"The human tragedy reaches its climax in the fact that after all the exertions and sacrifices of hundreds of millions of people . . . we lie in the grip of even worse perils than those we have surmounted."

—Winston Churchill

11 *The Patterns of War*

Why are people so intrigued by the subject of cycles?

One reason is that a knowledge of cycles throws light on the probabilities of the future.

However, interest in the subject runs deeper than this. There seems to be a craving within the human heart to find regularity, dependability, and pattern in the universe. This craving may be at the bottom of much of scientific research.

Thus the importance of cycles may lie in the fact that they show us that there is law, order, structure, and pattern in things such as stock and commodity prices, industrial production, war, and many other things previously thought structureless.

In general, the study of cycles is the study of pattern, and pattern is one of half a dozen building blocks from which the universe is constructed. Of these building blocks the three most important may be pattern, space, and time.

Without time the universe would have had no duration. It would have come and gone in an instant.

Without space, it would have been merely a dot, a point.

Without pattern, it would have had no form. It would have been a jumble—one big fog.

Also important to the existence of the universe as we know it are matter and energy. Since Einstein and the atom bomb we know that matter and energy are different forms of the same things, or rather, interchangeable forms. But there is some reason to think that even matter and energy are merely patterns of time and space. It doesn't all boil down to space, time, and pattern, but these three are basic, and the most important of the three may well be pattern.

Pattern is of two main kinds: patterns of space and patterns of time. The two are often related as, for example, in the rat-tat-tat of a boy's stick dragged along a picket fence. The noise is a *pattern* in time; the fence is a *pattern* in space.

Pattern can be simple, like the beat of a tom-tom; or complex, like the variation of light and shade and form and motion in a young forest on a sunny summer day.

The same patterns can often be traced in many other things: the snowflake and the honeycomb, to take a simple example, or the golden mean, more technically known as the logarithmic spiral, which can be traced in such diverse things as leaf arrangement, geologic ages, the curve of a ram's horn or a conch shell, a Beethoven concerto, and even historical events like commodity and stock prices.

One particular kind of pattern, common to both patterns of space and patterns of time, is *recurrence*. Civilizations are born, develop, mature, stabilize, and die. Art forms recur time and time again in various cultures. Myths and symbols recur time and again.

War, man's most ignoble pursuit, has unmistakable patterns of recurrence. What is it that causes us, at rhythmic intervals, to behave worse than the lowest form of animal life? What forces make us act as we do? How do we receive their commands? Why do we follow such a deadly pattern? And why does this pattern manifest itself in cycles?

When we learn what these forces are, and how they work, we will be able to use them to our advantage. If we know about them,

we can, hopefully, circumvent them. If not, we can adapt to them.

People often say, "With cycles as inevitable as they are, isn't it hopeless to try to do anything about them?"

The answer is: "Absolutely not! The cyclic *force* may be inevitable, but the cyclic *result* in many instances is subject to our will—if we know in advance about the force."

Let me give you some examples.

There is absolutely nothing we can do about the *force* that creates the cycle of day and night. However, we can *adapt* to it like the tiger by developing keener eyesight in the dark. Or we can *thwart* the darkness of night by fires, rushes, candles, lamps, and electric lights.

There is nothing we can do about the force that creates summer and winter, but we can *adapt* to it by growing fur. Or we can *thwart* this force by shelters (igloos, huts, tents, houses), clothing, and fires in the winter, and by shade, fans, and air conditioning in the summer.

There is nothing we can do about the tidal forces, but we *adapt* to them by building floating docks. We can even *thwart* this force as did the people of Boston and Cambridge when they put a dam across the Charles River tidal basin, thereby transforming the 12½-hour recurrence of a stinking mud flat into a beautiful lake.

Similarly, *if we know about them,* we can transform the effects of other cycles.

Your Seventh Sense

How many senses do you have? Sight, hearing, touch, taste, and smell. Five? Is that all?

Dr. Joseph Banks Rhine, formerly of Duke University and now head of the Foundation for Research on the Nature of Man, has spent the greater part of his lifetime seeking a possible sixth sense in human beings, a sense that enables us, with some degree of accuracy, to read other people's minds or to know things it is impossible to know merely through our conventional five senses, such as the order of cards in a shuffled deck.

