# THE ELLIOTT WAVE THEORY

*by*
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The Elliott Wave Theory is mentioned in many books written on the stock market but is rarely outlined in depth. Thus few analysts have any worthwhile understanding of this important theory of share price and share market behaviour. It would appear appropriate, therefore, first to explain Elliott's theory and then to determine whether it can be fitted to the Australian scene.

The only book by Ralph Nelson Elliott (1871 to 1947) held by the Public Library of N.S.W. is "Tea Room and Cafeteria Management", written in 1926. He wrote on widely differing subjects including biology, nature, colours and the stock market. His work on the latter was presumably never in book form but appeared in twelve concise articles in "The Financial World", Volume 71, Nos. 14 to 22, 24 and 26 and Volume 72 No. 5, published during 1939. Reference is made to the Elliott Theory in "Encyclopedia of Stock Market Techniques" in an article headed "The Wave Principle" written by I. Fraser. E. Hamilton Bolton also wrote a critique of Elliott's Wave Theory in "The Elliott Wave Principle, a Critical Appraisal", published by Bolton, Tremblay (Bermuda) Ltd.

Elliott, who studied the stock market during a long illness, saw market movements as being governed by a basic underlying rhythm. As he surveyed the behaviour of the market: "Gradually the wild, senseless and apparently uncontrollable changes in prices from year to year, from month to month and day to day linked themselves into a law-abiding, rhythmic pattern of waves. This pattern seems to repeat itself over and over again." Basic to the Wave Principle is that the market rises in a series of five impulses—three advances separated by two reactions (Figure 1) — and that declines in the market are a series of three waves—two downthrusts separated by one rally (Figure 2).

Each of the three upward primary waves that make a completed movement is divided into five waves of the next smaller or intermediate degree (Figure 3). Each intermediate forward wave is in turn divided into five minor waves (Figure 4). Quoting Elliott again: "When the fifth minor wave of the fifth intermediate phase of the fifth primary movement has spent its force, a formidable top has been constructed. Upon completion of a movement of this magnitude, the forces of destruction become dominant; the primary trend turns downward and a bear market is in progress long before the economic, political or financial reasons for the change in outlook are clearly apparent." The corrective waves within a primary movement are themselves comprised of three lesser impulses (Figure 5). Progressive waves tend to move within trend channels or parallelograms and it is, therefore, often possible to predict how far wave 5 might carry (Figure 6). The fifth primary wave will reflect greater irrationality on the part of the market than waves 1 and 3. Elliott noted that wave 5 sometimes develops excessive strength and carries on for longer periods than waves 1 and 3, as shown in Figure 7. It may in fact be followed by waves 6 and 7 in particularly volatile stocks or markets (Figure 8).

Elliott observed various degrees or orders of market waves which he set out in Table 1.

The longest reliable record of American stock prices, observed Elliott, was the Axe-Houghton Index which commenced in 1854. Elliott, therefore, began his analysis at the end of the bear market which terminated in 1857. As he did not know precisely what transpired in the market prior to 1854, Elliott was unable to determine whether the period 1857-1928 represented wave I, III or V of the Grand Super Cycle. To clarify his analysis of the various market wave movements he made the following observation:

"When the Dow-Jones industrial averages reached 295.62 on November 28, 1928, the price movement completed the fifth Minuette impulse of the fifth Minute wave of the fifth Minor phase of the fifth Intermediate movement of the fifth Primary trend of the fifth Cycle of the fifth Super Cycle in Wave 1, 3 or 5 of the Grand Super Cycle. For that reason, although the actual top of 386.10 was not reached until September 3, 1929, the point reached on November 28, 1928, is designated as the 'orthodox' top."

An idea of the Intermediate, Minor, Minute, Minuette or Sub-Minuette movements can be gained from Figure 9.

