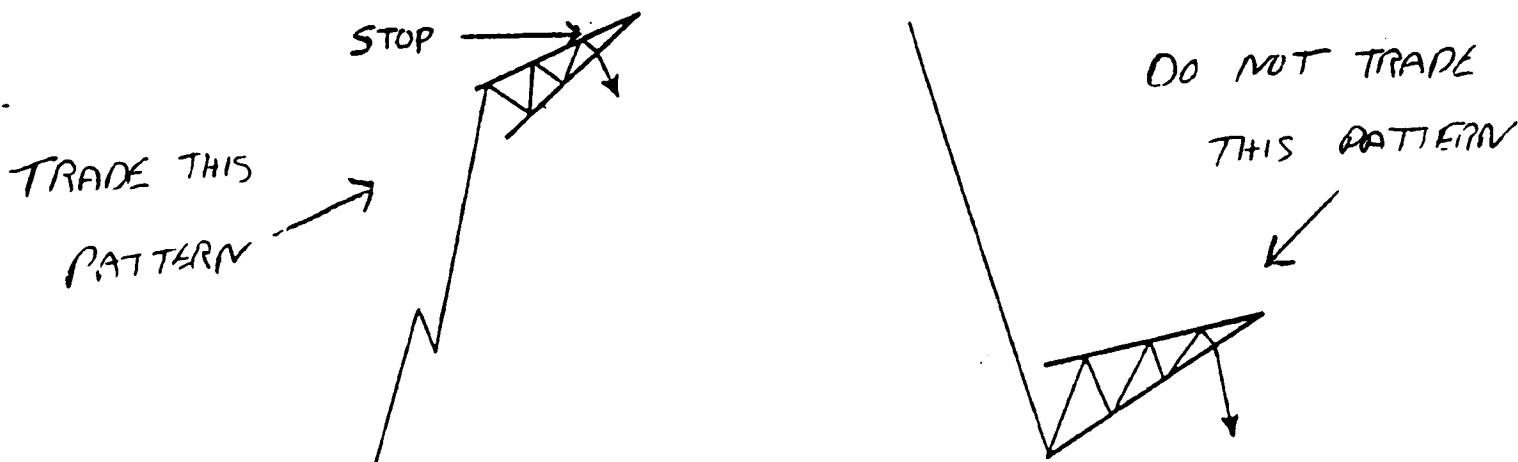
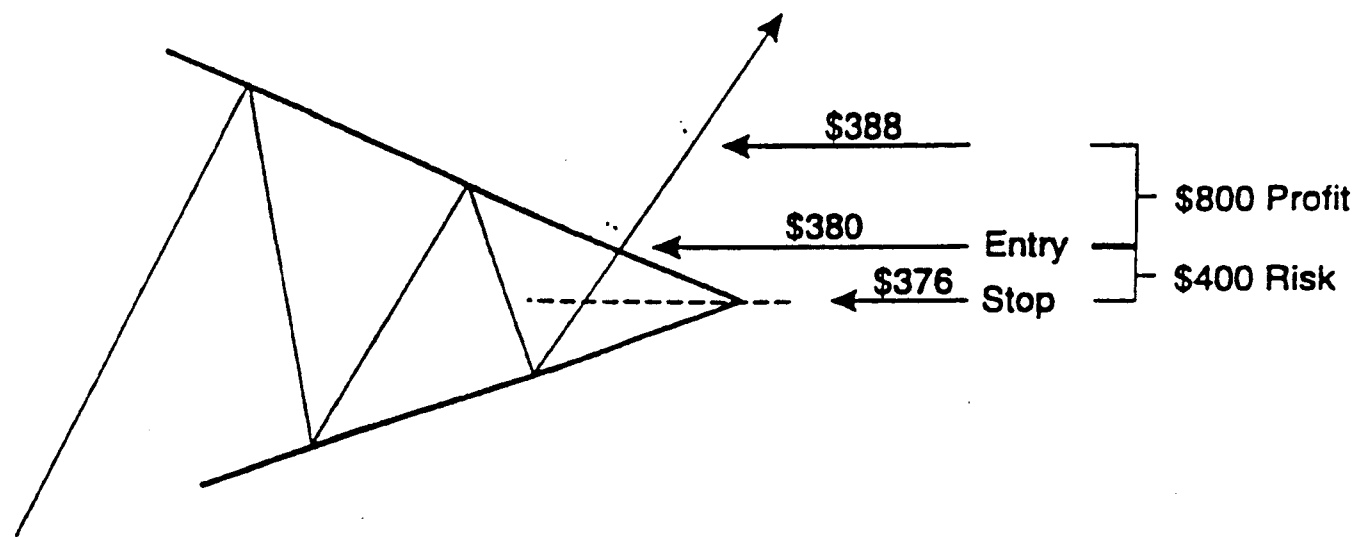


Figure 11

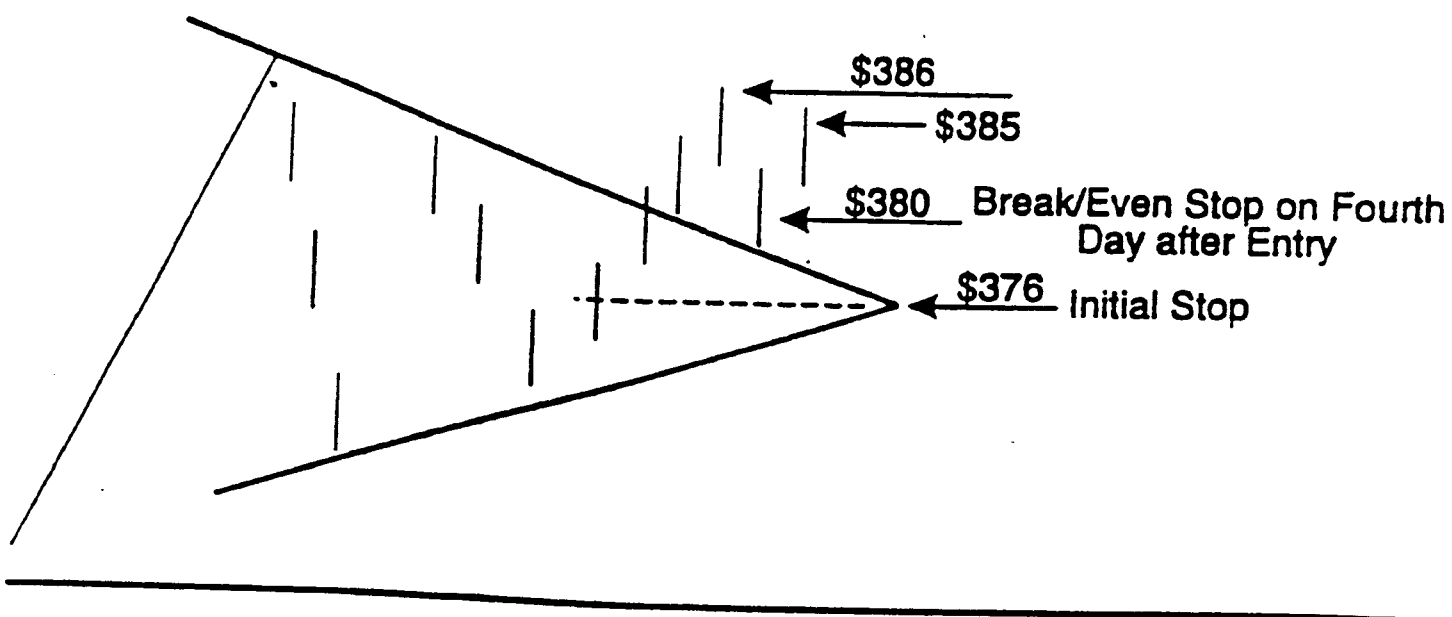
**Rising Wedges Found In
Uptrends and Downtrends**



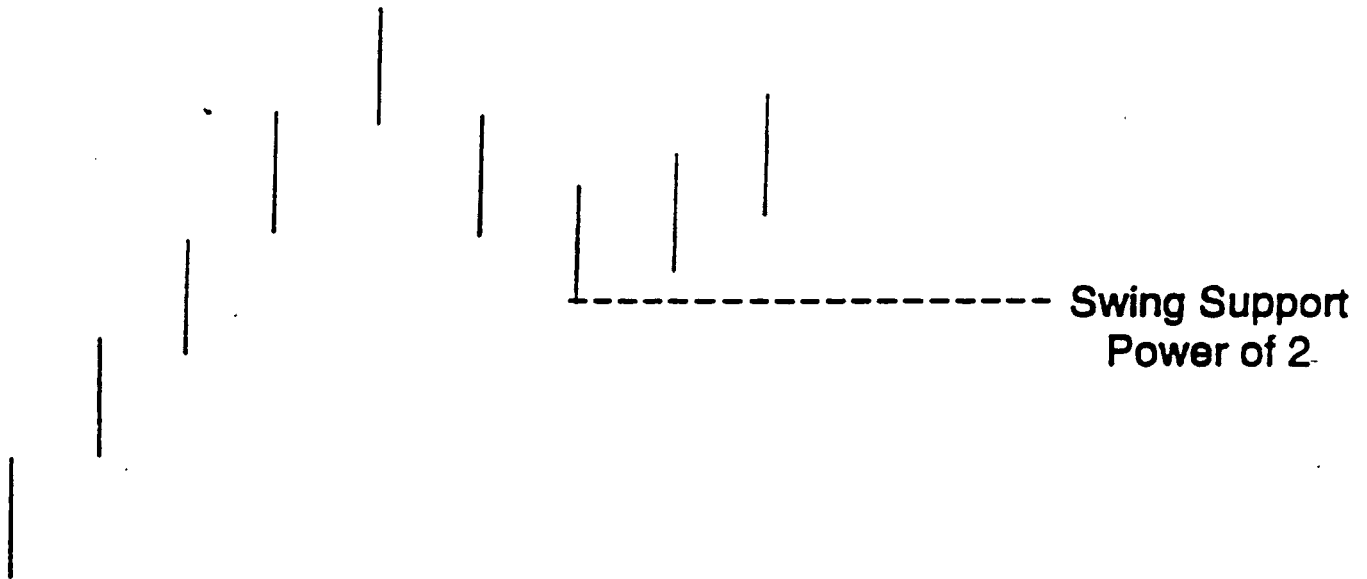
Break-Even Stops



Break-Even Stops



Swing Support Power of Two



Swing Support Exceptions

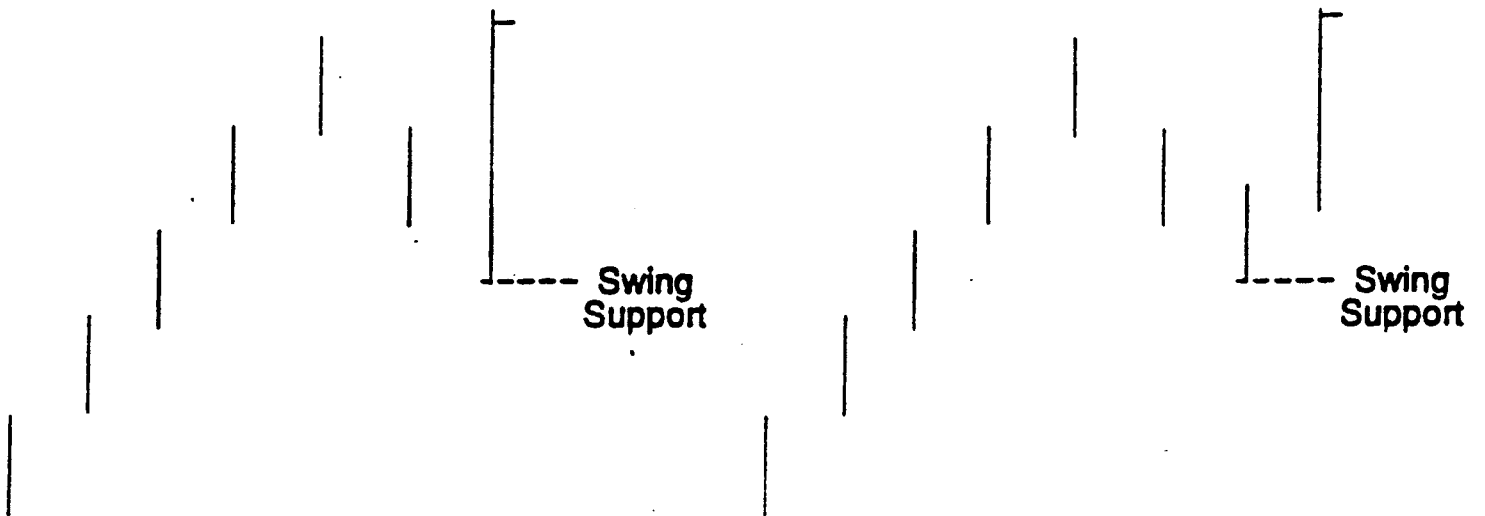


FIGURE 16

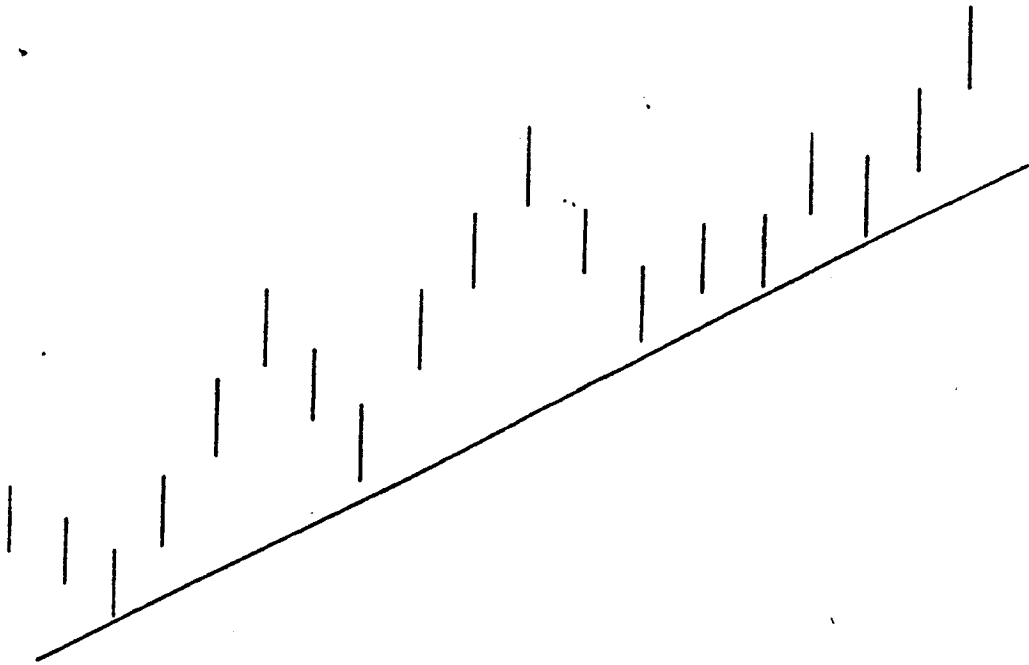
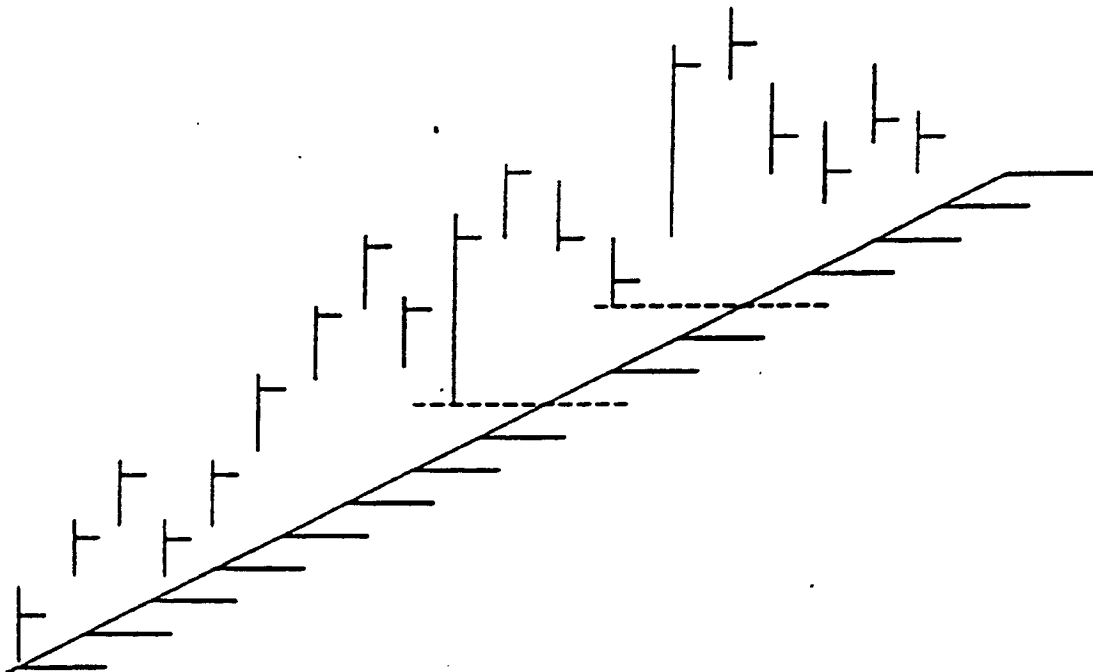
Logical Trend Line

