TECHNICAL ANALYSIS AND STOCK MARKET PROFITS

A COURSE IN FORECASTING

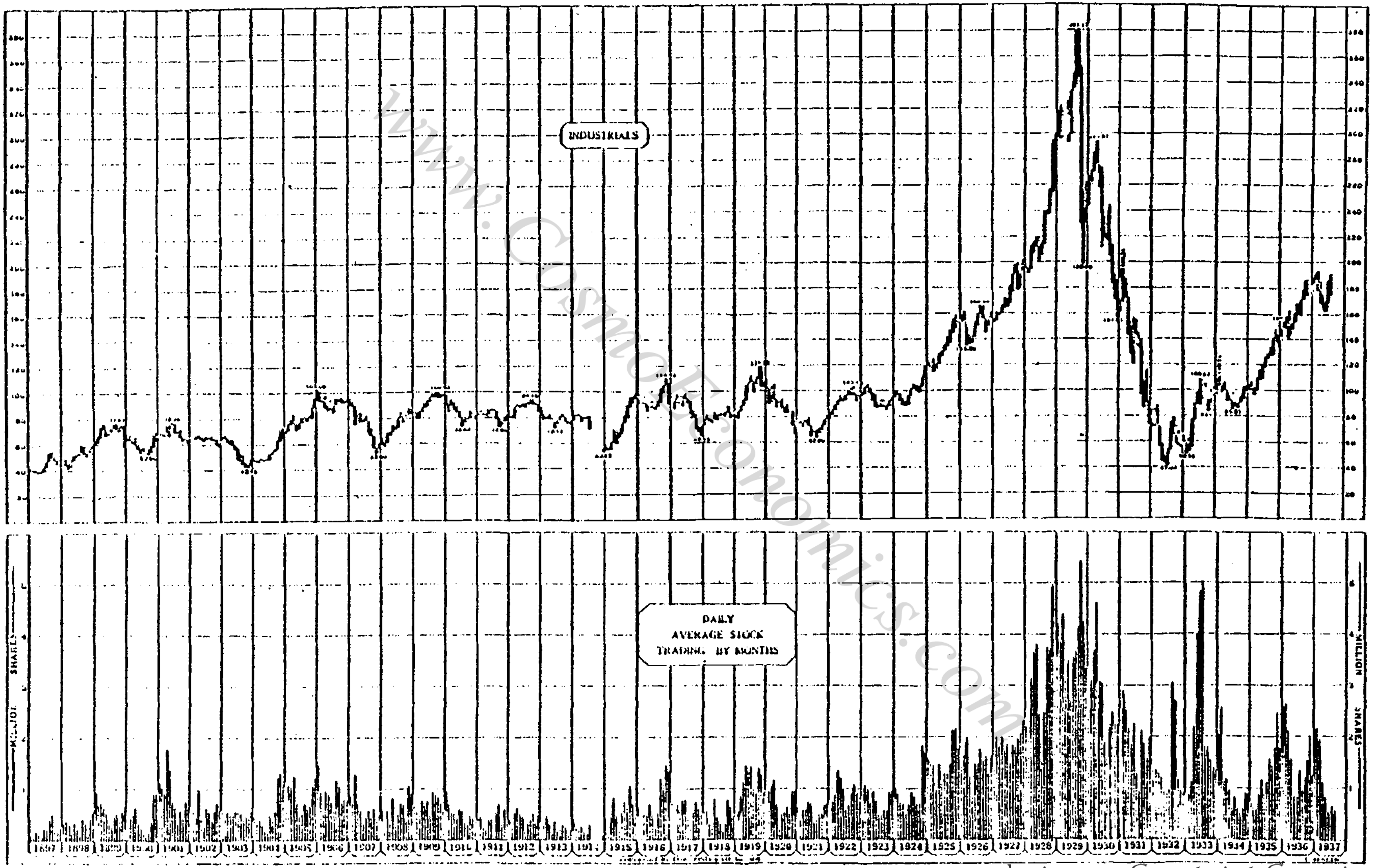
founded by

RICHARD W. SCHABACKER

former Financial Editor of Forbes Magazine
and author of
"Stock Market Theory and Practice"
and
"Stock Market Profits"

THE SCHABACKER INSTITUTE
11 Stone Street,
New York City

PLATE No. 1



THE DOW-JONES INDUSTRIAL STOCKS AVERAGE

Monthly High and Low of Closing Prices -- 1897 Through August, 1937.

PREFACE

The preparation of this Course in twelve lessons, or studies, on the technical approach to successful trading in stocks, comes in answer to a definite and insistent demand from many students for assistance in stock chart work and market analysis.

Some of these students are new to the game, beginners who wish seriously to prepare themselves for an active market career, or who want to study it thoroughly before deciding to enter it actively. Another large group is made up of those who have had more or less experience in the market, trading on either their own "hunches" or the advice and tips of others, and have come to realize that a great deal of money can be made in the market but not by hit-or-miss methods, and certainly not by following blindly the lead of others.

A third group consists of experienced and often very successful traders and investors who know the importance of correctly evaluating the technical side of the market in order to time their operations for maximum profits.

And, finally, there are always those individuals who are seeking an easy key, a magic formula that will take them to riches without effort.

For the class last named this Course is definitely not intended. There is no "magic key" to stock market profits. The founder of the Schabacker methods of technical forecasting in his many years of research, with the facilities of large financial and investigative organizations, tested literally hundreds of "systems" and formulas - not only on paper but in actual market operations - and found no dependable short cuts, no systems that can take the place of careful, constant application of the principles of technical analysis.

(It may well be said at this point, however, that research along promising lines has never stopped and never will. This science is not static, though the fundamental law of supply and demand which it seeks to interpret can never be repealed. This Course today incorporates several amplifications and refinements which have come through the "acid test" since it was first organized.)

So, to the hopeful seeker for an easy answer, we can say only this:- You will get out of this study only what you are willing to put into it and continue to put into it for as long as you trade in the security markets.

But the earnest student of the science need have no misgivings. Every effort has been made - with reasonable success, we believe - to make each point and each method taught herein clear to understand and thoroughly practicable. Complicating and, in some cases, highly publicized theories which exhaustive tests have shown to offer results not commensurate with the time and expense their practice entails, have been avoided. Instead, the effort has been to explore and to teach the basic principles and the methods which any man can apply in his spare time, and without the necessity of paying to others a continuing toll for statistical or advisory services.

In brief, this Course is organized to serve the average man who can devote only an hour or so a day, and perhaps only a few hundred dollars, to his market operations, as well as the professional full-time trader.

Also, it has been our endeavor to make the student independent in thought. For it is unquestionably true that no man has ever, over any period of time, made and kept stock market profits unless he has developed the qualities of independent judgment and action. This course of study is designed to enable you to see the opportunities for yourself, to decide the questions of "what" and "when" for yourself, and then to act with confidence.

The average man of intelligence who brings sober study and application to his market analyses can - as we have ample proof - find dependable profits in the stock market, year in and year out, through Bear markets as well as Bull. He will not suffer the crippling losses that came to thousands, incredibly enough, even in the wild Bull market of 1928-29. And he will discover the interesting truth that trading in stocks is the one and only business activity in which money can be made just as well in times of general business decline as during boom periods.

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Definition of a Stock Chart

There is perhaps no better way to begin a discussion of stock charts than to agree on a definition for them. A stock chart is a pictorial record of the trading history of any stock or group of stocks. This is a perfectly simple definition of our subject yet it is general enough to cover all of the many charts, pictures and formations which we shall discuss in subsequent pages.

A stock chart may conceivably be so simple a thing as the picture of the closing price of one stock issue on the last trading day of each year for only five or ten years. The picture would not mean a great deal, yet technically it would fit into our definition. It would be a pictorial record of the trading history of this stock. It would be a stock chart. It would differ only in degree from the most complete, most detailed and painstaking stock chart that we might construct.