Elliott observed that "the rhythm of corrective movements is the most difficult feature of the Wave Principle". He saw all corrections as being comprised of three broad waves varying considerably in detail, extent and duration and observed that there appeared to be four main types of corrections—zig-zag, flat, irregular and triangular. Figure 10 shows some typical short term correction patterns, Figure 11 shows intermediate corrections and Figure 12 outlines the type of formations which occur when Primary trends turn downwards. Triangular correction patterns are shown in Figures 13, 14 and 15. Horizontal triangles are likely to occur in wave 2 or wave 4 of a primary uptrend whereas diagonal triangles are more characteristic of wave 3 or wave 5 of the main movement.

In his concluding articles Elliott made some interesting remarks on wave characteristics:

"Examination of any completed movement seems to support the fatalistic theory that the extent or objective of the price movement is fixed or pre-determined. The time of the cycle is also possibly fixed, but the time of the component phases appear to be variable. The variations in the time cycle appear to be governed by the speed or rate of the price movement, and vice versa. Thus, if the market movement has been violent and rapid in one phase, the next corresponding phase is likely to show a marked slowing down in speed."

These, then, are the rudiments of the Wave Principle which has been built around Dow Theory and is consistent with it in many respects. An assessment of the value of the Wave Principle as a working model of Australian stock market and share price behaviour is outlined below.

From close inspection of daily bar charts on larger industrials, it becomes clear that it is sometimes hard to identify the various Minor impulses comprising the Intermediate movements. One must be particularly careful when testing such a theory not to imagine that something has occurred simply to justify that theory. The identification of Minor and Intermediate trends becomes more difficult for stocks which are thinly traded or which have no definite Primary trend. Examples of these types of stocks, starting from the beginning of the alphabet, are Adelaide Steamship, APCM, APPM, Australian Chemical Holdings and Australian Newsprint Mills, to mention a few. However, with better traded stocks such as Burns Philp, Castlemaine Perkins, CSR, CBA, Grace Bros., Keith Harris and many others, Minor and Intermediate waves can be seen clearly on weekly bar charts.

The following tables list those stocks which had Zig-Zag and Flat downtrends in the 1964-1966 bear market and those which had five progressive Intermediate movements within the Primary uptrend of 1967 to 1969.

**1964-1966**
**Flat downtrend**

Adelaide Steamship Company
Allen's Confectionery
Blue Metal Industries
Colonial Sugar Refining Co.
Containers
Dodds Consolidated Industries
Kolotex Holdings
McDonald Industries
Tooheys

**Zig-Zag (5-3-5) downtrend**

Adelaide Cement
Advertiser Newspapers
Allied Mills
Amalgamated Wireless (Australasia)
Ampol Petroleum
Ansett Transport Industries
Associated Pulp & Paper Mills
Australian Controls
Australian Guarantee Corporation
Boral
Brambles Industries
Brick & Pipe Industries
Broken Hill Proprietary Co.
Bushells Investments
Carlton Brewery
W. R. Carpenter Holdings
Colonial Gas Holdings
Commercial Bank of Australia
Dunlop Australia
Ensign Holdings
Gollin Holdings
Grace Bros. Holdings
Herald & Weekly Times
David Jones
Henry Jones (IXL)
John Lysaght (Australia)
OPSM Industries
Olympic Consolidated Industries
PGH Industries
Paynter & Dixon Industries
Permewan Wright
Pioneer Concrete Services
Rocla Industries
Steamships Trading
Stramit Boards
Waltons
A. V. Wehl Industries

**1967-1969**
**Five-phase (3-2-3-2-3)**

Allen's Confectionery
Allied Mills
Amalgamated Wireless (Australasia)
Ampol Petroleum
Australian Guarantee Corporation
Bell Bros. (Holdings)
Blue Metal Industries
Brambles Industries
Brickworks
Broken Hill Proprietary Company
Burns Philp & Co.
Castlemaine Perkins
Clyde Industries
Colonial Sugar Refining Co.
Colonial Gas Holdings
Commercial Bank of Australia
Consolidated Press Holdings
Containers
Dunlop Australia
Email
Gollin Holdings
Grace Bros. Holdings
Keith Harris & Co.
Herald & Weekly Times
David Jones
John Lysaght (Australia)
The MLC
National Bank of Australasia
Olympic Consolidated Industries
Pioneer Concrete Services
Publishers Holdings
H. C. Sleigh
Stramit Boards
Thiess Holdings
Thomas Nationwide Transport
A. V. Wehl Industries