FIGURE 17

Combining the Two Exit Systems

L = LONG
 S = SHORT
 E = EXIT

AUG '93 - GOLD

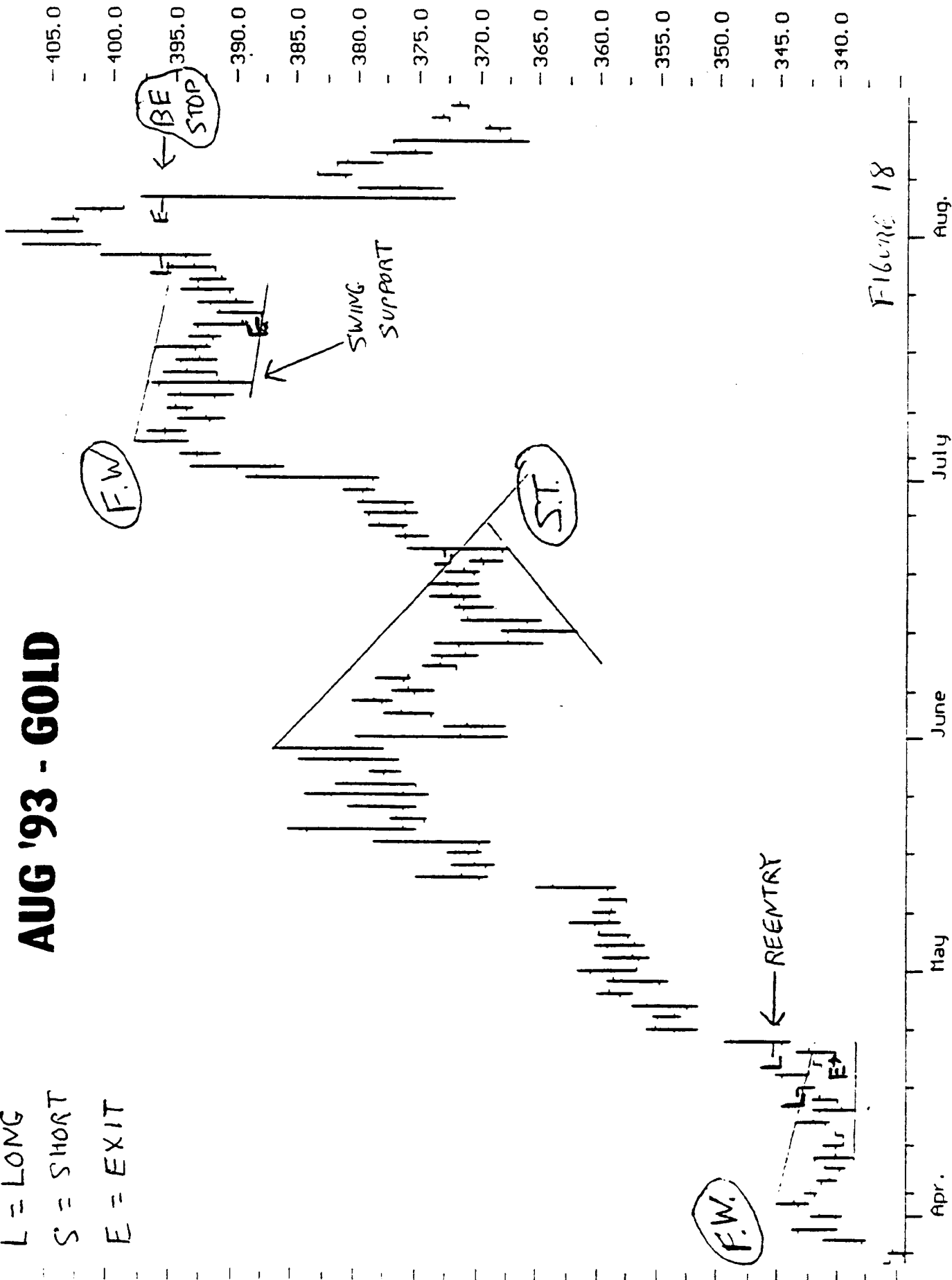


Figure 18

MAR '93 - JY

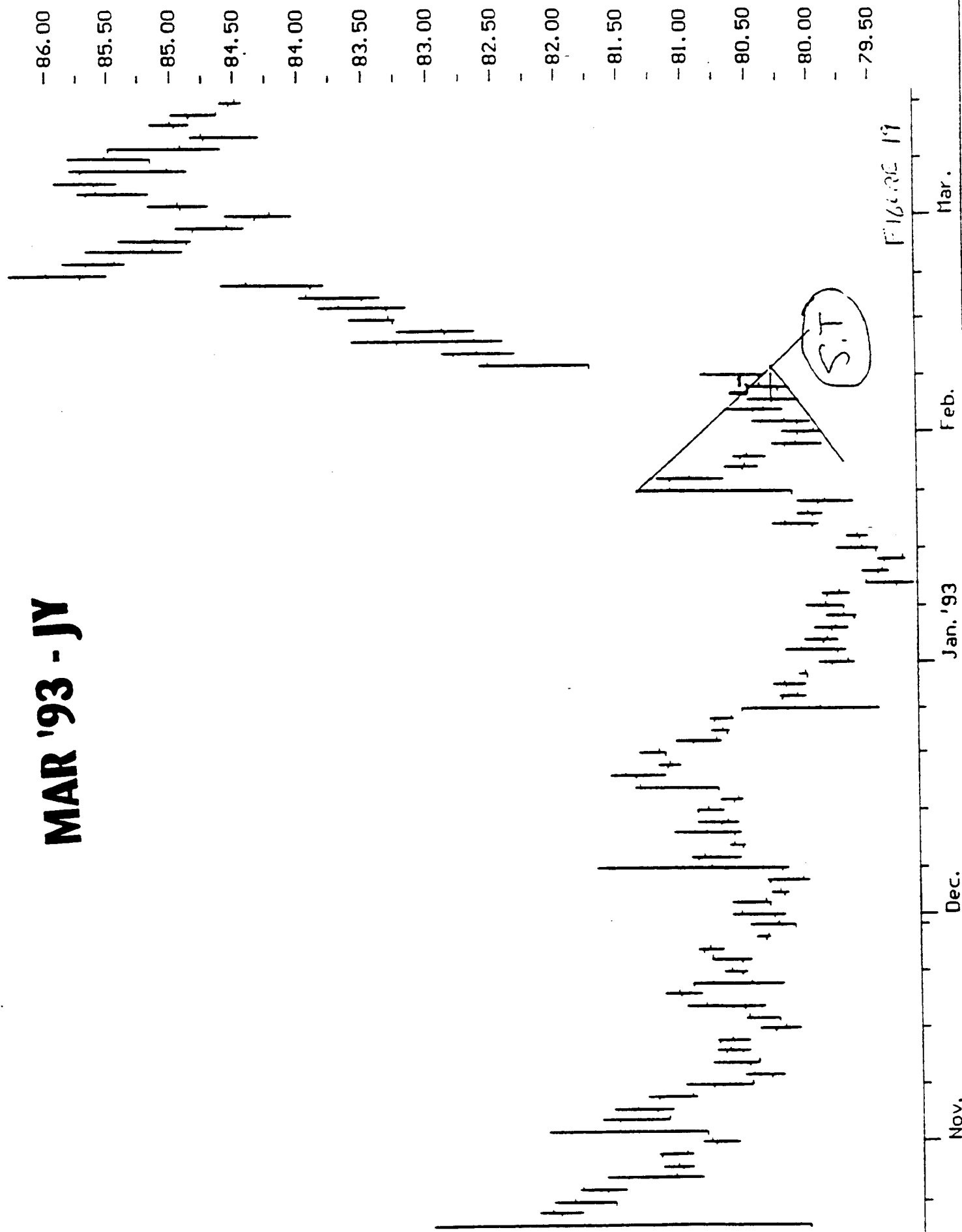


FIGURE 19

JUN '93 - JY

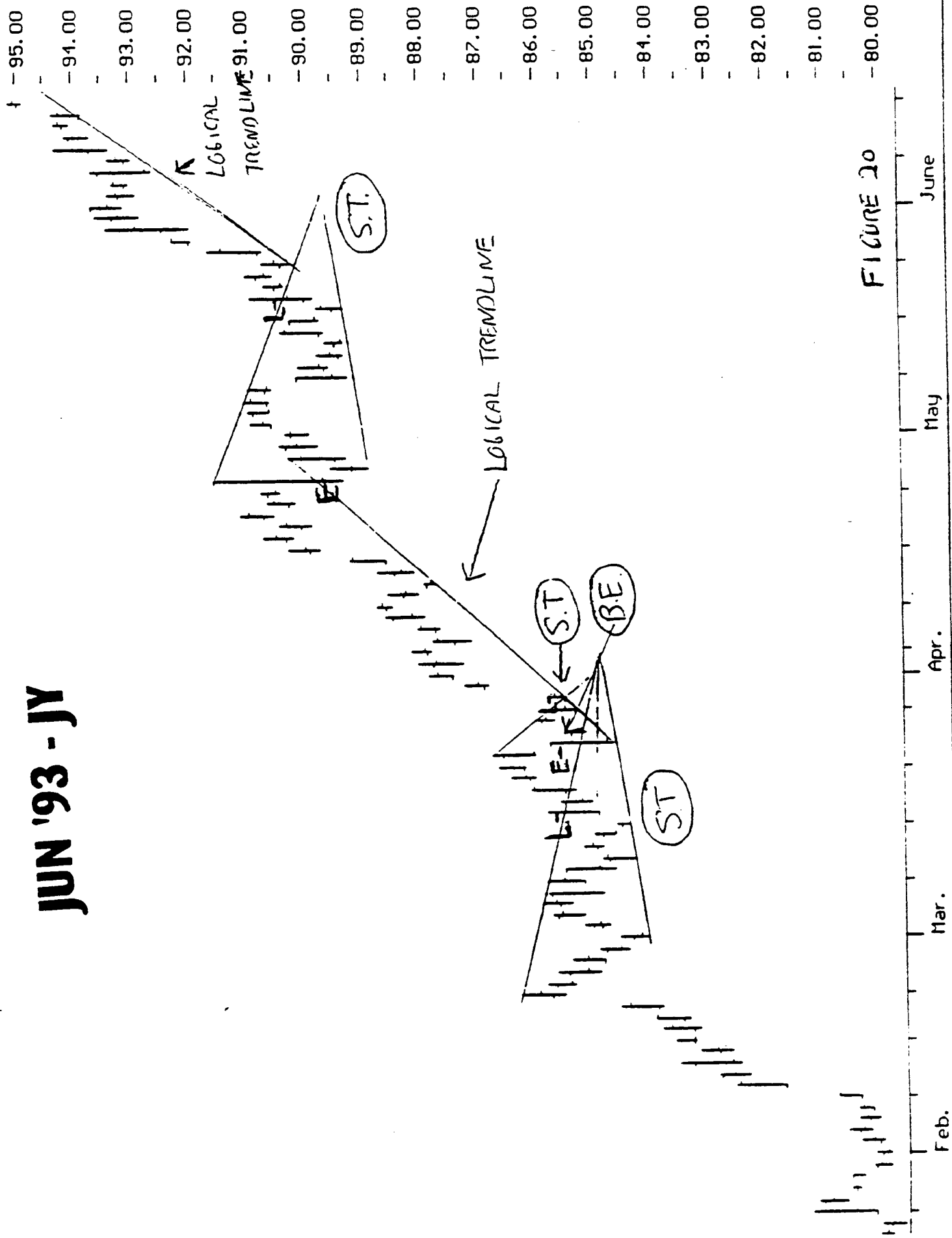


FIGURE 20

SEP '93 - JY

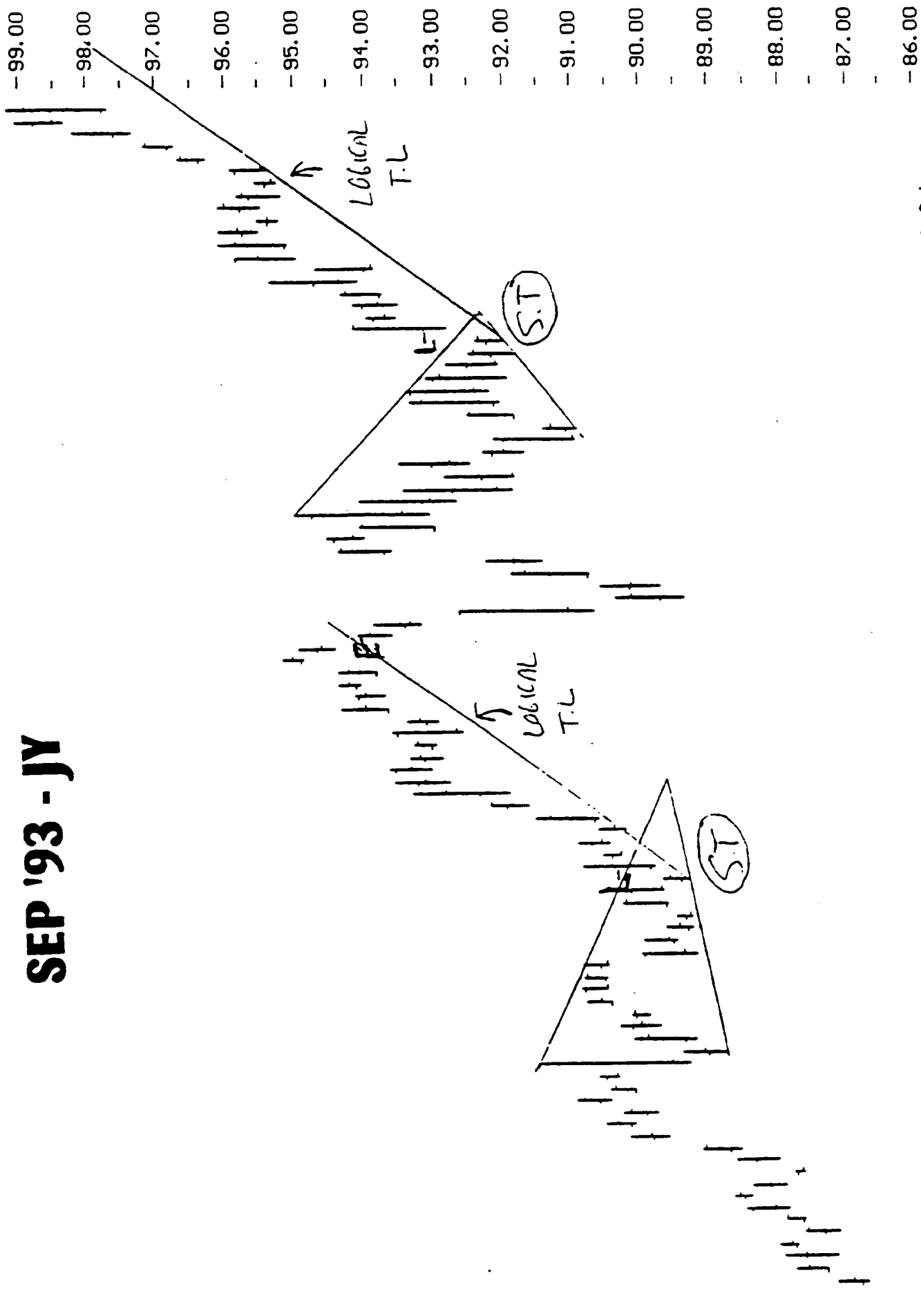


FIGURE 21

JUL '93 - SILVER

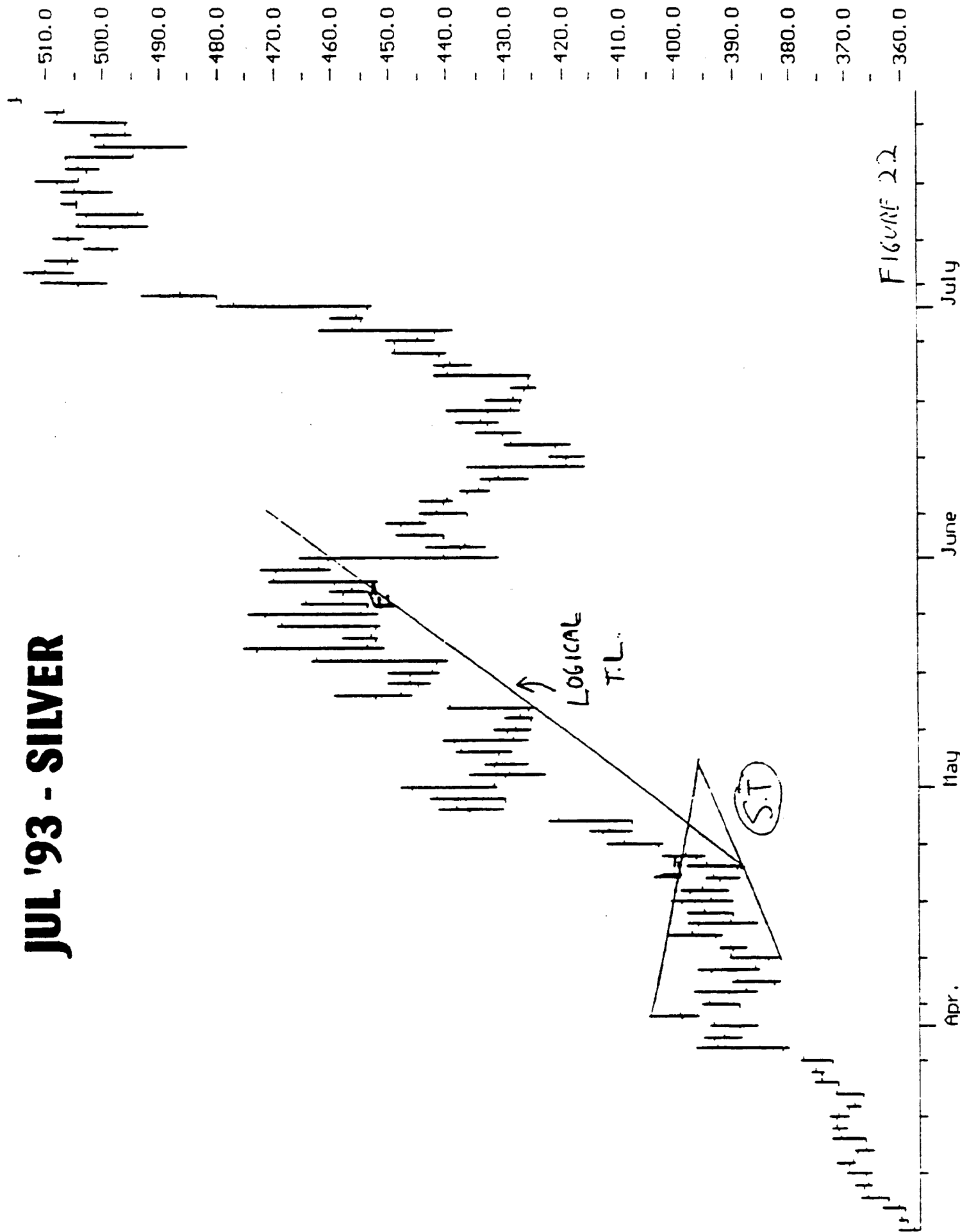


FIGURE 22

π

US T-Bonds 30 Yr C 94 March US

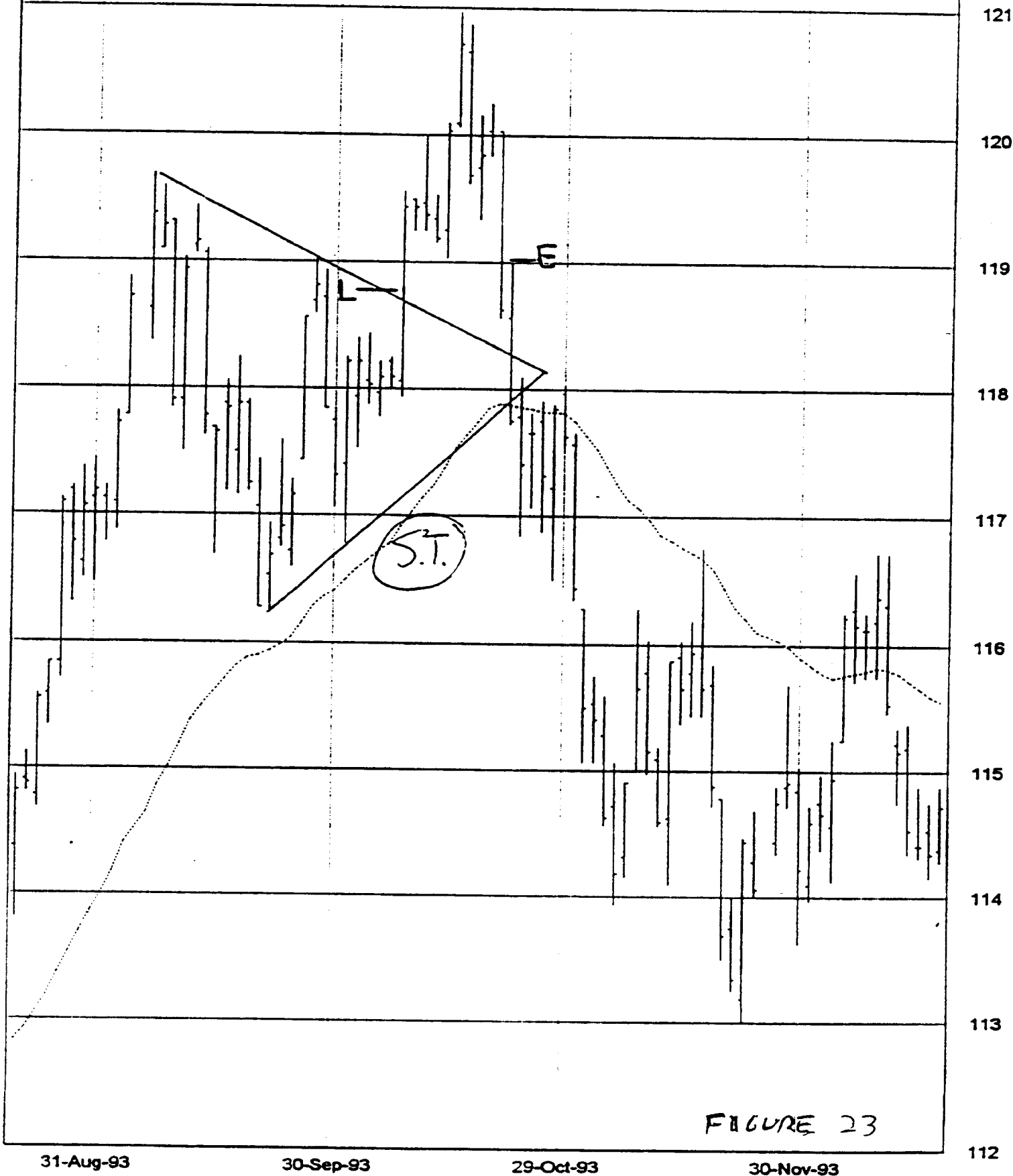
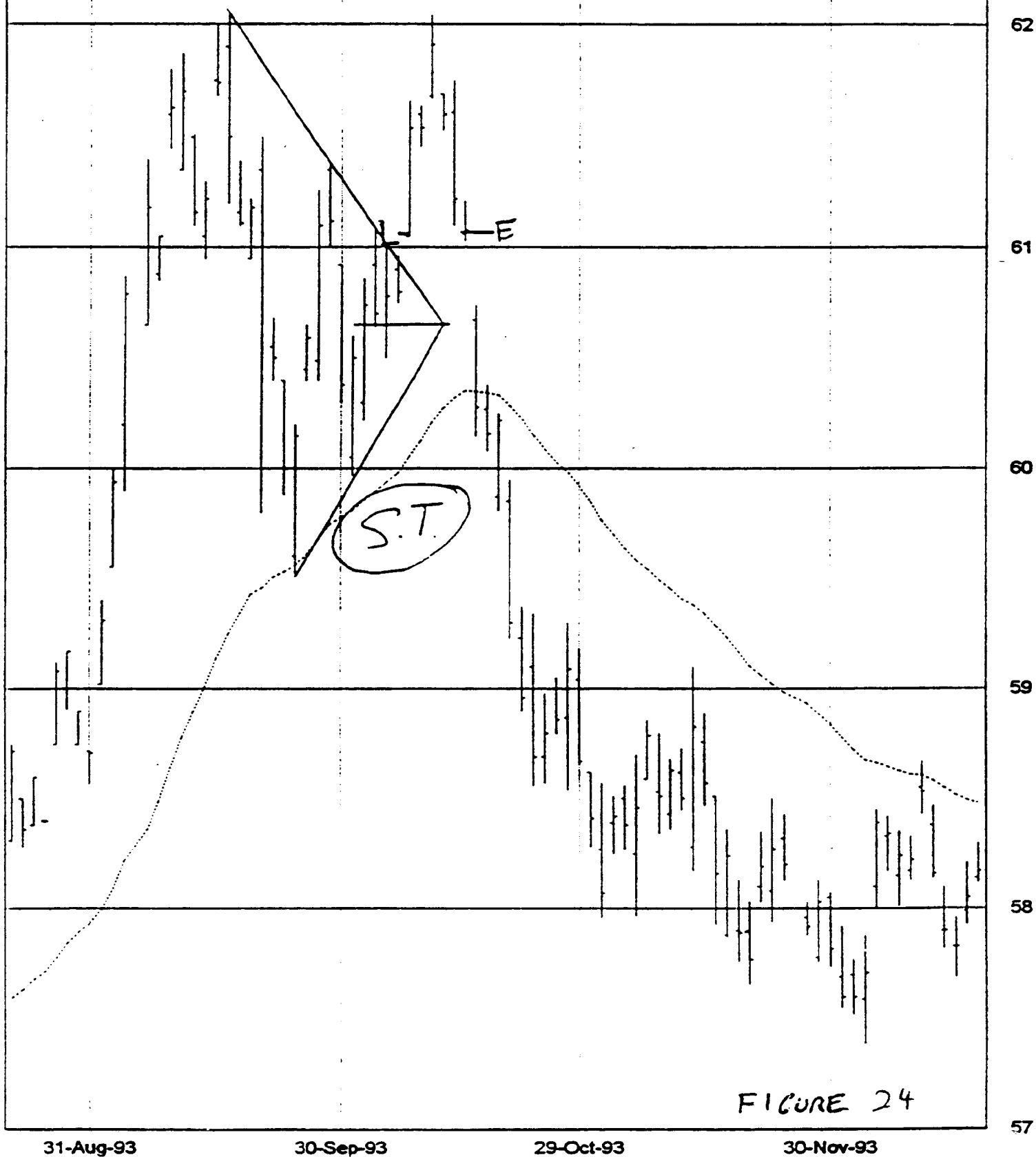