An "Advanced Course"

For the purposes of this study it will be necessary to assume that the reader is quite familiar with stocks, with securities in general, with the theory and practice of open-market trading and with all of the myriad technical details covered by our term "trading history." To this extent our present study is somewhat of an "advanced course" in stock market operation, and it is only fair to suggest that fundamentals of the market be studied and mastered before undertaking to benefit from this course. *

Beyond this introductory generalization, however, it shall be our constant and continued aim to be as certain as possible that our thought is made clear by simplicity of language, by constant stressing of important points, by myriad examples and even by possibly tiresome repetition. And it will perhaps be necessary to request the forbearance and indulgence of our "brighter pupils" or more experienced readers if they find us apparently verging on "complete recall" in order to be certain of full understanding.

As an example of this possible fault we are constrained to return for a few moments to a more detailed examination of our introductory definition of stock charts. The stock chart is a pictorial representation of any stock's "trading history." In the study of stock charts we are not primarily interested in

* Refer to "Stock Market Theory and Practice" by R. W. Schabacker, Forbes Publishing Company, New York, N. Y.

anything but actual trading, -- that is, the record or result of the orderly buying and selling of any issue in the course of actual trading on any open market.

Pure Technical Action

We are not interested, for example, in the company behind the stock which we are studying. We do not care, for our immediate purpose, whether the corporation manufactures mousetraps, tin cans, locomotives or aluminum toothpicks. We are not particular as to whether it is an industrial, a railroad, a utility or a what-not. Technically the company behind the stock might even be in receivership, with its plant shut down entirely and making nothing at all. For our primary purpose of charting that stock it would make no difference, so long as the stock itself continued to enjoy fairly active trading in some orderly and well regulated open market security exchange.

The reader must not get the impression that such fundamental factors are unimportant in trading, in analysis, in forecasting. They most decidedly are and they most decidedly should be taken into serious consideration when studying any stock or any stock chart for practical purposes. We merely assert that the stock chart itself has nothing to do with such fundamental factors. It concerns itself solely with the stock's actual record in open-market trading.

Fundamentals Reflected in Technical Action

In the record of such trading all of these many and varied fundamental factors are brought to bear, are evaluated and automatically weighted and recorded in net balance on the stock chart.

The trading in any stock is largely the result of the influence these fundamental factors has had on each buyer and seller of each share of stock. The stock chart is a pictorial record of such trading, so that it, in itself, is a reflection of all those other factors and, from a purely technical standpoint, need therefore concern itself no further with such fundamental considerations.

Stocks Eligible for Charting

And, incidentally, since a stock chart is merely a record of trading, it follows that any stock is eligible for charting which enjoys a trading market. Any stock, and for that matter any article or service, which is bought and sold for a publicly listed price, can be charted. For practical purposes, we shall see later that in order to be a valuable subject for study a stock should have a free and open market, and an active market, but the fact remains that any traded stock can be pictorialized in a stock chart.

And in like manner, according to our definition, a stock chart may be constructed for more than one stock at a time. Any number of stocks may be included in a single stock chart though the clearest results are obtained by averaging all of the component stocks or figures into one series and thus making the chart into a composite picture which looks like the record of trading in merely one stock, but, in reality, is the composite result of trading in a great many stocks combined. Such composite charts on groups of stocks are called "averages".

Proceeding further with our definition of a stock chart we note that it is primarily "a pictorial record." A stock chart then is a picture. One of the most simple and easily understandable advantages of a stock chart is that it presents a picture at any desired instant of stock history which has covered many months or years and which, in the absence of the chart, it would take many hours, or even weeks, of diligent research to produce.

The Pictorial Aspect of Charts

Since the stock chart is a history of trading it finds its primary basis of construction in actual trading, and in the units of such trading. The most common and accepted trading place in stocks is the New York Stock Exchange. The results of trading on that exchange are primarily recorded in brokerage offices throughout the country through the medium of the stock ticker. But for many apparent and practical reasons the majority of people interested in such trading are not able to be in personal attendance to watch the trading record unfold itself in a brokerage office from 10 to 3 o'clock each day. The newspapers and other periodicals and services bridge this gap by reporting daily the results of such trading. Any person interested in the stock market, therefore, may save approximately five hours a day by examining merely the total results of the day's trading.

Just as the newspapers save time and energy by summarizing stock trading each day, so the stock chart goes further in its service by saving days, weeks, months and years for the interested student. If he wishes to review the past year of trading history for any stock without reference to a chart, he must go back over the newspapers for more than 300 days or, at best, his own records summarizing those 300 days of trading. But if he takes advantage of the services offered by the stock chart he may save all this time and effort. At a glance he may have before him the complete record of the past year's daily trading in any particular stock.

Charts as the "Complete Memory"

Even if there were no saving of time and effort, stock charts still retain their greatest advantage, however, which is one of complete memory. If the individual were satisfied to spend his precious hours poring over the written or printed record of the past year's trading in any stock, as presumed above, he would still be under a terrific handicap of trying to remember the characteristics of February trading while looking at the record for October. Unless he had an almost supernatural memory he would have to be constantly referring from one period of time to another in order to make any complete order or analysis out of his research.

But if he uses a chart of this stock, how much simpler is his task. Here is the picture, before his eyes in black and white, permanent, accurate, compact, — the very picture which, without the chart, he would be trying hazily to recollect or construct in mental imagery.

The stock chart's chief value, therefore, grows out of its being a "pictorial record" of trading history. Because it is a picture the stock chart makes the past history of any issue an open book, simple, easy to read, easy to study. Its use brings advantages similar in practical result to the telescope, the X-ray, the electric eye and other modern devices which save so much time and energy in fundamentals and details that they make possible the transference of such energy into the more productive channels of study and research.

Technical Chart Action — The New Science

And this thought brings us naturally to by far the greatest practical advantage of the stock chart. Because it makes the groundwork of fundamental co-ordination of facts so easy, so simple, so readily grasped, it leads naturally into a more detailed study of the phenomena which it pictorializes, — the actual results of the trading history presented, the patterns, the rules, the characteristics of behavior; in short, it leads to a new science, — the science of technical chart action.

Technical market action is that aspect of analysis which is based upon phenomena arising out of the market itself, to the exclusion of fundamental and all other factors. In fact, technical action may also be explained as merely the antithesis of the fundamental considerations. The fundamental aspect of market analysis lays special stress upon such factors as the corporation behind the stock, its business, its prospects, its past, present and future earnings, its balance sheet, its financial strength, the quality of its management and so on. Fundamental factors include the dividend rate of the stock in question, its capitalization, its yield, its distribution and countless other factors which may have direct or indirect bearing upon the intrinsic worth of the stock, upon its theoretical price, upon what the individual may think it should sell for, or upon the true value of the issue in question.

Such fundamental factors are highly important and must be taken into careful consideration by the investor or trader. But they are not the technical factors which we are about to study. The technical factors are what might be termed the residuum of the total sum of all aspects bearing upon the probable market value of the stock, after the more apparent and fundamental factors are eliminated.

Technical vs. Fundamental Factors

When we have finished our fundamental analysis of earnings, financial strength and all the rest, there is still something left to be considered with regard to the future price at which any particular stock may sell. That final consideration has to do with technical market action.

Realizing the presence and the importance of this "other factor" makes it more simple to analyze it. We have defined technical action as the phenomena arising out of the market itself. That market is nothing more than a group of buyers pitted against a group of sellers. And it stands clearly to reason that in any open market if there were more sellers than buyers, or more shares of stock for sale than for purchase, then the quotations or prices for that stock would decline.