The above selection has been made from a study of about 220 weekly bar charts on industrials. Thus 21% had recognisable Elliott-type Primary downtrends in 1964-1966 and 16% had regular five phase Primary uptrends. Stocks which showed conformity to the Wave Principle were in general well traded.

A study of the Sydney Stock Exchange indexes shows that eight of the fourteen indexes showed an outstanding conformity to the Wave Principle in the bull market of 1967-1969. However, no clear Zig-Zag or Flat patterns were evident in the bear market of 1964-1966 in the indexes.

**Regular Five-Phase**
**Uptrend 1967-1969**

Banks, Insurance & Trustee
Building & Construction
Chemicals, Paper, Glass & Rubber
Electrical Sales & Manufacturing
Food, Drink & Tobacco
Fuel, Light & Power
Other Finance
Transport & Communication

**Irregular Uptrend**
**1967-1969**

All Ordinaries
Automotive
Pastoral
Non-Ferrous Metals
Trade & Services
Steel & Engineering
Textiles

It would appear that the Elliott Theory can best be related to volatile and agitated markets and stocks. It has nothing to offer where shares or markets are trading sideways or in slightly inclined trends. Furthermore, it is difficult to apply the Theory to stocks which stay in narrow uptrend or downtrend channels for years on end with many intermediate waves comprising the primary trend. Examples of the latter are AMI (1963 to 1969), Bendix Consolidated (1963 to 1969), Bruck Mills (1964 to 1969), Consolidated Milk Industries (1964 to 1967), David Shearer (1964 to 1969), Hooker Corporation (1966 to 1969), Marrickville Holdings (1963 to 1968) and Macquarie Broadcasting (1966 to 1969).

The mining boom of 1966-1968 and the subsequent bear market were violent affairs which gave Australians their first taste for many years of high volatility in a wide range of stocks. True, industrials were spurred on by the general optimism prevailing in the years 1967 and 1968 but they were at no stage highly volatile as a group. The following schedule shows a number of stocks which have conformed to the Wave Principle in the period 1967 to 1969.

**1967-1968**

**Five-phase uptrend**

Acmex Holdings
Alliance Oil Development
Amalgamated Petroleum
Ampol Exploration
Ardlethan Tin
Associated Australian Oilfields
Associated Freney Oilfields
Australian Development
Barrier Exploration
Beach Petroleum
Consolidated Goldfields Australia
Emperor Mines
Exoil
Farmout Drillers
Great Boulder Gold Mines
Hamersley Holdings
Lake View & Star
Longreach Oil
Loloma Mining Corporation
Magellan Petroleum Australia
Metals Exploration
Mid Eastern Oil
Mining Traders
New Guinea Goldfields
Norseman Gold Mines
North Australian Uranium Corp.
North Kalgurli (1912)
Oil Search
Ravensthorpe Copper Mines
Timor Oil
Transoil
VAM

**1968-1969**

**Flat downtrend**

Aberfoyle
Alliance Oil Development
Ampol Exploration
Ardlethan Tin
Associated Freney Oilfields
Associated Minerals Consolidated
Australian Development
Barrier Exploration
Consolidated Goldfields Australia
Great Boulder Gold Mines
Hampton Gold Mining Areas
Hamersley Holdings
Hill 50 Gold Mine
Loloma Mining Corporation
Mid Eastern Oil
Mining Traders
North Broken Hill
North Kalgurli (1912)
Western Mining Corp.

