BASIC TREND BAROMETER

A LONG TERM STOCK TREND STUDY

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Emil Schultheis

Chapter I

THE TITLE: This study has been designated "Basic Trend Barometer" because it deals with an analysis of the longer term trends as observed in the stock market and as recorded by Industrial stock price averages. Since these trends are of varying length as measured by time and amplitude, and may be subdivided into primary, intermediate, and minor trends, the first of these - the major or longer term swings - are regarded as basic, and usually consist of several medium term swings. The latter, in turn, are made up of a series of minor trends. Just as a barometer predicts good weather when the sun is not in evidence, or points to bad weather during a cloudless sky, so the index herein described is designed to indicate important impending reversals of the general trend of Industrial stock prices at a time when such new trend is not as yet discernible on the surface.

GENERAL OBSERVATIONS: The intermediate as well as the longer term swings in the stock market are usually the more profitable ones. The minor trends are of too short duration and too frequent in their reversals for constant practical exploitation through stock market operations. Only too frequently individual stocks do not faithfully follow the minor trends as reflected by the general trend, and since this analysis herein described deals with the latter, but the speculator or investor has to place his orders in individual stocks, it is safer to avoid the minor trends for one may be right as to the minor trend for the averages, but wrong as to the minor trend for an individual stock. Obviously the chances of error are reduced by dealing in stocks with a general tendency to follow the primary average trend so that, irrespective of deviation shown by minor trends between individual stocks and the general trend, over a period of time the commitments made follow the anticipated longer term swings. Even though the Basic Trend Barometer has not been developed with the purpose of pointing out trend reversals of such swings which are usually of several weeks' or months' duration (which are commonly known as intermediate or secondary trends), it nevertheless stands to reason that investors or traders endeavoring to base their operations on such should have a clear understanding about the probabilities of the underlying longer term swings which so often constitute full-fledged bull or bear markets. This is especially so since it is a matter of record that temporary reactions of several weeks' or months' duration within a major bullish swing display different characteristics than similar temporary interruptions on the up side during periods of major declining trends.

THE UNDERLYING CAUSES OF MAJOR SWINGS: Protracted long term cyclical up trends of average stock prices - those that last one,

two, or more years, are of course caused by existing and expected important economic and political factors of fundamental nature. Usually a combination of such basic factors exert their influence. That is why investors and speculators everywhere are constantly endeavoring to study such fundamental causes as may affect future stock prices. However, not all the news which may influence prices is always promptly available. Other times it is even doubtful how it may affect prices of stocks. The matter is made more complex by the fact that the combination of fundamental causes and type of news varies, either in part, or in its entirety. The task of interpretation would be much easier if the underlying causes producing major up swings were always approximately the same. However, the world and its affairs never stand still. Economic and political developments vary constantly, and often radically, thus militating against the establishment of a sufficient set of circumstances of repeating character which would establish precedents subject to easy analysis. The same of course is true as far as causes for protracted declining trends are concerned.

EFFECTS: In order to intelligently weigh the probabilities of the future, men and women in all fields of endeavor, privately or in their businesses or professions, knowingly or unknowingly, ultimately base their conclusions on precedent. The more frequent and clear-cut the experience or knowledge of the past, the more likely the probabilities of judging correctly similar conditions of the present. This principle is just as true of the stock market as in other fields of endeavor. Since no single group of men can influence the long term major trends of stock price averages, but rather the latter reflect the concensus of opinion of the masses of its "editors", average stock prices constantly "weigh" all the pro and con of all the favorable and unfavorable factors known or expected. Since the action of stock prices discounts coming events even if such may not be known or foreseen by the public at large, they often reflect a great deal of "inside information" quite promptly. Obviously this does not mean that the details of such information are available, but the action of the market itself quite frequently suggests that "something" is impending. This is the reason why often when the "good news" is made public, a stock or the market declines; or when the "bad news" is out, an advance is recorded. The just-published developments had been discounted. This merely shows with what promptitude stock prices are often capable of reflecting coming events and that hence it is never too late to study their action and implications. The student of stock price action who bases his analysis on sound, common-sense principles has one decided advantage in his favor, as against the student of current news as it may affect stock prices. The former, namely the student of the never changing Law of Supply and Demand, deals with only two, but constantly repeating and alternating factors, namely major up trends and their reversals, and major down trends and their reversals. These main trends are man-made, hence subject to man-made analysis. Capital and stock prices are sensitive, hence important underlying weakness after protracted advances, or vice versa, fundamental strength near the termination of bear markets and the inception of bullish swings, is mostly subject to detection. The Law of Supply and Demand, with its alternating periods of good and bad times, is as

old as mankind itself. Already the Bible refers to 7 years of plenty and 7 years of famine. The "7 years" of course is only a manner of speech; we know that the stock market doesn't always go up 7 years and down 7 years. Many a bull market lasted only 2 years; others 3, 5, and more years; likewise bear markets are of varying duration. One fact however remains. Major advances and declines alternate and repeat; thus they present sufficient precedent and material for analysis. The Basic Trend Barometer, here under discussion, endeavors to solve the problem of when major trend reversals are about to occur, through factual analysis of the action of the general trend as represented by stock averages. It is therefore essential, under the method of the Basic Trend Barometer, to firmly believe that the action of the market itself is capable of indicating the probable reversal of the important main trends.

METHOD OF APPROACH: The Basic Trend Barometer is a tri-sectional index; in other words, three indices closely related to each other through formula, characteristics and interpretation rules, make up the Basic Trend Barometer. Many years of stock market trend research have convinced the writer that it is most difficult for a single index to supply the same degree of accuracy and confidence as is possible by a more detailed study such as the tri-sectional index under discussion. After all, the major up and down swings show too much variation, not only as far as duration or time is concerned, but also as to other characteristics, namely as they affect the extent of the price range covered, and the rapidity, respectively "slowness" of the rise or fall. In other words, the stock market cannot be "put in a straight jacket", and we can not know always in advance the exact type of an impending bull or bear market in all its characteristics. This means it is necessary to get away from the rigid single mathematical formula which sometimes "works" and other times doesn't. It is advisable to allow for a degree of latitude and flexibility in order to cover, if possible, all eventualities which may present themselves marketwise. The three sections of this barometer were constructed with this purpose in mind. Section I is more sensitive than for instance Section II. Under certain market conditions, therefore, Section I is more helpful because it is more prompt in its indications. Other times, for other type markets, it is too sensitive, and more dependency should be placed upon Section II. Section III has the advantage of more clearly pointing out the various phases of the especially long trends, besides showing greater faithfulness of repetition of certain characteristics near the end of many bull and bear markets. Naturally the question arises, "How is one to know which index is to be depended upon at a given time?" For this purpose interpretation rules have been formulated to serve as a guide and to furnish the indications of impending probabilities through buy and sell signals. A further degree of flexibility is provided for in the formulation of the interpretation rules in an endeavor to obtain the "signals" as close as possible to the extreme of a top or bottom zone.