FIGURE 23

TT

Deutsche Mark A 94 March DM



US T-Bonds 30 Yr (US) Jun '95

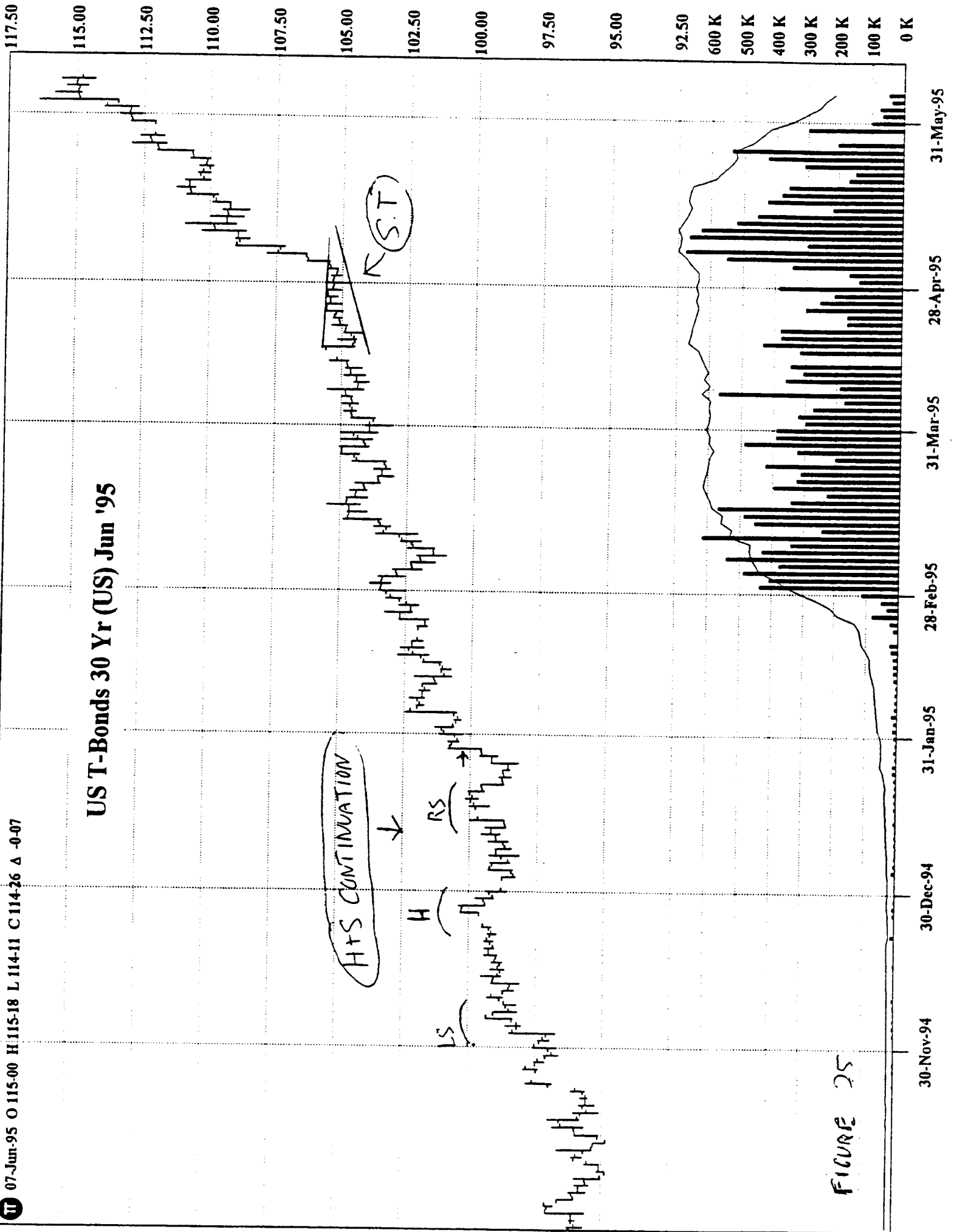
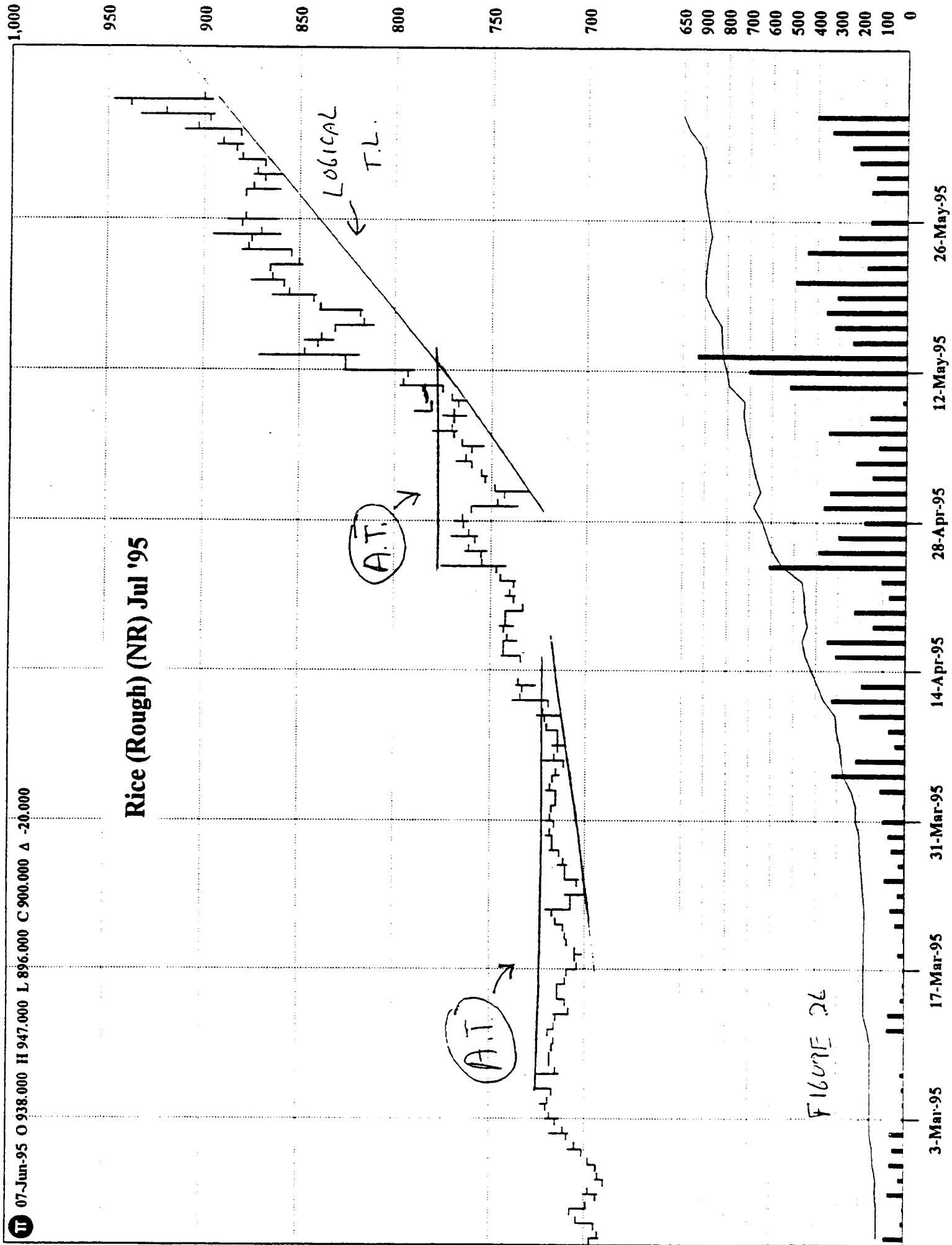


FIGURE 25



07-Jun-95 O 118.220 H 118.980 L 118.150 C 118.350 Δ 0.510

Japanese Yen (JY) Jun '95

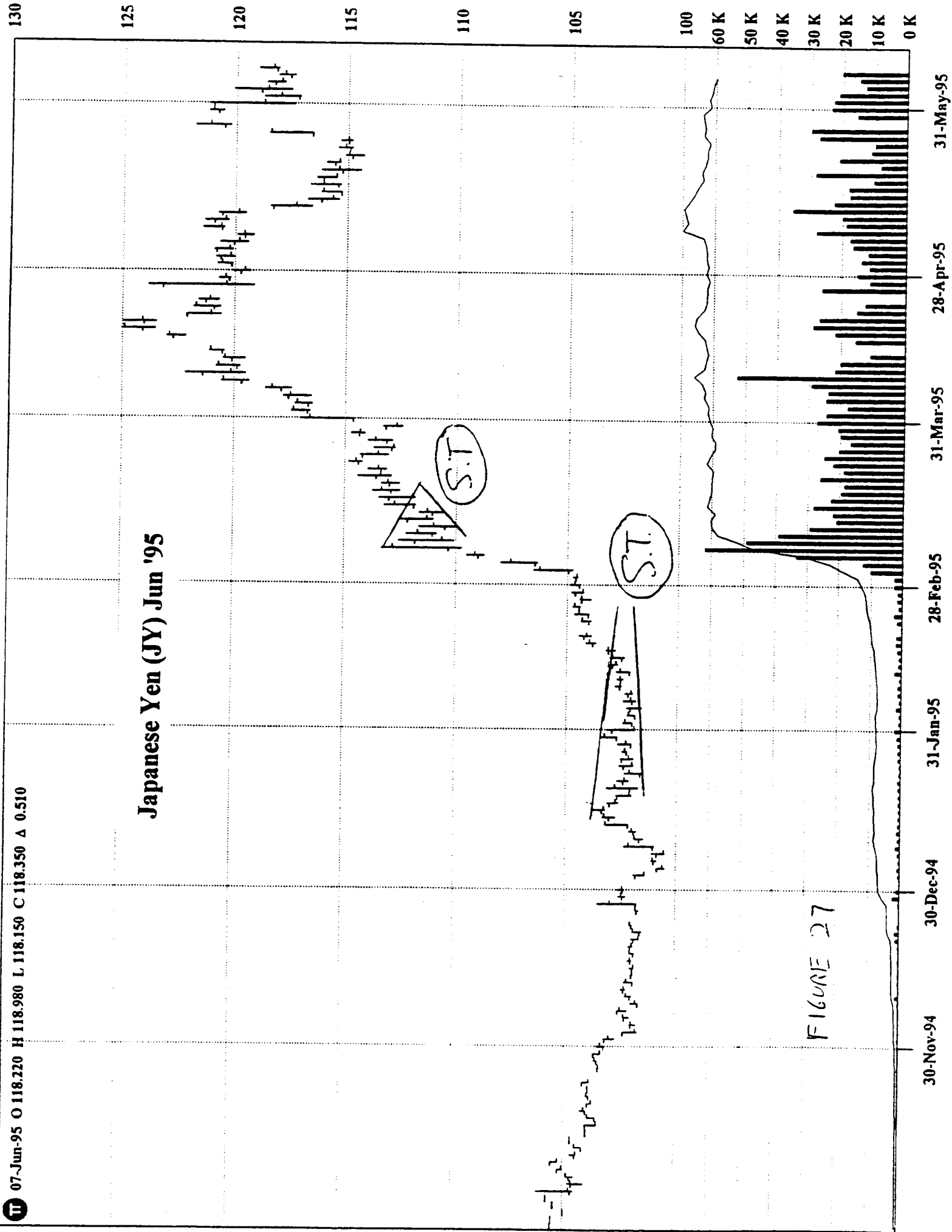
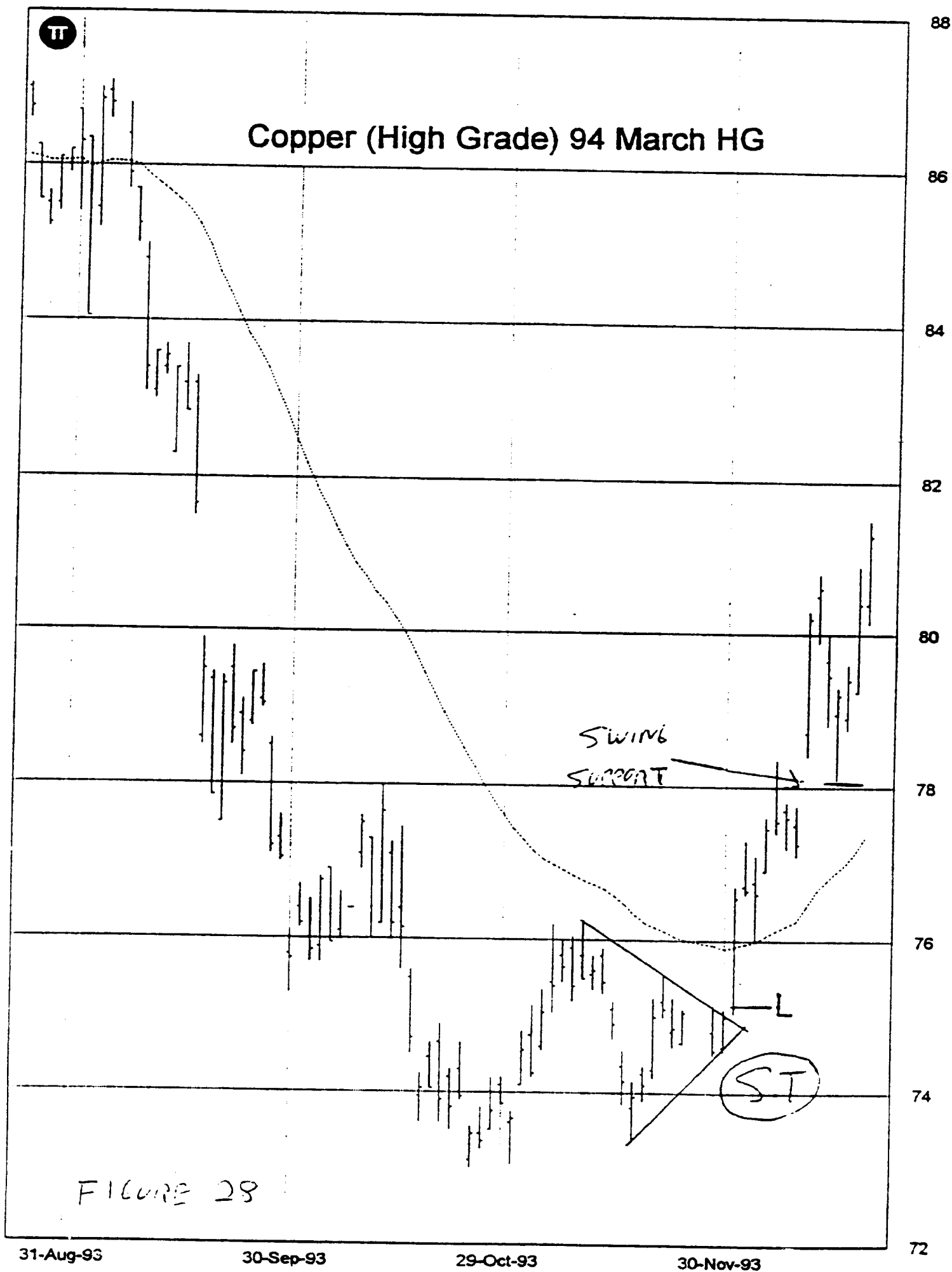


FIGURE 27



Notice how, when this ascending triangle formed, the market was still in a low volatility stage. It is less risky to enter market during that stage.