**Zig-Zag (5-3-5) downtrend**

Abrolhos Oil
Acmex Holdings
Amalgamated Petroleum
Associated Australian Oilfields
Broken Hill South
Central Norseman Gold Corporation
Emperor Mines
Exoil
Farmout Drillers
Lake View & Star
Longreach Oil
Magellan Petroleum Australia
Metals Exploration
Norseman Gold Mines
North Australian Uranium Corporation
Oil Search
Planet Oil Co.
Ravensthorpe Copper Mines
Timor Oil
Transoil

The above selection was drawn from 65 charts. Thus 49% had recognisable five-phase uptrends in the last bull market and 60% exhibited either Zig-Zag or Flat Elliott-type downtrends. These percentages are particularly significant when it is realised that twelve of the heavyweights included in this survey have been in long, drawn-out uptrends since before 1966 and do not, therefore, have five-phase Primaries. It is stressed that, although Intermediate movements have not been difficult to define for mining and oil stocks since 1967, the Minor impulses making up the Intermediate phases are not clear on weekly bar charts.

Further testimony to the Wave Principle is to be found in the Brisbane Oil Index and in the Cumulative Advance-Decline Index for Mining and Oil shares. The former showed three clear Intermediate upswings in the 1966-1968 Boom and a regular zig-zag bear market in 1968 and 1969 which was relieved in October, 1969. The Cumulative Advance-Decline Index exhibits exactly the same waves. The Sydney Stock Exchange Non-Ferrous Index does not show any real conformity to the Wave Principle over the same period because it is comprised of seven mining leaders of which three, C.R.A., Mt. Lyell and E.Z. Industries, have been in broad uptrends for many years. Perhaps an index of speculative mining and oil stocks would show marked Elliott tendencies.

The foregoing has dealt only with Minor, Intermediate and Primary movements. What, then, of the Minute, Minuette and Sub-Minuette impulses? Unless one were prepared to spend his day in the front ranks at the public gallery of the Exchange, he could not draw up hourly, two-hourly or half-hourly share price charts, as the information is not published. It is only in very short term charts such as these that the waves within the Minor impulses can be detected. The writer has not been prepared to endure these physical hardships to test Elliott's Wave Principle at the Minute, Sub-Minuette and Minuette levels.

Before examining Elliott's longer wave movements in the Australian market it is necessary to outline some of the difficulties in understanding how Cycles II and IV, and Super Cycles II and IV are supposed to develop. All these are, of course, downward movements. In the table analysing the American market between 1857 and 1928, Elliott showed Super Cycle II as occupying the period 1864-1877 and Super Cycle IV as lasting from 1881-1896. It will be readily appreciated that these are extremely long periods of correction certainly in terms of experience since the Great Crash of 1929. Elliott is not explicit as to whether Super Cycles II and IV should in turn be comprised of two downward Cycles separated by a rising Cycle or whether Super Cycles II and IV are really only very severe Primary corrective movements. Nor is he explicit as to whether Cycles II and IV are comprised of two downward Primary movements separated by a Primary rally or whether Cycles II and IV are simply single Primary corrections.

The interpretation used hereafter is that Cycles II and IV and Super Cycles II and IV are one and the same as severe Primary bear markets. The post-Depression period in the Australian stock market has witnessed bear markets of varying duration, the longest being 1937 to 1942 and the shortest being in 1968 to 1969. Elliot did not lay down any definite time scales for Intermediate or Primary movements. His Wave Principle in no way rested on like waves occupying a similar time scale.

In assessing the relevance of Elliott's Primary waves, Cycles, Super Cycles and Grand Super Cycles to the Australian scene, it is necessary to examine a long term graph of the market such as has been prepared by the Sydney Stock Exchange dating from 1885. In the period 1885 to 1929 there were three broad upward waves which could represent Elliott's Super Cycles, which, he contended, occurred in the American market over a similar period. The first of these ended in 1889 and presumably had its beginnings prior to 1885, the second ran from 1894 to 1915 and the third from 1917 to 1929. In his analysis of the American market, Elliott was not sure whether the period 1857 to 1928 was Wave I, III or V of the Grand Super Cycle. In the case of the Australian stock market, however, it would be safe to describe the series of five Super Cycles ending in 1929 as representing Grand Super Cycle I.