INFALLIBILITY: Even if there were no stock market, it would still be true that no human being is infallible, and when it comes to the stock market, there is no exception. The individual who has

always been right in the stock market over a long period of time has never been born and probably never will be born. It would be quackery therefore to claim infallibility for the Basic Trend Barometer. However, it is obviously better to make an intelligent endeavor to analyze the probabilities of the future than to make none at all and to depend upon guesses, hunches or tips. Success in the stock market however is possible, especially if the method of analytical approach is based on sound principles and on a sufficient set of precedents; if they give reasonable promise of continuing to function similarly in the future. Any investor or speculator who makes a commitment in the stock market enters a certain unavoidable risk. The same is true of any important commitment in life, privately or in business. We should however endeavor to minimize such risk to the greatest possible extent so that the odds are greatly in our favor. If then an occasional error is made, it is more than offset by the greater number of profitable commitments over a period of time. Every profession or business has its "overhead". In the stock market such "overhead" consists of - outside of commissions, taxes, etc. - occasional errors. The four fundamentals for successful stock market operations consist of (1) capital, (2) knowledge or judgment, (3) nerve, (4) patience. To possess three of these is not sufficient; all four are needed. The Basic Trend Barometer is a contribution toward furnishing item No. 2. Indirectly it contributes also toward attainment of the proper control of items 3 and 4, because the Barometer is based on factual evidence. It is "cold-blooded" and designed to aid in defeating every investor's and trader's greatest enemy, namely emotion or the human element. In order to reduce the risk as much as possible when interpreting the long trend probabilities, the interpretation rules of the Basic Trend Barometer have been based on observations disclosed by research of the past major trend fluctuations from 1860 on. It would have saved much time, money and trouble had the index been based on research covering a lesser period of market history, say only 10 or 25 years, or at the most, only since the inception of the Dow-Jones Industrial average, namely from 1897 on. Obviously, however, this would not have produced the same degree of dependability as has been attained by the more intensive, the more thorough research work based on data of market history covering a period of generations.

Naturally the indicated high degree of accuracy disclosed by research of past fluctuations is no guarantee that the same results are obtainable for later price action; nevertheless it augurs well for the future.

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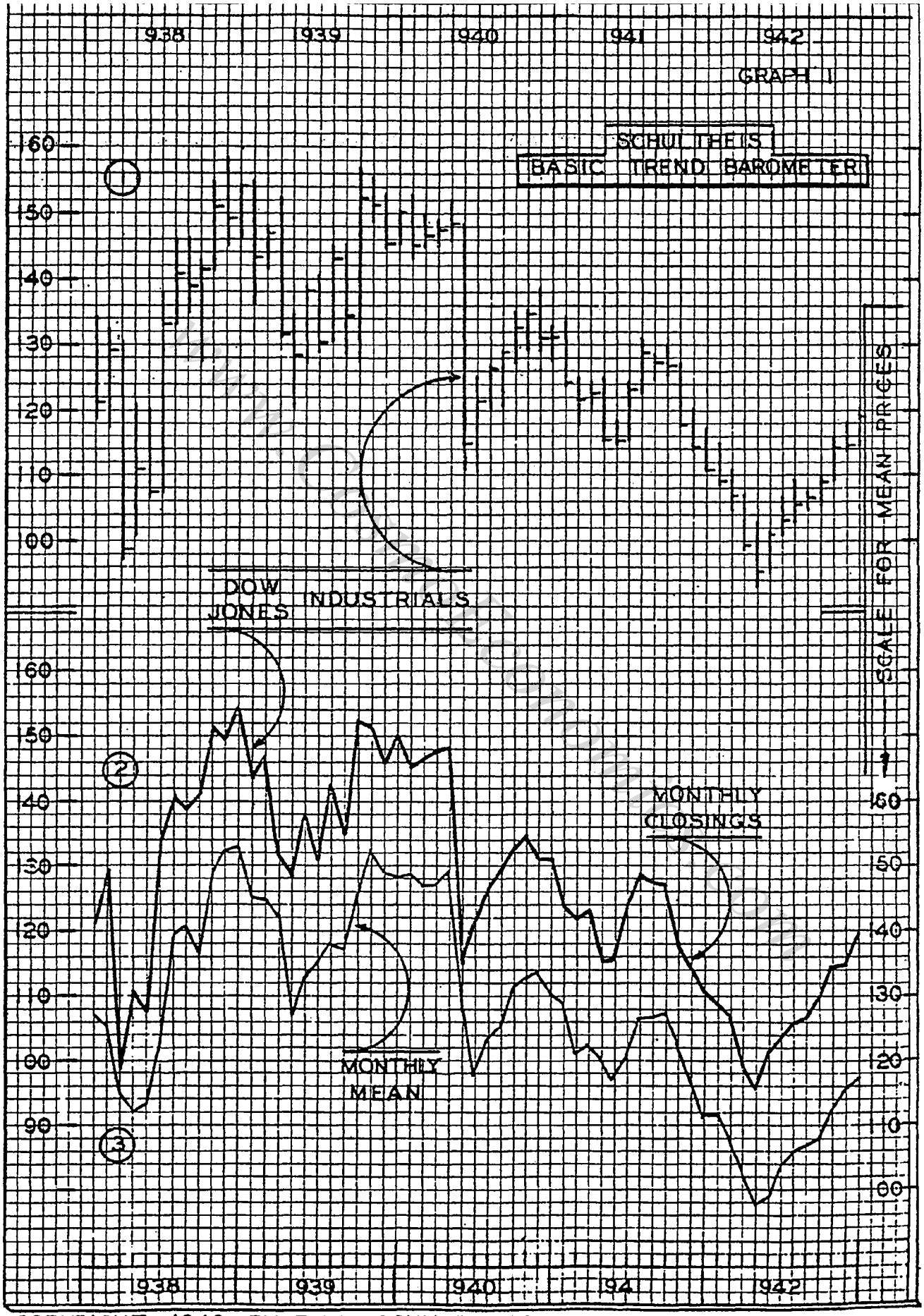
Chapter II

