

II

THE NEW PIONEERS ¹

WHEN I was graduated from a high school out in this valley, I chose as the subject of my valedictory "oration", "The Mists (or the Clouds) are Rolling Away", and tracing the history of man from his fall, as recorded in Genesis, I contended that he had steadily and constantly progressed. My New England principal after reading the "oration", informed me that there were some people who thought that the world had not progressed at all times and in all places, as I had contended, but had in fact retrograded at certain times and in some places. He advised me to take note of this opinion which seemed to my youthful view unwarrantably pessimistic. So I amended my oration as follows: "There are some who hold that man has not progressed at all times and in all places; that he had even retrograded at times. But", I added, "the world moves on nevertheless".

It has been rather difficult to maintain this optimistic thesis during the last few years, but despite all the local and transitory retrogressions, I have returned to my own land from wandering a great deal about the earth, saying with all the optimism of generic youth, out of the experience of maturity and with the conviction of a Galileo: "The world moves on nevertheless"; though it has sometimes taken rather long intervals to discover the motion.

¹ Address delivered by John Huston Finley, L.H.D., LL.D., of the *New York Times*, at the thirteenth commencement convocation of the Rice Institute, Monday morning, June 4, 1928, at nine o'clock.

I made this unequivocal commencement statement at a time when I had never actually seen more of the world than was embraced in two prairie horizons, whose centers were not more than ten miles apart (for I had never been more than ten miles from home). Beyond these horizons stretched in a vague geography the Holy Land, the isles of Greece, the Ancient Rome of Macaulay's Lays and a few other fragments of earth, a world in which Homer; Socrates, Caesar, Shakespeare, Milton and Tennyson and other characters in history and literature, associated with the Biblical patriarchs and with our own Pilgrim Fathers and Washington and Jefferson—for they all lived more or less contemporaneously and contiguously in that vast realm of space and time to the eastward.

Westward was the prairie and the mountains (which I had seen only in pictures) toward which the prairie schooners moved past my prairie home in slow procession and, beyond, the land of which I heard my father singing, seated by night in a little lighted room in a square mile of darkness:

I'm a pilgrim and I'm a stranger.

How infinitely vaster than the firmament that showed God's handiwork to the Psalmist the universe has grown in this half-century; how near to an eternity time has been lengthened, so that a thousand years seems now but as a day to us, even as they have been long to the Creator; how mobile, as the three angel-men who appeared on the plains of Mamre and made Abraham's tent their hangar for their wings, have the bodies of men become, and how swiftly have been made to travel the images of his mind, that once could go only by slow-footed mortals or mythical messengers. In these few years there has dawned an age which I have called the "tele-Victorian age"—the age of the conquest of the far

(contrasted with the Perinikian). I have seen the miracle of its dawn, which to most of the new generation has already faded into the common light of day—so matter-of-fact its phenomena must seem to you of the younger generation who have never known a world without telephones, automobiles, airplanes and radio. I have seen the earth consciously become a planet in a Copernican system, as the Pole, Copernicus, conceived it to be.

In the first place, the world has grown millions of years older in the half-century since I was in college. When I was a Junior, my professor of geology, who was the best instructor I have ever known (and he was also professor of chemistry, mineralogy, zoölogy, physiology, and botany, and acting professor of Latin) insisted that man was created in the year 4004 B.C., (and some scholars had even fixed the month and day). It is now known certainly that he has been upon the face of the earth for several hundred thousand years, (Dr. Osborn says at least 700,000) and that the earth, itself, has been two thousand million years in the making. It is also stated on the highest authority that a million-million years hence it will still be revolving around the sun with a little colder climate and a little longer year.

So our individual lives are indeed as a watch in the night, as snow upon the desert's dusty face lasting an hour or two and gone—infinately shorter relatively, but infinitely longer in their reach, back through the dim ages, and forward into the race's future.

In the next place, the universe has lengthened its diameter to distances that seem infinite. I saw in Strasbourg a few years ago one of the world's greatest mathematicians, an American, who has in the last few years measured a single star in the constellation of Orion—and found it to be millions of miles in diameter, as I recall. It has been pretty

definitely determined, within the last year or so, that it is over two quintillions of miles, as a crow flies, from one side of the universe to the other; and, if he flew with the speed of light, he would take 350,000 light-years in making the flight.

What a tiny little Ptolemaic world it was for a prairie boy fifty years ago, with the stars so near to the earth, or the earth so close up against the sky—and the galaxy so close that one sometimes mistook it for white smoke from a neighbor's chimney! By contrast, a few years ago, I heard the Swedish astrophysicist, Arrhenius, speaking of the propagation of life through the universe, in which hundreds of millions of stars have been photographed (more than one per person in the United States), tell how spores of life, caught or propelled from one planet or star atmosphere wandered in space until brought within the force of another gravitation they entered as star-dust immigrants the atmospheric shores of another planet or star—and so began another series of vegetable, animal and human life, till infinity of space, as well as eternity of time, became conceivable.

