

Trionfo Publishing

CYCLES

THE SCIENCE OF PREDICTION

Electronic Version Produced by Ernest M. Trionfo

Publisher's Preface



"The Federal Reserve Act tends to conceal from the general public the fact that we print dollars to meet government deficits."

Edward R. Dewey

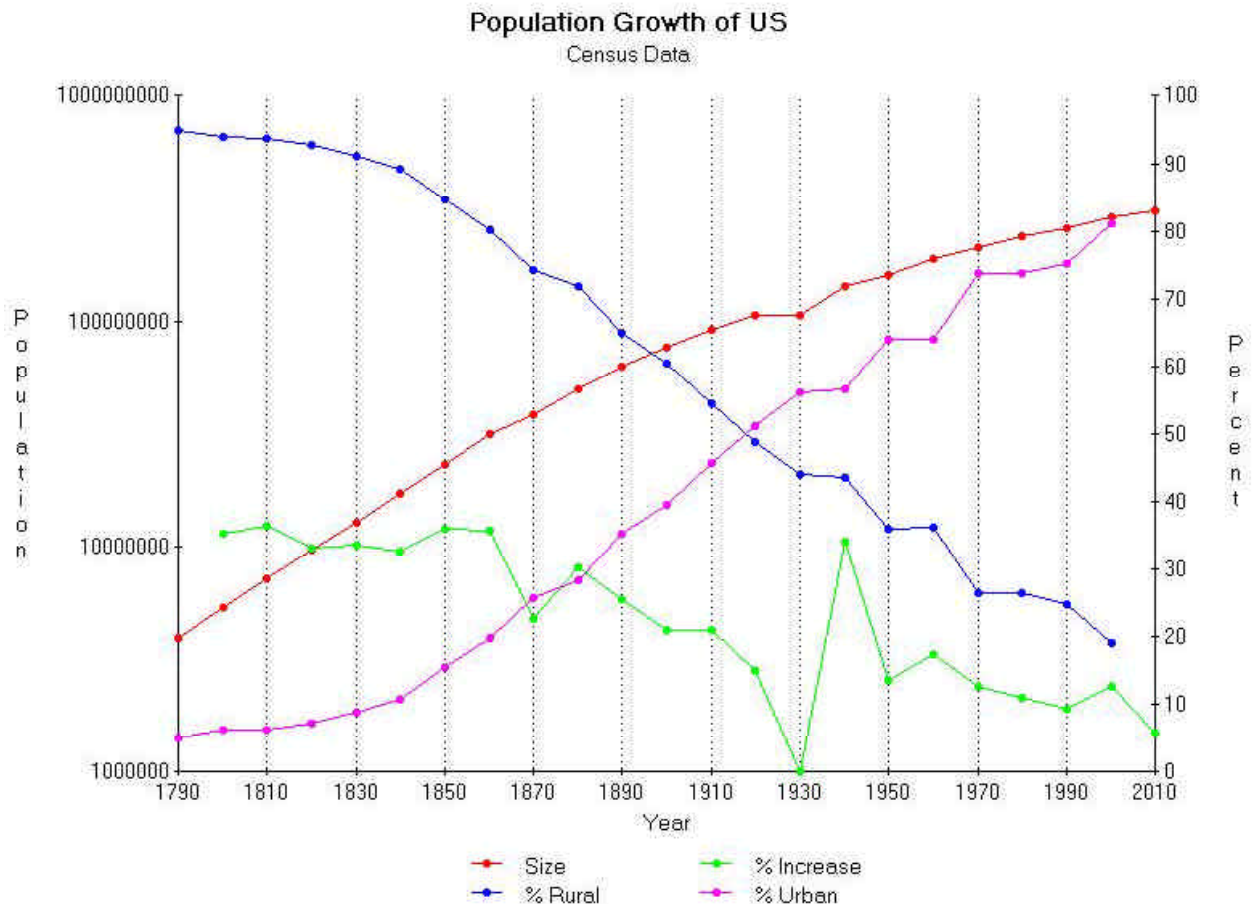
Cycles: The Science of Prediction by Edward R. Dewey and Edwin F. Dakin is a much maligned but very important book. Dewey's projection of the 54 year price-production cycle in business activity and the 18 1/3 year Real Estate Cycle more than any other cycles predicts the state of our economy today. The 54 year price-production cycle has been called the "Kondratieff Cycle" and the "long wave" because its exact length is in dispute. Here I present evidence that the Real Estate Cycle is determined by the Marriage Cycle, which is in turn related to the Kondratieff Cycle by a sequence of 3 generations: Father, son and grandson.

Until the recent extension of adolescence into the 3rd decade of college life (and beyond) generations have been about as long as the length of the Real Estate cycle (about 18 and 1/3 years). If you multiply the length of this cycle by 3 you get 55 years, about the length of the Kondratieff Cycle.