THE PRINCIPLE INVOLVED: The data on which the computations herein described (for the Basic Trend Barometer) are based on average stock prices. Profits result if stocks are bought at a low price and sold at a higher price, irrespective of whether the buying or the selling order was placed first. If the selling order was placed first, it would of course be a short sale to be "covered" after the expected decline has run its course and the stock can be covered (bought) at a lower price than where it was sold. Always the profits constitute the difference between buying and selling prices. Obviously the greater the difference between the purchase and sale price, the greater the profit. It matters little whether the volume was high or low at the purchase or selling date; whether the market was generally broad, or whether few issues were dealt in. Price differential is what counts. The study of volume and other factors is frequently helpful; however, price action is a paramount factor, and therefore the Basic Trend Barometer is based on such. Naturally if it is possible to detect underlying weakness in the price structure (even though the market may be advancing still), and indications appear that a top area may be forming from which prices may suffer substantial declines, and then - after the prolonged decline has run its course - it can be ascertained that the buying is of better character than the selling - in other words, that accumulation of stocks by strong interests is under way and that this may lead to a reversal of the main trend, namely a bull market - we would have the most essential knowledge required. This is the objective of the Basic Trend Barometer. The computations for this index are made once a month. All that is required are the daily closing prices for each trading session of each calendar month. This will permit computing the three sections comprising the Barometer. These three sections are in oscillator form; for the period from late 1928 on, there has been computed a supplementary (fourth) section, and this latter one is not based on daily closings, but on the highest extreme (daily high) during a given calendar month, as well as the poorest daily low recorded during the same month; hence it is advisable and even necessary to record daily the high, low and closing figures for each trading session. This then constitutes the "raw material" on which all monthly computations are based for the maintenance of the index. This applies to the Dow-Jones Industrial average. The figures are published in practically every financial section of any important newspaper. The recording of the daily data permits prompt computations at the end of each month, but could be dispensed with by subscribing to a financial weekly publishing such data. The next following paragraphs should be carefully noted for they will deal with the logical fundamentals of the formula involved; they will be concerned not only with the formula for Section I, but they will also explain the basic principle employed for Sections II and III, although of course for the latter, the formulae time factors vary.

GRAPH I: The next page shows three diagrams. On the upper half of the page appears diagram No. 1, showing the monthly fluctuations for the five-year period from January 1938 to December 1942, both inclusive. The monthly ranges shown are based on daily high and low figures. At the end of each month, the daily high - that is, the highest of these during any given month - was marked on



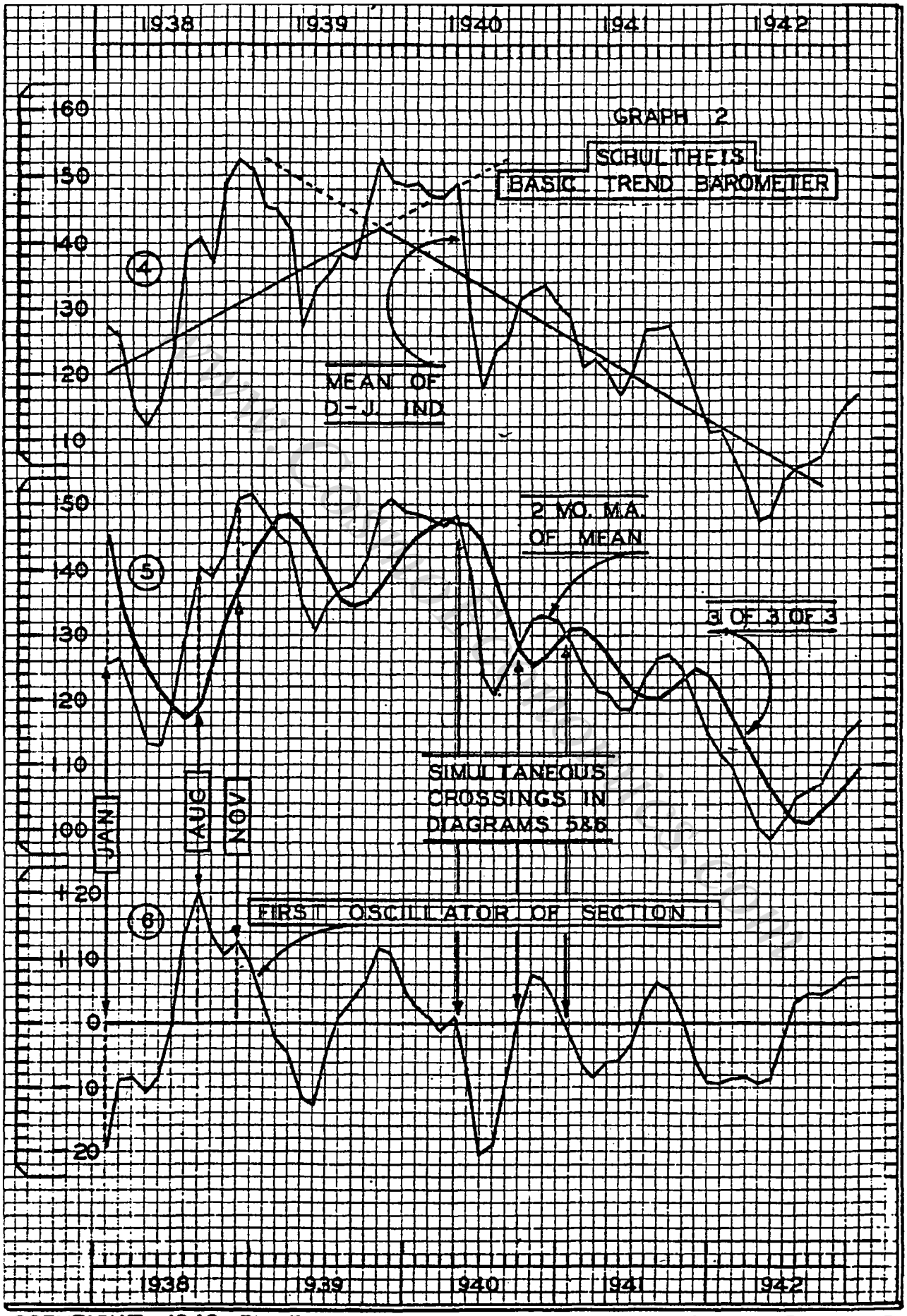
the chart by a dot; the same was done with the poorest daily low. The price levels of course being guided by the scale at the left margin, and the time (month), by the time scale at the bottom. Connecting the two dots (monthly high and low) by a vertical line produced the monthly ranges graphically recorded. As customary, the closing price of the last trading day of each month appears in the form of a small horizontal bar to the right of each vertical monthly range. This diagram # 1 shows how erratic the fluctuations can be over a period of a few years even though during the four-year period from spring 1938 to spring 1942 only two main trends were involved - a bull market which started in March 1938 and terminated with the "double top" of November 1938 (as its first section) and the September-October 1939 high (as its second section). Then followed the second main trend - a decline from the 1939 peak to the April low of 1942. For the purpose of our formula computations at the end of each month we require only one figure instead of the three plotted in diagram # 1, and which reflects the monthly high, low and close. It would suggest perhaps the selection of the latest figure, namely the last daily average closing price for each month.