Ours not to reason why there was more stock offered than the demand could sustain. Ours merely to detect the technical fact that there were more sellers than buyers. That was the important point, for it meant the stock was going down, all fundamental factors to the contrary notwithstanding.

Such considerations form the basis for our statement at the beginning of this chapter that stock charts, and thus also technical action, take no consideration of fundamental factors like earnings, management, balance sheets and so forth, in their primary analysis. We shall see later that fundamentals are highly important adjuncts to the study of technical action and are, in many cases, more important for the long pull than are the temporary technical aspects. But in our introduction to the subject and for our basic understanding of stock charts we must realize that in themselves they completely ignore fundamentals, — in fact they completely ignore everything except technical market action, the balance between buyers and sellers, the balance between supply and demand for any stock or group of stocks, — in short the phenomena arising out of actual trading, per se, in a free and open market.

Reasons for Contrary Technical Action

Perhaps it is too mysterious and suggestive of legerdemain to intimate that we need not question why a stock suddenly declines on weak technical action just when its fundamental aspects appear the strongest. There are many possible reasons, but they arise, like the technical action itself, primarily out of the market.

Speculators may have bought the stock months ago in anticipation of the development of these favorable fundamentals, and as they appear the speculators sell out and take their profits. Perhaps a group of powerful insiders, or officials of the company, have loaded up too heavily with the stock. Perhaps they realize that the fundamental situation is not as strong as the news makes it appear. There are any number of reasons why the technical position may be the opposite of the fundamental position.

The important point is that when they are at variance, the technical position wins out, since it is closer to the market, and the open market is what makes stock prices move. At least the technical position wins out immediately, even if only temporarily, and the technical position is therefore more important than the fundamental position for the short-swing trader or speculator who is looking for his profit from the current price movement of the stock and is not, like the investor, buying to put away for the "long pull."

Although through the medium of stock charts we can get a better judgment on the technical position of the market at the moment, that technical position is constantly changing and is subject to very rapid and substantial swings from very strong to very weak in a few days or even, at rare intervals, in a few hours. It takes practically no time at all for a huge lot of buying or selling to come into the market and such events are reflected in technical action and lend themselves to chart analysis.

The fact is, however, that technical action does not generally change so rapidly and, having determined whether the technical position is strong or weak, we are a little ahead of the game already, because the technical position is the factor which is going to influence prices either up or down not yesterday, or even now, but in the future, even though it be only the immediate future.

Technical positions do not generally change rapidly unless fundamentals receive a terrific impulse which is so strong as to overcome the "status quo" between supply and demand. In the general run of affairs a strong technical position will take days, weeks or months to build itself up, will have its strong effect for months, and then will take additional days, weeks or months finally to exhaust itself and switch to the opposite state of weak technical position. During all this gradual change market profits are available through proper analysis of the technical situation.

Summary of the Technical Approach

To summarize our introductory discussion, it is not enough to know the fundamental position of stocks. We must also know their technical position. For the short range, technical considerations are even more important than fundamental statistics, but "the compleat angler" will know both. Fundamental considerations are easy for the average student. Technical aspects are not so easy or so certain but they are reduced to somewhat of a science by the study of stock charts.

Through the medium of stock charts we may arrive at a better understanding of the phenomena which attend the gradual but constantly shifting balance of power between supply and demand in the stock market.

The Introductory Warning

The following lessons are devoted to such a study but in a spirit of broadmindedness and conservatism which it is highly important that the reader should share. If there is one generalization about the whole subject of stock charts which we may suggest at the very introduction of our study, it is the definite caution that the reader be skeptical of any apparently "sure thing." This may sound like a poor anticlimax with which to open such a study but we do so with well-weighed forethought.

We are most definitely a firm believer in the usefulness of stock charts and their high value in delineating the technical position of individual stocks and the general market. Stock charts are, in our opinion, the most important single aid in forecasting future price movements and we constantly stand on the reiterated premise that they are an absolute necessity for successful stock trading.

Beware of Early Presumption

But it is this very faith in the efficiency of stock charts that leads to an introductory warning against over confidence and mistrust. There is nothing like the thrill that comes to the beginner when he once commences to master the rudimentary principles of chart reading and sees his first few forecast analyses turn out correctly.

The greatest danger for the beginner lies in just this primary awakening to the value of his study. With his first few successes he is likely to mistake a probable forecast for a certain one, to become overconfident, to overtrade, and suddenly find himself involved in a disastrous quagmire of heavy losses and, what is perhaps more important, in a hopeless state of indecision, mistrust, skepticism, and bitter disappointment.

No Easy Road to Profits

There are literally thousands of unfortunate examples in our files and in our acquaintance with students who became know-it-alls in the first blush of their maiden success, — whose cupidity was so sharpened by the early realization of the basic value in technical analysis that they rushed headlong into the pitfalls of chart reading and chart trading without displaying enough patience and forbearance to complete their study and perfect their knowledge of basic principles.

The reader may be certain that all of the principles educed in the following study of stock charts and technical action are considered valuable or important, or they would not have been included. But the reader may also be just as certain that none of those principles are guaranteed to be 100 per cent infallible. We have been able to find, though sometimes with difficulty, exceptions to practically every formation, to practically every rule. Furthermore, we know of no practical rule of stock charts or stock trading which may not, under certain conditions and at certain times, have such exceptions.

By no means the least important aspect of successful chart reading and chart trading, therefore, is the early detection of such exceptional cases, the almost intuitive, subconscious suspicion of certain formations and, above all, the ability to avoid or limit loss on such exceptional situations.

We have endeavored to suggest methods for attaining this happy state but, in the last analysis, it comes generally from long study, from long experience and from long foresight; and the greatest of these is the attitude which we are attempting to foster in these paragraphs, — that of a healthy skepticism toward all rules, a scholarly spirit of conservatism and humility in the face of a great and valuable science and a conservative habit of action in all practical market trading.

Newspapers Which Publish Charts

Public and professional interest in stock charts has increased so rapidly in recent years that the demand has led to a growing supply of sources from which stock charts may be purchased ready made. Even some of the newspapers have begun to publish individual stock charts, either in continuous series or merely from time to time. Regular publication of stock charts in the newspapers is still confined generally, however, to the printing of "average charts," or charts showing the pictorial history of leading stock groups, rather than individual issues.

Among the New York daily newspapers which publish average charts regularly are the New York Daily Investment News and the Wall Street Journal. The Wall

Street Journal publishes daily an up-to-date record of its own averages of 30 railroad issues, 30 industrials, 20 utilities and 40 bonds, in separate charts, and is the most valuable daily publication for the perusal of charts already made.

The New York Daily Investment News publishes the long-range daily chart record of a well-known average of 90 stocks. Most of these average charts also carry the daily volume of sales on the New York Stock Exchange.

The New York Herald Tribune publishes every morning the picture up to the previous day's closing of its own, highly respected average of 100 stocks. The New York Times also prints every morning a chart of the Times average of 50 stocks. The New York Sun, among the evening papers, carries in its final editions a chart of its own average of 50 stocks. And most of the other metropolitan newspapers of conservative appeal publish from time to time charts on a variety of financial and business trends as well as stocks.

Magazines Which Publish Charts

Magazines have been a little slower in keeping abreast of public interest in stock charts but there are a number which carry regular charts on market averages. The Magazine of Wall Street, published bi-weekly, is perhaps the best-known and carries not only its own average chart, in which the prices of 295 common stocks are averaged, but a variety of other financial charts as well. Forbes Magazine publishes regularly a long-term chart of weekly ranges on the New York Times, or Annalist, average, showing for the past four or five years the course of the three Times series, the groups including 25 industrials, 25 rails and the 50 industrials and rails combined in a single index.