The particular graph referred to is not sensitive enough to show where the various Cycles may have occurred, a Cycle being composed of five Primary movements. However, if the monthly average of the Sydney Stock Exchange Commercial & Industrial Index is plotted back to 1875, a clear picture emerges, certainly from 1917. There was not sufficient movement in this index up to the First World War for one to pinpoint with any conviction the various Primary movements comprising the Cycles or even the Cycles themselves. From 1917 to 1929, however, there appeared to be three distinct upward Cycles. The first was made up of three very mild Primary uptrends culminating in a downward adjustment in 1920 of the order of 11%, the second Cycle ran from 1920 to 1923, being made up of three rather indistinct and short-lived rising Primary waves, and the third carried through to 1929. The last-mentioned Cycle, specifically Cycle 5 of Super Cyle 5 of Grand Super Cycle 1 in Elliott terminology, was made up of three rising Primaries separated by a setback in 1924 and another in 1927. The last intermediate leg of the Fifth Primary wave (i.e., the third rising Primary) of Cycle 5 developed excessive strength and carried through from April, 1928, to February, 1929, an extraordinary duration for an intermediate movement. Before the Great Crash took place, Intermediate Waves 6 and 7 occurred, which is characteristic of a highly irrational market.

The bear market of 1929-31 reduced the Commercial & Industrial Index from a monthly average of 76 in August, 1929, to 41 in August, 1931. In terms of the Elliott Theory, this collapse represented Grand Super Cycle 2. The first phase of the bear market lasted from August, 1929, to September, 1930, and was headlong. A brief runback took place at the end of 1930 to be followed by a further protracted but less substantial fall. The Great Crash was really a very large zig-zag formation (refer Figure 12).

Since the Great Crash, it appears that Primary Waves and therefore Cycles and Super Cycles have been of greater duration. From 1931 to the present there have been four broad upward waves separated by three severe corrections as shown below:

**Sydney All Ordinaries Index**

| Broad Rising Waves | Major Corrections |
|---|---|
| 1931-1937 | 1937-1942 |
| 1942-1951 | 1951-1953 |
| 1953-1960 | 1960-1962 |
| 1962-present | |

The first of these rising waves (1931-1937) consisted of three upward Primary movements separated by reactions in 1932 and 1935 and for this reason must be deemed to have been Cycle 1 of Super Cycle 1 of Grand Super Cycle 3. The bear market of 1937-1942 was drawn out and severe, as might be expected of Cycle 2. The second rising wave of 1942 to 1951 embraced the war years which was a trendless period in the stock market. Normally one would expect a three-year period such as 1942 to 1945 to contain one Primary upswing and one correction. On this basis, the Primary bull market of 1946 to 1948 could be deemed to have been the third leg of Cycle 3 and the bull market of 1949 to 1951 would then have been the fifth leg of Cycle 3.

The shake-out of 1951-53 was very marked, as might be expected of Cycle 4. Cycle 5 presumably stretched from 1953 to 1960 and was comprised of three Primary uptrends—1953 to 1955, 1956 to 1957 and 1958 to 1960—separated by corrections in 1955-56 and 1957-58. The heavy fall of 1960-61 was the most severe since 1951-53 and appears to represent Super Cycle II, Super Cycle I having been represented by Cycles 1 to 5 outlined above.