DIAGRAM No. 2: This pattern represents the graphic record of the closing prices just referred to. As may be seen at a glance, it is still rather erratic in its fluctuations. It serves our purposes better to obtain a monthly figure which would produce a smoother line, yet one which would closely follow the true then-current trend. This can be obtained by selecting as a basis the mean of the daily closing figures. The mean is easily arrived at by following either one of the two following methods: Take the lowest daily close as well as the highest; add the two together and divide by two. The other method of course would be to take the difference between the two extreme monthly closings, divide the result by two, and add such final result to the lowest close. Either procedure would give us the mean of all the daily closing figures for each month.

DIAGRAM No. 3: This is the diagram shown at the bottom of page 6 and has been computed as explained in the preceding paragraph. A comparison with diagram # 2 (monthly closings) shows that the mean figures present a somewhat smoother line. This is clearly evident, for instance, near the extreme 1938 high and low; even more so for the summer and fall fluctuations of 1939, which represent the high and low figures for that year. On the other hand, it will be noticed that for January 1942 the monthly closings show no interruption in the down trend, while a hesitation is recorded for that month by mean prices. Nevertheless, on the whole, it must be admitted that the monthly mean figures more closely follow the general trend - in a less erratic manner.

GRAPH 2: The page which follows shows three further diagrams which are discussed in the succeeding paragraphs.

DIAGRAM No. 4: This picture shows again the monthly mean prices, hence is a duplicate of diagram # 3. However two straight lines have been added, one at an ascending angle, pointing out the direction of the main trend which prevailed during 1938 and 1939; the



the other at a declining angle from late 1939 to 1942 to show the principal direction of the main underlying trend for that period. These lines have not been based on any mathematical computations; they have been inserted arbitrarily to show roughly the direction of the two main trends. It will be noted that the actual price fluctuations during the bull market of 1938-1939 crossed the superimposed straight ascending line repeatedly, and that a similar situation prevailed during the down trend of the succeeding years. In other words, during the up trend of the first two years shown, there were times when the price was temporarily too high (as in the fall of 1938), and subsequently prices receded to below the ascending straight line when again temporarily an excess was reached - but this time on the down side. That was at the time of the April low of 1939, and on the basis of regarding the ascending line as the approximate "normal" trend. Thereafter prices rose again to about duplicate the high of 1938, but if the ascending line is continued or projected (as was done in diagram # 4 by a dotted line), it can readily be noticed that the 1939 peak is no longer as high (in relation to the straight ascending line) as was the case at the 1938 peak. Always assuming that the straight ascending line is the approximate normal, it is clearly evident that by 1939 the shorter term trend between April and September of that year no longer had the same relative underlying strength as the up swing of the preceding year had. This is suggested by the distance above the rising straight line. As for the declining trend beginning late in 1939, we encounter a similar situation, for the actual various intermediate swings for each of these also crosses the declining straight line, or the estimated "normal" of the angle of decline for that entire bear market. Prices were then temporarily too low (when under the straight line), and temporarily too high (when above the same). The sharp decline of May-June 1940 of course was caused by the rapid fall of France at that time. Note that from that low, prices did not recover far above the straight line, but that in relation to same, the temporary peak of late 1941 was slightly higher. This is also of some significance, as we shall learn later when becoming acquainted with buy rule No. 3. However, before this can be discussed, we must of course first proceed with familiarizing ourselves with the principle of the formula itself, and these diagrams under discussion serve this purpose. They are intended to show, step by step, the "evolution" of the ultimate oscillator sections, patterns of which are to be interpreted with the help of rules formulated for this purpose. Now naturally the straight ascending and descending lines, as shown in diagram # 4, could not have been drawn until the entire main trend was clearly completed, yet for our purposes we require the employment of the principle as shown in diagram # 4, namely two trends for each major up swing, and two trends for each major down swing. One of these two trends should be the underlying "normal" trend - a trend which takes the place of the inserted straight lines - and then the more recently prevailing trend, as shown by the more erratic gyrations which frequently cross such underlying base trend. For it is the relationship between two such trends, namely the difference between the "current" market trend and the "underlying" main trend which often discloses underlying strength and weakness. For our purposes, it will be necessary to compute mathematically, at the end of each

month, two such trends, one representing the current trend and the other the underlying trend. This is done for Section I of the Basic Trend Barometer in the manner explained in the next two paragraphs.