The Annalist, published weekly by the New York Times, shows these same averages for a shorter space of time and also carries a very interesting series of comparative charts showing averages of groups of the leading stocks in practically every important field of industry. Barron's, published weekly by Dow, Jones & Company, offers approximately the same charts which the Wall Street Journal, published by the same company, gives daily.

The New York Stock Exchange Bulletin, published monthly and sent free on application, contains a great valuable fund of statistical information as well as many charts on a great variety of financial and stock trends.

Services Selling Daily Charts

Such average charts are useful in gauging the trend of the general market but for the sincere student who wants to make real progress in chart analysis for himself it is mandatory to have at hand charts on individual stock issues, for they are the fundamental basis of all stock chart science.

The pioneer and probably best known publisher of ready-made stock charts is Graphic Market Statistics, Inc., 11 Stone Street, New York City (estab. 1919). This firm offers up-to-date daily or weekly ($8\frac{1}{2}$" x 11") charts of all stocks listed on the New York Curb or Stock Exchanges - daily back history being available from 1928, or date of listing, and weekly from 1929.

This concern also publishes at regular intervals, in loose-leaf book form, a "Master Unit" of over 500 daily, weekly and monthly charts (1924 to date) on 100 active individual stocks and the better known market averages. For the student who wishes to follow a fewer number of stocks, a similar record ("set") is also available in either of two groups of 50 active stocks each.

Although daily, weekly and monthly charts are, when considered together, very valuable tools in the study of technical action, those who prefer may obtain separate single books of daily, weekly or monthly charts on either of two standard lists of 50 stocks each.

Graphic Market Statistics, Inc. also designs and constructs to order security and commodity charts of any size, type or period.

Ready-Made Charts

Such services offering ready-made charts probably find their greatest subscription demand from banks, brokerage houses and other financial organizations, though the demand from individual subscribers has increased in recent years. There is no objection to the student of stock charts subscribing to such services; in fact, we advise it as the easiest and quickest way to get a group of one's own stock charts started.

A supply of these ready-made charts can get the student off to a running start for they give him immediately the background of past action necessary for the proper analysis of the current picture as it develops. From then on, however, we advise the student to construct his own charts. He may continue to purchase ready-made charts if he chooses, perhaps as a means of keeping in touch with the weekly or monthly picture on a larger number of stocks than he can conveniently chart for himself each day, but to rely entirely on ready-made charts encourages a superficial attitude toward the entire subject. The method is too easy. This may sound like the philosophy of an enemy of progress but the statement is true, nevertheless.

Advantages of Making Your Own Charts

Purely from a psychological standpoint, the student who gets a new set of charts already made up for him periodically is almost certain to view them from a less important angle than the man who is under absolute necessity of making them up for himself every day. Unless he is unusually gifted with determination and singleness of purpose the former is going to find himself pressed for time some morning or some evening and either skim over them without study, or put them away without looking at them at all. He may return to his conscientious study tomorrow but then again he may not, and the first day of flagging interest makes the next one that much easier.

But the man who makes up his own charts is in an entirely different psychological position. He may be tempted to neglect his work on them for one day but he will soon find that it is too difficult to "catch up" and he will make it a regular rule and habit of his life to post up his (possibly "cursed") stock charts every single day.

Closer Personal Contact

Beside this psychological aspect, however, there is a much more practical advantage to keeping up one's own charts. That advantage emanates from keeping in constant touch with each one of them every day. The man who has his charts before him ready-made is quite likely to skip over all but a few of his temporary favorites and thus fail to notice the development of important profitable signals in the remainder of his series.

Not so with the student who keeps his own charts. He is forced by the rigor of his undertaking to bestow a certain amount of time on each individual chart of his series each day whether he happens to be especially interested in them all or not. Through this forced, but none the less certain, closeness of contact with each single chart the student who makes his own is much more likely to shift his study and watchful attention to different charts in his series as each in turn develops more definite and profitable pictures through the course of time.

Number of Charts Necessary

The first step for the student who is going to keep his own charts is to decide on the number he wants to keep and the individual issues which will compose his portfolio. For the average beginner who is not yet certain that he wants to give much time and effort to his study, a group of perhaps fifteen or twenty individual charts should be sufficient for temporary trial. For the average trader who knows he is deeply interested in chart study and technical action a list of fifty to 100 individual charts is not too many.

After a few months of experience, when the matter of keeping the series up to date has become something of a routine matter the student will be surprised with the rapid progress he can make. Once in full swing he should not need much over 45 seconds per chart. He should be able to fill in a day's trading history on 10 charts in say 8 minutes, 50 charts in 40 minutes, 100 charts in 80 minutes and so on. If he is blessed with either a wife, a secretary or a devoted what-not who can read the necessary figures off to him from the daily papers, the time required can be more than cut in half.

Selecting the Stocks

In selecting the individual issues to be charted, personal interest will naturally play some part and the student's "favorites" may be included. Other things being equal, however, the most active and important stocks, like the "market leaders" lend themselves more suitably to chart study because they are most active, generally fluctuate in more normal patterns, are more likely to be under almost constant "street" interest, and usually show more clearly the trend of the general market.

It is also well to select stocks which have at least a fair-sized number of shares outstanding. This makes for greater public interest, a more ready market, higher activity and generally clearer technical pictures.

The best results are gained in every way by setting aside one particular period of time each day to make up one's charts, preferably either before the market opens in the morning or after it closes in the evening. The evening is better as a rule because more time can then be given to leisurely study of the formations, the proper program decided upon and, if actively trading, the brokerage orders may be sent in that evening by mail.

Whatever the time decided upon, however, it is important for ultimate success that the same time be adhered to steadfastly and by rule. There are so many reasons, so many alibis, that can insinuate themselves into the time set apart for making up charts that the program is almost hopeless unless it be made a matter of ironclad rule.

Chart Paper

The next step in starting one's own portfolio of charts is to secure the proper and necessary paper. There is room for a good deal of latitude in personal taste with regard to this subject. Many chart students have their own pet types and makes of chart paper and swear by none other. Most of the professional services and chart makers use a loose-leaf binder with paper measuring about 24 by 12 inches, but the average individual should find smaller sizes quite satisfactory, say the standard eight and one-half by eleven inches.

The smaller size has certain important advantages over the larger size because it takes up less room, leaves less unused white space, can more easily be carried about in a brief case and can be more easily removed from the portfolio for individual handling and study.

The chief advantage claimed for the larger size paper is that new sheets are not needed so often but, while this is true, there is also some advantage to the shorter sheets which run out more quickly. When this happens the price scale can be moved up or down on the new sheet so that the stock price range is not so likely to run off the sheet before its completion with respect to time. And, for that reason also, it is practicable to use on the smaller sheets a larger price scale which renders more conspicuous the technical patterns as they develop.

In any case, it is possible to put too much stress upon the correct type of paper. This is a minor matter for just about any kind of paper will give satisfactory results once the student becomes accustomed to using it and reading his own charts.

Co-ordinate Scales

About the only requisite for chart paper is that it must be ruled both horizontally and vertically; i. e., what is generally termed co-ordinate paper. Up to the point of confusion, the more lines in each direction the better. Some styles of co-ordinate paper have a dated vertical line for each day of the year. This simplifies keeping track of dates but it also distorts the picture at times, for it means that a space must be left for regular and special holidays when there is no trading in the stock market.

Plain, standard, unlettered co-ordinate paper with rulings or "screen" of about 20 lines to the inch, both vertical and horizontal, is obtainable in most large stationery stores and will serve perfectly well for all ordinary purposes. In our own work we have found Keuffel & Esser's No. 358-17 most practical of the special sheets prepared for charting security prices; this comes in the standard 8½" x 11" size, punched for insertion in a ring binder, and has its horizontal scale divided in sixths to represent the six days of the normal business week, and the vertical scale in eighths to conform with the standard eighth of a point price differential in trading. Their No. 358-17L has the same scaling but measures 11" x 16½". The Keuffel & Esser Company publishes a variety of other styles of chart paper and binders to fit which the student may buy from them direct if he wishes, and which are described in their catalog of co-ordinate papers obtainable on request from their own stores in New York or Chicago, or from their general office at Hoboken, New Jersey.