OCT. '90 - CRUDE OIL

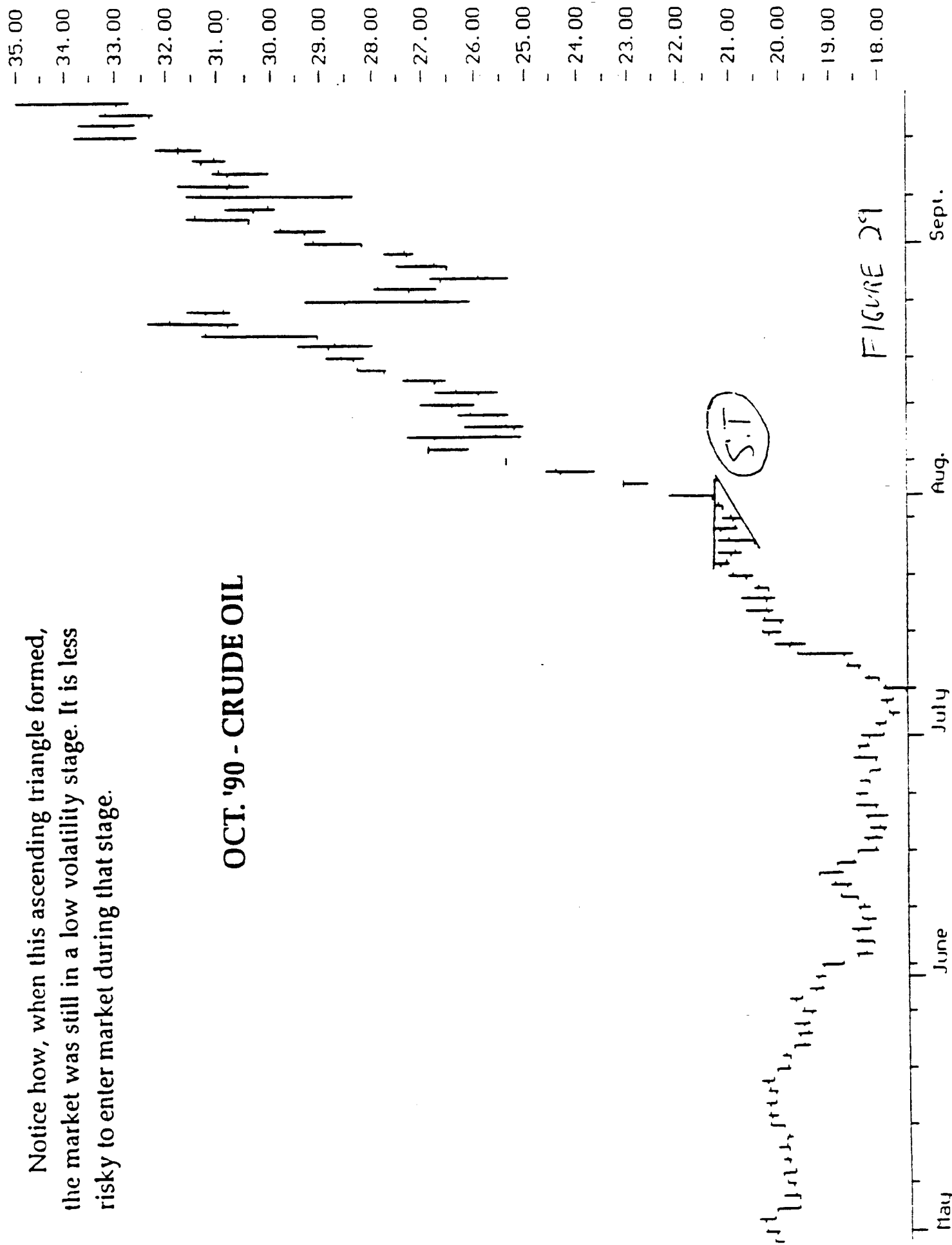


FIGURE 29

How well did you do identifying these two patterns?
 Don't be too concerned if you didn't find them. I
 purposely selected a difficult example to prepare you
 for the real world. The more you practice, the more
 easily you will spot the patterns.

DEC. '91 - GERMAN MARK

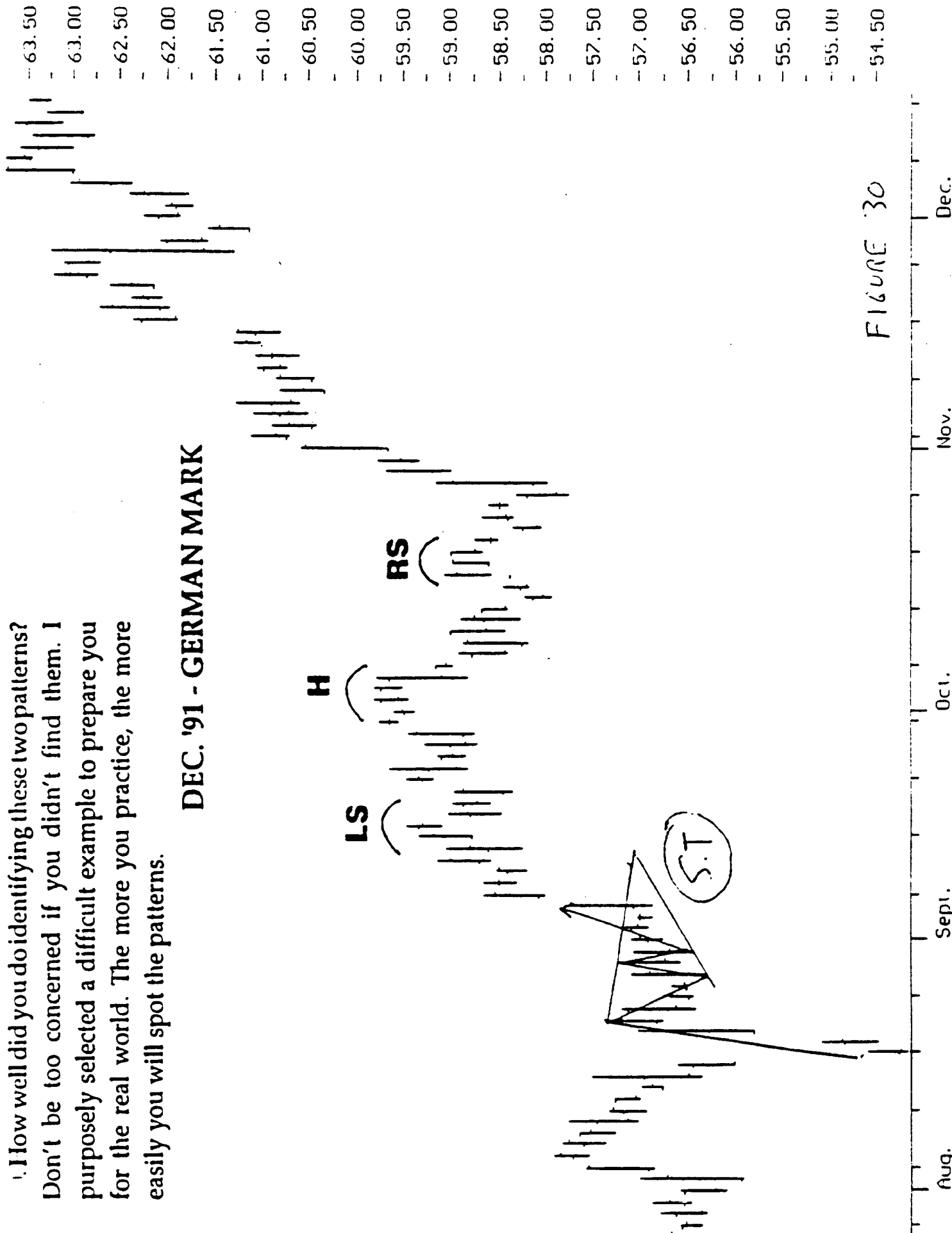


FIGURE 30

Another example of the power of the head-and-shoulders continuation pattern. Unfortunately, this powerful pattern is found rarely. However, when you recognize one you have good reason to be excited.

DEC. '93 - COCOA

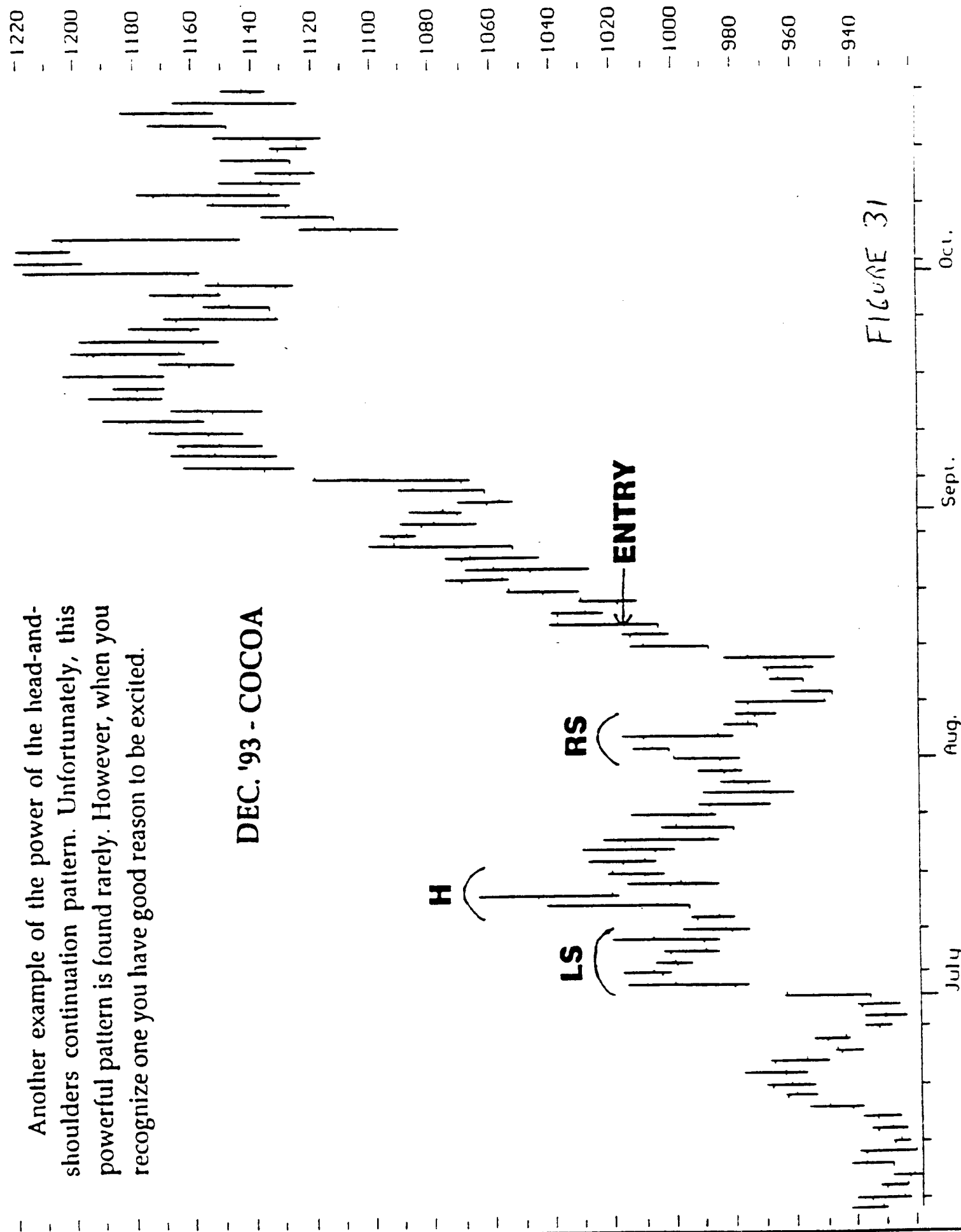
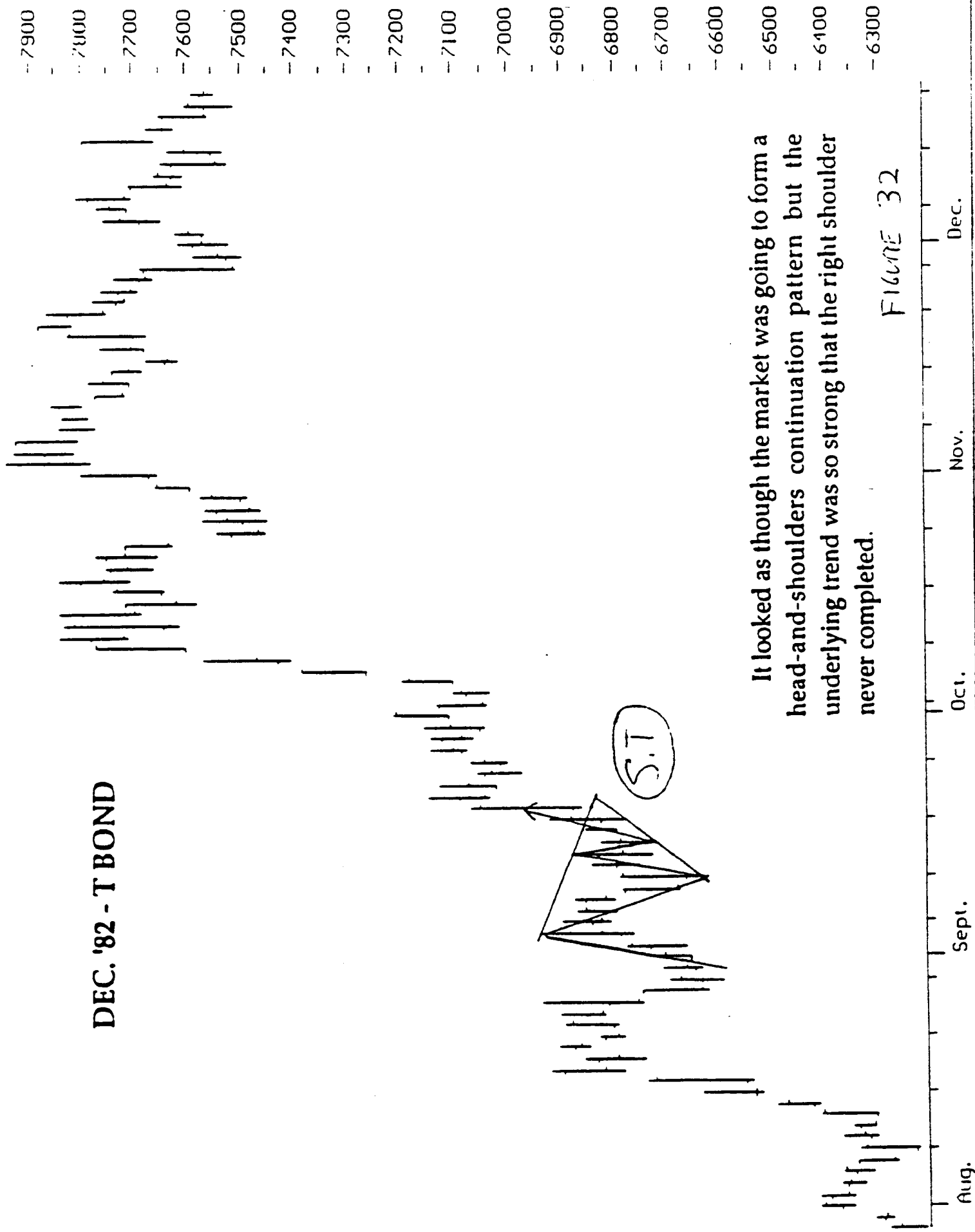


FIGURE 31

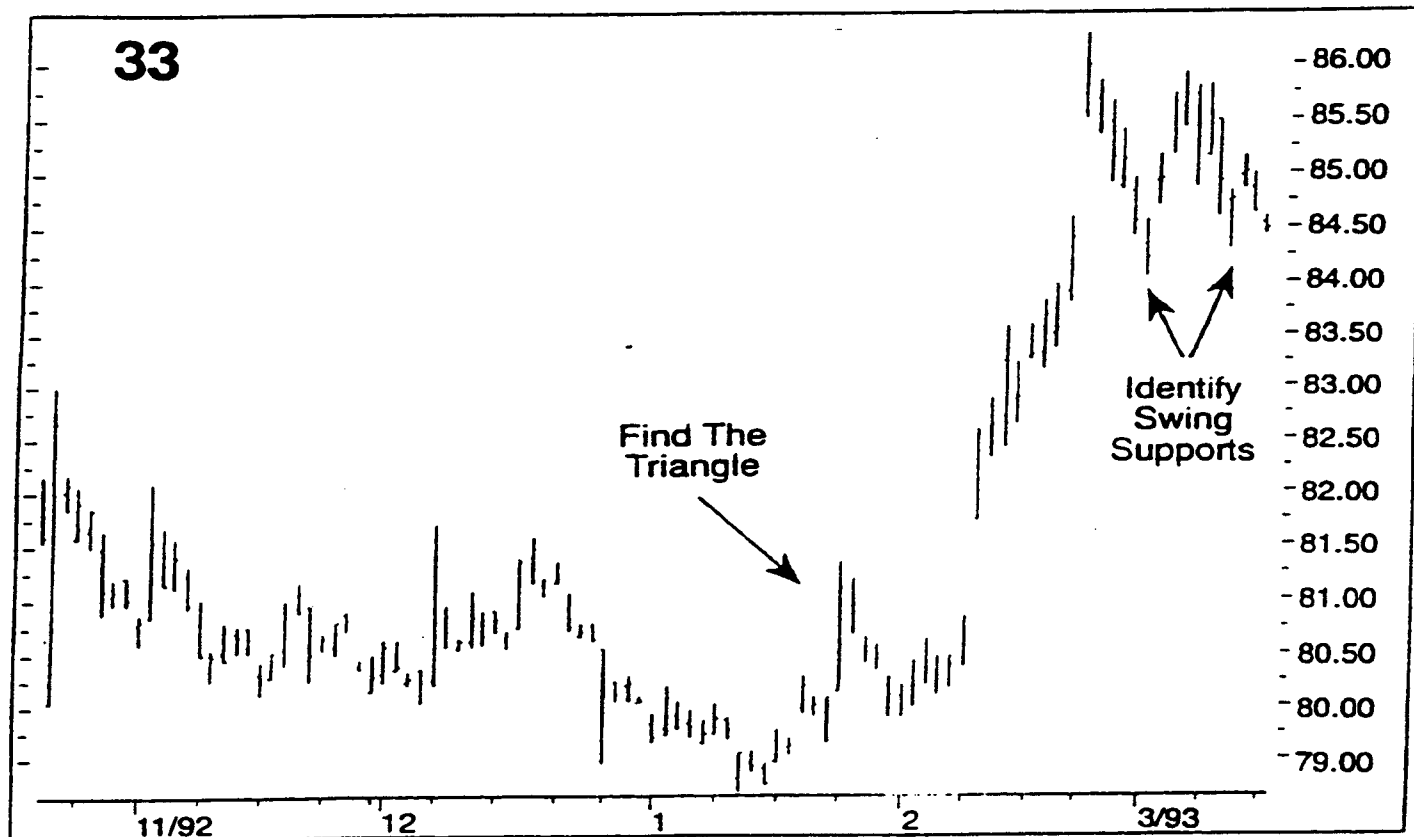
DEC. '82 - T BOND



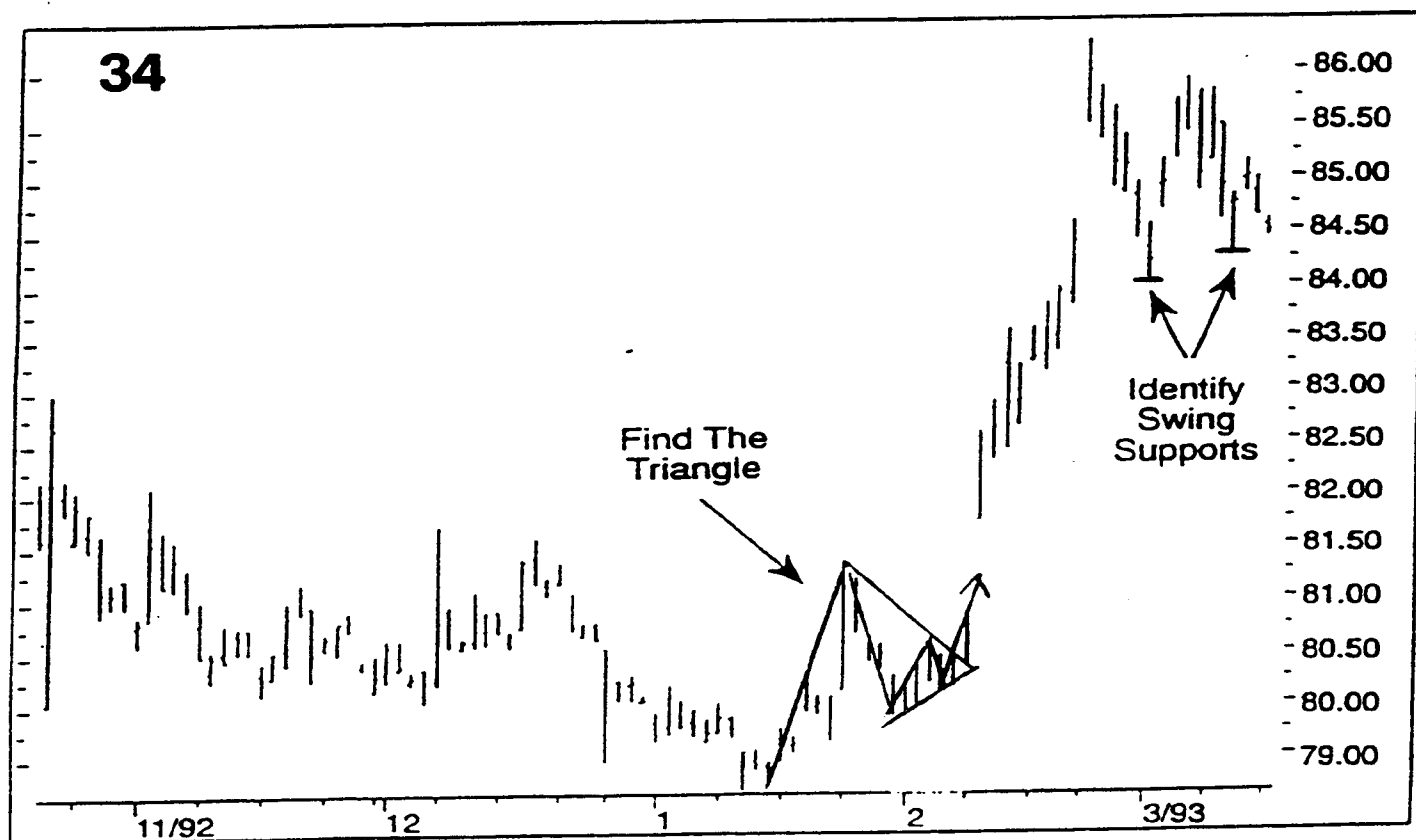
It looked as though the market was going to form a head-and-shoulders continuation pattern but the underlying trend was so strong that the right shoulder never completed.