TWO MONTHS' MOVING AVERAGE OF MEAN (DIAGRAM 5): The center diagram on page 8 shows two lines - a heavier one and a lighter one. Both are moving averages based on the mean prices which served for plotting diagrams 3 and 4. The heavier plotted line represents the "underlying" trend of Section I of the Basic Trend Barometer, while the thinner line serves as the "current" market. The latter is a two months' moving average of the monthly mean prices. It is computed in the following manner: At the end of February 1938, the monthly mean of January and February that year were added and then divided by two, and the result was entered as of February 1938. At the end of the succeeding month - March - the mean for February and March were added and divided by two, thus obtaining the March result for the thinner line of diagram 5; and so on for each succeeding month. The result, of course, is a line even smoother than the one shown in diagrams 3 and 4. However, each monthly plotting of the two months' moving average of the mean naturally reflects also the influence of the figure for the preceding month, and when the latter is particularly weak this is bound to reflect itself in the result of the succeeding month. Note, for instance, how at the 1940 low the up turn actually was recorded a month earlier than in the two months' moving average of the center diagram 5. Similar observations may be made at other bottoms as well as tops, only of course with the difference that at peaks the down turn is at times shown a month later by the two months' averaged mean than is the case in diagram 4, with the non-averaged mean figures.

3 OF 3 OF 3 (DIAGRAM 5): The heavier line of this diagram is a 3 months' moving average of a 3 months' moving average of a 3 months' moving average of the mean figures as shown in diagram 4. In other words, a 3 months' moving average was computed of the mean prices. This was done in the same fashion as the two months' moving average was figured, except that every time the current and the two preceding monthly figures are added, and then divided by three. This of course produces a line (not graphically shown) which is even smoother than the two months' average of mean as shown by the lighter line in diagram 5. However, the difference between such 3 months' moving average and the 2 months' moving average would not be outstanding. Therefore, the results or index figures of the 3 months' average were taken, and again a 3 months' moving average of same was computed. Since this takes in a longer time interval, more of the erratic tendencies are thus eliminated, and a still smoother line is obtained. Even this does not suffice for our purposes - to obtain an underlying trend - therefore the process is repeated once more, and another 3 months' moving average is computed, so that the final results represent a 3 months' moving average of a 3 months' moving average of a 3 months' moving average of the mean prices. This may sound a bit complicated, but the data book, with its proper columns, reduces the whole process to a little simple figuring, consisting of some additions, and then each with a division by three. The final result thus obtained, as already

stated, is the smoother heavy line of diagram 5. It is interesting to note in diagram 5 that the lighter line, namely the 2 months' moving average, crosses the heavier line with about the same frequency as the ascending and descending straight lines are crossed in diagram 4. The most notable difference of course between diagrams 4 and 5 is that while we have succeeded with the construction of a very smooth line (to represent the "underlying" trend or "normal"), it is not as smooth and straight as the arbitrarily superimposed straight lines of diagram 4. In the first place, it wouldn't be possible to construct, through monthly computations, a line just as straight or even nearly as straight. In the second place, that is not necessary. The straight lines of diagram 4 were only inserted as an aid in explaining the principle underlying the formula.

DIAGRAM No. 6: It would be possible, with the help of diagram 5, to form some sort of interpretation rules which would be helpful frequently in indicating impending reversals of important trends. However, it must be admitted that very close studying and measuring would be required to obtain satisfactory results, for the two lines are somewhat confusing as they are plotted, hence the need for greater simplification in plotting them so that the actual mathematical difference between the two trends is more clearly shown, and this is obtained by plotting them as shown in diagram 6. Diagrams 5 and 6 are, in a way, one and the same thing, only that in diagram 6, the "3 of 3 of 3" line has been straightened out as a horizontal line at the zero level, as per its scale at the left margin. The vertical distance that the thinner of the two lines in diagram 5 is above or below the heavier one equals the extent that the erratic line in diagram 6 is above or below the straight horizontal line at the zero level. To make this clearer, let us take the first graphic entries of diagrams 5 and 6 as applicable to January of that year. The index figure of the underlying trend (heavy line of diagram 5) is 145.59, while that of the 2 months' average of the mean prices is 125.85. Deducting the latter figure from the former shows a difference of 19.74. It is to that extent that, as of that January, the "current"trend was below the longer term trend, or underlying trend. This "below" means a minus entry for diagram 6. Note that the scale shows a plus scale for the upper half of that diagram, and a minus scale for the lower half, and that the center horizontal line represents the zero level. For February 1938 (the next month), the respective figures were 135.00 and 126.35, or a difference of minus 8.65, as graphically shown in diagram 6. This lifts the line closer to zero. Skipping a few months, we find that for August 1938 there is a high plus differential, because the underlying trend (3 of 3 of 3) has an index figure of 119.76, but the 2 months' moving average shows 140.33, thus the latter is 20.57 above our so-called "normal". It is of interest to note that the highest monthly mean for 1938 was recorded during November, at 152.27. In August the mean stood at 140.94. In other words, as measured by mean prices, the November level was approximately 11 points higher, yet it was a dangerous zone, as may be seen by the fact that it was never exceeded during the succeeding several years. There must have been underlying weakness de-

spite the apparent strength as revealed through the further rise of an additional 11 to 12 points. Note that while this rise of 11 points was recorded in diagram 4, during the same period the fluctuating line of diagram 6 showed a receding trend. This is an example of what can be brought out when placing the current trend in relation to a computed longer or underlying trend in the manner shown. The situation is even more interesting late in 1939 when the last opportunity was offered to sell stocks at levels which were then too high in relation to what followed. Observe how all price averages from diagram 1 to diagram 5, both inclusive, show the 1939 peak at about the same level as the highest recorded in the preceding year. In contrast, note how the 1939 peak in the oscillator section of diagram 6 is substantially lower than the peak of 1938. For good measure, also note the rapidly declining trend of late 1939 and early 1940 in diagram 6. This was a period during which published price averages were still trying to hold their own. In this case it was a good indication of trouble ahead, which actually materialized through the panicky selling of May 1940 and the later weakness of 1941 and that of the early part of 1942. Actually, however, the diagram or oscillator shown at the bottom of Graph 2 still has some flaws. It is therefore termed "First Oscillator of Section I". This means that it is only the preliminary oscillator. After a simple refinement arrived at mathematically, another, but similar oscillator, is obtained as explained in Chapter III, and that will be the one on which the interpretation rules are based. When, in late 1941, the index figures of diagram 6 changed from plus to minus, it will be noted that beginning in January 1942, and up to May of that year, the oscillator moved sidewise, although actually prices were still receding as shown in diagrams 1 to 5 inclusive. But none of these 5 diagrams would seem to reveal any lessening of pressure which is so clearly suggested by diagram 6 for those months. This alone, while somewhat encouraging at the time, would not constitute a "buy signal". It is true that as of the end of March 1942 a buy signal was furnished by Section I. However, the interpretation is somewhat different and will be fully explained later in this treatise when the buy signals are discussed. Suffice to say for the moment, that the stabilization of the oscillator during the early months of 1942 constituted part of the pattern which furnished the buy signal. The entire pattern actually goes back as far as to the low of 1940, so that in this case a two-year pattern was required - one capable of producing a bull market, and as indicated through research by earlier similar patterns of the past even as far back as generations ago when the economic and political status of the United States was, by no stretch of imagination, comparable to that of 1940-1942.