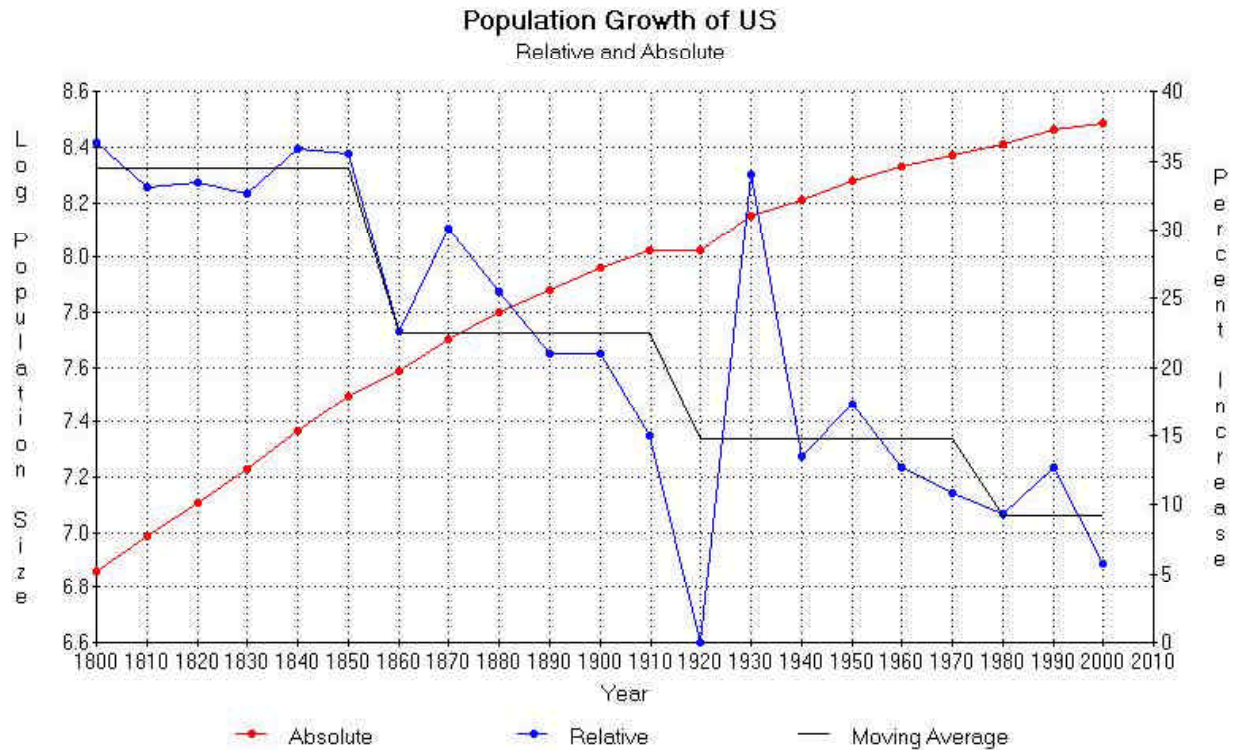
Analysis: The Marriage / Housing Cycles and The Long Wave in Real Prices and Production

The common belief that there is no long wave in prices is due to the unfortunate effect that Federal Reserve has on the apparent price of goods by its inflationary financing of federal deficits. Inflation is low now, as predicted by the long wave but in terms of the price of gold we are going through a deflationary period. The same amount of gold will buy you much more today than it would have bought you 20 or 30 years ago.

Evidence that the Kondratieff Economic Cycle is due to a 60 year Fluctuation in Human Population Growth

