

## THE CASE FOR HOPE



*It is the differences among the samenesses of life which upset Modern Man. While he is a great earthshaker, hydrogen-bomb blower, and calculating-machine attendant, he is no freer than the Neanderthal man from personal death, for example, or the needs of decency and health. Can our new material skills ever help to make us a better world? Arthur H. Compton—Nobel Prizewinner for physics (1927), director of the Chicago project which set up the first atomic chain reaction, chancellor of Washington University until 1953, and now Distinguished Service Professor of Natural Philosophy there—writes that they can. Man's new powers must be used to build a new moral life, and a sound political community.*

By ARTHUR COMPTON

ACCORDING to the most generally accepted views of astronomers and physicists, the beginning of the physical universe dates from about four or five billion years ago. Before this time it seems that not only were there no stars and atoms, but that time itself was something of only indefinite meaning. It may be that this concept will need revision, but at least it will serve as the starting point for our present view of man's history.

Roughly three billion years ago the earth was formed. Our earliest evidences of life date back a billion years. Then came in succession the appear-

ance of the vertebrates, the mammals, and, a million or so years ago, primitive man. It is some 50,000 years since *homo sapiens*, man of the kind we know, first appeared on the scene. Six thousand years ago we find the beginnings of civilized life, and with it, as my late colleague James Breasted described it, the dawn of social conscience. In the following millennia came the introduction of writing, the foundations of logic and of Greek science, the growth of the great religions, the development of the technology first of the precious metals, then of bronze, and later of iron and steel. Some 500 years ago occurred the European Renaissance, the printing of

books, the discoveries of the great geographic explorers, and the establishment of the testing of hypotheses as the foundation for the firm growth of modern science. It is within the last two generations that so many of the great developments of science and technology have occurred. These include the establishment of the germ theory of disease, proof of the existence of atoms, the discovery of the electron and of radioactivity, the knowledge of the age of the rocks, the measurement of the distance of the stars and galaxies, the development of organic chemistry, the discovery of antibiotics, and the other extensive applications of many forms of technology.

If we should liken the five billion years of the universe's existence to a year the last two generations are but a third of a second, the time required to take one quick step. The remarkable fact is that during the time required for this step there has been added to the heritage of man something that is substantial in relation to that of all the long year of his previous history. This is what we mean by saying that we are changing rapidly.

As we look at ourselves through the

# Academic Spring

By Robert Hillyer

NOW learning is entangled with the weather,  
And ever green shall be these studied pages  
Where facts and youth and south wind blend together  
Impelling the live sap up trellised ages,  
To flaunt new leaves on bines of classic thought,  
Refreshing the sere crowns on brows of sages,  
While all the urgent push of spring is fraught  
With birdsong from the groves beyond the dawn,  
Those magic flutenotes never to be caught.  
Under the great trees on the campus lawn  
The girls in colors like embodied joys  
Cluster and flutter, seemingly withdrawn  
From seemingly indifferent groups of boys.

"Another year gone by," say the professors,  
Putting aside the last examination.  
They feel like portraits of their predecessors,  
A little dark with time, for graduation  
Holds reminiscence more than promise, more  
Than learning's periodic consummation.  
To those who watched their classes march to war,  
The hushed alumni of mortality  
In cap and gown still haunt the Gothic door.  
But now by "Pomp and Circumstance" set free,  
Seniors in blowing robes file slowly by,  
While the south wind rides on from tree to tree,  
And the white sun stands cloudless in the sky.

eyes of science what do we find? Briefly, it is this. We are a part of nature, comparable with all that we see around us. In every act we obey the same natural laws. We are, nevertheless, a most remarkable part. We are aware of what goes on. We can exchange ideas with each other. Within certain limits we can shape the world about us. We are free to create new structures, new ideas, that have not existed before. What the scientist finds gives us reason to suppose that man in his physical structure is in no essential way different from the rest of the world of nature: he is composed of the same atoms, obeys the same laws of conservation of energy, of thermodynamics, and so on. All that we know in science seems to confirm this conclusion. Nevertheless, men and women have this remarkable characteristic: We are aware of what happens to us. We think, we feel, we have emotions.

