

by improving civilization. If by education we can promote sanity in the race perhaps that sanity will promote a better type of human society. Who shall say that the World War and the Great

Depression were not merely causes of mental disease but in part results of it? And who shall say that the essential sanity of the race—that normality which has for thousands of years enabled us

to eat and to sleep and to love and to procreate and to die in peace—will not in time assert itself and trample under foot, along with more personal manias, the evil psychoses of war and want?

WILL THIS SUMMER BE HOTTER? *By W. Maxwell Reed*

WHAT will the summer be like? Will the heat which has been gradually increasing during the past five years grow worse? Is the United States becoming more tropical?

Our ancestors thought that our climate never had changed and never would. There was to them something constant and eternal about the earth. Now we know that there is nothing in the universe which seems to be eternal or even constant. Climate is no exception, although just why it should change is not thoroughly understood. Mighty forces of the universe seem to be acting in chaotic manner all around us, and it is perhaps surprising that climate is as constant as it is.

We cannot predict the kind of weather but we can say with reasonable assurance that if a certain trend continues, certain things will happen. The movement of the polar front can destroy civilizations and cause millions of deaths, and it can also give new civilizations and new energy.

To get an idea of how bad the weather can be, let us go back to the last glacial epoch. About 150,000 years ago, for an unknown reason, the sun gave the earth less heat than usual. The cold air of the arctic circle crept south for thousands of years. The region of perpetual ice came south over approximately all the land north of New York harbor, the Ohio River, and the Missouri River. In some places the ice was a mile thick. Then about 40,000 years ago the earth began to receive a little more heat. The cold air of the north pole slowly crept back to the arctic circle and the warm air of the tropics began to melt the great glacier. Now geologists say the retreat of the glacier is about three quarters finished. When we are entirely out of the Ice Age, Greenland, where the ice is now two miles thick, will be a thickly wooded country.

If we had been waiting for navigation on the Hudson to open, we should have been disappointed many times, for warm weather did not come at a uniform rate. The old glacier fought many a rear-guard action with the advancing warmer air. Sometimes the glacier actually advanced south and re-occupied some of its lost territory. Such changes of climate must have seriously disturbed the ancient man. If he had been educated in geology he would have believed another great glaciation was coming. On the contrary the glacier with much halting and hesitation continued to retreat. The pulsations in climate grew less violent. Yet they were extensive enough, we think, to cause the migrations of animals. Since man was largely a meat-eating animal in those days, he naturally followed his favorite herds. For this and perhaps for many other reasons, successive migrations of early man entered Europe.

For the last thousand years or so these pulsations have been fairly mild. Some people, however, did not think the fourteenth century very mild. During much of the time from about 1300 to approximately 1400 the polar cold moved south a bit. That meant that the stormy weather which is usually confined for the most part to the British Isles and the North Sea moved south also.

It is the conflict between the warm air of the south coming in contact with the cold air from the pole which causes the eddies in the atmosphere which we call storms. At least this is the opinion held by many, although the cause of storms is not thoroughly understood. This ill-defined line of conflict is known as the polar front. So when the polar front goes south, because the earth is a little cooler, the storms go south also, and vice versa.

During this terrible fourteenth century Britain, northern Europe and the

Scandinavian countries suffered intensely. Several times during this century the Baltic was frozen and these northern countries suffered from famines and floods. Several of the worst famines in English history occurred during this period. On the other hand, Italy, which for several hundred years had been too hot and sunny, got the fringe of the stormy weather and therefore had a more bracing climate than usual, according to Professor Ellsworth Huntington of Yale University. It was the beginning of the Italian Renaissance.

In India the condition for a part of this century was tragic. When the centre of Asia becomes hot, the cool air from the ocean flows in and displaces the hot air. This cool air is laden with moisture which is squeezed out as it passes over India. These heavy rains are called monsoons and they cause the dense vegetation. But when the centre of Asia is cold because the earth is cooler than usual, then very little cool air flows in from the ocean. India doesn't get its usual rain and if this state of things lasts for a number of years, famine conditions prevail. Near the middle of the fourteenth century, India suffered the worst famine in her history. Half of her population, or nearly 20,000,000, died during a twelve-year famine. During this period, apparently, southern Russia, like Italy, had plenty of rain and therefore ample food.

In 1920 and 1921, conditions were reversed. The zone of storms travelled north because most of the earth was a little hotter than usual. The plains of southern Siberia and Russia were parched and Russia suffered its worst modern famine. Seven million were said to have died of starvation notwithstanding the large amount of food sent by the Americans.