I have spent the greater part of my lifetime trying to discover a *seventh sense,* which enables us to detect and respond to certain forces, possibly electromagnetic, in our environment.

It is this seventh sense, if it exists, that may lead us to the insane behavior that culminates in wars, stock-market crashes, depressions, civil riots, and moral chaos.

Why do we have this seventh sense if it is bad for us? It probably wasn't bad for us in our earlier stages of development, as it probably helped us survive against the elements and prehistoric beasts.

Early man presumably gained by the recurring exhilarations and depressions caused by these energy waves. The time has now come, however, when man must learn about these forces so that he can adapt himself to them before he becomes as extinct as the dinosaur.

Our work makes it abundantly clear that, directly or indirectly, man is attuned to something like electric signals or magnetic waves. It is true that for the most part he does not "hear" these signals, but they *do* affect him and they *do* cause many of the disturbances to which he is now subjected.

And the greatest of these is war.

War, Our Way of Life

Man is the most aggressive and deadly animal in the world.

Unlike other animals who normally will kill only for food or in self-defense, man will commit murder singly or en masse in a war with little provocation or motive. In the past 3,400 years the world has known little more than 200 years of absolute peace. But even war, habitual as it may be, is not a continuous thing with us. It occurs in cycles—and I consider the work I have done in respect to cycles in war by all odds the most important achievement of my lifetime. Yet our research and discoveries in this most important of all human behaviors would not have borne fruit without the monumental efforts of the late Professor Raymond H. Wheeler.

As already mentioned, Professor Wheeler, a professor of psychology at the University of Kansas and president of the Kansas

Academy of Sciences, summarized all of recorded history. His War Indexes were an incidental by-product of that work. History books and historians have always made much of war, so Professor Wheeler and his staff were able to assemble in their Indexes of International War Battles and Civil War Battles the longest, most complete, and most precisely dated series of figures that exists in all recorded history.

Wheeler's method of compiling his index was to assign numerical ratings to every recorded battle. To a mild engagement he gave a value of one, to a moderately severe engagement he gave a value of two, and to a very heavy engagement he assigned a value of three. By adding all these battle ratings for a twelve-month period one would have a numerical rating for that particular year that could be plotted on a graph.

The War Index was used by Professor Wheeler to show a relationship between shifting temperatures in the earth's climate and man's proclivity for war. Warm periods, he noted, were the time of dictators and international wars, while cold periods produced civil unrest and democracy. His compilations were made without any preconceived notions of cycles, but he did note that there were recurrences of drought and civil war at approximately 170-year intervals and that every third of these drought–civil war periods was more pronounced, thus creating a longer cycle of 510 years. He also observed shorter rhythms, especially one of approximately twenty-three years.

Do Wars Come in Cycles?

Soon after North Korean infantry and tanks crossed the 38th parallel on June 25, 1950, those of us connected with the Foundation for the Study of Cycles were confronted, countless times each day, with one question: "Do wars come in cycles?" As the Foundation's director, I found it almost impossible to give an interview or address a group without having to reply to this same query. My reply, which was that they had always come this way in the past, was not sufficient. It satisfied neither the interrogator nor myself.

Then we discovered Professor Wheeler and his Index of International War Battles, and late in 1950 we began our research into the cycles of war—research that still continues, and now at a considerably accelerated pace because of computers.

During those early days a frieze hung on one wall of my study. It was nearly sixteen feet in length and showed every single battle of recorded history from 600 B.C. to A.D. 1952. The frieze consisted of enlargements of charts prepared by Professor Wheeler. For each year little battles, wherever they occurred in the world, were shown by short blocks, medium-sized battles were shown by medium-length blocks, and major engagements were shown by long blocks. These blocks, piled on one another, created a single long vertical bar that indicated the severity of man's warlike behavior for that particular year. Think of a big city skyline at twilight and you will have a fairly accurate picture of what my frieze looked like.

By 1952 I had identified and isolated four cycles in the Index of International Battles.

The 142-Year Cycle in War

As you can see in this amazing chart (Figure 45), since A.D. 1100, international battles have tended to come in rhythmic cycles that average 142 years in length. (For some unknown reason, from 600 B.C. to A.D. 900 the major cycle in war averaged about 163.5 years in length. No other figures that I know of have switched cycles like this. It is very baffling.)