The Codex Book Company, Inc. of Norwood, Mass. also prints a large variety of types and sizes of co-ordinate paper, making a specialty of stock chart sheets.

Constructing the Scale

Having obtained the proper co-ordinate paper and decided upon the individual stocks which it is desired to chart, the next step is to construct the scale. The horizontal lines on the paper are used to measure the price and volume, so that the actual scales for these factors will be on the vertical lines, preferably at the left hand margin.

The price scale may be altered in many ways and will depend chiefly on the size and ruling of the paper and on the extent of the stock's normal range. If, for example, we are using a sheet of ordinary co-ordinate paper with 20 lines each way to the inch, and 10 inches high vertically, every inch, or every twentieth line, will generally be found printed in heavier ink to serve as a guide. For the average stock selling under 100 every heavy, inch, or twentieth, line on the vertical scale may be a unit of five full points in the price of the stock. Thus each single line will be one-quarter of a full point and the smaller fractional eighths of a point, will fall half way between two lines.

When commencing a new chart it is well to glance back over the price range for the past year and take the average price, say 65, as the price-mark for a heavy horizontal line near the middle of the page on the vertical scale. The next heavy, twentieth, or inch, line above will be 70, and the one below the first entry of 65 will be 60 and so on, as the vertical price scale is filled on the left-hand margin.

If the stock's average range has been very large and its normal fluctuations are wide then a larger price scale is in order. Each heavy, twentieth, or inch, line may be marked to represent 10 points or even 20 points, making each horizontal line across the sheet count for either a half point, or a full point, respectively. In such case it will be more difficult to plot the fractions of a point but this detail of exactitude is not so necessary for a satisfactory picture when the price swings are so large.

The same general principles apply if you are using a special stock chart paper such as the K. & E. 358-17. For most stocks of average price range each heavy (eighth) line on the vertical scale may be marked to represent a full point in the price and each light line will then represent one-eighth of a point. For stocks with a wider swing or higher price, such as American Can, A. T. & T., etc., each heavy line may represent two points, and the fine lines one-quarter of a point; and for very low-priced stocks with small swings, each heavy line may be marked to represent only half a point.

Plotting the Price Data

Having established the suitable price scale in the left-hand margin, the price-plotting is simple. The daily paper furnishes the necessary data, — high, low, close and volume of sales. Plot the high, plot the low, and join the two points with a vertical line to give the day's range. The closing price is an important part of any complete daily stock chart; it is noted by a short, fine, horizontal line, extending across the vertical range line, just far enough to be noted.

Both opening and closing prices may, of course, be plotted if desired but we consider practical only the plotting of closing prices. It is seldom that opening prices show material change from the previous close and they are not nearly so important as the closing or "last" price.

Moreover, we feel that what advantage is gained by including the first or opening price is more than lost by the tendency toward confusion in trying to include too much and thus impairing the basic picture. If both the opening and closing are plotted then the opening price is noted by a horizontal mark to the left of the day's range and the closing price by a similar mark to the right of the range line.

Volume of Sales

Volume of sales is another important detail of the complete daily stock chart, and is plotted by a vertical line somewhat similar to the price range from a fixed base line. Take any horizontal, heavy line near the top or the bottom of the chart and let it represent zero, marking it on the vertical scale line at the left-hand margin, low enough or high enough not to interfere, for the present, with the price picture.

If volume of sales is normally low for the stock let each heavy line above the zero line represent 20,000 shares traded per day in that particular issue. If volume is normally heavy, or likely to become so, let each heavy line represent 100,000 shares of volume. Plot the volume line by a vertical line, on the same vertical co-ordinate line as the price range for the same day, extending the volume line upward from the zero mark to the point on the volume scale representing the total volume of trading for that day.

It is more satisfactory to try to keep the volume scale at the bottom of the chart. This entails placing the price scale high enough so that the days of high volume will not run up into the price range. If they threaten to do so, on abnormally heavy trading days, the chartist runs them up as high as practical and then simply breaks the vertical line with small dots at its top, to show that the exact volume scale is being temporarily disregarded, and then writes the actual volume of total sales above the dotted line in small figures. This may conceivably become confusing if continued for several days so only the figure for whole thousands of shares is written in, and noted as small as possible.

Shifting the Volume Chart

If, however, the price range of the stock has declined for several months and has dropped so low on the chart that it interferes with even only normal volume at the bottom of the sheet, then the logical procedure is to take the liberty of lifting the entire volume scale and moving it from the bottom of the chart to the top, so that it now appears far above the price range instead of below it.

This, of course, breaks the continuity of the volume portion of the chart but it is a liberty which the student may take when he is keeping his own charts, rather than cutting off the sheet at the difficult point and starting a new one with the price scale high enough not to conflict with the volume. It is a sort of emergency move for use only in special periods of abnormal activity or rapid price movement.

In any case, such a move does not seriously impair the efficacy of the picture, since it is an easy matter to compare the two portions of the volume chart, with the base line at the bottom of the sheet for the first period of time covered, and the later portion at the top of the sheet. When moving the volume chart to the upper portion of the chart it is advisable, of course, still to place the zero, or base, line for volume low enough so that it will not habitually tend to run off the top of the sheet.

The Time Scale

The scale at the bottom of the chart is the date scale and marks, for future reference, the continuous passage of time over which the chart extends. It is a simple affair, for each vertical line counts as one day of trading. In commencing the chart on a new stock the first day of price range and volume is properly dated. The practical type of chart paper will have its vertical lines so close together that it would be confusing to try to enter the date of each successive day. The student may decide upon his own system. He may enter the date only on Saturdays, or Mondays, or at any interval so long as he maintains the regularity of that interval throughout the time duration of the entire chart.

Holidays on the Time Scale

Many stock charts skip one day's vertical line for holidays on the New York Stock Exchange, or even for Sundays, but we do not approve of such practice. From a theoretical, as well as a practical standpoint, it seems highly logical to completely ignore days on which the New York Stock Exchange is closed, no matter for what reason, unless, of course, the closing should be extended over a long period of time, as at the opening of the World War in 1914, or the bank holidays in March, 1933.

So long as there is no opportunity for free and open trading in any stock or in the general market it appears illogical to leave a blank vertical line where the range and volume record should naturally appear. If such blanks are left it tends to distort the true pictorial record of trading which is the basis for chart reading and analysis of technical action.

To make our meaning perfectly clear let us assume, that, for any reason whatever, the New York Stock Exchange decided to suspend trading on Tuesday and Wednesday of a certain week. In such case, no empty spaces on the vertical lines would be left on the chart. The range for Thursday would follow on the very next vertical line after Monday.

Monday's trading picture, in the normal sequence, always follows immediately after Saturday's, without any space left for the Sunday holiday. This theory is the chief objection to yearly co-ordinate paper on which there is a line, dated, for each day of the entire year. Of course, this objection applies to some extent also to special stock chart papers which provide a time scale divided in sixths, but these sheets at least omit Sundays.

On the other hand, however, it seems quite logical to leave vacant vertical lines on days when the stock exchange is open as usual but when no transactions are recorded in the individual stock being charted. This is an entirely different matter, for in such a case there was ample opportunity to trade, and the fact that no trades were made is an integral part of the trading history and should thus be included in the chart picture.

In such cases we may adopt the simple expedient of leaving the vertical range line blank but inserting a small x, or zero, slightly below the base line on the volume scale to show that that day has been recorded but the volume of sales was zero.