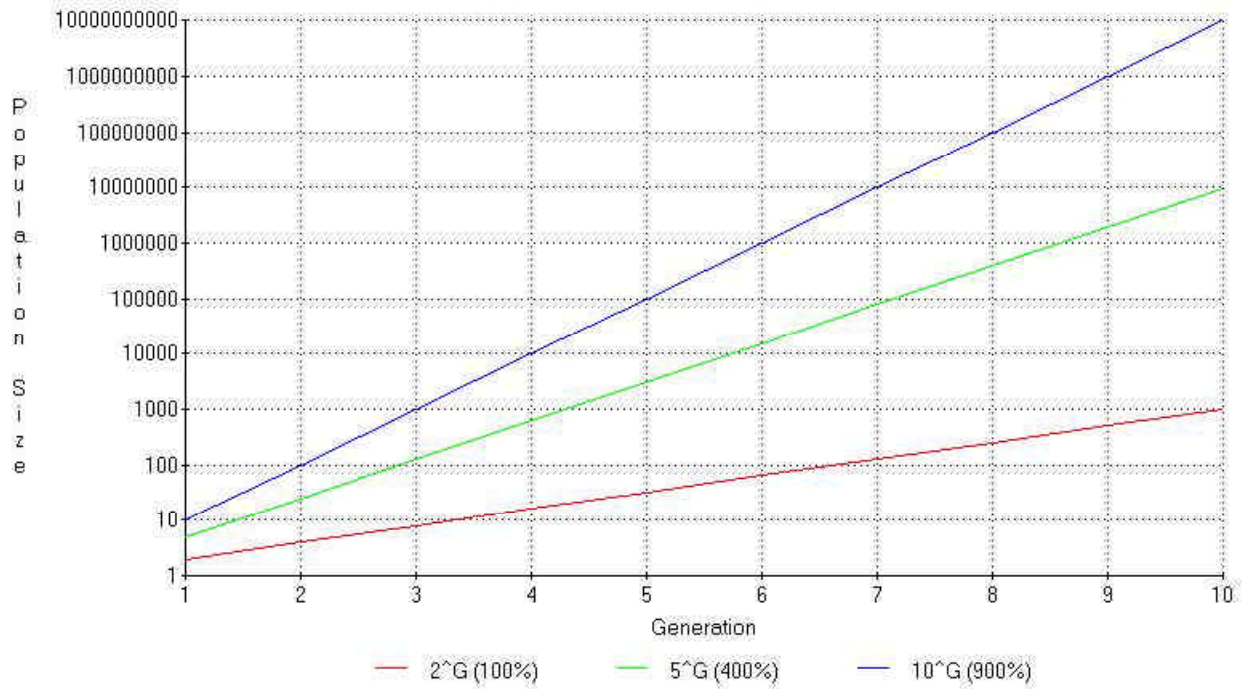


The above chart shows US Census data. A moving average of relative growth has been inserted at putative breaks in the declining exponential growth curve. The percent increase over the previous census was averaged between the years 1800 and 1850, 1860 and 1910, 1920 and 1970, and finally between 1980 and 2000. There appears to be a consistent stepwise decline in the relative growth rate occurring at 60 year intervals. This may be due to people choosing to have smaller families as the result of the increasing urbanization of America.



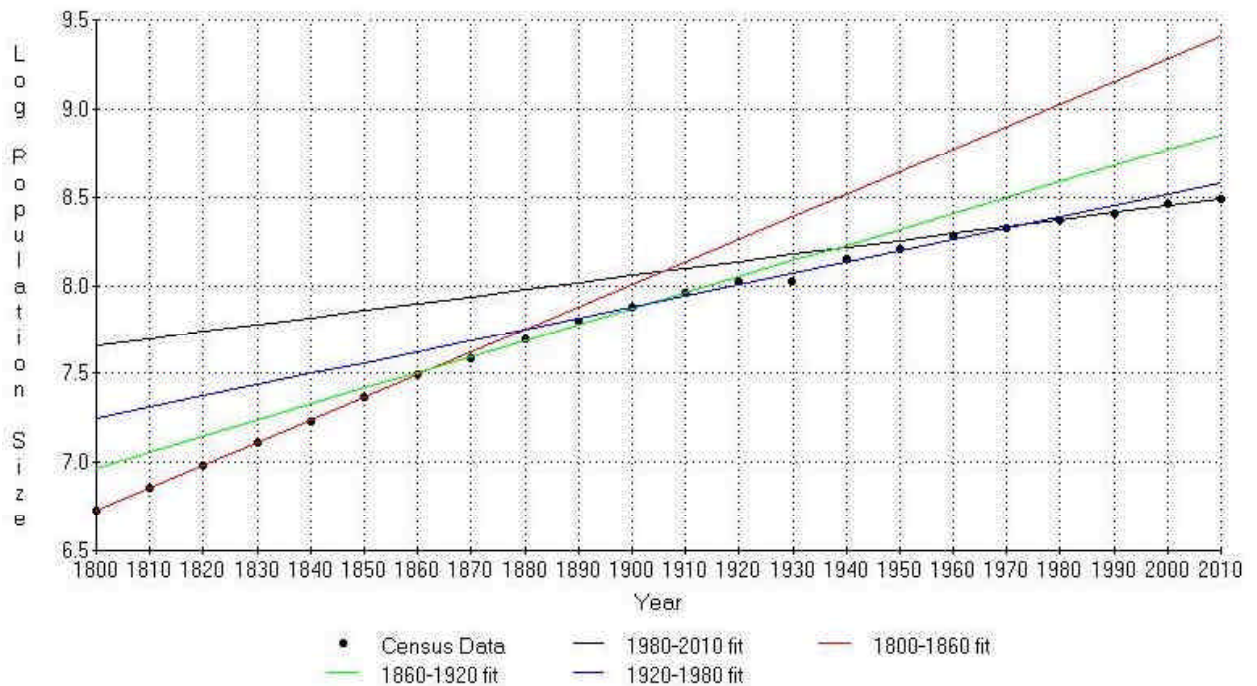
In an exponentially increasing population where people have 10 children per generation the population size increases by 900% each generation. When people have 5 children per generation the population increases by 400% each generation. When they have 2 children per generation the population increases by 100% each generation.