A SEVEN MONTHS' BASE: The "3 of 3 of 3" line, for which an index figure is computed each month, is - as explained - based originally on monthly mean figures of the highest and lowest daily closings for each month. Each monthly index figure of the "3 of 3 of 3" line is based on 7 consecutive mean figures. Thus, for instance, for the monthly computation at the end of each calendar month, the mean figures of the six preceding months, as well as the mean of the particular month involved, are required. For example: July of any given year would require the mean figures from January to

July, both inclusive. How this is done is explained in detail below.

RECORDING OR COMPUTING DIAGRAMS 2, 3 (& 4): An example of how various index figures are arrived at, especially the "3 of 3 of 3" line as applicable to July 1941, is shown in the tables below, which represent extracts from the Data Book pertaining to Section I of this study.

TABLE A

1	2	3	4	5
	D O W - J O N E S I N D U S T R I A L S			
Month	Highest Daily Close	Lowest Daily Close	Last Daily Close	Mean Based on Columns 2 & 3
1941				
January	133.59	124.05	124.13	128.82
February	124.76	117.66	121.97	121.21
March	123.92	120.30	122.72	122.11
April	124.65	115.54	115.54	120.10
May	117.82	115.30	115.76	116.56
June	123.97	116.18	123.14	120.07
July	130.06	122.85	128.79	126.46

For the purpose before us, the figures in column 4 may be ignored at this time. (Incidentally, these figures form part of Diagram 2 on page 6.) The mean figures of column 5 were obtained by the simple procedure explained on page 7, under the heading "Diagram No. 2", and they are also graphically shown in diagrams 3 and 4. Thus, for instance, the January entry of 128.82 in column 5 was arrived at by adding the January figures 133.59 and 124.05 (in columns 2 and 3) and dividing the total by 2.

COMPUTING DIAGRAM 5: In the next table below, columns 1 and 5 are repeated, but the additional columns 6 to 9 inclusive show the manner of arriving at the index figures which serve as a base, permitting the plotting of the two moving averages of diagram 5 on page 8.

TABLE B

1	5	6	7	8	9
Mo	Mean Based on Columns 2 & 3	2 Months' Moving Average of Mean	3 Months' Moving Average of Mean (Col.5)	3 Months' M. A. of 3 Mo. M.A. ("3 of 3")	3 Months' M. A. of Column 8 (3 of 3 of 3)
1941					
Jan.	128.82				
Feb.	121.21	125.02			
Mar.	122.11	121.66	124.05		
Apr.	120.10	121.10	121.14		
May	116.56	118.33	119.59	121.59	
June	120.07	118.32	118.91	119.88	
July	126.46	123.27	121.03	119.84	120.44

These 7 figures → produced through columns 7 and 8 → this single figure

The February figure of 125.02 in column 6 represents the addition of the first two figures (128.82 and 121.21) of column 5 with their total divided by 2. The 121.66 entry for March in column 6 is found by moving a month forward and repeating the process; 121.21 and 122.11 of the preceding column were added and the total divided by 2. Moving similarly another month forward, the next result for column 6 is obtained in a corresponding manner, and so on, moving down the columns (hence the expression "moving average").

The entries in column 7 are obtained in a similar manner. The figure of 124.05 for March constitutes the result of the addition of the first three figures in column 5 (128.82, 121.21 and 122.11) with their total divided by 3. The next figure of 121.14 is based on the February, March and April figures (of column 5), which are added, and the total again divided by 3. Note that of the three base figures in this case, namely 121.21, 122.11 and 120.10, the first two (121.21 and 122.11) were also used in the preceding computation. This process repeats with each month moved forward. The three months' moving average is not plotted graphically in any of the diagrams.

Having thus computed a 3 months' moving average (column 7), it is equally simple of course to now arrive at a 3 months' moving average thereof, giving us a 3 months' moving average of a 3 months' moving average (a "3 of 3" line), as recorded in column 8. This line likewise is not plotted on any of the accompanying graphs, but if this were done, it would of course plainly show that it is a smoother line than one plotted of the figures in column 7. This is the case primarily because column 7 is based on only three of the figures of column 5, while those in column 8 can be traced to five such base figures (in column 5). The smoothness is somewhat accentuated by the employment of a moving average of a moving average.

It stands to reason that if this principle is carried a step further by computing once more a 3 months' moving average based on the last one, namely the "3 of 3" line (of column 8), we obtain a still smoother line for exactly the same reason, namely

a 3 months' moving average of
a 3 months' moving average of
a 3 months' moving average

or, for short, a "3 of 3 of 3" line. Such a line is shown graphically in the center diagram on page 8. It serves our purpose well, not only because of its smoothness, but also because it rests on an important stock market time factor: 7 months. More about this later.

The figure 120.44 (column 9) is the result of the addition of the three figures shown in column 8 of Table B, then dividing the total by 3. Of these three figures in column 8, the first one (121.59) is the result of the inclusion of the March entry in column 7 (124.05), while the last figure in column 8 (119.84) takes in July (121.03) in column 7. Examining likewise the first and last entries in column 7 (124.05 and 121.03), we find that the former includes January of column 5, and the latter July of the

same column. The rest of the entries in column 7 (namely 121.14, 119.59 and 118.91) of course include all other entries of column 5 between January and July. Thus, in short, the July figure in the last column of Table B - through its "3 of 3 of 3" computation is a "base" line of seven consecutive months of original mean monthly stock average index figures.