And not long after I chanced to hear another Nobel-prize scientist who went in the other direction, as far as the microscope could go, to the fields farthest back toward the genetic eternity, to the infinitesimal, to the atom and electron, crying as the ancient poet, Lucretius, who but dreamed of what his eyes could not see *considera opera atomorum*, ever as the Great Teacher later cried: "Consider the lilies of the field". And a few nights ago I heard that new Nobel-prize man, the American, Robert Millikan, tell of those cosmic rays which remind us of the cosmic origin of the earth and demonstrate the divisibility of the atom upon whose indivisibility the whole structure of chemistry was erected fifty years or more ago.

In the third place, to this expanded consciousness of eternity of time and infinity of space has been added mobility of the human body.

One widely cherished recovery from that ancient age, the wonderfully beautiful statue of the Nike, the Wingèd Victory of Samothrace, which Mr. H. G. Wells, after his visit to Boston a few years ago, (finding one in every parlor) referred to as the symbol of the "terrifying unanimity of æsthetic discrimination" in that city, was once reproduced by a cartoonist in intimation of the achievement of that pioneer of aviation, the first of the bird-men, Wilbur Wright. But the Nike of Samothrace was, after all, perhaps, only the figure-head at the prow of a boat. Its feet were fastened to a keel. The Epinikian odes—the songs of victory—were of races whose distances were measured in stadia. The higher freedom, the mobility of wings, was but a possession of the gods, an aspiration of rash men, who like Icarus, fell into the sea for their venturing.

Those who are familiar with Maeterlinck's poetic botany are aware that his story is of the struggle of life to escape from a state of immobility into one of mobility, of automobility; from a static slavery to roots into the joyous freedom of feet; for, as Maeterlinck says, it is its rôle "to escape above the fatality below, to evade, transgress the heavy sombre law, to set itself free, to shatter the narrow sphere, to invent or invoke wings, to escape as far as it can, to conquer the space in which destiny enclosed it, to approach another kingdom."

And when we pass on into the history of the development of man, we find that we are reading the history of the same kind of evolution in mobility after his creation (after Genesis), the story of the struggle from a lower toward a higher and higher state of mobility—of *automobility*. And,

if the degree of mobility indicates the degree of civilization, then must America lead in this Copernican world, for of the 27,646,508 motor vehicles in the world, there are 22,001,393 in the United States. There are by contrast only 21,162 in Russia, 18,529 in China and 73 in the capital of Liberia.

Primitive patriarchs walked. Abraham was commanded to walk through the land he was to possess. But from the very first, man longed for a greater mobility than his feet permitted. The ideal, happy creature to him was one equipped with wings, one who had "the wings of the morning", who could travel afar, one who could fly to the uttermost parts of the earth. It is in the dawn of this age that this aspiration is being realized; this age, in which the man has, indeed, become the angel, at any rate in respect of locomotion; in which he has, in a sense, approached another kingdom. (This explains the universal appeal of Lindbergh's flight—not merely his youth, intrepidity or accuracy, but his coming as an angel out of the skies, alone, with the hands of a man under the wings.)

And, in the fourth place, he is able to send his thoughts around the earth, and to receive messages out of the air, not only in human speech but in spectroscopic language from the stars, revealing what is burning in their hearts or glowing in their skies, so that, day unto day, utters speech in a sense never dreamed of by the Psalmist.

Lucretius, the ancient Epicurean poet and philosopher, in trying to explain perception of the nearer phenomena of life, assumed that all bodies were constantly giving off filmy images or idols of themselves, and that the air was crowded with millions of these images along with less definite emanations—images, ever passing and crossing each other in every direction, some swifter, some slower, in infinite com-

plexity, yet in no confusion, very unsubstantial, yet keeping their forms as they speed on their way to the senses, and, being traversed at the same time by our own mind images, infinitely finer and more subtle; and, by those subtlest and swiftest of all, the majestic images of the gods, who come flying from the unknown afar through all the rest, in never-ceasing flow. If only these majestic images could penetrate the films, the motion pictures which are seen by an average of 20,000,000 people daily!