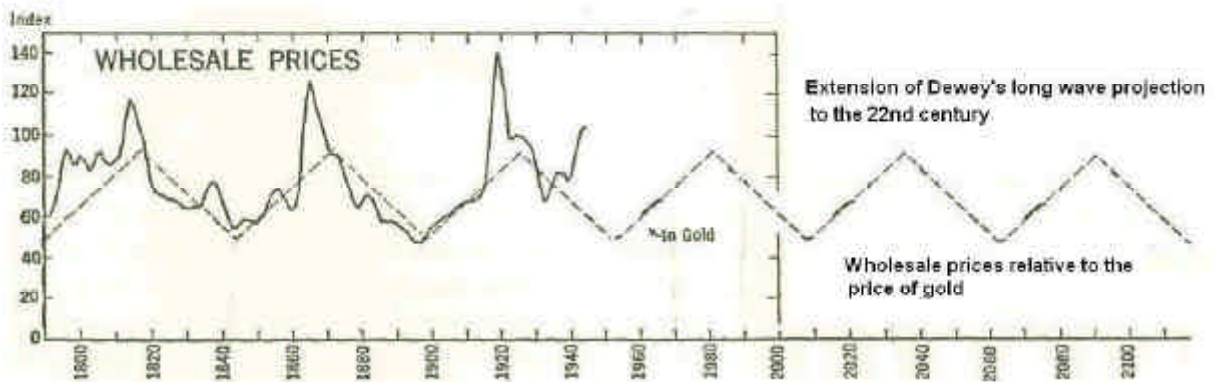
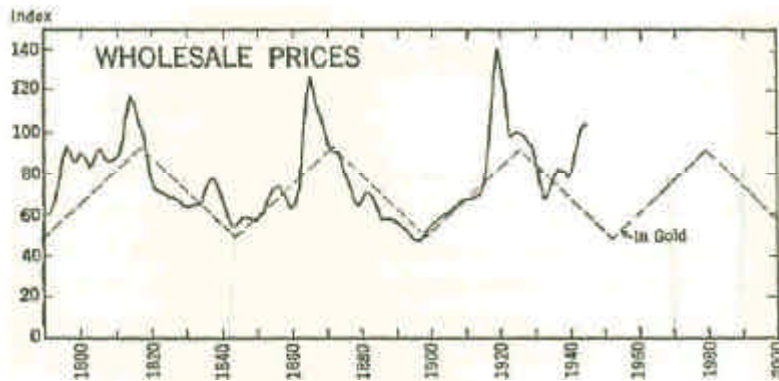
Exponential Growth
2, 5, and 10 children per generation



The Chart below shows the census data fitted to 4 regression lines, approximately corresponding to 54 year long waves. Breaks in the fitted lines appear to be coincident with major wars and rising prices (the Civil War and World War I). The putative break in the year 1980 is coincident with the inflation of that era, with the Reagan military build up and the legalization of abortion.

US Population Growth
An Exponential Declining Every 60 years





Dewey's insight into economic growth being analogous to the growth of a biological organism is born out by these observations.

Human beings begin their growth as the result of 2 cells (spermatozoa and egg) coming together to form a single cell (the zygote). In a recapitulation of the crises which occurred during each stage of human evolution, a person becomes a solid ball of cells which becomes hollow, involutes, and then flattens out. The baby then elongates due to the limitations imposed upon the absorption of nutrients by the baby's decreasing surface to volume ratio. The baby develops a heart, first with only one chamber, then 2, then 3, and finally (after birth) 4 chambers. The heart supplies all of the baby's cells with the oxygen and nutrients they need to live and to continue to grow. The ultimate size of the person depends only upon the fractal pattern of innervation of the arteries which feed the growing and developing cells.