This 142-year pattern calls for a more than average number of battles for the seventy-one-year period from 1914 to 1985 and a less than average number of battles for the seventy-one-year period from 1985 to 2056.

If, as Professor Wheeler and others believe, there is a relationship between climate and man's belligerency, there may be cycles of about 142 years in various physical reflections of our climate here on earth. These may include the alternate thickness and thinness of tree rings, the thicknesses of sedimentary rock deposits, and the flood levels of great rivers like the Nile, where records are available back over hundreds of years.

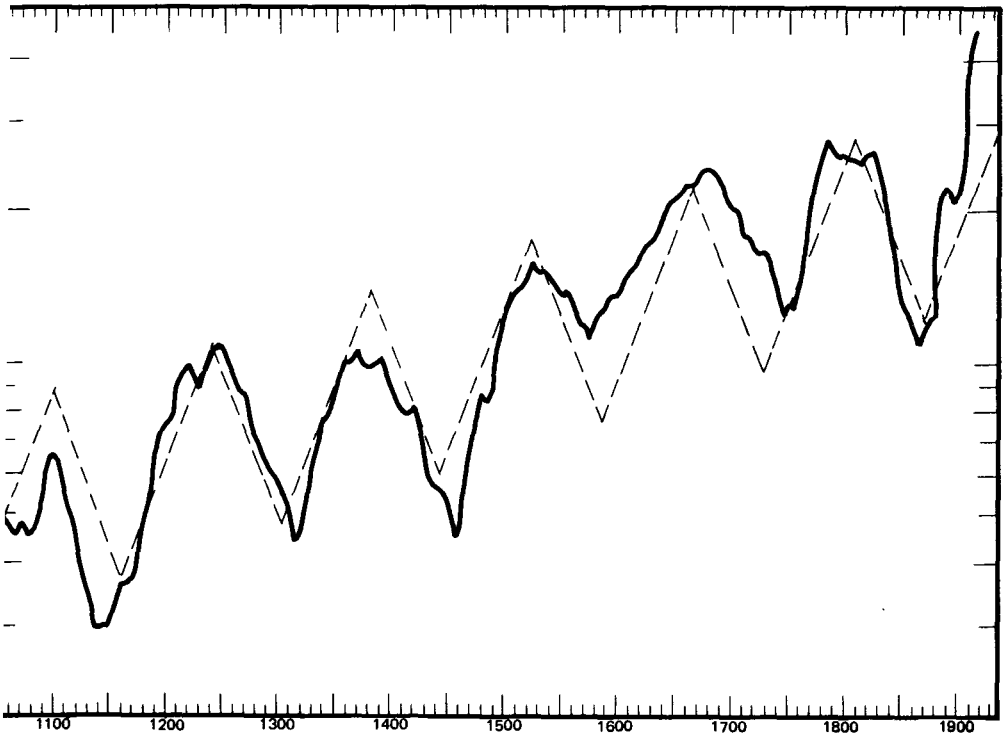


Fig. 45. The 142-Year Cycle in International Battles, 1050–1915

The 57-Year Cycle in War

In January 1951 I reported on a 57-year cycle (Figure 46) in war. Although the figures in my possession at the time enabled me to trace this cycle backward through only three complete cycles, I pointed out that the wave was clear enough so that prudent men could not ignore the possibility that the next twenty-five or thirty years would see an increasing number of international battles.