FIGURE 32

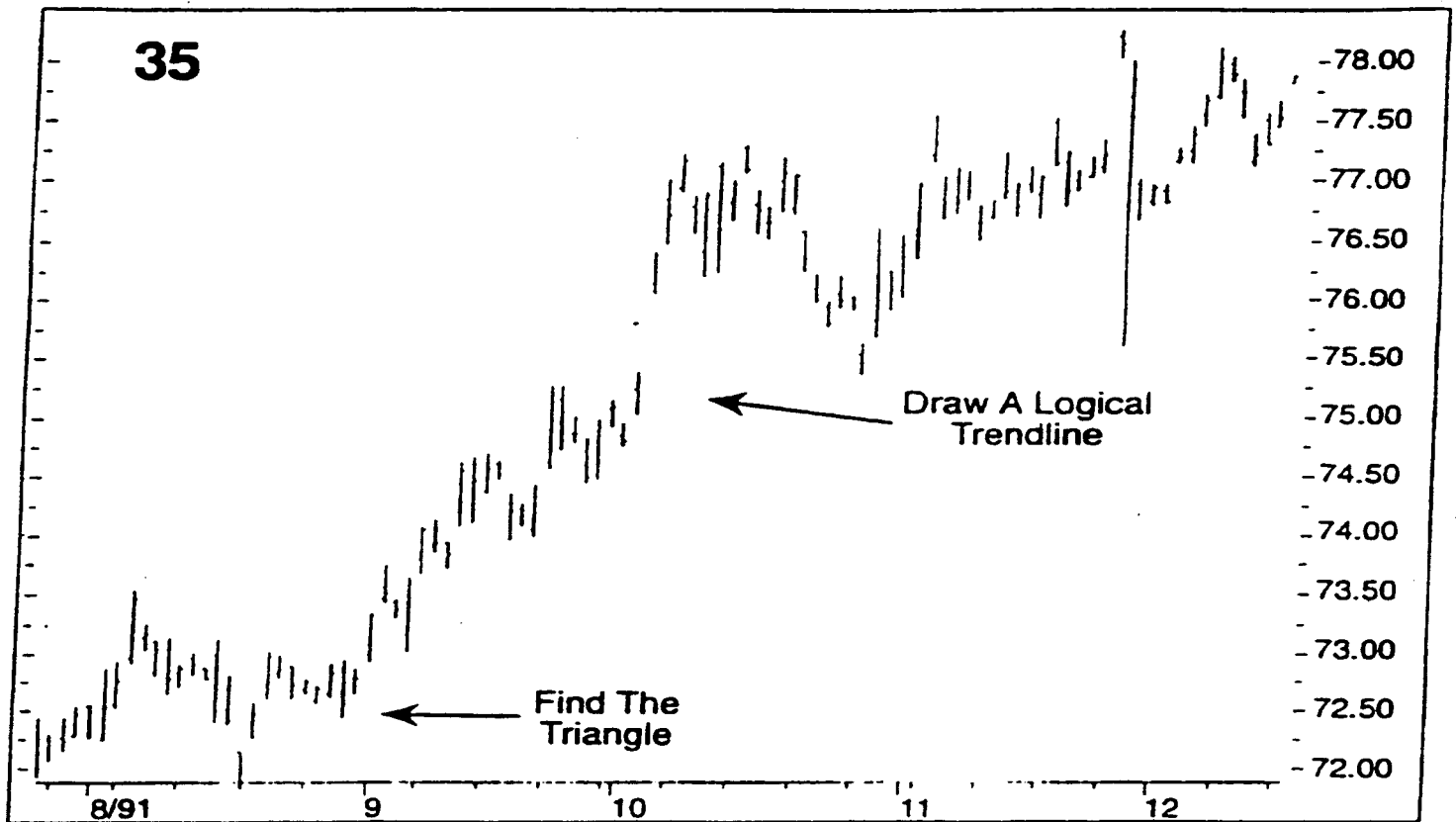
March 1993—Japanese Yen



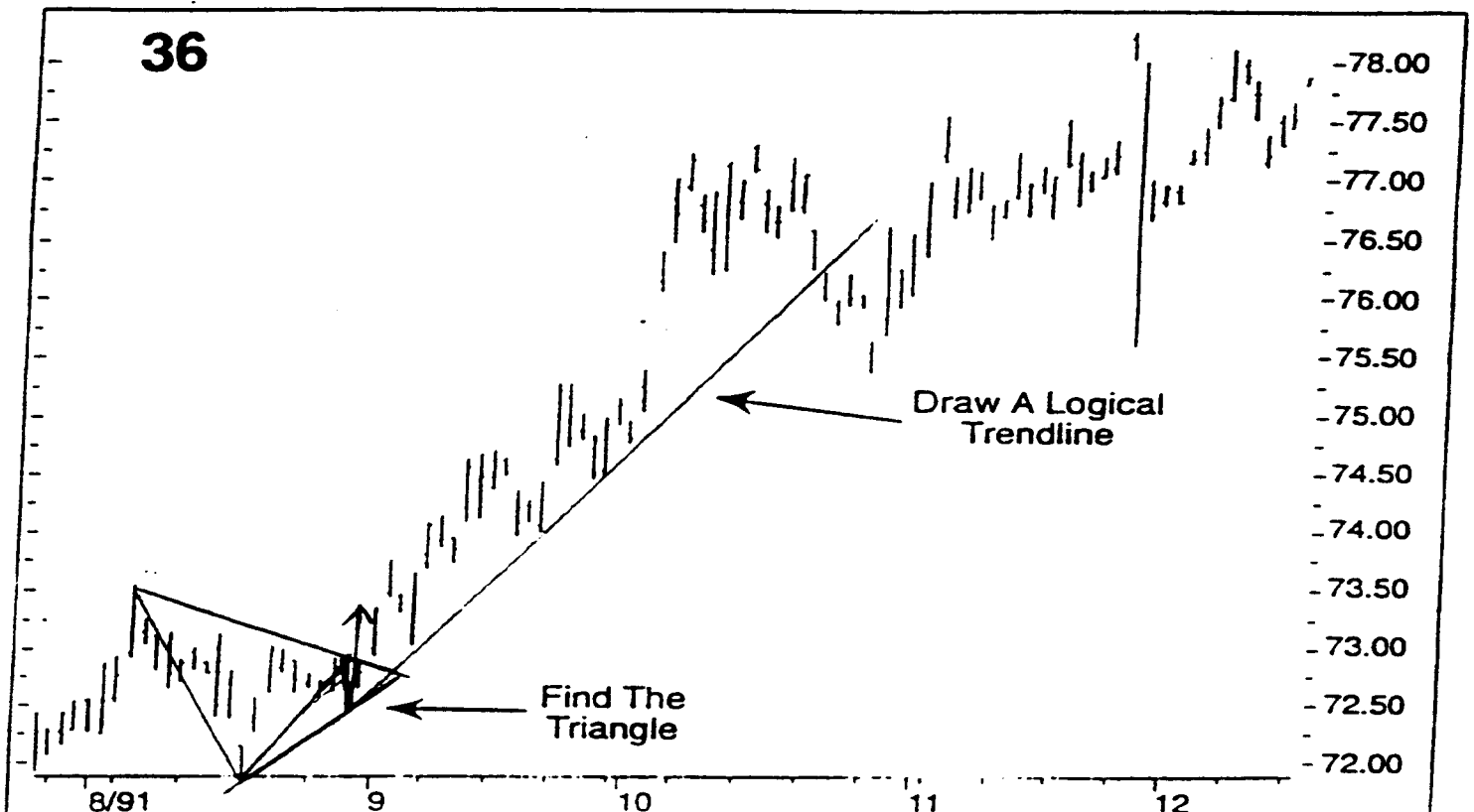
March 1993—Japanese Yen



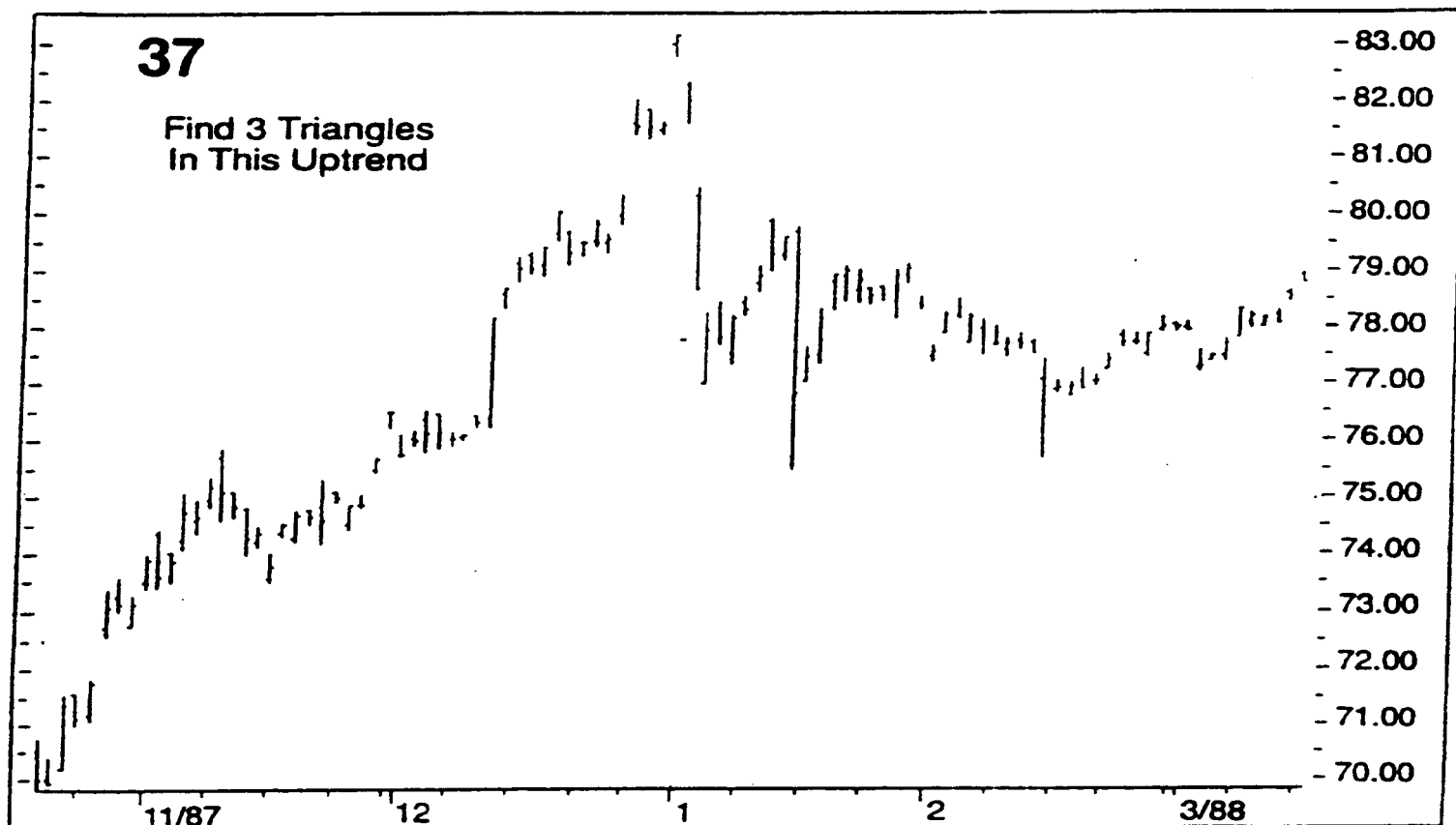
December 1991—Japanese Yen



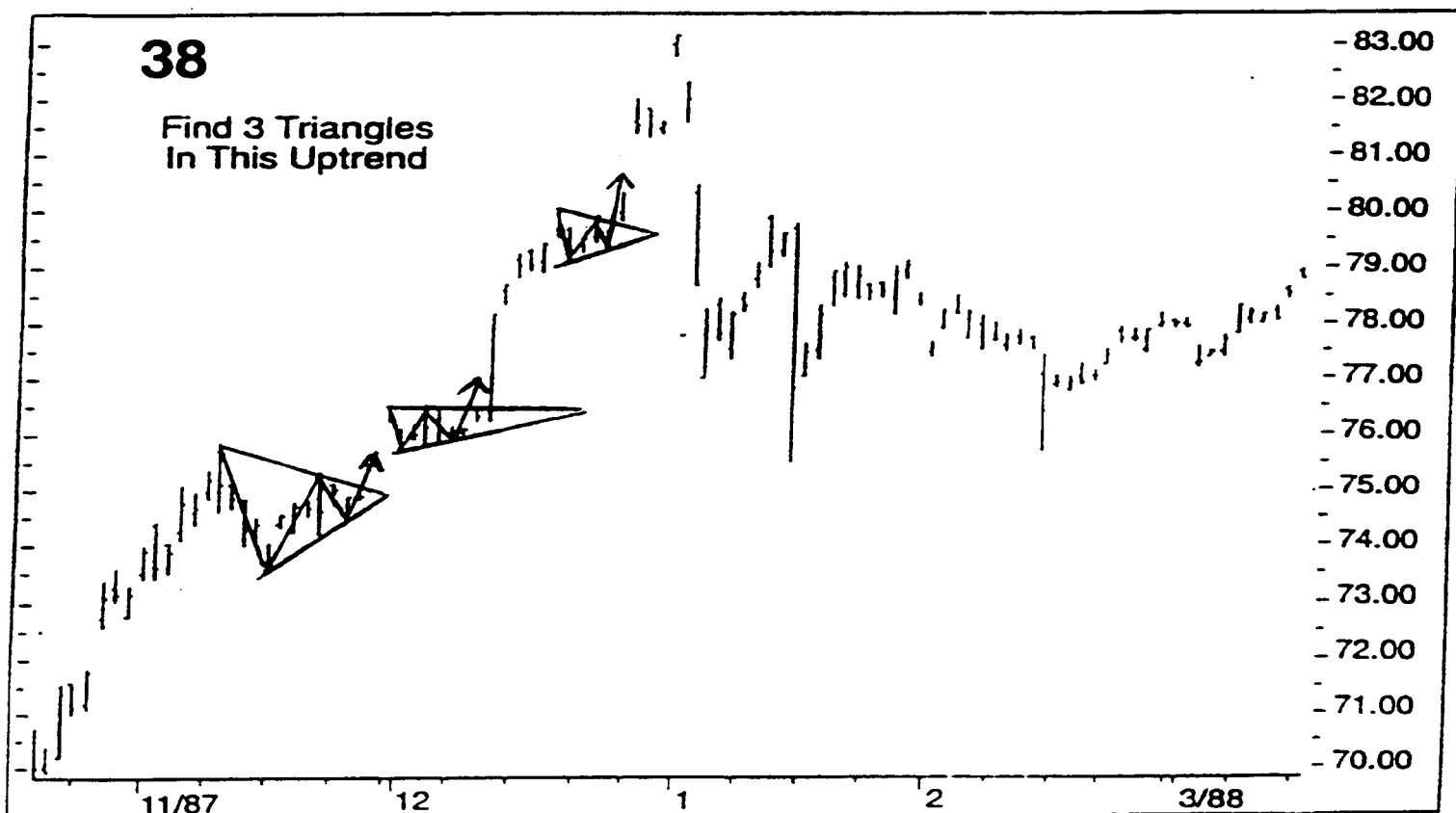
December 1991—Japanese Yen



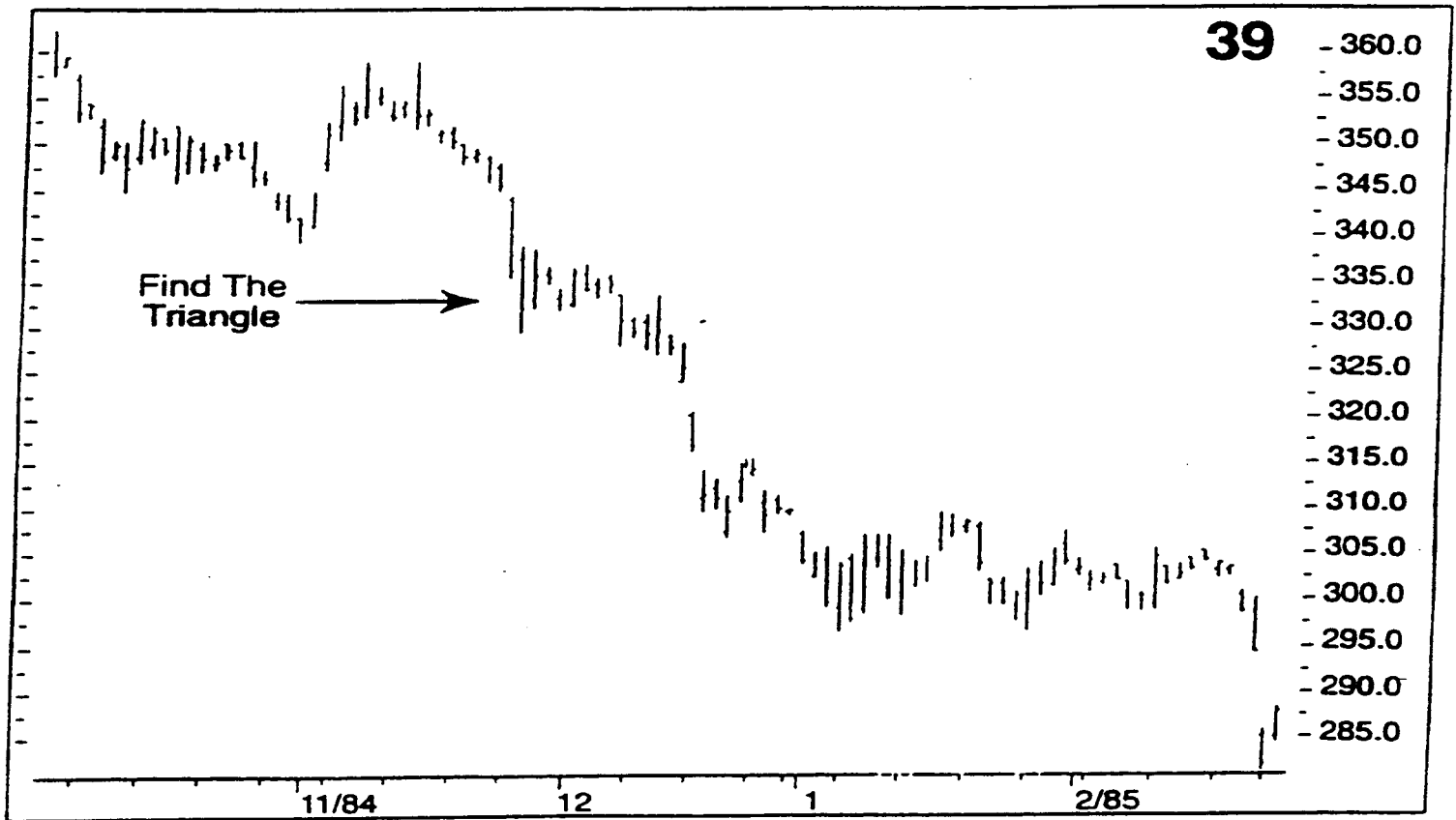
March 1988—Japanese Yen



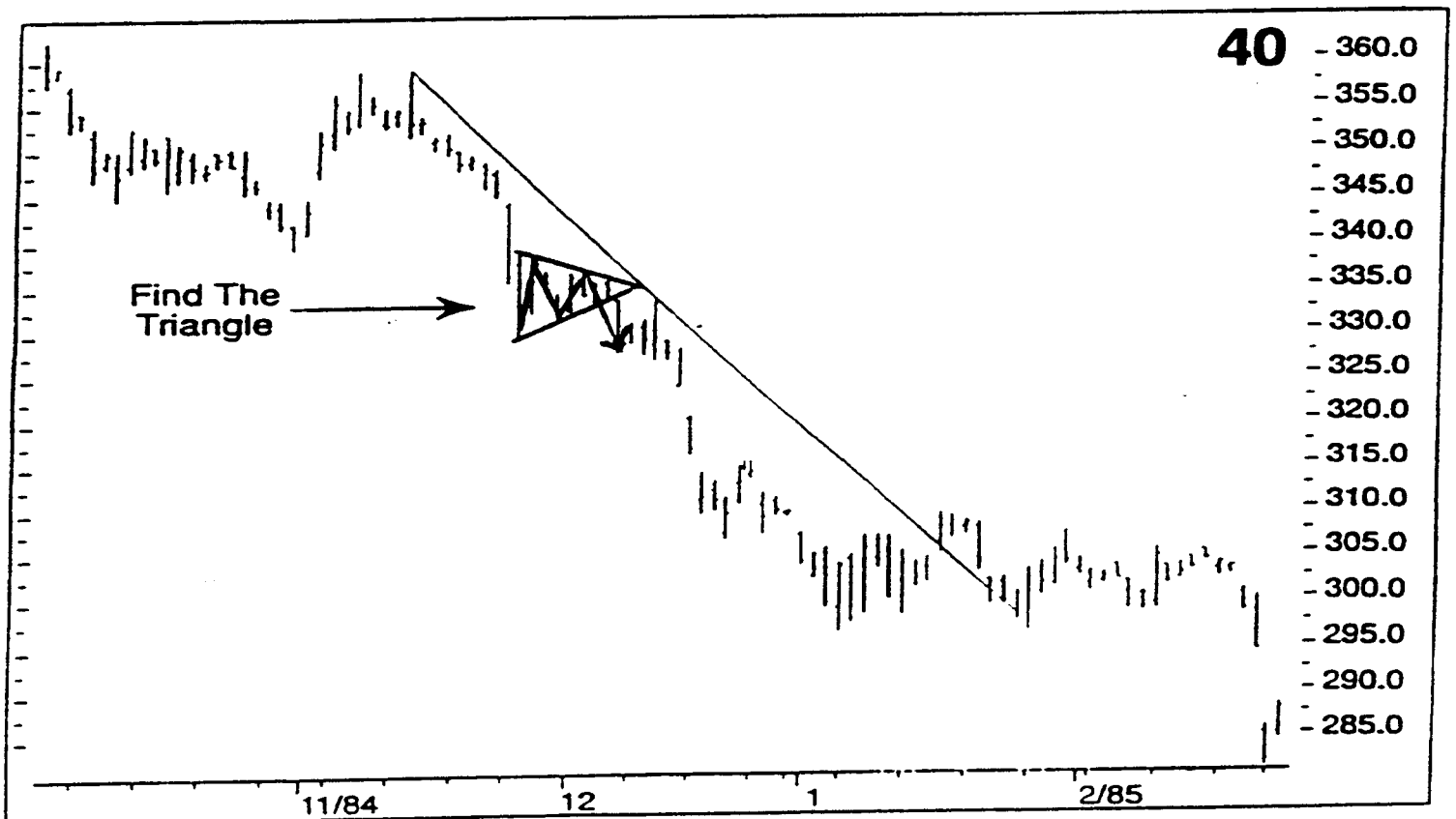
March 1988—Japanese Yen