If we go further back in history, we come to another great pulsation in cli-

mate. For several hundred years from 350 A.D., the storm tracks apparently went north, for most historians agree that the nomads living in southern Russia and on the plains around the Caspian Sea migrated because their pastures were drying up. About that time the nomads around the Caspian Sea invaded and conquered the East Goths. If the Romans heard of this conflict they probably paid little attention to it. To a Roman it was merely a conflict between two semi-barbarous tribes. Yet that conflict marked the beginning of a new era and the ultimate fall of Rome.

Approximately 2,000 years earlier that same great stretch of inland plains became dry for a considerable period. Perhaps for several hundred years famine conditions prevailed much as they did for a brief time in 1921. In the course of a few centuries the tribes living on these Russian plains moved to the shores of the Mediterranean and became Greeks and Romans; but before building their own civilizations they almost completely destroyed many of the Neolithic civilizations which had been slowly developed through thousands of years. They destroyed the Cretan, Hittite and Etruscan cities so thoroughly that they didn't even take the trouble to learn the writing of these highly civilized peoples; so that to-day we cannot read their inscriptions. These early Greeks and Romans were as ruthless as the Spaniards who burned the books of the Mayas and Aztecs.



It was like the change from the Age of Reptiles to the Age of Mammals. Climatic conditions caused the death of the magnificent giant reptiles which had been slowly developed during the previous couple of hundred million years. The weather, perhaps urged on by a wisp of cosmic cloud, utterly destroyed these glorious specimens which life on the earth had evolved. Smaller but much more lively animals appeared where once the monarchs of the reptile world had reigned supreme. Then life struggled for 50,000,000 years before it developed another group of magnificent animals, such as the horse, the sabre-toothed tiger, and man. Fortunately, after the Indo-European "life quake," which brought us the Greeks

and Romans, civilization rose again in hundreds instead of millions of years.

There is evidence that the present hot period is by no means confined to the United States. For a couple of years southern Russia and Siberia have been increasingly warm. As in many parts of the United States there has been less rainfall than usual upon the great plains around the Black and Caspian Seas, where the food for many millions of people is raised. Last summer Russia advertised extensively that she intended to export large quantities of grain. As a matter of fact she exported scarcely any and the little which did reach Europe was said to be below standard in quality.

If the earth always spent several years in gradually becoming warmer and then several years in equally gradually becoming cooler, we could predict with fair accuracy whether or not next summer would be hotter than last summer. Unfortunately the problem is not so simple. These periods of heat are not always symmetrical. The weather will sometimes change in two years from below the average in temperature to far above. So if we talk about the weather for next summer or winter, we must make certain assumptions. Let us first assume that the present heat period will prove to be symmetrical. That is, it will decrease in the next five or six years as steadily as it has increased. Also let us assume that January, 1932, was the maximum of the hot period. Then it follows that next summer will be symmetrical with last summer; they will each be about the same distance in time from the maximum. This would mean that we would have another hot summer, but no hotter than last summer. Under such circumstances, it would seem safe to predict that Russia would continue to keep all her wheat for home consumption. Russia might even suffer from lack of enough food. Perhaps China and the lower Mississippi Valley would again be devastated with floods.

But—perhaps we have not reached the maximum of this hot period. It is entirely possible that the maximum may come next year. In that case, next summer will be nearer the maximum than last summer was and therefore hotter than last summer. If such an assumption proves to be true, the result may be disastrous. Such a decided movement of

the zone of storms toward the north would leave southern Russia and the great plains around the Caspian Sea in as parched a condition as they were in 1921. In the midst of a terrible famine it is difficult to see how the present Russian government could endure; for famines have an unpleasant way of causing revolutions. Some of the bordering European nations might easily become involved in such wide-spread disorder.



There is a third possibility concerning the weather—a volcano may blow off its top. This seems as far removed from the temperature of next summer as the destruction of Troy by the Greeks. Yet in reality the volcanic eruptions which have recently taken place in the southern Andes may make next summer cooler than normal and next winter actually cold.

On many occasions in the past, volcanoes have become so choked with lava and explosive gases that they have blown off their tops. Sometimes a cubic mile of finely pulverized dust is blown high above the clouds. Since there is no fog or rain up there, only gravity can pull it down. It usually takes a little over a year for gravity to accomplish this. When the dust reaches the clouds on its passage down, it is washed to the surface of the earth. In the meantime a certain amount of the blue and violet rays of sunlight has been dispersed by this volcanic dust which gives us a little less sunlight than usual. It also gives us brilliantly red sunsets. The cold year of 1816, known in America as "The Year Without a Summer," was caused by several volcanic explosions. The explosion of Krakatoa gave us the cold winter of 1884. We don't know yet whether the Andes eruptions will give us this welcome coolness. So far no record has come north that any one of the volcanoes actually blew off its top. If one did do this, then our observatories will see a faint reddish-brown halo around the sun this summer.