Some chartists include a dotted vertical line on the price range scale in such a case, showing the closing bid and asked price, but, in our opinion, this merely beclouds the chart picture and serves no very adequate purpose.

Charting Ex-Dividend and Other Information

There are a few other devices which are used to denote special change which seems logically a part of the trading history of any stock. When an issue goes ex-dividend it would be manifestly unfair and confusing not to note that fact. In such case a small x is placed just above the high of the price range for the ex-dividend day. When a stock goes ex-rights or ex-stock dividend a similar device (XR or XS) is used.

Helpful Notes on "Fundamentals" May be Added

Many students find it helpful also to note in the margins of each chart certain significant fundamental facts that relate to the particular stock charted. By including up-to-date factual comment right on the face of each chart this data automatically comes before the student daily and the need is obviated for reassembling this information every time that technical implications become critical.

Probably the facts most frequently found useful when entered on chart margins include comparative period earnings, dividend rate, dividend meeting date, capitalization, number of shares outstanding, funded debt, large bank or R.F.C. loans, dividend arrears, ratio of quick assets to liabilities, etc.

Anticipated levels of resistance to advance or decline (the subject of resistance levels is taken up later on in the Course), once ascertained from a study of back history, may be checked against the price scale, and your own symbols may be used to represent their varying degrees of importance. Also brief notes on news items of interest may be added - but, of course, in such a manner as not to obscure the present or future technical pattern.

Starting A New Sheet

When the chart reaches the end of one sheet of paper a new sheet is prepared with the proper scale. It is important not to change the scale when starting a new sheet, unless the old one has become utterly impractical, for changing the scale changes all aspects of the picture and infinitely reduces the pictorial value of the new sheet in relation to the old one.

Shifting the price scale up or down on the left-hand vertical margin, without changing the scale itself, however, is not only allowable but advisable. For instance, if the lowest horizontal line on the old sheet was a price of 40 and the price of the charted stock has declined to 46 at the end of the first sheet then the price scale on the next sheet should be lowered so that the lowest horizontal line would be perhaps 20 instead of 40. This automatically raises the position of the price range on the new sheet and places it nearer the middle of the paper where it is not only more easily read but is not so likely to drop off the sheet in charting of the subsequent movement. And vice-versa in the case of a rapid upward movement which has brought the price range too close to the top of the sheet.

In what the chart maker always hopes will be very rare cases the price range may go up or down so rapidly that it runs off the current chart paper before it has consumed the time capacity of the entire sheet. In such cases start a new sheet with the price scale raised or lowered to bring the range again near the middle of the new sheet. The old sheet may then be cut off on the last vertical range line so that it can be moved over to join onto the next sheet of the chart whenever reference is desired with the preceding movement.

In some cases you may discover that your stock moves off the sheet, either up or down, too rapidly because you have made your price scale too large. When this error becomes apparent there is nothing to do but start a new chart with a smaller price scale; that is, allowing less vertical space to a full point of price change. Moreover, since it is difficult to compare two charts on which the price scale differs, you will find it advisable as a rule to re-draw your first chart to the revised scale. This should not happen very often, and you will soon learn to set your price scale to accord with the normal price range or "swing" habits of any stock you start to chart.

All sheets of a chart series on the same stock should be carefully numbered at the top of each sheet. The name of the stock, or its ticker symbol, may be placed in any convenient available position, being careful, for later reference, that it appears on each sheet of the series.

Chart work may be done with pen and ink, but we have found it easier, quicker and fully as satisfactory to use pencil - preferably a No. 2 or medium soft lead to give a fairly heavy black line. Trend lines, patterns, and other notes which are not an integral portion of the chart itself, are subject to revision and should be easily erasable in light pencil marks; for this we suggest a No. 3 pencil, sharply pointed.

Time Range Necessary

In order to be of practical service in studying formations and technical action a daily stock chart must cover at least several weeks, and preferably several months. The longer the period of time covered the more complete is the pictorial record and the more satisfactory and valuable the chart in practical study and analysis.

Even though daily charts are necessary for gauging the very nearby minor trend, from recent price action formations, we can construct charts covering practically any period of time that we may choose, such as weekly, monthly or even yearly. Note the daily, weekly and monthly charts of American Can that clarify this lesson. (Plates II, III and IV following page 22.)

Although weekly charts require less frequent entry and provide a more compact record they do not give as close a picture of immediate nearby movements as do daily charts. The principle value of weekly charts lies in the student's ability to more readily judge the longer range trends and formations and assist greatly in determining the approximate limits of important trading areas where strong buying or selling may be anticipated.

Monthly charts afford a condensed picture of the long Bull or Bear market swings, of years' duration, and show the important reversals of these same major trends. These monthly charts, although by themselves of limited aid in short term trading, do afford helpful long term perspectives. Of all these types we believe the daily and weekly charts to be the most profitable tools for technical students.

Thus far we have been speaking almost entirely of charts on individual issues but we have previously seen that charts may be constructed on groups of issues as well or even on the entire market - in fact on almost any conceivable object which is traded in at changing prices in a free and open market.

STOCK PRICE MOVEMENTS

Within the progress of price history, from day to day - month to month - and year to year, we find three well defined movements, all in progress at the same time. These are the broad Major movements of Bull and Bear market proportions, the Intermediate decline and rally movements that occur within the larger major swings; and the Minor day to day, and occasionally week to week, fluctuations that go to make up all Intermediate movements.

Major Movements

These are the long term continuous (Bull or Bear Market) price trends that extend over a period of years and which are the primary concern of long term investors for income, having large capital resources and abounding patience. These trends change their course most infrequently seeming to follow closely the cycles of business. They are apparently more influenced by fundamental economic laws than by those supply and demand factors with which we are most particularly concerned in this study.

The Dow Jones Industrial Average chart (Frontispiece) clearly depicts 13 of these Bull and Bear market swings from 1897 to date - 6 completed cycles and the start of a seventh which, at the date of this writing, has not been completed. Note the characteristic low volume periods from which Bull markets habitually have their origin - the ensuing "mark-up" and the warnings of extraordinarily heavy volume, without proportionate price gains, that signal the final stages of these rises. See how Bear markets generally start down from Bull market peaks with at first a sharp increase of volume and price movement, and then are followed by declining activity until the pressure of offerings has run its course and the foundation is laid for a new Bull movement.

Note the long base that preceded the tremendous Bull market from 1924 to 1929, the severity of the Bear market that followed into 1932, and the latest Bull swing recovery from the latter lows to current date. How clearly this chart reveals the absolute necessity of being on the "right" side of the market and the utter foolishness of believing that "stocks can be put away and forgotten".