February 1985—Gold (Comex)

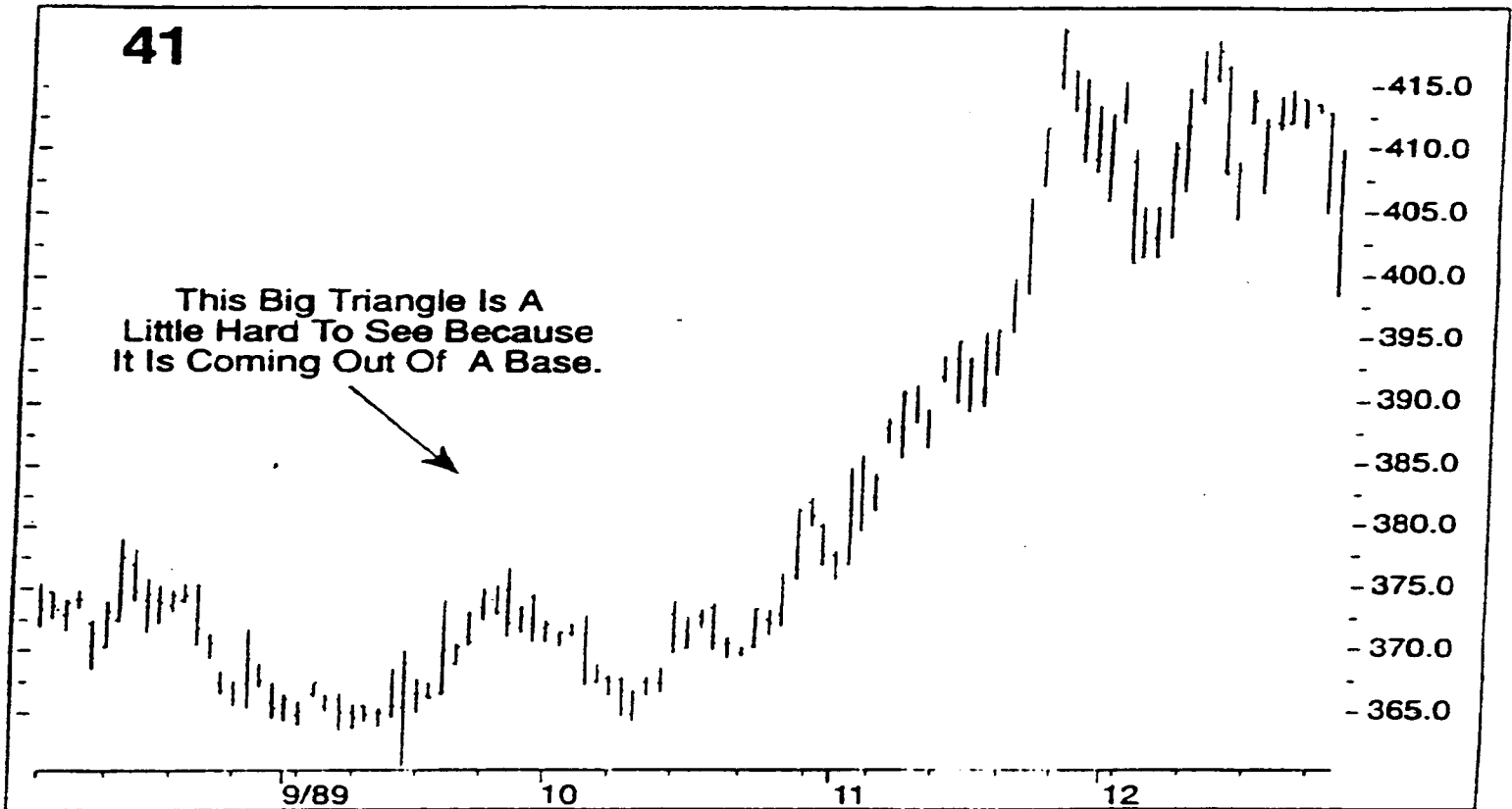


February 1985—Gold (Comex)



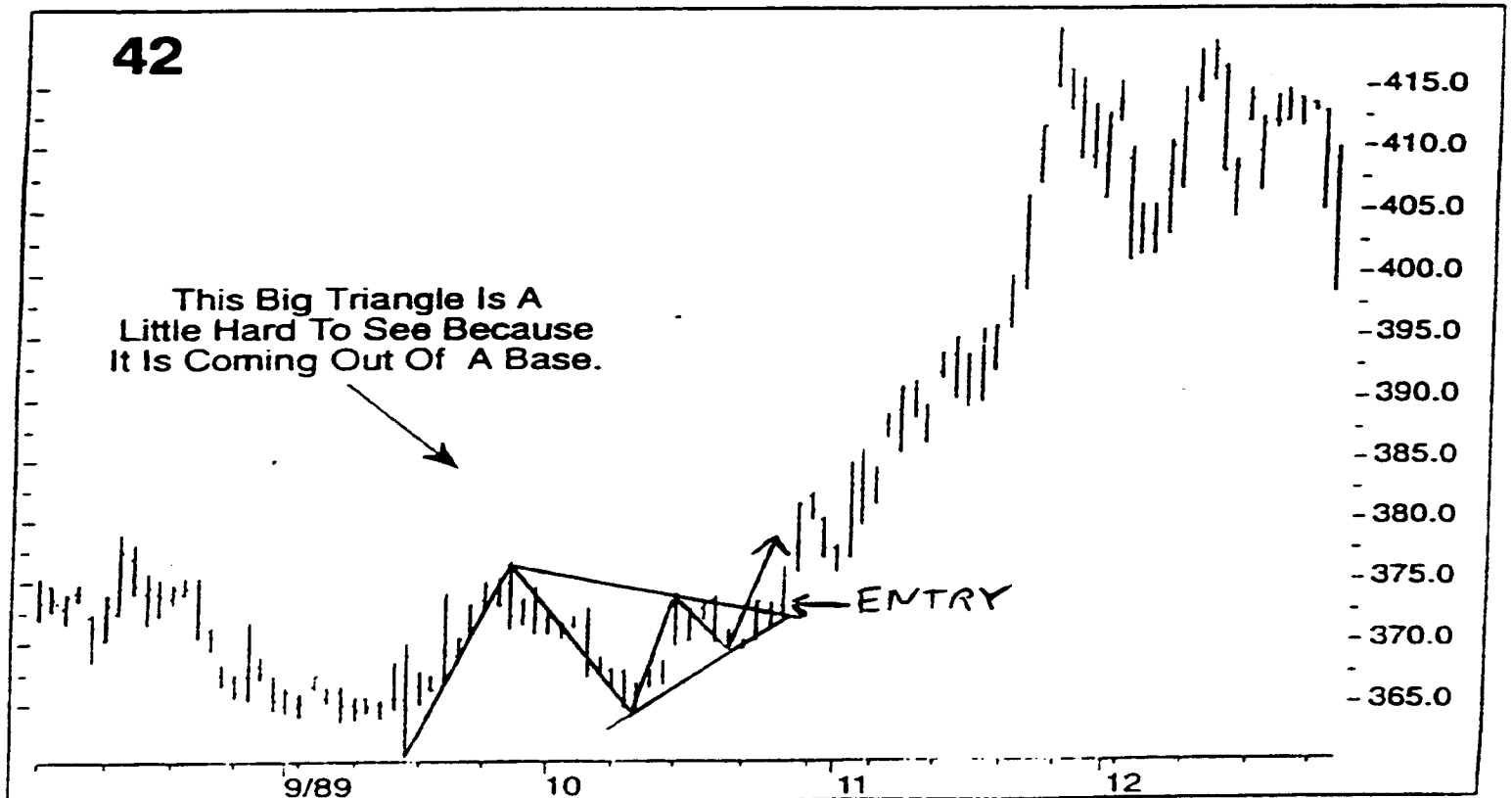
December 1989—Gold (Comex)

41

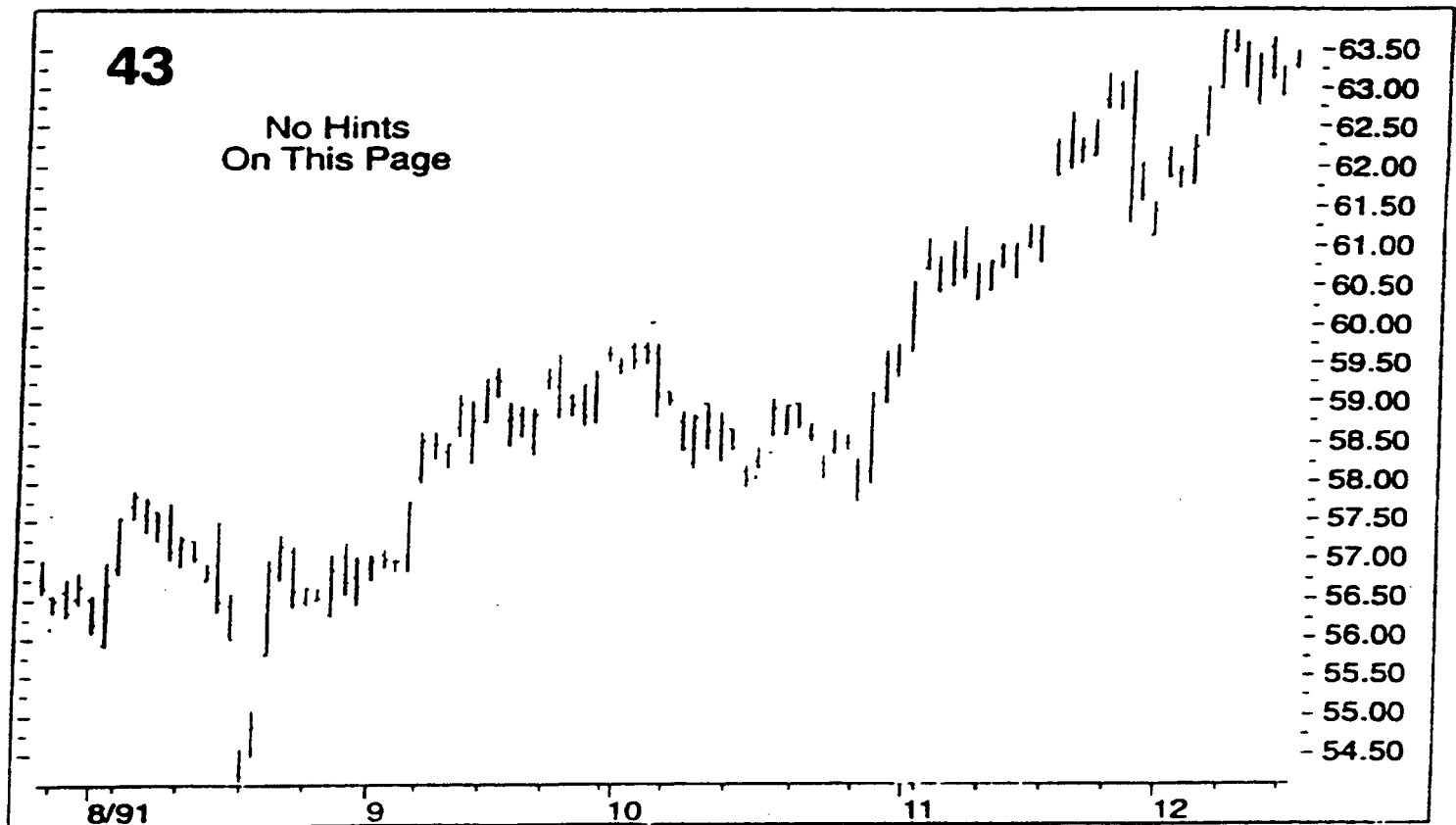


December 1989—Gold (Comex)

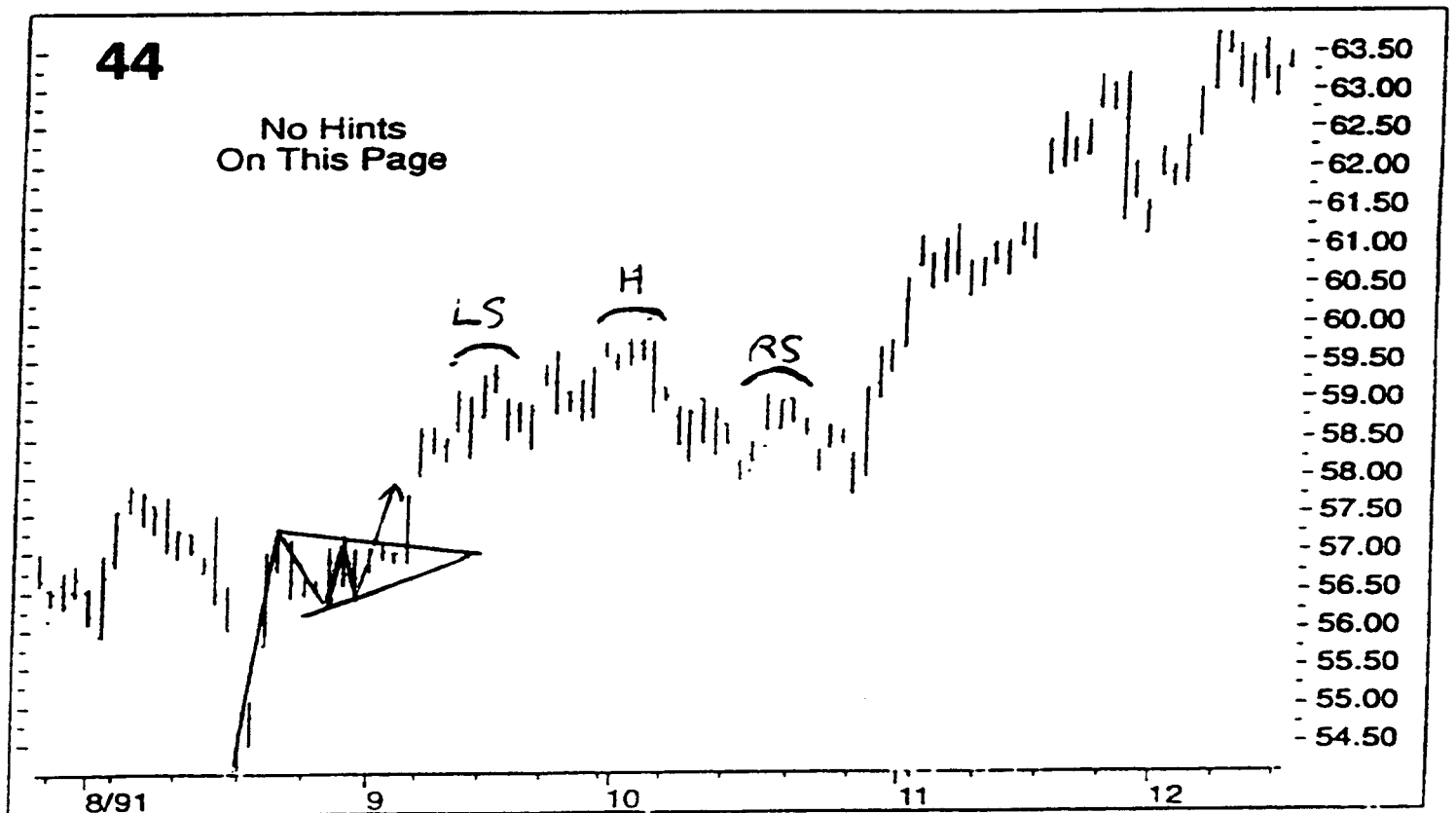
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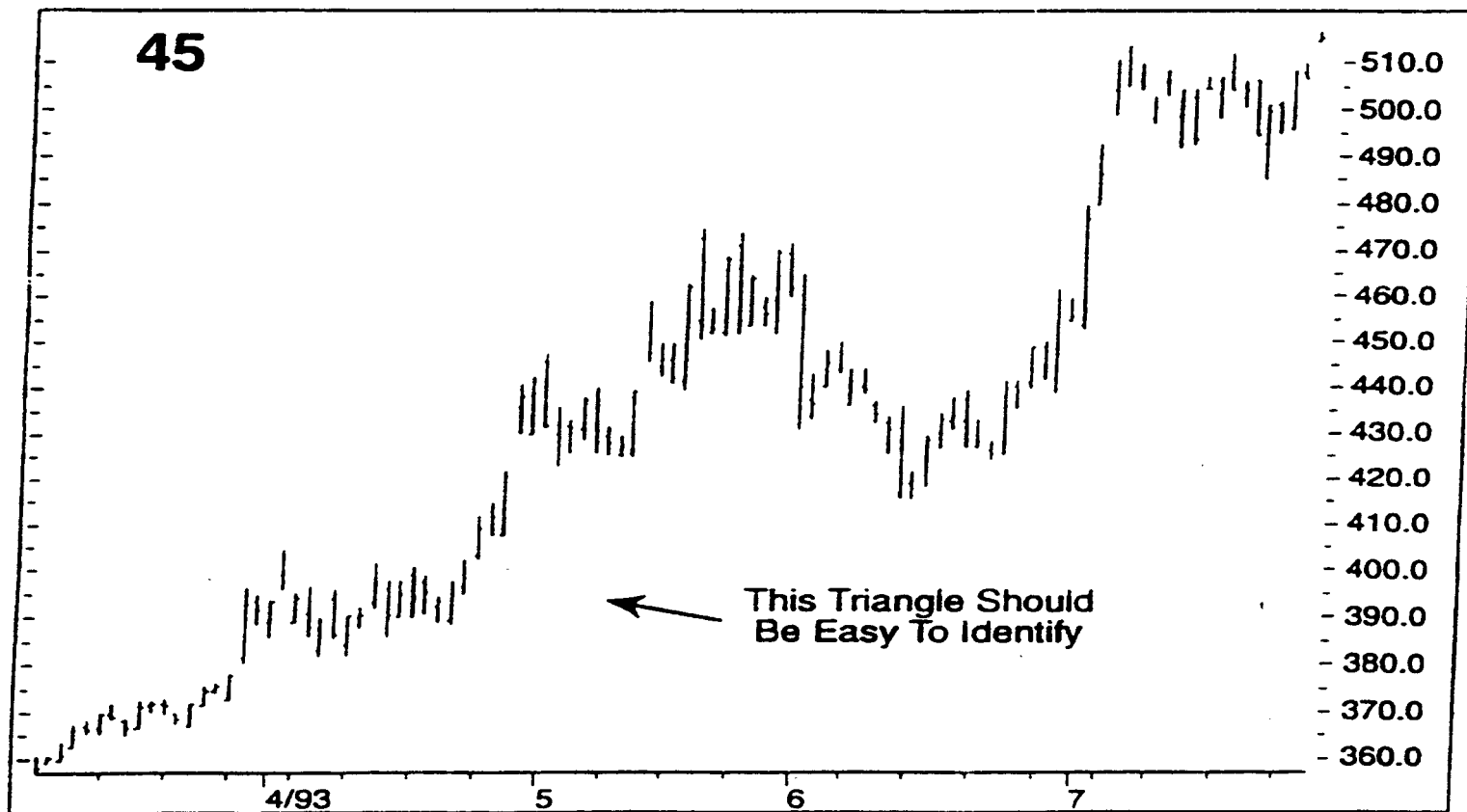
December 1991—German Mark