Now, the physical object we call man acts according to certain physical laws which are more or less well understood. But these acts and laws do not of themselves imply anything with regard to the conscious aspects of man. They nevertheless are obviously consistent with the fact that man is a conscious being. This is evident from the very fact that each of us knows within himself the presence of his consciousness, while if he examines him-

self as a physical mechanism he finds that he obeys the same laws of nature as do the objects in the world around him.

There is also another significant realm in which man's actions go beyond the province of science. This is our experience of freedom. Over a considerable part of the history of science it has been thought that the world is a physically determined system, so that the experience of freedom must have little connection with physical events. With the advent of quantum mechanics, some thirty years ago, the thought of physicists in this regard has undergone a significant revolution. It is, I believe, fair to say, that modern scientific theory does not dispute the possibility of the type of human freedom that implies human responsibility.

Our scientific knowledge does not, however, give of itself any indication that such freedom exists. That we do in fact shape the world to our desires, just as the fact that we are aware of what is happening, is known only from our first-hand experience. These facts are not obtainable through scientific observation, but they are nevertheless consistent with our scientific knowledge of the physical world.

AS we view man through the eye of science we find much valuable in-

formation regarding his origin, his structure, and the physical basis of his life. But in the broader view we find that he is much more than the sum of all these things. He is a being of spiritual aspiration, of human feeling and emotion.

I recall as a college student reading a book by the eminent American psychologist William James. He was discussing what we mean by the "self." He pointed out that the boundary of what I consider as my self is not my skin; it includes, for example, the clothes that I wear. It is important to my state of mind that in addressing an audience I shall be properly clad for the occasion. The "self," he adds, extends to the family. What my wife, my brothers, my parents, my children may think and do affects my confidence in myself, my status in society, my ability to meet the demands of life. They are in this sense a part of my own life.

What technology is doing is to extend this "selfhood" to include an ever-widening circle. It includes, to a greater or lesser degree, all of mankind.

During recent months I flew away from the United States and back again by way of the Pacific and India and Europe. I take some pride in the fact that I am one who can fly. And yet is it true to say that I can fly? It would be more correct to say not that I can fly, but that *man* can fly. I identify myself with those who are capable of this achievement. This is what I mean by saying that the individual self extends to all mankind.

This is true also in another sense. My mind is as it is because of many experiences. These experiences have come from contact with parents and friends and people of all sorts, also from the reading of books. Ideas from all over the world have influenced me. Some of these have become impressed on my memory. They form the background of what I am writing now. The very physical condition of my brain has been modified by what has happened in the world over the ages and in many places.

In a similar way the actions and thoughts of each of us have to a certain degree extended throughout the world. We have affected, more or less, the lives of many persons who have never heard of us. We live in them. What is happening is that each individual's relationships in the world are becoming more complex under the stimulus of scientific and technological progress. If a man accepts the moral implications of these growing relationships his own life will take on richer meaning. We all want to live

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# THE LITERARY SAMPLER

## EXCERPTS FROM NEW AND FORTHCOMING BOOKS

### Gone But Unforgotten

**I**T'S NOT that the South remembers the Civil War, but, rather, that we can't forget it. It frowns at us from a thousand courthouse monuments and haunts us from a hundred thousand tombstones. It speaks to us from hotels named for our generals, from highways named for our heroes. Its songs jeer or cheer us and its books smirk at us and call us dull, brutal schizophrenes or puff us up as heroic gallants, bowing and scraping and honey-chiling all over the place.

Be that as it may, what does that Chesapeake fisherman tonging oysters have in common with that Florida conch drying sponges? That Carolina Tarheel making the warhead for a guided missile? That Tennessee mountaineer at Oak Ridge? That Louisiana Cajun growing sugar cane? That Texan punching cattle?

Always this in common: their folks stood together in the Civil War and went down together, kicking and clawing.

It seldom fails—let two Southerners meet on the other side of the world and they won't talk about the Civil War at all. Each will assume that the other's grandpas got shot at and did some shooting. They'll talk about Southern food (and eat steaks every time they get a chance) and Southern music, Southern drinks, Southern football, Southern girls, Southern books, fishing and hunting, and wind up in a hollering argument over the Negro question. But let a Northerner join them and up pops the Civil War.

—From *"James Street's South,"* edited by James Street, Jr. (Doubleday).