Intermediate Movements

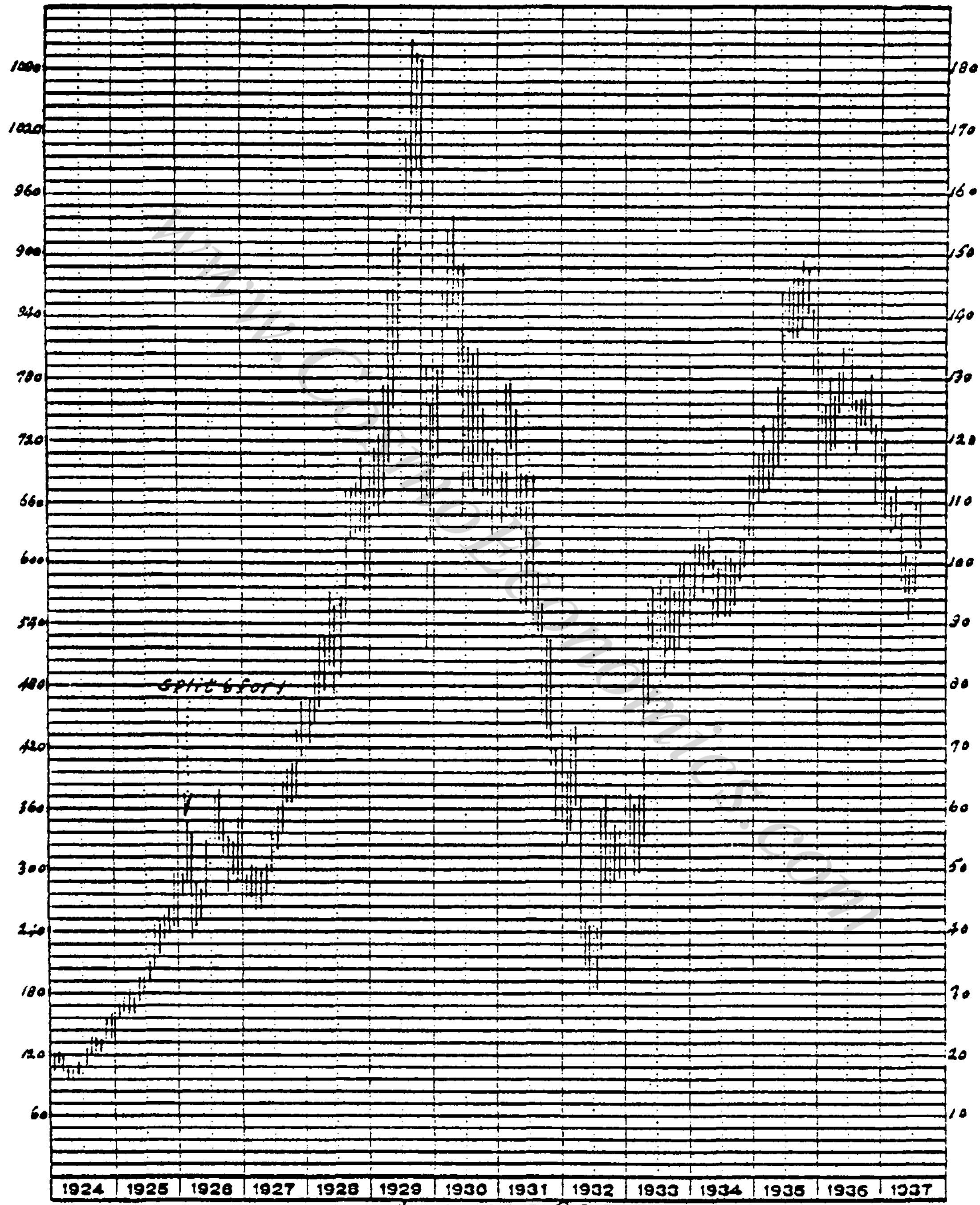
Within each major Bull and Bear market there are many lesser swings - "intermediate" speculative movements - that generally occur several times within the period of a year. These afford excellent profit opportunities for the "technically" informed trader - far greater in the aggregate than are possible for the long term investor holding commitments throughout major movements.

Very much the same characteristics of price and volume action are found in Intermediate movements as are noted in the larger Major swings of which these Intermediate movements are but component parts. However, because of the more frequent reversals and shorter duration and extent of Intermediate price movements, one to profit repeatedly thereby must employ forecasting methods affording a far finer degree of accuracy than when judging the long Major trend; and it is here that thorough understanding and skillful application of the laws of technical analysis pay largest returns.

Minor Movements

All of those component short term movements that go to make up each Intermediate swing are referred to as Minor trend or Immediate movements - be they a matter of weeks, days, hours or minutes. However only the most nimble in temperament and skilled of professionals can consistently profit from such narrow movements. The expenses of commissions and taxes are disproportionate to the limited extent of these Minor movement possibilities and do not warrant the wear and tear on a layman's nerves and the increased element of capital risk. Minor price

PLATE No. II



American Can
MONTHLY HIGH AND LOW PRICES

movements, nevertheless, do lend themselves to technical analysis and give, thereby, early clue to the direction of price trend from areas of uncertainty, indicate the start of new intermediate swings, and are most helpful guides to the timing of one's market operations.

Major Trends Shown on Monthly Charts

The three principal classifications of stock price movements, as described above, may be seen as they occur in an individual stock on the monthly, weekly and daily charts of American Can which are reproduced on pages 22, 24 and 25 respectively. The monthly chart on page 22 covers the period from 1924 to mid-1937, and depicts a major upward or "bull" movement from 1924 to late 1929, a major downward or "bear" movement from late 1929 to mid-1932, and then another major "bull" movement from mid-1932 to late 1935. The downward movement from late 1935 to mid-1937 may be regarded as a major "bear" movement, or as an abnormally extended intermediate "correction" in the major "bull" market which started in 1932. Only the future can tell as this is written which of these designations is correct in theory, since the first movement of prices in a new major trend is often indistinguishable from an important intermediate reverse movement within the old major trend. However, from the point of view of the practical trader the theoretical designation is not important; if he learns to recognize the intermediate turning points, if he is able to buy when an intermediate upward movement starts and sell when it reverses into an intermediate downward movement, his profits will be safe regardless of the major trend.

Intermediate Trends Shown by Weekly Chart

The chart on page 24 shows the price range of American Can for each week from July, 1934 through June, 1937. Six intermediate movements appear during this period,--up from June, 1934 to October, 1935; down to February, 1936; up to July, 1936; down to August, 1936; up to November, 1936; and down to June, 1937. Each of these price movements (with the possible exception of the limited upward move from August to November, 1936) offered the informed trader a good "swing".

The forecasting of intermediate movements, such as those pictured on this weekly chart of American Can, will be our principal study in this Course since they provide us with the safest and most dependable profits. But, in order to forecast such moves, it is necessary to follow and interpret the minor fluctuations of price as they swing up and down within the path of the intermediate trends; and for the study of these minor movements we must turn to the daily charts.