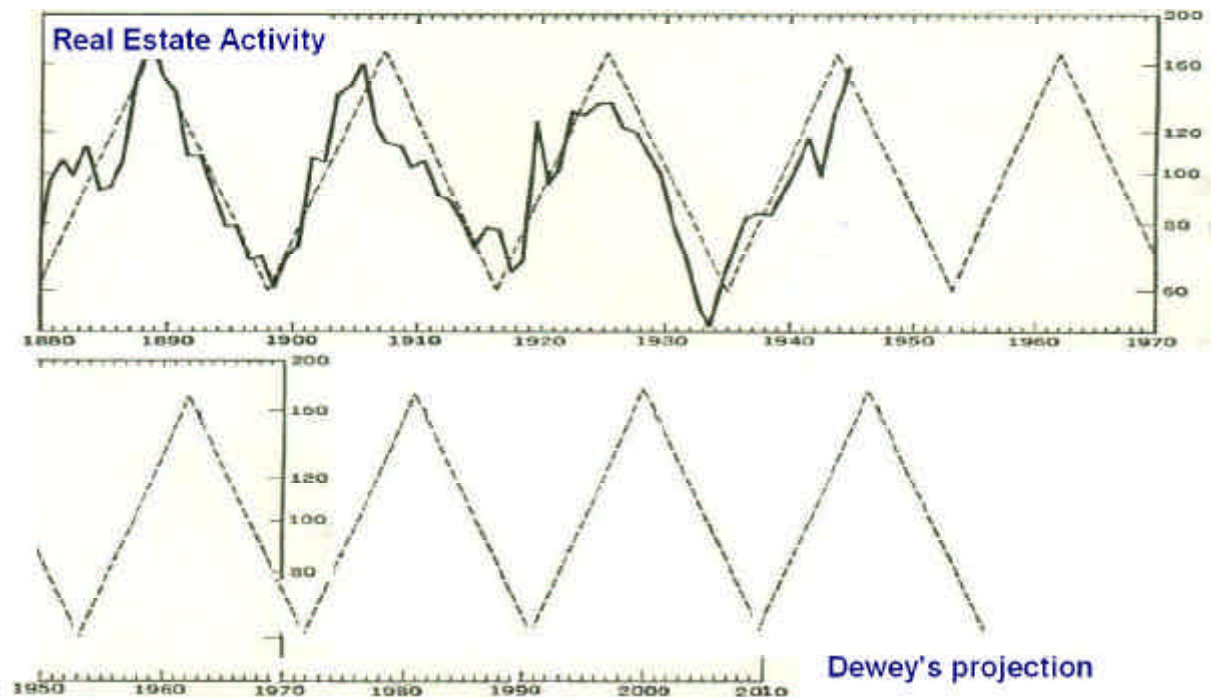
Like a growing person, a human population undergoes periodic crises where re-organization must occur for growth to continue. Just as cells die during the remodeling of the organism to meet the demands of growing cellular populations, people die in the remodeling of society to meet the needs of a growing civil population. You might think of wars as desperate attempts at urban renewal, (as in 9/11).

The Marriage and Housing Cycles

This should sound familiar to you.