COMPUTING THE FIRST OSCILLATOR: All that is required to arrive at the index figures such as plotted in diagram 6 is to determine the difference between columns 6 and 9, or the two lines representing diagram 5 as we have seen earlier (page 11, under "Diagram 6"). We are interested in ascertaining the extent to which "current" prices - as represented by a 2 months' moving average - are either above or below the recent longer term or base trend which is here our 7 months' trend, or the "3 of 3 of 3" figures. Table C which follows lists the corresponding figures for the year 1938, the first of the five years recorded on Graph 2 (page 8).

TABLE C

1	6	9	10
Date 1938	2 Months' Mov. Av. of Mean	3 Mo. M. A. of Col. 6 (3 of 3 of 3)	How Much Is Col. 6 Above or Below Col. 9?
Jan.	125.85	145.59	- 19.74
Feb.	126.35	135.00	- 8.65
Mar.	120.08	128.25	- 8.17
Apr.	113.36	124.58	- 11.22
May	112.80	121.40	- 8.60
June	118.19	118.43	- 0.24
July	131.26	117.24	+ 14.02
Aug.	140.33	119.76	+ 20.57
Sept.	138.72	125.54	+ 13.18
Oct.	142.58	132.28	+ 10.30
Nov.	150.46	137.93	+ 12.53
Dec.	151.67	142.33	+ 9.34

The reader will recall that in diagram 6 - the First Oscillator - the fluctuating line registers the extent to which the 2 months' moving average of diagram 5 is above*the heavier base, or the "3 of 3 of 3" line. In Table C and the Data Book the figures of these two moving averages are recorded in columns 6 and 9. The differences between them are entered in column 10. When, for any given month, the figure in column 6 is under that in column 9, the corresponding resulting difference in column 10 is prefaced by a minus sign; however when column 6 shows a higher figure than column 9, then such difference is prefaced by a plus sign and entered in column 10. (* or below)

PLOTTING OF OSCILLATORS: These figures in column 10 represent the fluctuating line of diagram 6; it oscillates around the horizontally-drawn line at the zero level of its scale - shown on the left margin of that graphic picture. When plotting on a graph, a minus figure in column 10 is plotted in the minus zone (below zero), and a plus figure in column 10 is plotted in the plus zone, or above zero on the graph. The graphic record is made with the help of

two scales (see page 8); the index scale on the left, and the time scale. In plotting the figures of column 10 of Table C, a dot was made about 19½ points (-19.74) according to the minus scale, and vertically above January 1938, as indicated by the time scale at the bottom. Then, in the February column, a dot was placed 8.65 points below the zero level, and these two dots then connected by a short straight line. The same procedure is followed throughout. However, as stated earlier, neither diagram 6 nor any of the others shown thus far (except diagram 1 on page 6) is actually plotted on the Master Chart - which is the working chart - because the interpretation is based not on the "first", but rather on the improved "second" oscillators, of which there are three, namely Sections I, II and III. Nevertheless, the manner of plotting these "second" oscillators - also termed "final" oscillators - is of course the same, only the index figures differ, as we shall find explained shortly in the pages which follow. The purpose of having plotted diagrams 2 to 6 inclusive on pages 6 and 8 was merely to facilitate the presentation, as well as the understanding of the principles of the formula and its features.

METHODS EMPLOYED TO SMOOTH LINES: As may have been observed, various means were employed to iron out or eliminate many erratic minor price fluctuations which could be confusing and misleading in the study of the longer term trends. (1) All hourly or intraday fluctuations are ignored; (2) Daily and weekly ranges are omitted; (3) Only monthly figures are used; (4) The monthly closings were eliminated as being too erratic; (5) The monthly extremes were avoided by computing mean figures based on the highest and lowest daily closings of each month; (6) The "current" trend for Section I represents a moving average; (7) The "underlying" or longer term base trend for Section I has been computed with the help of a multiple moving average. The latter method is exclusively used in Sections II and III of the Basic Trend Barometer for their respective shorter as well as longer term trends.

THE ELEMENT OF TIME: As has been explained in preceding pages, the formula of Section I of the Basic Trend Barometer has been made up in such manner that a shorter term trend is compared, as to the extent of its gyrations, with that of an averaged longer term trend. The first oscillator of Section I records the mathematical difference between the index figure of a 2 months' moving average and that of an average covering a 7 months' period (3 of 3 of 3). The selection of 2 months and 7 months is not accidental or arbitrary. Close observers of stock market fluctuations have discovered cyclical tendencies involving certain periodicities in the patterns of price fluctuations. These cyclical phenomena are a separate study. There is an undeniable influence of the element of time on the fluctuations of stock prices, both as they affect the shorter and longer term fluctuations. While the influence of cyclical periodicities is a marked one on stock prices, it is not of such a high degree of dependability as to justify that it be used as a guide to the exclusion of all other methods. However it is of sufficient importance and value to be used in conjunction with other studies. Since in the formulation of the three Sections of this Barometer it was necessary to select certain time periods over which a shorter and a longer term price trend should be averaged, and since also that part of the formulae which covers the conversion of the first oscillator of each Section

into a second oscillator, and this in turn likewise necessitates the selection of certain time elements, it was theorized that the inclusion in the formulae of such periodicities as research work had proved to be rather frequent in the general price trends would contribute toward a more scientific approach to the subject. My investigations have disclosed that oscillator formulae based on arbitrary time factors are also of some value; however, not to the same high degree as those based on periodicities of proven value. A glance at any chart covering a fair period of market fluctuations easily shows that many short term trends last about two months. This periodicity is not an exact one, but is in the vicinity of some time factors of somewhat shorter and longer duration. In the case of Section I of the Basic Trend Barometer, the two months' period is therefore an approximation, and the closest that could be selected considering that the formula of this Barometer is based on monthly figures. However, as far as the seven months' period is concerned on which the underlying computed trend is based (namely the "3 of 3 of 3" line), this is one of the outstanding time factors, and a rather exact one of frequent repetition and importance in stock price fluctuations. The writer has conducted an enormous amount of research work over a period of years on the difficult subject of the time element in the stock market. When thereafter the construction of the Basic Trend Barometer was undertaken, it was therefore possible to incorporate in the formulae of the three Sections involved some of the benefit of the discoveries of stock market cyclical tendencies. This was done in each case to the limit of the extent possible under the circumstances, not only as to the shorter term lines (as in Section I with the 2 months' average of the mean), but also as far as the longer term line is concerned (the "3 of 3 of 3" line of the same Section); in addition, when it came to selecting the most appropriate time element for the ratio computation for each of the 3 Sections, which converts the preliminary (first) oscillators into the final (second) oscillators for each Section, and on which the interpretation rules are based.