Since 1960 there have been two Primary upswings—1962-1964 and 1967-1968 — separated by two Primary corrections — 1965-1966 and 1968-1969. At the time of writing (December 1969) the mining market has already entered a new primary bull phase, having completed Intermediate Waves I and 2. Although Industrials are at present trendless and more likely to ease from current levels than to rise, the mining heavyweights together with B.H.P. and C.S.R. may force the All Ordinaries Index into new high ground in 1970. If this happens, the market as reflected by this index will have gone into Primary Wave 5 of Cycle 1 of Super Cycle 3 of Grand Super Cycle 3. It would seem fair to anticipate a downward movement in the Index by the end of 1971 and possibly sooner which would be of greater severity than the two previous bear markets of 1965-66 and 1968-69 as Cycle 2 should be worse than Primaries 2 and 4.

In conclusion, it is not difficult to analyse long term movements in the Australian share market in terms of Elliott's various larger wave movements and it is the writer's contention that the Wave Principle is a useful working model of the market. Its usefulness in analysing the behaviour of individual stocks is limited in that only highly volatile stocks show a significant conformity at the Intermediate and Primary levels.

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Fig. 1

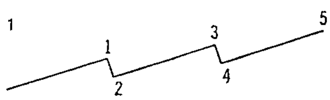



Fig. 2

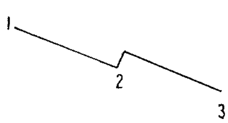



Fig. 3

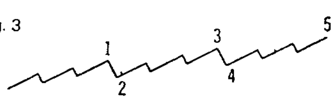



Fig. 4

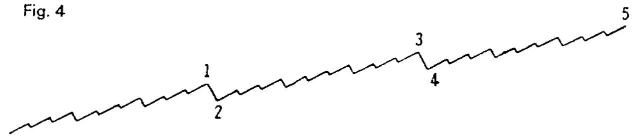



Fig. 5

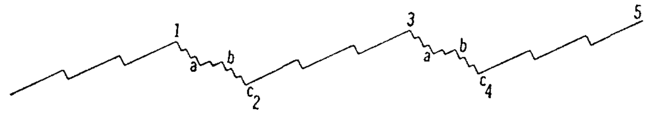



Fig. 6

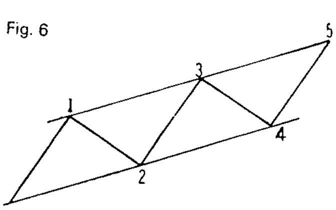



Fig. 7

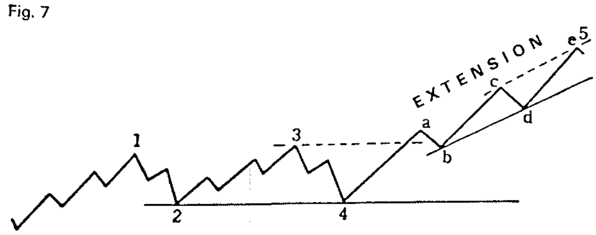
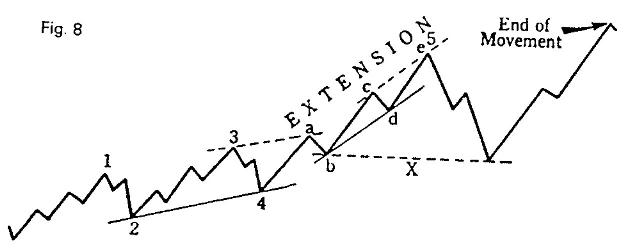
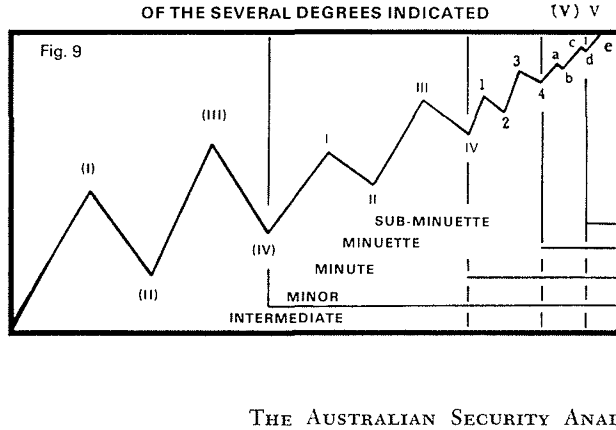