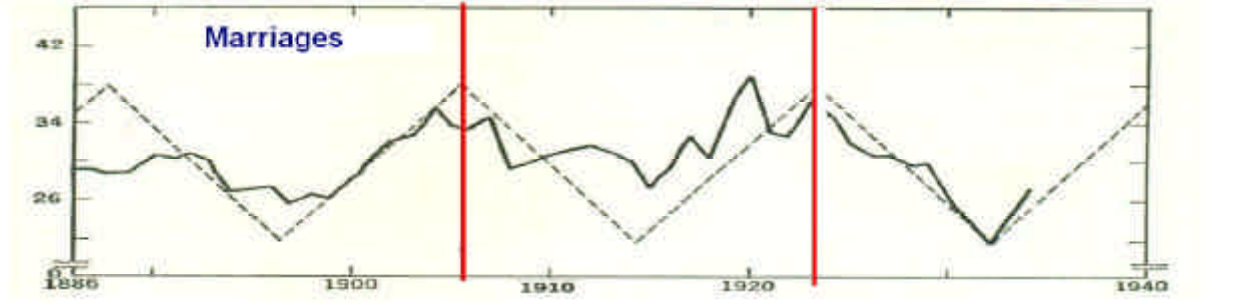
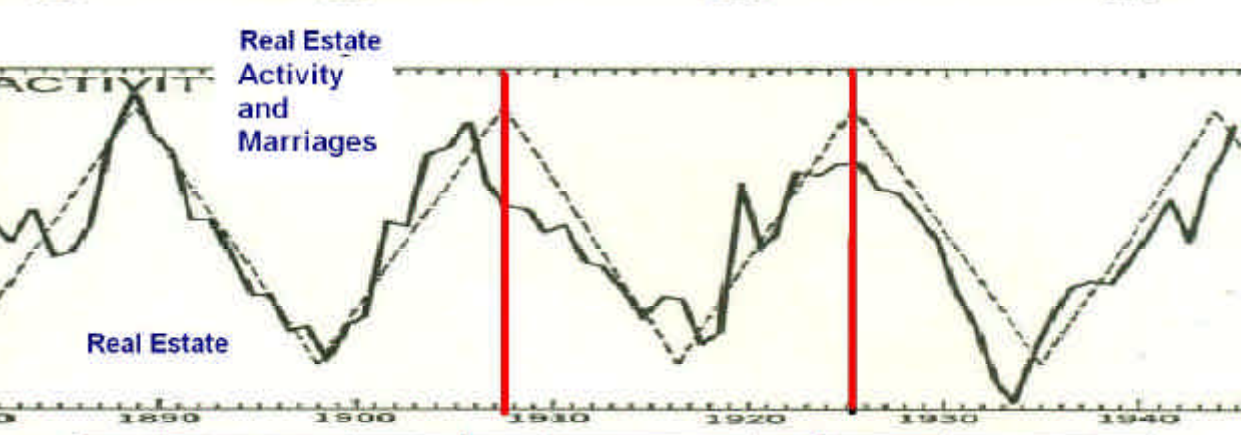
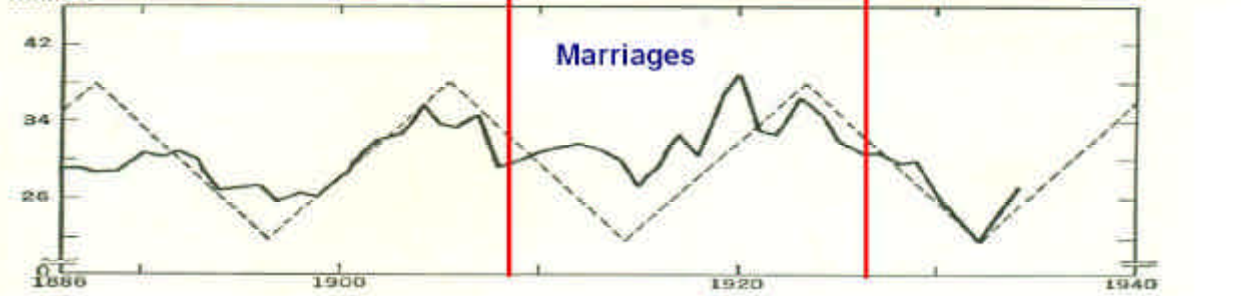
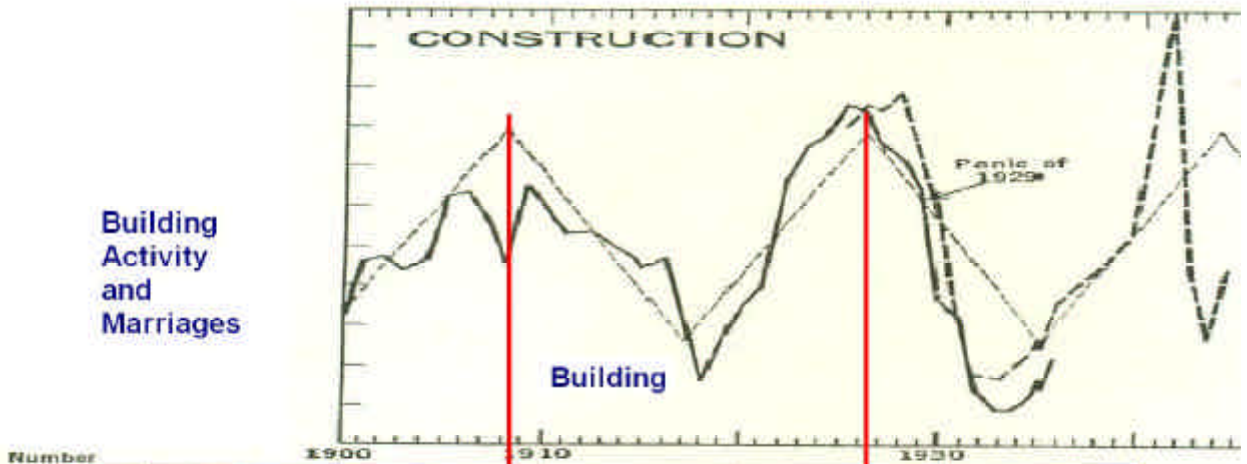
"Building costs and rentals, incidentally, tend to stay up for periods well after building activity has started to decline. Strangely enough, in the face of a cycle that is so regular, so clear to the eye on any chart, and so often repeated that there can be no reasonable doubt of its reality, few businessmen refer to it in their operations, and neither does the home-buying public. Thus many of the foreclosures of the depression in the thirties were the aftermath of properties bought at top prices between 1925 and 1929. We shall perhaps see similar foreclosures in the fifties on realty bought at inflationary prices in the forties."

Dewey's projection of the real estate market to the year 2010



Stock market manipulators and Wall Street brokers hate this kind of thing. They want this knowledge all to themselves and everyone else treated like mushrooms.