OSCILLATOR VS. MOVING AVERAGES: The advantages offered by plotting the oscillator form rather than the moving averages are manifold and center primarily on facilitating interpretation of trend probabilities. This, after all, is of paramount importance - the heart of the objective desired. Even though diagram 6 shows only the preliminary oscillator (which will yet be improved upon), a brief comparison with diagram 5 (the moving averages) already clearly reveals the superiority of the former.

We have observed, for instance, just prior to the late 1938 top the published stock averages advanced, and that this rise reflected itself also in both moving averages, thus tending to cloud the hidden underlying weakness, and to sustain - if not increase - a false sense of confidence and optimism. In contrast, at the end of September the oscillator revealed a recession from above its plus 20 level. This recession was somewhat greater by the end of October, and the dangerous "new high" of the top month (November) reflected itself only by a feeble upturn in the oscillator. A glance at the upper diagram on page 6 shows that the highest monthly closing figure was recorded a month later, with the close of the year. The September-November rise appeared consolidated and new highs due;

both moving averages recorded new high levels for the then-prevailing advance. In contrast to all this, the oscillator registered a further recession, which now amounted to over 10 points as measured from its August 1938 peak, and was now even lower than at the end of October. What followed was a decline of over 30 points (in Industrial stocks), from above 150 to 120, as shown in diagram 1 (page 6).

We furthermore took note (see page 9) of the winter 1939-1940 situation prior to the disastrous toboggan of May 1940. These high price levels of 1938 and 1939-'40 were not improved upon until years later.

There was also the prompter reversal upward of the oscillator, by one month - as compared to the moving averages - during the summer of 1940 from around the "minus 20" level. A similar earlier reversal goes to the credit of the oscillator at the subsequent recovery top of the same year. The oscillator peak was established in October; that of the published average and the 2-month moving average in November.

Diagrams 4 and 5 show lowest levels of the entire 5-year record (Graph 2) during 1942 when the base for an important bull market was being established; yet at that favorable time the oscillator remained higher than even its 1940 and 1938 lows, not to overlook its sidewise move during the early part of 1942. The oscillator form of plotting has the further advantage of keeping all fluctuations within more or less the same relatively limited range of its plus and minus scale. The price fluctuations of the averages or its moving averages may be low during periods of depressions, and at the peaks of boom periods rather high, and thus cover a wide range. However, the oscillator reflects these gyrations all within reasonable limits of its zero or center line. This, in turn, permits the formulation of interpretation rules in such manner that reference can be made in same to the scale index figures of the oscillator. Research has disclosed that in the past certain patterns which have reached certain index figures of the oscillator scale played a role in important reversals, and this of course is significant, for the repetition of this phenomenon within the long period researched promises the strong probability that this will also occur in the future. Needless to say, this could not be done with the published averages in their original form. No one would dare to predict that every time a given index figure is reached in the averages, this is a good assurance of a major trend having terminated.

These observations refer in part to prompter oscillator reversals followed by secondary price swings of months' duration; they are not pointed out as "signals" for such moves. The Basic Trend Barometer intends to disclose only the impending moves of much longer (usually years') duration. The purpose is rather, at this time, to merely point out some of the characteristics and obvious advantages of the oscillator principle as employed here over other more widely used methods, and in particular over the use of moving averages. The latter contain some valuable features, but they are used in the Basic Trend Barometer merely as a stepping stone toward an analytical method considered to be more advanced.

CROSSING THE ZERO LINE: Diagram 6 is termed an "oscillator" because the 2 months' moving average, or rather, its mathematical difference in relation to the "3 of 3 of 3" line, produces a fluctuating line which oscillates above or below the zero or center line, and of course these crossings occur at exactly the same time as the two lines of diagram 5 cross each other. As an illustration, three such simultaneous crossings are pointed out on Graph 2 (page 8).

COMPARING DIAGRAMS 4 AND 6: Both of these have in common straight lines representing the "underlying" or longer term trend as a base around which the more recent "current" or shorter term trend fluctuates. To a certain degree both diagrams reveal a tendency of the erratic line ("current" market) to record temporary upper and lower extremes of approximately equal distances removed from their respective straight lines. One difference of course is that the type of straight line shown in diagram 4 can only be drawn in retrospect, while the one in diagram 6 can be inserted in advance. This of course makes diagram 6 one of practical value to the analyst. The latter picture is not only often more prompt in its reversals than the moving averages (of diagram 5), but even frequently, though not always, more sensitive than the non-averaged mean prices as plotted in diagram 4. During the 4-year period between the summers of 1938 and 1942, eight secondary swings reversed. In five of these eight, diagram 6 turned before diagram 4, twice simultaneously, and only once later. Such sensitivity is bound to assist in obtaining prompt "signals", as we shall learn later.

Thus we encounter here in diagram 6 hints of some truly "barometric" characteristics. While these, as discussed so far, are mostly of secondary nature, their type form part of primary signals in certain respects, and that, after all, is the purpose of this study. Although the improved second or final oscillators of each of the three Sections comprising this Barometer are employed in endeavors to discern the probable major trend reversals, we find that even the first or preliminary oscillator of Section I clearly shows that the action of the market itself (as represented by an average) can be subjected to analysis. Already the mere approach to the method described herein is beginning to reveal to the reader some of the hidden strength and weakness of the Law of Supply and Demand. This is important, for observations of this nature lend significance to what was stated under the heading "Effects" on pages 2 and 3, especially in the last sentence of that paragraph.

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