Even if the volcanoes all hold their tops, the coming twelve months may be cool for no reason which we know anything about; so curious and little understood are the changes in the weather. Although we know very little about the causes of these changes in climate, we

know enough to realize that we are living amid giant forces—some are explosive, some in long periods of time produce intense heat or fearful cold. No other earthly force can so mold civilization as a change in climate. Neither another World War nor another "Black

Death" can so change the course of human events as a variation in climate which lasts through several generations.

For commercial reasons more research should be made upon this important subject. Hundreds of millions of capital are involved in the answer to

the question:—Will next winter be severe or mild?

They may be cosmic and not terrestrial forces which change our climate. In either case the study is fascinating; involving as it does not only the history of the past but the welfare of the future.

OUR FRIENDS, THE FRENCH

NOW WE LOVE THEM, NOW WE DON'T

By Henry T. Moore

FACING the White House on Pennsylvania Avenue stands a statue of Rochambeau, adorned by these words of Washington, dated February 1, 1784: "We have been contemporaries and fellow-laborers in the cause of liberty, and we have lived together as brothers should do in harmony and friendship."

This memorial, together with its companion statue of Lafayette, almost at the front gate of the Executive grounds, stands as a perpetual reminder of the steadfast intention of our early republic to see eye to eye with France.

It is significant, however, that the very name of Washington had, thirty years prior to this, been wholly detestable to the French as the result of an attack in 1754, when, at the head of English troops, he had brought about the death of the French diplomat Jumonville. It is noticeable also that within a decade after this statement he was again to arouse the bitter hostility of revolutionary France when the consummation of the Jay treaty won for him the accusation of being the slave of England. Thereafter his reputation in France again rose rapidly, and the excesses of Napoleon brought the French mind to a new appreciation of the young American republic and of Washington as its citizen without reproach. For a century after Napoleon's fall the fortunes of France and America were of relatively little concern to each other, and then came the alliance of the World War in 1918 with the emergence of France into peculiar favor in the United States and the temporary glorification by the French of America and of Wilson, her national hero of the hour.

The sacred glow of emotion with which these two friendly republics had vowed to make the world safe for democracy was dissipated soon after the separation of Versailles. Bickering over inter-allied debts and the failure of the United States to help secure France, either by pact or by membership in the League, opened a new chapter in which Franco-American sentiment, always alternating from hot to cold, was to blow colder than ever before. Four years after the signing of the Armistice I happened on an incident in a Paris moving-picture show which might at first sight seem trivial, but which gave me a decidedly unpleasant shock and much cause for reflection. It was at a representation of "The Four Horsemen of the Apocalypse," and in the midst of the harrowing discouragements of France portrayed by the film there was introduced a scene showing the rapid coming of thousands of fresh American troops. I expected an outburst of applause. Instead, there was stony silence. "Volatile France!" was the first thought that came to my mind; but I was to learn that they thought just that, and worse than that, of England and the United States. A New York parallel of this Paris instance is the storm of derisive applause which has daily greeted the aspersions on the French ambassador in a current popular musical comedy during the past year.

Until recently the immediate cause of international misunderstanding was to be sought, first of all, in the leadership on both sides. If nations fell out it was primarily because leaders had fallen out. Since the war this condition has been remarkably changed by the highly developed conference method

of bringing leaders into close personal contact. Within the past few years MacDonald and Hoover, Briand and Stresemann, have been able to arrive at personal understandings which, if they had been accepted in good faith by whole populations, could have made short work of the most important issues. To-day the irreconcilable is not so much the politician as the great public, and one representative after another in the succession of international conferences has been cramped by the necessity of having to look timidly back to see how far he might be departing from the demands of those at home. As a single example of the unthinking prejudice that may lie back of these demands we need only recall the unflattering impressions with which Americans and Mexicans regard each other. Stuart Chase has said that he recently asked an able business executive to give him, without thinking, his definition of a Mexican. The instant reply was: "A combination of sheep herder and bandit." He felt sure that a corresponding Mexican definition of an American would have been: "A combination of bloated plutocrat and gangster."

The same sort of irrational popular prejudice is notably at work in the present divergence between France and the United States. Laval, Tardieu, or Briand could much more readily have come to terms with any of our present leaders than can the average Frenchman with the average American in the year 1932. This temporary difficulty rests on the same deep-seated lack of insight which has made each nation so quick to right-about-face from admiration to contempt or from scorn to glori-