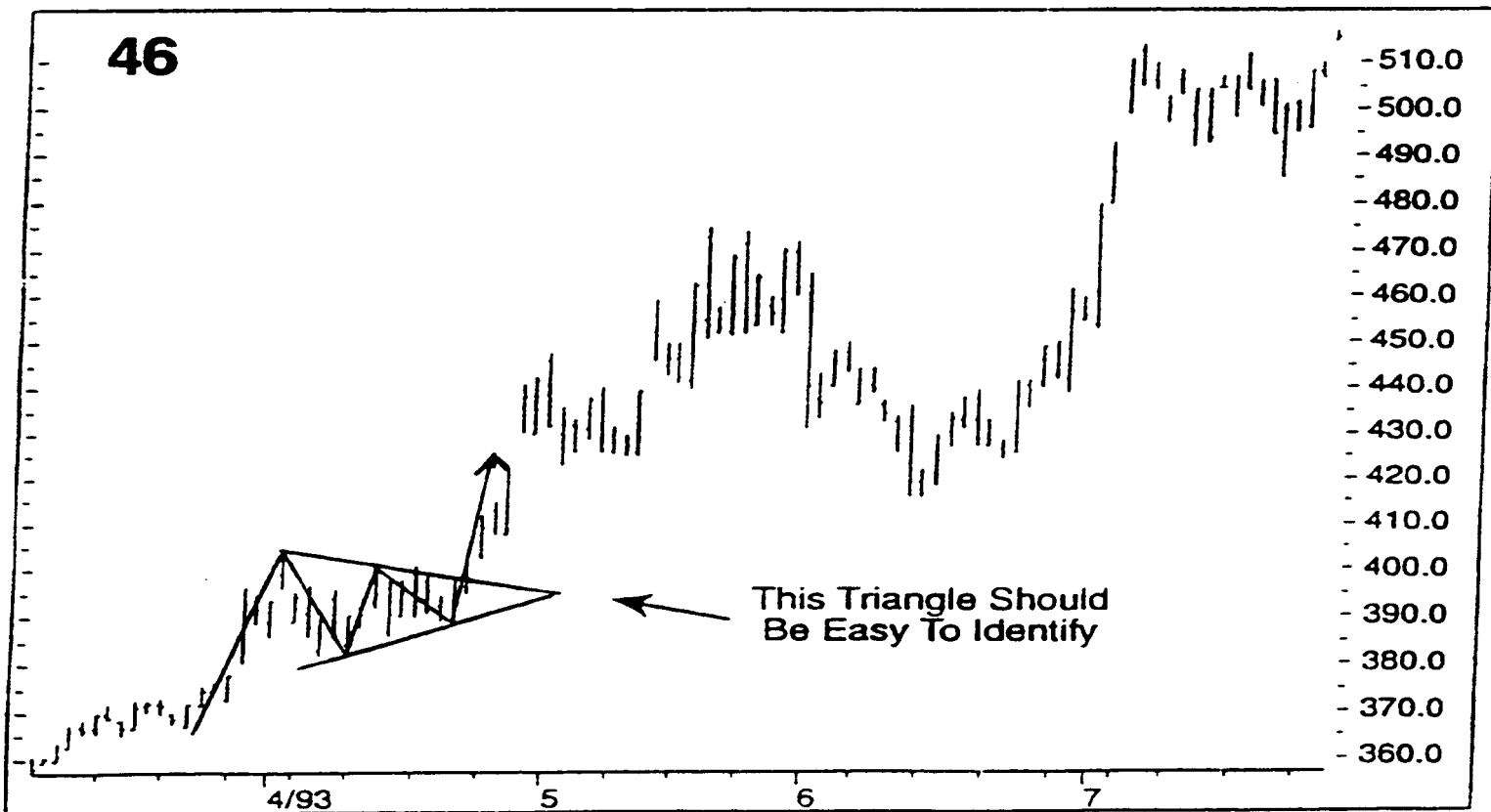
December 1991—German Mark



July 1993—Silver (Comex)



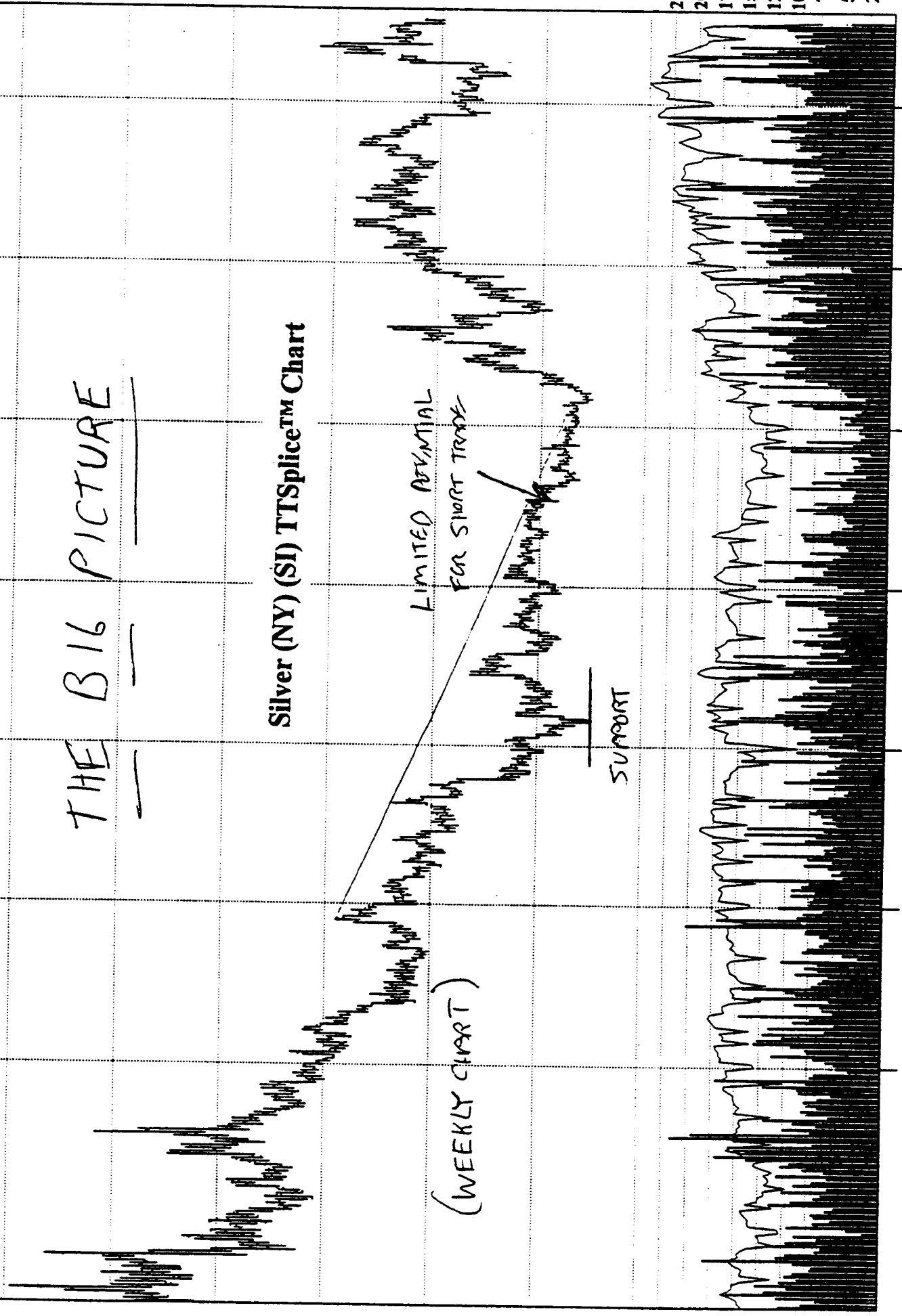
July 1993—Silver (Comex)



47

THE BIG PICTURE

Silver (NY) (SI) TTSplice™ Chart



30-Dec-88

29-Dec-89

28-Dec-90

27-Dec-91

25-Dec-92

31-Dec-93

30-Dec-94

800

750

700

650

600

550

500

2,000 K

1,750 K

1,500 K

1,250 K

1,000 K

750 K

500 K

250 K

0 K

48

Soybeans (S) TTSplice™ Chart

03-Jul-95 O 581.500 H 623.000 L 581.500 C 606.750 Δ 29.250

(WEEKLY CHART)

RESISTANCE

BREAKOUT

LIMITED
POTENTIAL

SUPPORT

LIMITED
POTENTIAL

SUPPORT

SUPPORT

30-Nov-90

31-May-91

29-Nov-91

29-May-92

27-Nov-92

28-May-93

26-Nov-93

27-May-94

25-Nov-94

26-May-95

Internal Market Composition

Who are the players?

Commercials - Traders whose primary business is to deal in the underlying physical commodity that they are trading in the futures markets.

Ex. - Farmers, mining companies, oil companies, etc.

Large speculators - Commodity funds.

Small speculators - Retail accounts.

What are their trading profiles?

Commercials - Sell into rising markets to “hedge” their physical production. Lift hedges in falling markets.

Large speculators - Buy into rising markets, sell into falling markets, i.e. follow trends.

Small speculators - Generally follow large speculators by following trends but will occasionally switch to selling tops or buying bottoms when they feel prices are too high or too low.

How to use Commitment of Trader data to your advantage.

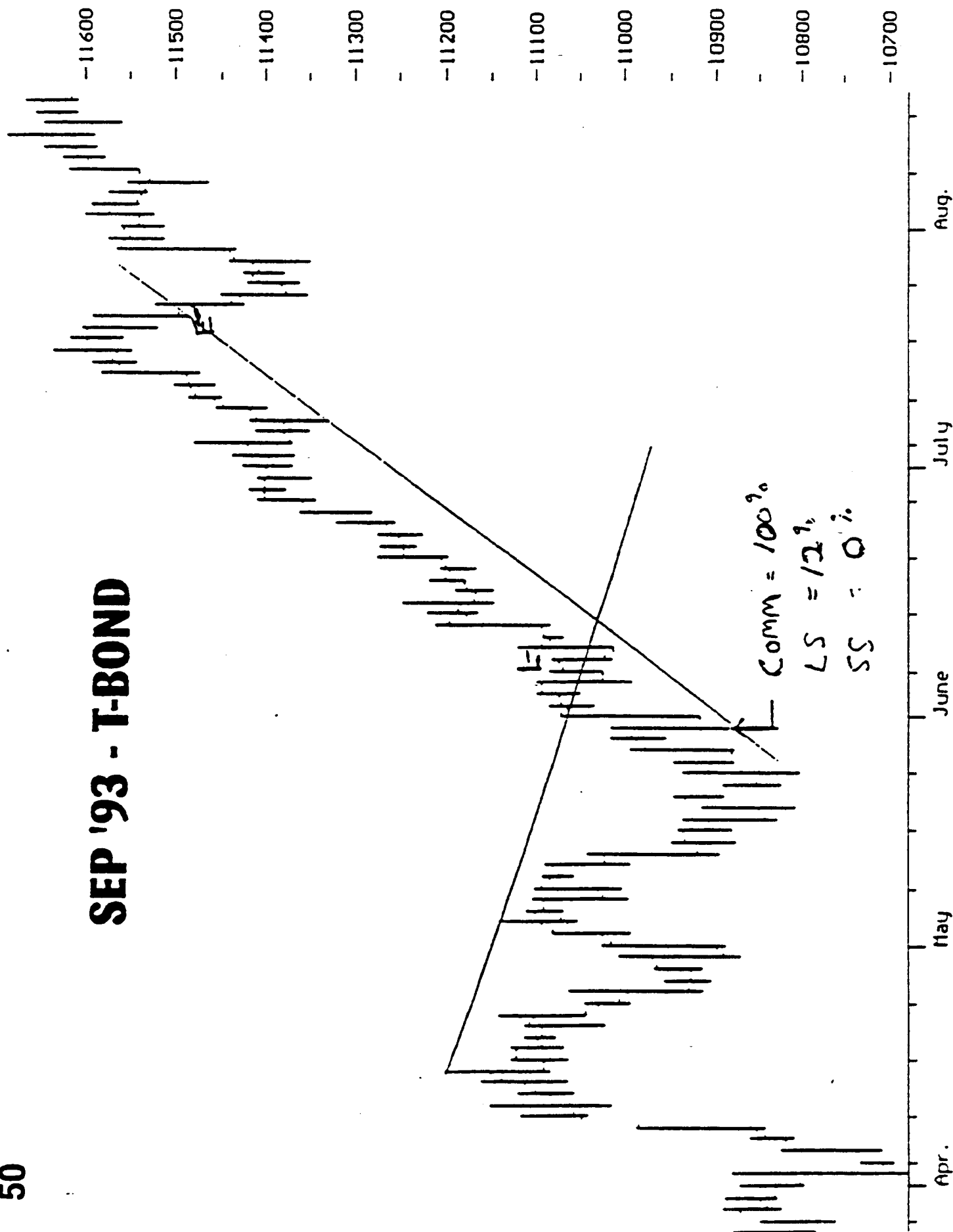
Basic approach - Look for markets where the imbalance between speculators and commercials has reached an extreme. Then, apply a timing indicator to position with the commercials.

PPS approach - Look for abnormal behavior among commercials. For example, if prices are rising yet commercials are buying, this is very bullish. If prices are falling and commercials are selling, it is very bearish. Position with the commercials and the trend.

----- COT Index -----

	Comm		Large Spec		Small Spec	
	7/03	6/27				
Br. Pound	61	60	43	43	43	45
Canadian \$	24	26	70	69	79	78
D-Mark	27	29	70	72	68	59
Japanese Yen	53	46	47	54	38	43
Swiss Franc	57	57	42	43	44	43
Euros	23	17	90	93	64	72
Muni Bond	78	81	35	32	18	17
T-Bill	59	56	36	36	47	53
T-Note	77	57	25	40	42	57
T-Bonds	43	44	72	69	24	27
Gold	68	48	39	60	28	43
Copper	27	29	80	75	42	47
Palladium	95	97	9	3	28	38
Platinum	63	54	46	53	18	32
Silver	92	77	21	32	0	10
→ Cocoa	100	92	0	6	23	29
Cotton	47	47	53	54	44	46
OJ	85	87	33	36	9	0
→ Coffee	100	100	1	3	0	0
Lumber	8	19	100	84	59	61
Sugar	56	55	40	42	47	50
Corn	29	26	68	71	23	24
KC Wheat	20	25	83	100	69	44
Oats	71	69	62	57	14	20
→ Chi Wheat	0	2	95	100	37	20
Bean Oil	38	24	62	82	52	57
Soybeans	60	59	52	54	26	27
Meal	43	42	49	54	74	68
Crude Oil	87	82	16	16	21	34
→ Heating Oil	100	100	6	6	32	33
UL Gasoline	76	75	28	26	17	21

SEP '93 - T-BOND



First Notice Days and Option Expirations

First Notice Day - On or prior to this date, if you are long the nearby futures contract, you must either roll forward your position to a deferred contract month or exit your position. The effect of many small speculators exiting long positions creates artificial selling pressure.

PPS approach - If FND is near, do not take PPS long signals. Wait until FND has passed. Do, however, take PPS short signals prior to FND as percentage of success increases as a result of artificial selling pressure.