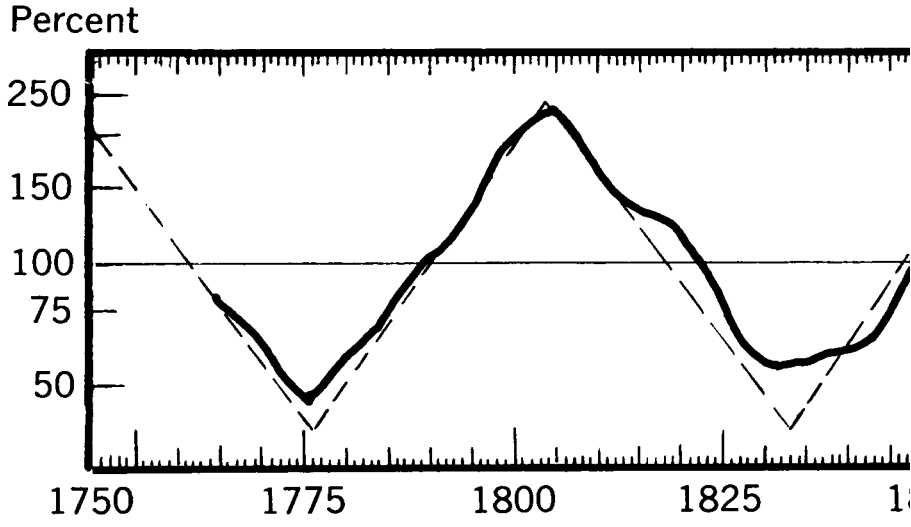


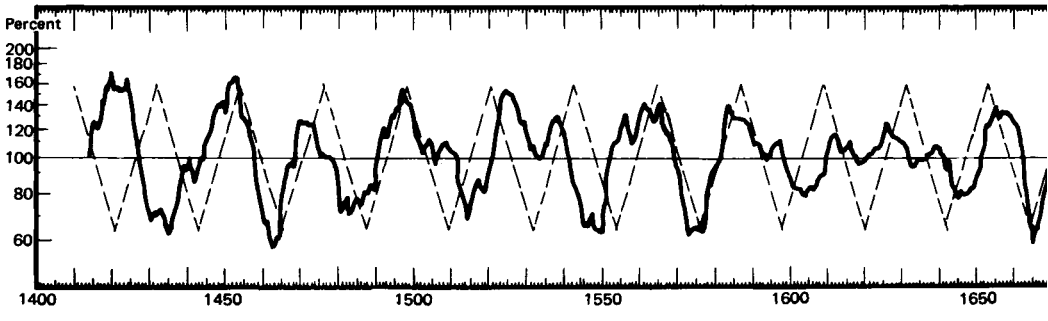
Fig. 46. The 57-Year Cycle in International Battles, 1765–1930

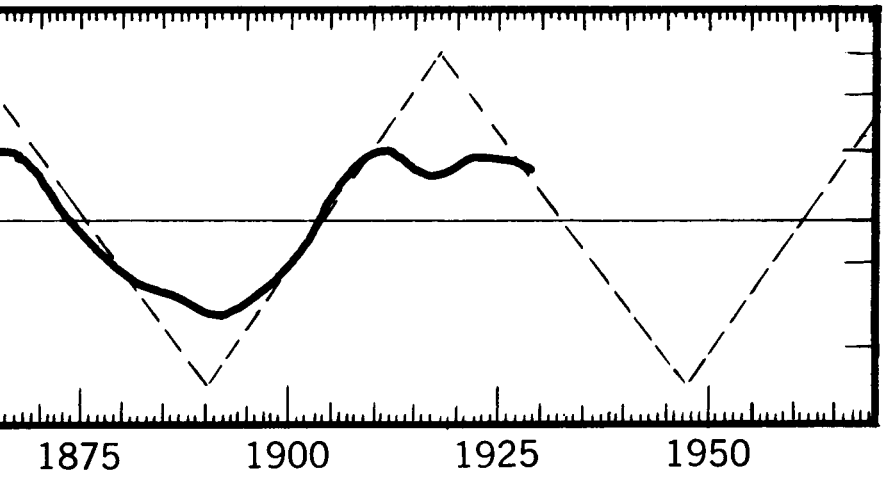
The 22⅕-Year Cycle in War

In February 1951 I reported on a twenty-two-year cycle in war. At first, I had traced it back through twenty-five repetitions to the year 1400 (Figure 47).