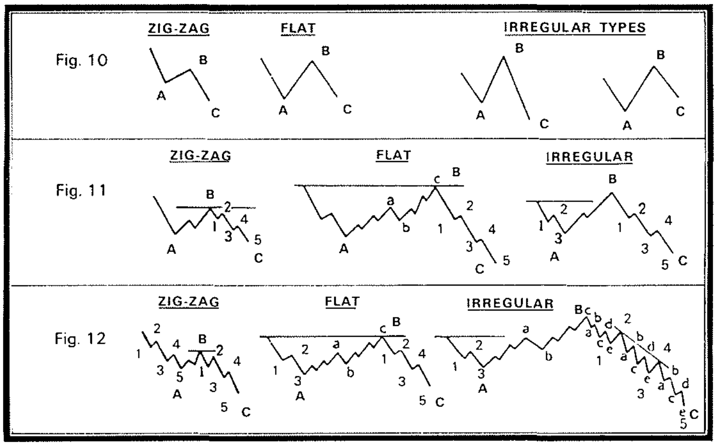

Fig. 8

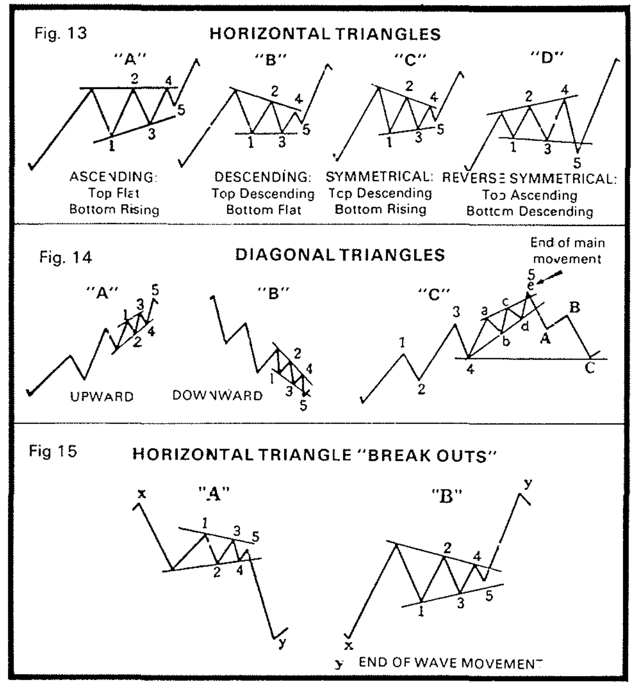



SPANS OF THE 5th WAVE
OF THE SEVERAL DEGREES INDICATED (V) V 5

Fig. 9






*Figures 1 to 15 are published by courtesy of The Financial World.*

## TABLE 1

| Degree of Movement | Symbol and Wave No. | Duration |
|---|---|---|
| Grand Super Cycle | gsc I (?) | 1857-1928 |
| Super Cycle | sc I | 1857-1864 |
| | sc II | 1864-1877 |
| | sc III | 1877-1881 |
| | sc IV | 1881-1896 |
| | sc V | 1896-1928 |
| Cycle | c I | 1896-1899 |
| | c II | 1899-1907 |
| | c III | 1907-1909 |
| | c IV | 1909-1921 |
| | c V | 1921-1928 |
| Primary | I | June 1921-March 1923 |
| | II | March 1923-May 1924 |
| | III | May 1924-Nov. 1925 |
| | IV | Nov. 1925-March 1926 |
| | V | March 1926-Nov. 1928 |

Intermediate

Minor

Minute

Minuette

Sub-Minuette.