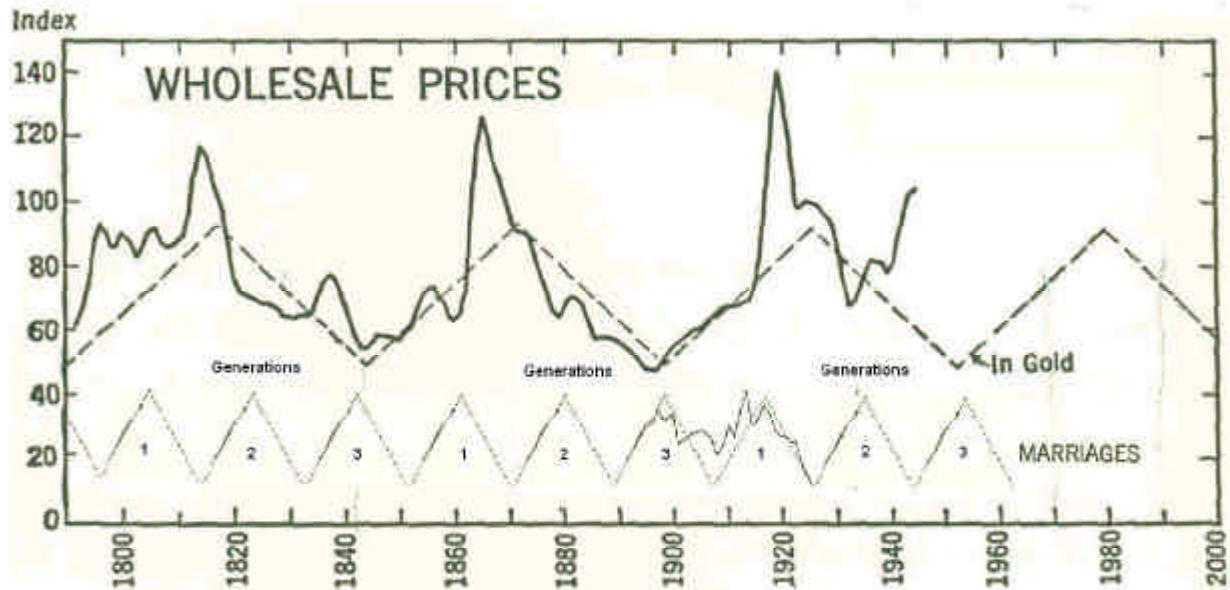
The main driving force of the real estate building cycle appears to be a cyclic activity in people getting married. An image expansion of the charts on building and real estate from [Cycles: the Science of Prediction](#) shows that both these cycles are preceded by an increase in marriages.



But why should marriages be a cyclic phenomena? The decision to get married has to do with raising children. Children require homes to grow up in. That decision is influenced by the cost of housing, which is, in turn, dependent upon the supply of housing. It will be put off if the housing is too expensive. More and more couples will make that decision as the price of housing comes down, and more and more houses will be built to meet the rising demand.

Synthesis: The 3 Generation Long Wave

A couple of affine transformations of Dewey's marriage chart allows us to compare his marriage data with his data on wholesale prices. Cutting and pasting allows us to project the marriage cycle backwards and forwards in time. From this we can see that the bottoms of the long wave seem to coincide with every 3rd generation of grandpas dying out. Many fathers see their grandsons, some see their great-grandsons, but very few see their great-great-grandsons.



Hopefully, this analysis and synthesis of just two of the cycles in [Cycles: the Science of Prediction](#) will convince the skeptics that there is much more to this book than is dreamt of in the philosophy of its critics.

Ernest M. Trionfo.

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CYCLES

THE SCIENCE OF PREDICTION

by Edward R. Dewey

and Edwin F. Dakin

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Concerning Economic Prediction

AN INTRODUCTION

It is the business of science to predict. An exact science like astronomy can usually make very accurate predictions indeed. A chemist makes a precise prediction every time he writes a formula. The nuclear physicist advertised to the world, in the atomic bomb, how man can deal with entities so small that they are completely beyond the realm of sense perception, yet make predictions astonishing in their accuracy and significance. Economics is now reaching a point where it can hope also to make rather accurate predictions, within limits which this study will explain.

In these pages we shall be primarily concerned with a new approach to economics and the problem of economic forecast, with the near term future of the United States particularly in mind. This approach moves partly through some avenues that in the past have been the province of other sciences as various as biology, psychology, and mathematics.

The study here falls into two parts. First, it shows that rhythm and periodicity exist in the natural world, and that our economic world, analysed with similar statistical tools, also displays curvilinear forms and distinct rhythms. Second, it deals with some of the ideas which underlie these facts, suggests implications which seem safely implicit in them, and indicates some meanings which such facts hold for all of us.

AN INTRODUCTION

The debt of the authors to those whose names, equations and graphs line the pages of this book — and to many others unnamed — is without end. There is the pioneering that is out of the blind alley where it stood for many years, so that it can take its rank as a true science.

There are those who, admitting that economics has not been an exact science, also insist that it cannot be, in the sense of predicting outcomes in human affairs. There are even some who consider prediction regarding human life as a kind of impiety or fakery, at best.

That prediction regarding human affairs so often stands in ill repute with sober men (regardless of whether it "comes true" or not) often stems from techniques used in formulating it. It is less the forecast than the questionable methodology that often lacks scientific credibility.

The reader will be introduced to a method of thinking about the future which — new though it may be to him — seems definitely to have proved of value. It is this method which is of fundamental importance — an importance greater than any specific conclusions to which it may lead. For on its validity depends the whole value of the conclusions.

We shall find, as we go forward, that in this approach to economic phenomena we are abandoning the classical approach based on endless argument over cause and effect. It is hoped that the reader's reward will be the discovery that in economics, as in other sciences, we are apparently dealing with laws regarding rhythmic human response to certain stimuli that give a remarkable working tool to any man who is responsibly concerned with future outcomes — whether he be businessman, community leader, or statesman.