Then, in 1956, I traced it all the way back to 600 B.C., and I had the longest continuous series of waves I had ever found—*116 repetitions of a cycle over a period of 2,500 years!* The odds of this cycle occurring purely by chance are only 8 in 10,000. The continuous presence of a cycle of this length for 2,500 years explodes the idea that wars come when a new generation that does not know the horror of war grows up. Behavior resulting from

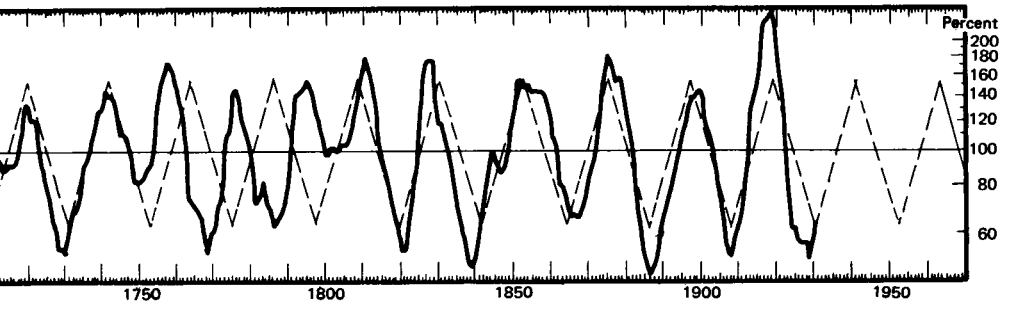
Fig. 47. The 22 1/5-Year Cycle in International Battles, 1415–1930





such a cause could not *possibly* be as regular as this. Remember that these are worldwide figures. Only in the last few years have we had worldwide wars. Over the years war weariness in Greece, let us say, could not possibly account for war weariness in China. Moreover, even for one country war weariness could not possibly, by itself, maintain a constant cycle continuously in step with previous war weariness in other centuries. Some accidental factors would make a war come early or late, and a new timing for war weariness would result.

In the years since its discovery the length of this particular cycle has been refined to 21.98 years.



The 11⅕-Year Cycle in War

The 11⅕-year cycle (Figure 48) has also been traced back to 600 B.C. It could not have been chance more often than 18 times in 10,000. It has recently been refined to an average wavelength of 11.241 years.

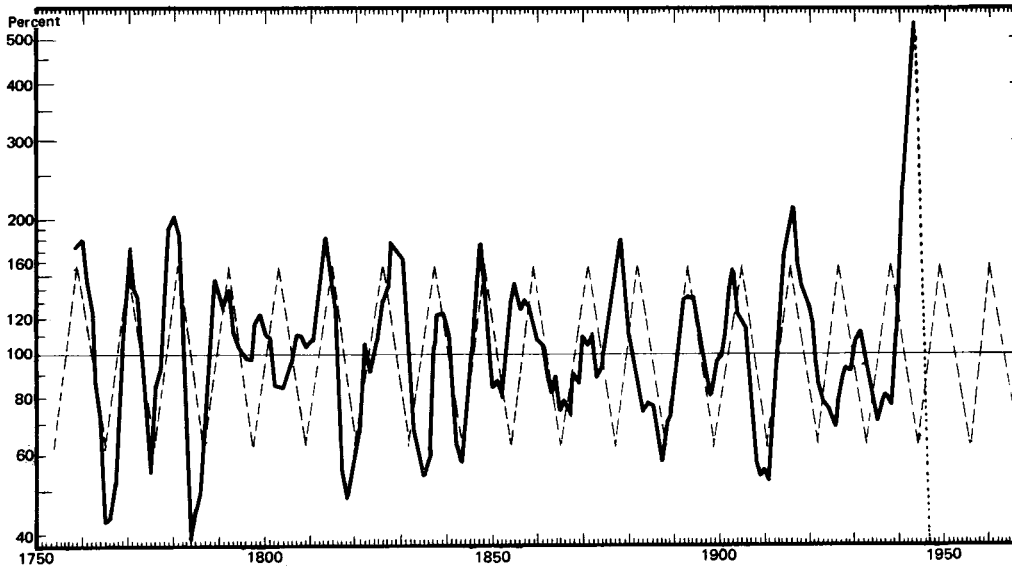


Fig. 48. The 11 1/5-Year Cycle in International Battles, 1760–1947

The War Prediction

In June 1952 I combined the 142-year cycle, the 57-year cycle, the 22⅕-year cycle, and the 11⅕-year cycle (see Figure 49).

The combination (synthesis), as represented by the bottom heavy line of Figure 49, was then projected into the future as a forecast.