PLATE No. III

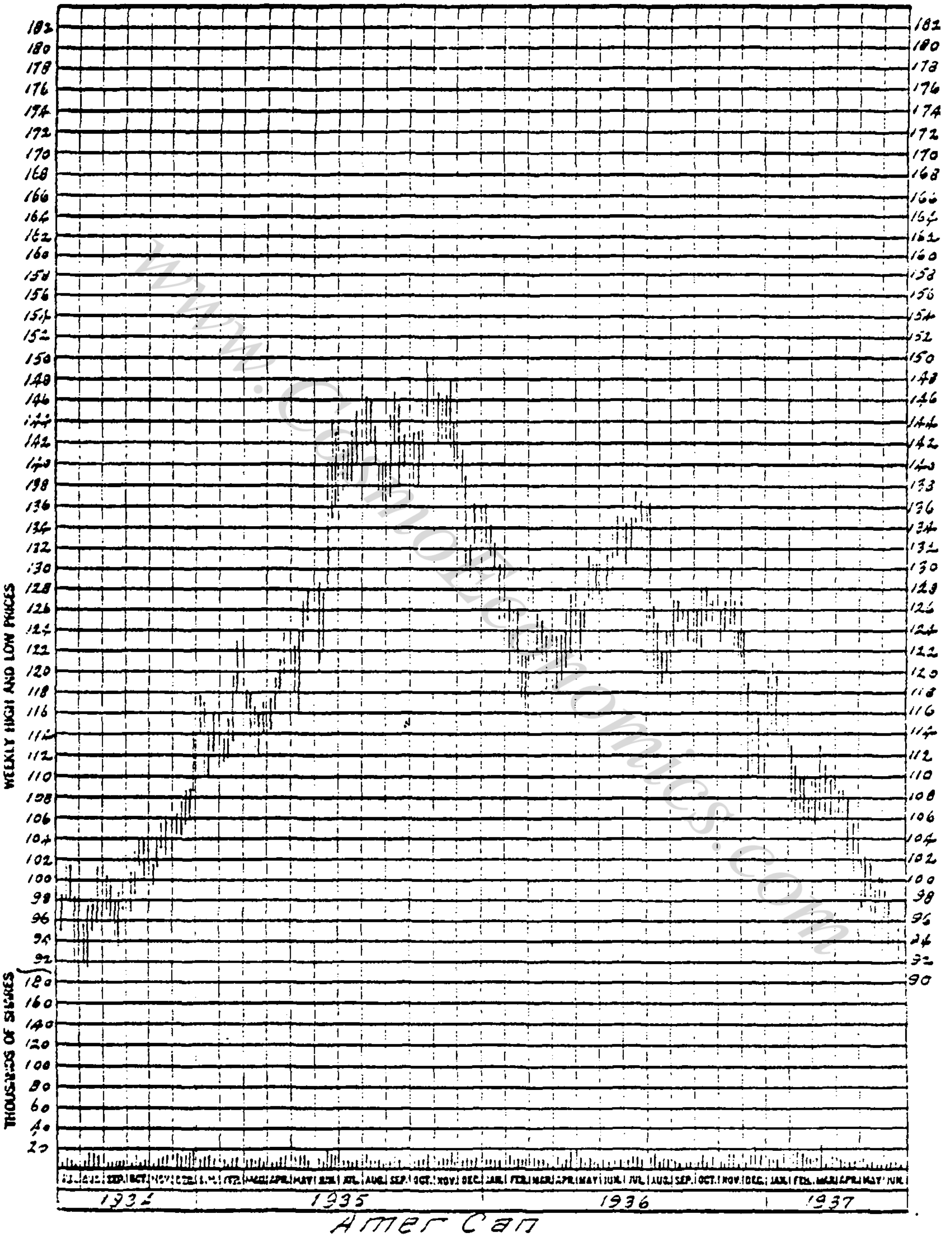
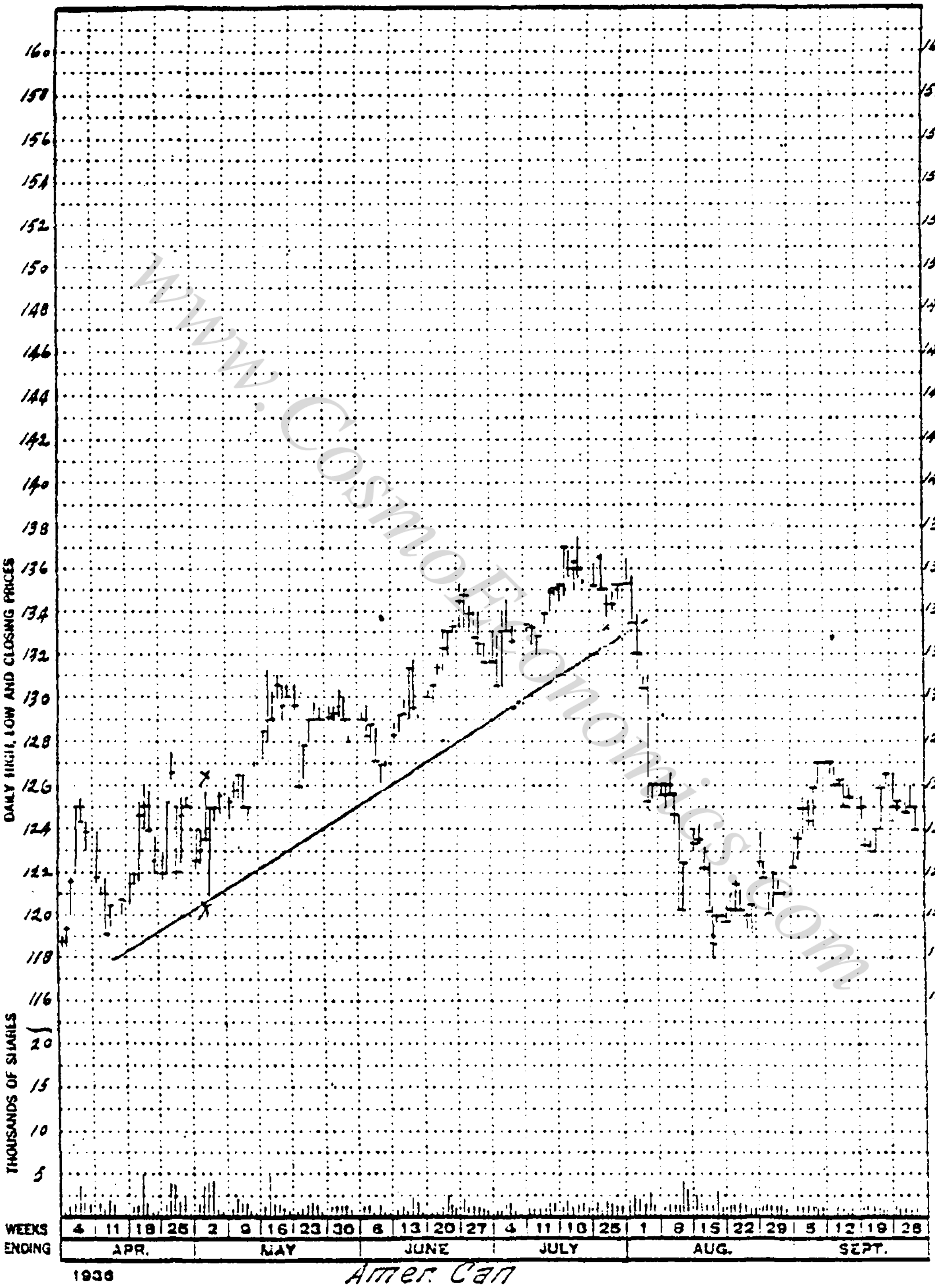

WEEKLY HIGH AND LOW PRICES
THOUSANDS OF SHARES
1934
1935
1936
1937
Amer Can

PLATE No. IV


DAILY HIGH, LOW AND CLOSING PRICES
THOUSANDS OF SHARES
WEEKS ENDING
4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22 29 5 12 19 26
APR. MAY JUNE JULY AUG. SEPT.
1936
Amer. Can

Importance of Minor Movement Study

The chart on page 25 shows the daily price range (and volume) of American Can for the six months from April through September, 1936. Comparing this with the weekly chart we see that it covers the latter part of the intermediate upward movement that started in February, all of the "correction" that took place in August (an intermediate movement in the direction opposite to the apparent major trend is frequently called a corrective movement), and the first part of the intermediate up-trend that ran out in November, 1936. Within this six months' of daily price action we can find at least twenty minor movements, each running from a few days to a few weeks.

The minor movements, it will be seen, were mostly of too limited extent (in percentage price change) and ran their course too quickly to permit us to trade on them with profit. They served, however, to build the foundations and patterns, or give the signals, which made it possible to detect changes in the intermediate trend of "Can" stock.

The next six studies of this Course are devoted to the analysis and interpretation of the minor movements which signal changes in the intermediate and major trends. For the present all we need to fix in mind is the normal habit of stock prices to move simultaneously in these three trends, and the fact that the minor movements are of prime importance because changes which occur within them forecast the changes in intermediate trends on which it is profitable to trade.

Technical Analysis, is in fact, in a very broad sense, a study of the habitual price movements and volume action of stocks, and the significance of any changes in these habits, or departures from the current habit or trend. Such habits and such changes from the accustomed action are most easily detected, studied and interpreted through the medium of charts. In fact, it would be extremely difficult to understand and analyze them properly without recourse to a complete charted record. That is the reason why this Course is based on the use of charts--not because there is any magic in the charts themselves but because the charts make it easier for us to analyze correctly the technical position of a stock and forecast its probable future price trend.