Partial Table of the Effect of FND on PPS Signals

Longs

Market	FND Trades - % Prof.	Others - % Prof.
Corn	13%	36%
Wheat	0%	40%
T-bonds	25%	39%

Shorts

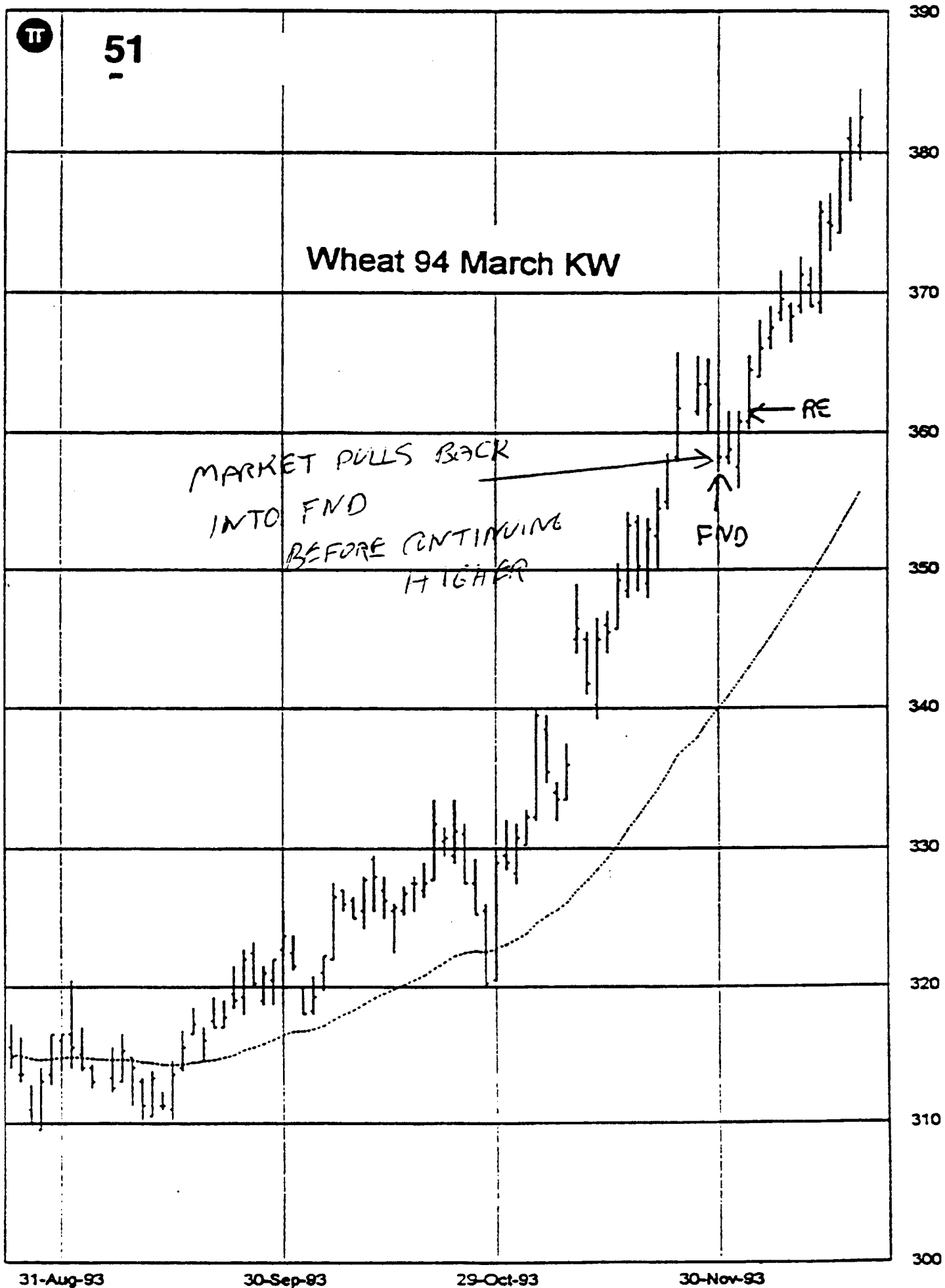
Soybeans	43%	17%
Corn	44%	33%
Wheat	50%	39%

Option Expirations - Creates artificial selling pressure, especially in bull markets, as floor brokers liquidate long futures contracts which were originally purchased to hedge the sale of out-of-the-money call options.

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51

Wheat 94 March KW



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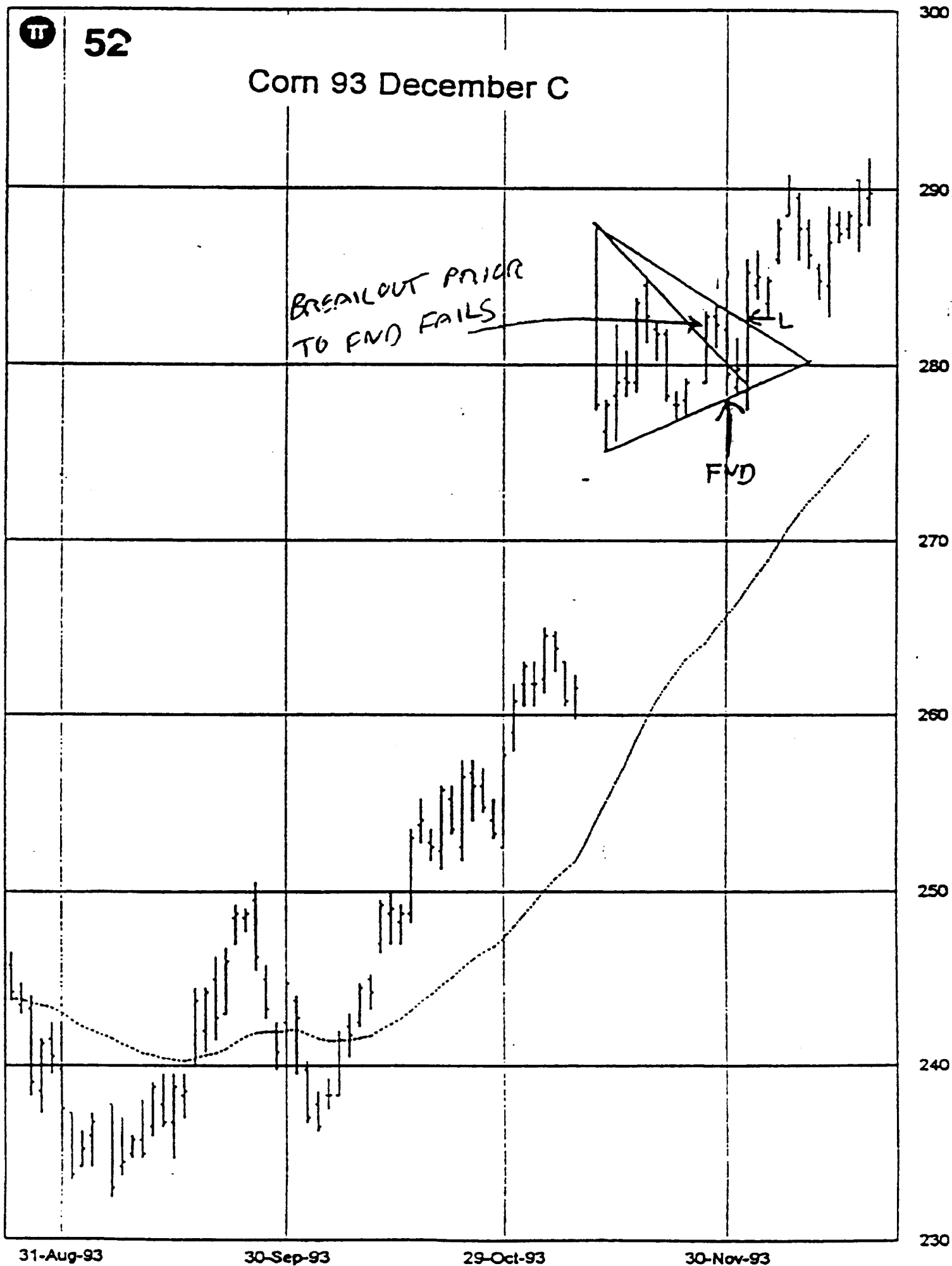
52

Corn 93 December C

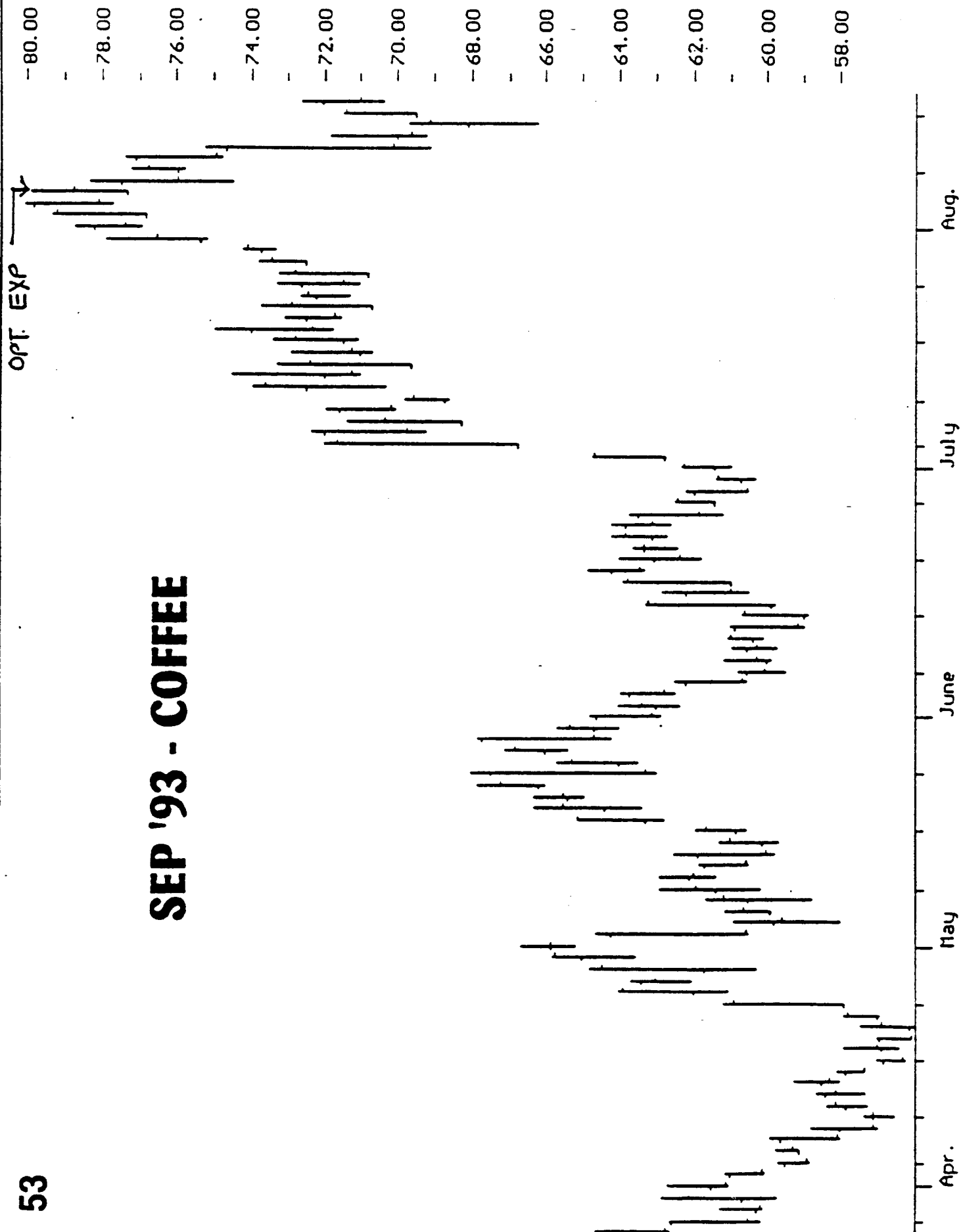
BREAKOUT PRIOR
TO FND FAILS

FND

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SEP '93 - COFFEE



Basis and Spread Relationships

Basis - The difference between the cash price of the commodity and the price in the futures market.

Contango - A market where the futures price is higher than the cash or “spot” price.

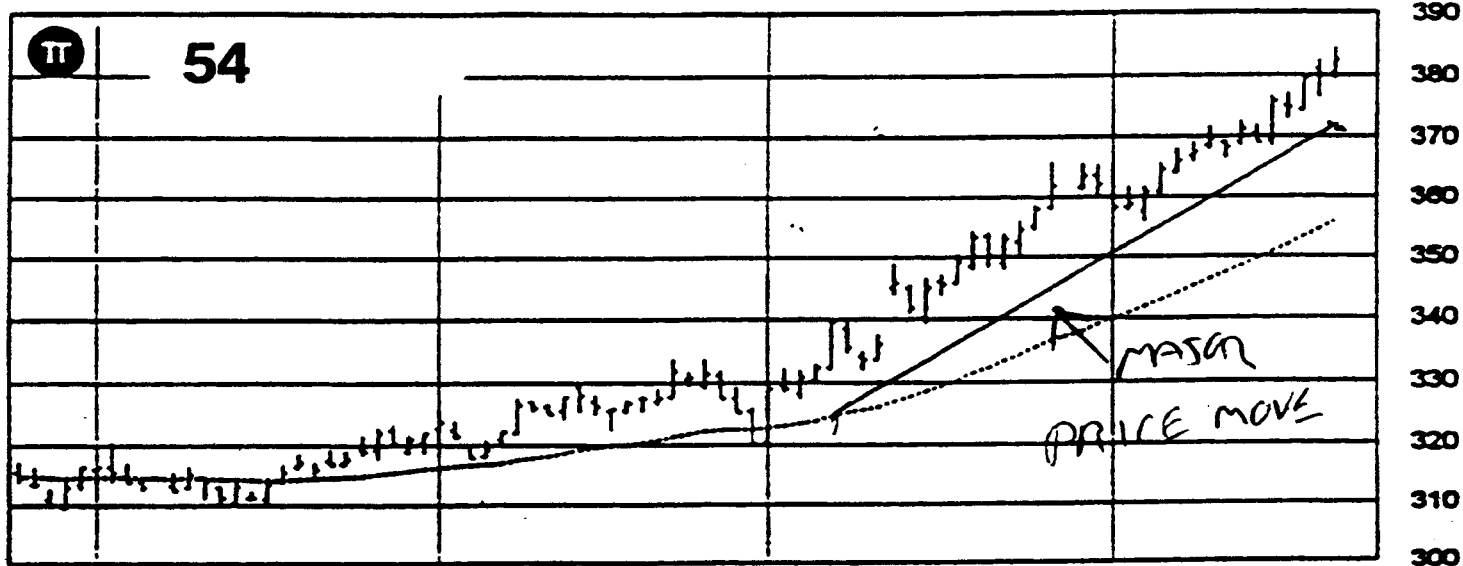
Backwardation - A market is in backwardation when the cash commodity is priced higher than future months.

Basic theory - Physical, storable commodities cost money to store. These markets, known as “cost of carry” markets, normally exhibit a price structure whereby future contract months are priced higher than both nearby months and the cash contract. When this relationship inverts - i.e. the market exhibits backwardation, it is generally the result of unusual demand for the product, often related to an actual shortage. I term this “true demand” as opposed to “speculative demand” whereby prices trend higher but within their contango framework.

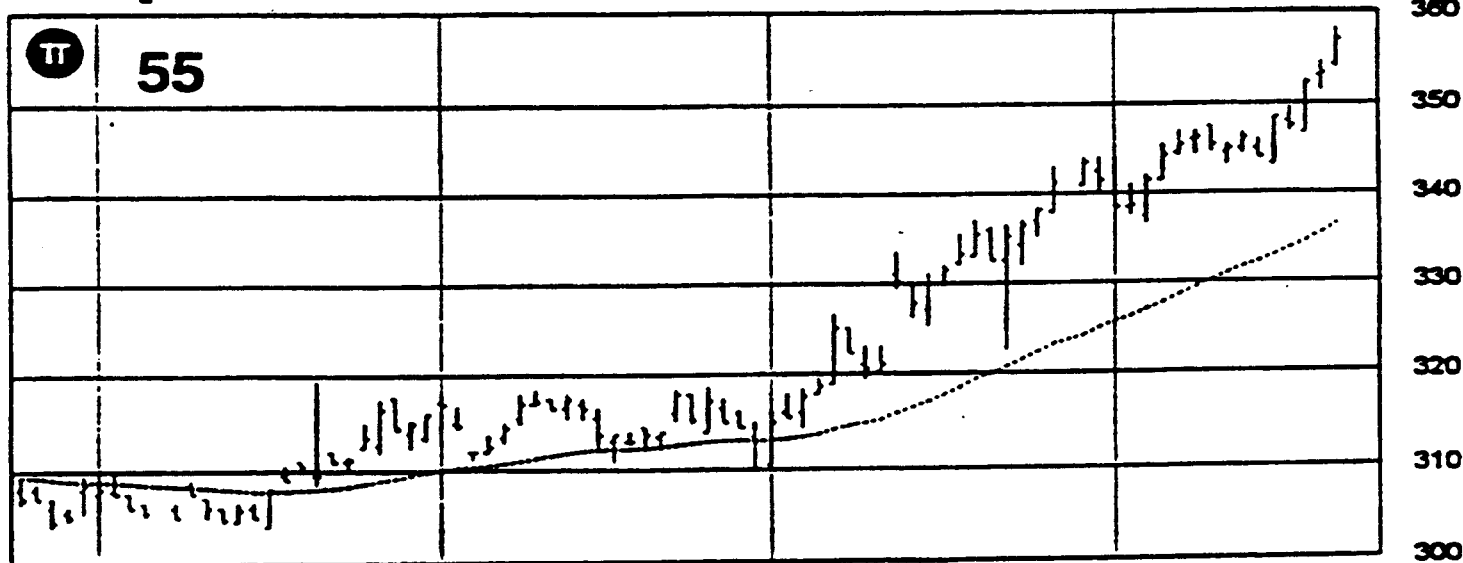
Spreads - Because basis relationships change daily as time closes in on the nearby futures contract (at which time, theoretically, both the cash price and futures price will be equal), it is easier to spot and monitor backwardation by simply watching the nearby futures contract relative to a deferred contract. These relationships, for example March/May, March/July, etc., remain fixed in time. Thus, any positive movement in the spread is a direct result of “true demand”.

PPS approach - Major bull moves are often telegraphed in advance by spread relationships, specifically when the nearby futures contract makes sharp gains on the deferred contracts. Trade the long side aggressively when backwardation is present.

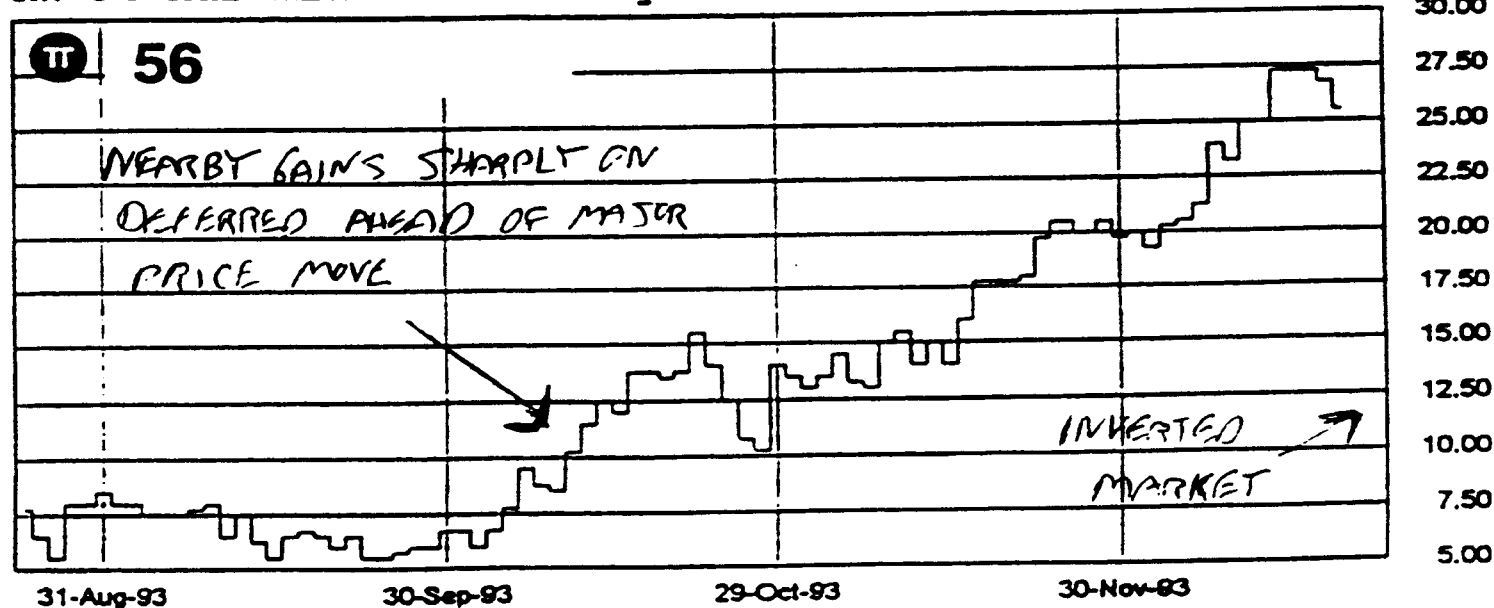
Wheat 94 March KW



94 May



KW 94 Mar minus KW 94 May



SUMMARY

1. Success will remain elusive until you adopt a systematic approach.
2. Set financial goals, know what you want from trading.
3. Approach trading with a long term perspective, focus on the big picture, and allow the power of compounding to work for you over time.
4. Stay with your system as long as it performs within historical parameters, accept drawdowns as a natural part of trading.
5. Follow the four tenets of successful trading.
6. Use pattern probability to increase your odds of success.
7. Enhance your mechanical approach by using common sense.
8. Use internal market composition to your advantage.
9. Be aware of FNDs and Option Expirations and act accordingly.
10. Recognize backwardation and what it is telling you.

THANK YOU FOR YOUR ATTENTION.

GOOD LUCK!

A handwritten signature in black ink, reading "Curtis Arnold". The signature is written in a cursive, flowing style with a large, prominent "C" and "A".