This forecast has come true for the main structure of international battles, for seventeen years! Here is another chart (Figure 50) showing the synthesis (broken line) projected to 1975 compared with the actual index to 1958, its most recent value.

Of course, this forecast was very crude. It used very few cycles. It used no cycles shorter than eleven years, which is like trying to paint a portrait with the foot of an elephant for a brush. All the forecast really said is that times would be rough the world over, in the 1960's, with the possibility that there would be a double peak, the first one in the early sixties and the second one at the end of the decade. The middle 1970's should be reasonably peaceful.

As things actually unfolded, there was a bit of a peak in the first half of the 1960's (India and China, Holland and Indonesia, Syria and Egypt, Tibet and China, etc.), but, of course, these minor skirmishes were completely overshadowed in the latter part of the 1960's by the war in Vietnam.

Since the work of 1952 four additional cycles in war have been

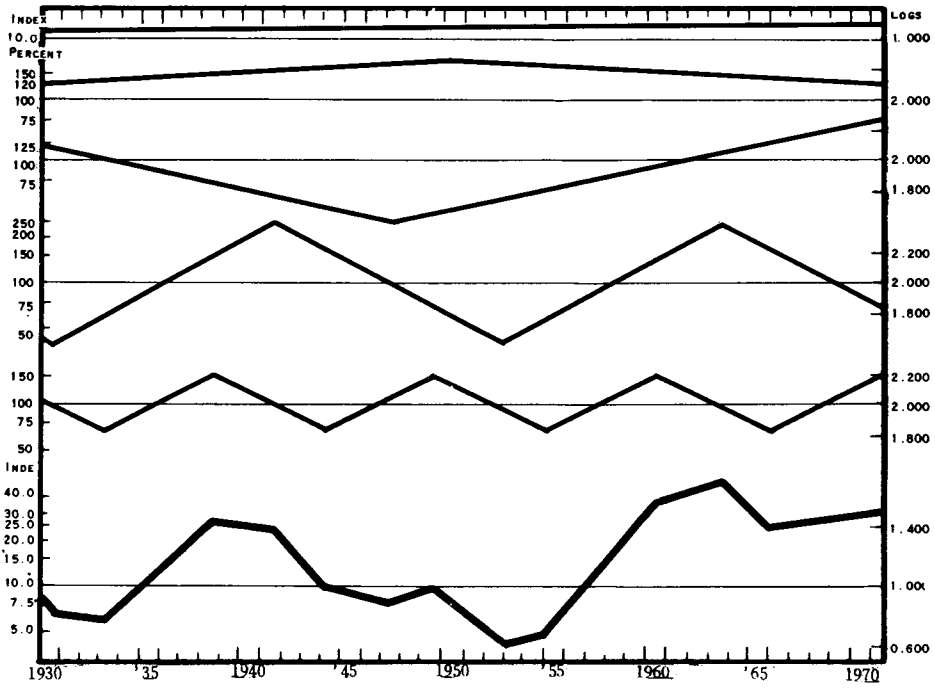


Fig. 49. The War Cycles, Combined, 1930–1970

This chart depicts (reading from the top down) the trend of wars, the 142-year, the 57-year, the 22 1/5-year, and the 11 1/5-year cycles. The bottom heavy line brings all these elements together in a synthesis or combination.