### Report on Red China

**C**HINA has taken to Communist dictatorship like a lost man to a signpost, a tramp to bread and cheese, a megalomaniac to Aladdin's lamp. China now knows where it is going; the Chinese are eating better. Whisk! Here is China taking its place in the deliberation of the world's great powers round the Geneva conference table. China has found its panacea. It is presumptuous of me to write this. I was there only three weeks. I spoke no Chinese. I had

not been there before. Yet the British colony in Shanghai would not dispute this, nor the diplomats in Peking. Let me stick my neck out, let me presume.

The Government, I thought, has a very firm hold on the country, and it seemed to me that the country liked it that way. And Communism has as firm a hold on the official class as that class has on the people. The Government is popular. Communism is popular. The Government works, and if that means a dictatorship, so be it.

I met hundreds of Chinese and there are hundreds of millions of Chinese. I do not know what they think about Communism, but I suspect that those who think anything at all about it like it: all of them, that is, except the 1.64 per cent who are deprived of their political rights by edict. There are ten million of them and they are the people for whom things are worse. For the rest things, things, are better; and if you count yourself lucky to have a cotton quilt for winter and a bowl of rice to eat when you are hungry then things, these things, are what you are interested in. These things, these facts, convinced the mild and humane professor I met in Peking: "I am not a Marxist but I look at this university

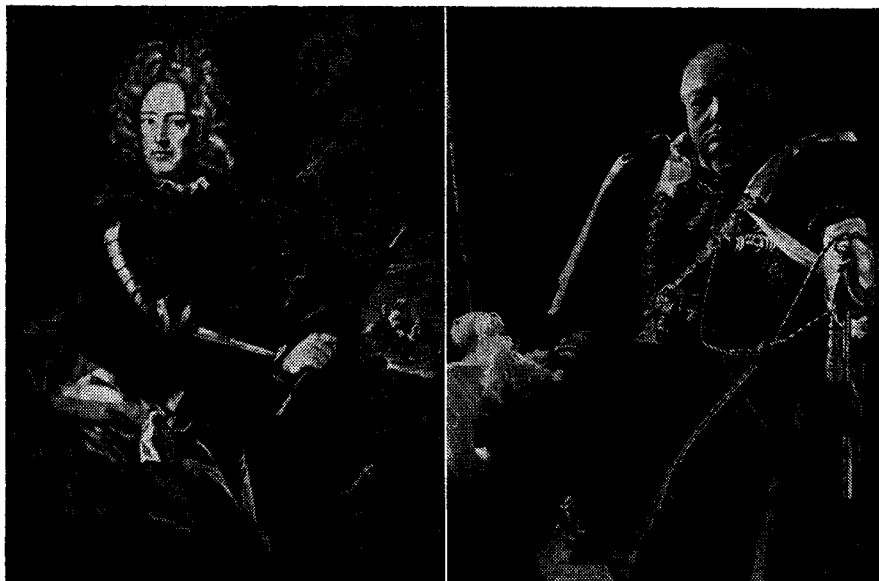
now and see it better off than ever. That is a hard fact. I see more students than ever. That is a hard fact. I see all this building going on, these factories going up, these machine tools made in China, the people better fed, and fewer pot-bellied children. These are all hard facts. . . . Now we see that if we do go along the way of socialism our lives get better and better. Everybody is better. It proves that Marxism is good for us. Now after the Liberation everything gets all right."

I think that everybody in China thinks that, everybody that is except the tiny minority, the odd ten million or so.

—From *"No Flies in China,"* by Manchester Guardian correspondent George Stafford Gale (William Morrow).

### Scandal at the Met

**W**HEN in New York I visited the Metropolitan Opera House as *the thing to see* and I duly saw it. I was dazzled not only by the women's dresses and jewels, but also by their talk and gestures, not to mention their manner of smoking and eating. One woman asked her escort to pass along a meat sandwich, which disappeared in a flash; another tilted her



—From *"Churchill: His Life in Photographs"* (Rinehart).

**TWO CHURCHILLS:** Sir Winston Churchill not only venerates his ancestors but he also looks like at least one of them, as can be seen by these portraits from *"Churchill: His Life in Photographs."* At left is John Churchill, victor of Blenheim, son of the founder of the family, and subject of one of Sir Winston's own books.