Law in nature, of course, is not the kind of law that is handed down by an authority. It is merely a summary of our observations concerning what has consistently happened, and what we may therefore expect to continue in a consistent universe. Such law permits us, in effect, to assay certain probabilities. The ability to calculate

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probabilities is a vital part of all our modern scientific progress. As Eddington has pointed out, in speaking of his own field of physics,

"The quantum physicist does not fill the atom with gadgets for directing its future behavior, as the classical physicist would have done; he fills it with gadgets determining the odds on its future behavior. He studies the art of the bookmaker not of the trainer."*

Probabilities have to do with averages. When the physicist predicts that a given group of atoms will act in a certain way, he is relying - as physicists now believe - on a knowledge only of what the average atom will do. Quite similarly, when an insurance company more or less accurately predicts the number of deaths for next year, it is relying on statistical averages of a like kind.

The discovery that the law of averages applies to humanity - that certain activities of people, viewed en masse, fall into definite patterns, some of which repeat themselves periodic rhythm - promises to be of great aid in making economics function as a true science.

These patterns will not tell us what any given individual will do - any more than laws in physics will tell what a particular atom will do, or life insurance statistics will reveal whether a given individual will die. But the patterns do reveal how masses are likely to act at given times. And to that extent they are a formulation of law.

This discovery has had to wait upon the development of the science of statistics, the invention of index numbers, and the compilation of statistical series over long periods. Today the work is only beginning.

Adequate statistics have not been kept for more than a few generations. Thus we are like doctors following Pasteur, who had incontrovertible evidence that germs exist, but in only a few instances had isolated the germs involved in particular human states. To assume that from our present limited store of knowledge we

*A. S. Eddington, *The Nature of the Physical World* (p. 301), The Macmillan Company.

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can henceforth predict the course of life for humanity would be childish. But we already have discoveries of importance. As the community becomes better informed of their value it will doubtless help us to extend them. Most important, to whatever extent the limited knowledge we do have can be put to practical use, it would seem that now is the time of times to bring it forth.

To be completely exposed to surprise by events - in the complex age we live in - is a fair route to the insane asylum. Experiments at Yale University, on a pig they called "The Broker" have demonstrated that a nervous breakdown can be instituted even in a porker, if he is given shocks of surprise repeated often enough.

A people must plan in order to live. Even an installment purchase assumes a plan for the future. Presidential predictions that "prosperity " was just around the corner in 1930 were well intended, but badly served an entire nation. And esteemed government economists, who predicted unemployment this country of at least 8,000,000 for the spring of 1946, similarly performed a national disservice. A whole government program was laid out on the basis of a forecast which events proved erroneous.

When a people finds that predictions of many financial advisers, statesmen, historians, and other proclaimed experts are seldom better than the prediction of the astrologers, our social sciences have demonstrably not been earning their way. It is time for action.

This study is an attempt to show that something is indeed being done. The scientists who are busy at the problem seldom report their progress in the language of the average citizen. So their work often escapes his knowledge. The pioneering scientists will hardly be satisfied with this attempt to restate, in a simple way, the outcome of some of their researches. Some average readers, conversely, may feel equally dissatisfied, on the ground that the subject still seems abstruse and the language used is otherworldly, regardless of all efforts to avoid scientific jargon. To both sources of justified criticism the authors apologize in advance. Every book, like every house plan, represents compromise;

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and a completely satisfactory compromise is a contradiction in words.

This book is an attempt to show, in an elementary way for the reader unfamiliar with this form of research, how some of the inept arguments over economic outlooks can be avoided by using a few facts that should now be familiar to all. This application of a new method to a study of economic activity, while relatively young, seems nevertheless more promising, in offering results, than traditional economic theories that fill textbooks with opinions and arguments over whether a given cause is really an effect, and vice versa.

Here are traced trends evidenced in various parts of the American economy - existing trends that can be calculated, measured, and demonstrated beyond reasonable doubt. The overwhelming evidence for distinct rhythm or periodicity in the cycles that accompany these trends is set forth. How such information may be used to assay future probabilities is then suggested.

Before reaching the end of the book, the reader will have attained, it is hoped, some new insight for gauging the probable future that faces America in the years following the most disrupting war in all world history.

The student of periodic rhythms in human affairs has a tool which the law of averages itself puts into his hands. If trends have continued for decades, or if the oscillations of cycles around the trend have repeated themselves so many times and so regularly that the rhythm cannot reasonably be the result of chance, it is unwise to ignore the probability that these behaviors will continue.

The result is not prediction, in the sense in which the word is ordinarily understood. If the reader nevertheless wishes to regard essential parts of this book as prediction, then it should be emphasized that the "forecasts" are written by the data themselves. They emerge as tendencies in the organisms being studied. They do not rest on the opinion of any man, or men. They are, in effect, the probabilities of tomorrow.