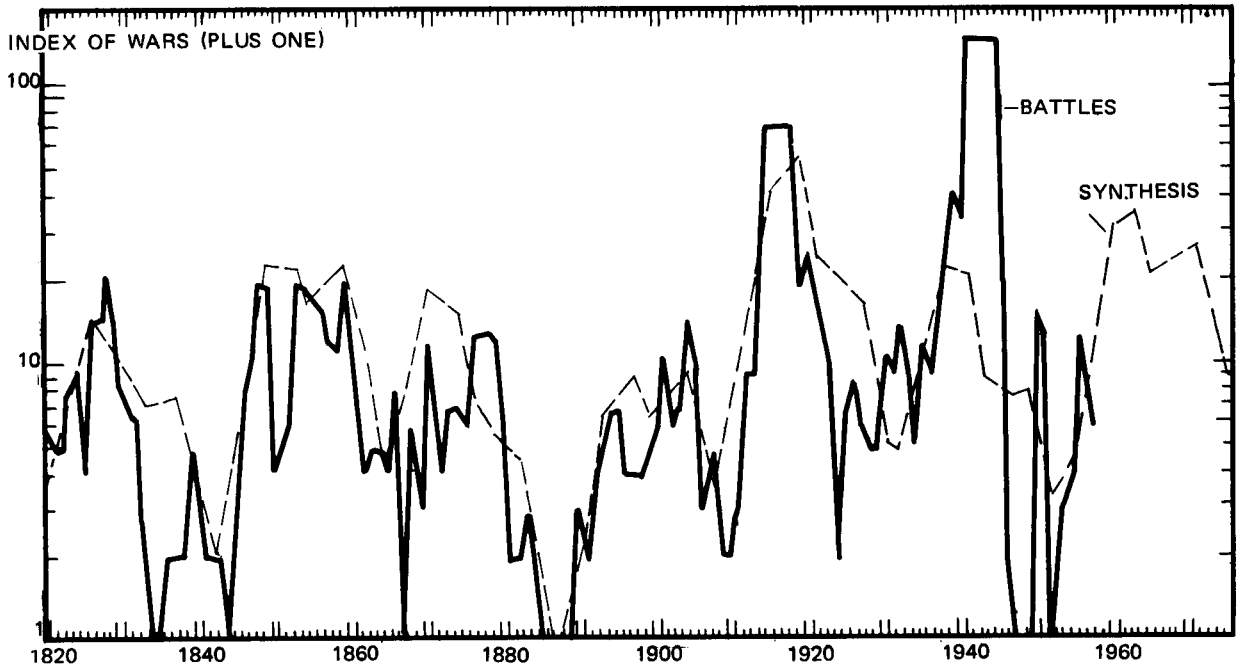


Fig. 50. Index of International Battles, 1820–1958

The solid line represents the actual Index of International Battles, plus one. The broken line is the synthesis, or combination, of cycles from the bottom of Figure 49 extended backward for 90 years to 1820. As you will note, even with the use of only four cycles, the synthesis comes fairly close to depicting the ebb and flow of international battles over this span of time.

discovered. Three, with average wavelengths of 17.71, 17.31, and 5.98 years, have been traced all the way back to 600 B.C. The fourth cycle has a most unusual pattern. It alternates between 9.6-year cycles (remember the Canadian lynx?) and 12.35-year cycles for spans of 86.4 years, each clearly visible in the War Index, wave by wave, since A.D. 562. These cycles, and others that we now have hints of, will undoubtedly modify the original projection made in 1952.

The Behavior of Wars

There is one aspect in the cycles of war that I find particularly fascinating. International battles clearly have their counterparts in *both* biological and economic cycles. By a "biological" cycle I mean one that expresses itself predominantly in biological phenomena, such as animal abundance. By an "economic" cycle I mean one that expresses itself predominantly in economic phenomena, such as prices and production. It is rare indeed for a phenomenon to evidence both kinds of cycles, *but war does.* For example, the 9.6-year cycle in war can also be found in forty-two different biological phenomena. On the other hand, the 17.7-year cycle in war is primarily an economic cycle.

As international war is sensitive to cyclic forces that are normally responded to only by animals and also to cyclic forces that are normally responded to only by men in their economic capacity, we may think of it as both an economic *and* a biological phenomenon. This is most interesting and unusual.

If we knew the particular aspect of animals, or of men, that responds to cyclic forces and the aspect of man as a producer and investor that responds to different cyclic forces, we might have an additional clue as to the causes and nature of war cycles in general.

How should we interpret these war cycles? In my own mind I picture the space in which we live as filled with forces that alternately stimulate and depress all human beings—make them more or less optimistic, or make them more or less fearful. These forces do not *control* us, they merely *influence* us. They create a

climate that is sometimes more favorable to war and sometimes less favorable. War will come without the stimulus of these forces and wars will be avoided in spite of these stimuli, but, *on the average,* the probabilities for war are greater when the "climate" is right.

The evidence suggests that one of the major causes of war, if not the major cause, may be mass hysteria or combativeness, which occurs at reasonably regular rhythmic intervals.

What mysterious forces cause these war cycles, how they operate, and how we can control them—or their effects—may, in this nuclear age, be the most important discovery ever made by man.