So have we (1) in this realization of the eternity of time, in which the Almighty has been preparing this earth for the habitation of man, and the hundreds of thousands of years in which he has been teaching man his destiny; (2) in the "shuddering sense" of the physical immensity of the Copernican world in which this globe is but as a microscopic microbe on a drop of water in the midst of the Atlantic; (3) in the heightened mobility of the human creature who was once hobbled to a little patch of the earth; and (4) in the majestic flight of the images of his thoughts. So have we come into the conditions that permit us not only to live in a united republic as large as the whole ancient world in the time of Pericles, but also to think and act planetarily—we have come into a state of *planetary consciousness*.

Until this new day, as the author of the Great Analysis well says: "We have not really inhabited an isolated sphere. Civilization has always been in contact with the Unknown." "But now there is no Unknown this side of the moon." There are no new invaders to be feared—not even the "Hunnist bacteria". We are prepared to think "planetarily", that is, as dwellers all upon a planet swinging in space, all in the same boat out on the ethereal ocean; or, if I may put it in a newer simile, of the skies:

All the world's a plane (to camouflage
Great Shakespeare's line) and in the fuselage
That holds the continents and seas together
We, men and women, all are flyers, whether
We live in Houston, China or Peru,
Chicago, Tokio or Timbuctu,
Whether we build our igloos in the snow
Or rear our huts in torrid Borneo,
Whether we work in Earth's Cosmopolis
Or dream upon the Parthenon's Acropolis,
We all of this terrestrial human race
Go flying on—in one lone plane through space.

To be sure, we don't know as much about some parts as about others. Mr. Marconi once said to me that the speed of wireless messages was somewhat retarded when a part of the ocean was dark and a part light. Nevertheless, they do carry through, and ideas are encircling the planet, though they are, too, somewhat retarded in dark spots.

We, in America, are the tele-folk of the universe in this tele-victorian age of this Copernican world. I had the honor a few years ago to bestow a medal upon the man whose voice was first heard by telephone, Alexander Graham Bell, and later I talked over one of his telephones a few yards from the ruins of Baälbek, on the edge of the desert on whose farther rim once rose the Tower of Babel. A collateral ancestor of mine, S. F. B. Morse, who invented the telegraph instrument and code, has died since I was born. I have had the honor of conferring, at a university convocation, an honorary degree upon Mr. Thomas A. Edison, the long-distance inventor, who was two hundred miles away—not *in absentia* but *in loco remoto*.

I have sat between Peary and Amundsen, the discoverers of the two poles, one man on either side of me. I have sat with the Wright Brothers, the first bird-men of the world, at a dinner in their honor, and have welcomed Lindbergh

from his flight. I live on the site of the old home of Cyrus W. Field, who laid the Atlantic cable; and I have lived under the same skyscraping roof with the man who made it possible that thousands in New York and San Francisco should first hear the President's voice at the same moment, and was told by him a few months ago, that it was only a matter of mechanism to bring every man, woman and child within the sound of his voice. I have seen this same quiet wizard (named Carty) preside at a meeting at which a motion was made by a man seated in New York, seconded by a man in San Francisco, amended by the motion of a man in Boston, seconded by a man in Atlanta and unanimously adopted by eleven thousand men seated in remote parts of a hall, which I have called "Carty's Hall", but which was none else than the United States—as big as this whole ancient world, "from Ethiopia to Thule and from Sera to the sea"—an experience which led to these lines:

'Tis prophesied that all the quick and dead,
From Boston to Bombay and back again,
Shall at one moment hear the selfsame sound,
The stirring sound of Gabriel's final trump;
But long before that day shall come, perchance,
A Carty, or his scientific heir,
Will make the universe his "Carty's Hall"
Wherein each earth-encircling day shall be
A Pentecost of speech; and men shall hear,
Each in his dearest tongue, his neighbor's voice—
Though separate by half the globe.

I associate myself in this unmodest way with these great tele-heroes, in order to emphasize the fact that we are but in the beginning of the tele-age, and that it began in America, with men who have been alive in my time. We are the radio-centre of the earth. We are the most highly mobile people in the world; we have more power at our elbows

per person than any other people; we are a cosmic people in our composition and a tele-people in our reach. It is not by accident that we have put the stars in the field of our flag, and that you have put one in your state flag. They are cosmic, far-loving, far-conquering symbols.

The fated sky
Gives us free scope; only doth backward pull
Our slow designs.

And what free scope you have, young men and women, who have come upon this planet under the "fated sky" of America—not a Ptolemaic sky, which shuts down over you like an inverted cup, but a Copernican sky, whose stars have an all-men concern and whose sun looks down upon mortals for whom every day should be a fresh beginning and for whom every morn the world should be made new! The earth is the Lord's and the fullness thereof—but it is now *yours* also, as it was never for our ancestors.

It was a great, though precarious, privilege to be living as pioneers in the new America, in Ptolemaic America (for it was christened under the Ptolemaic system); but it is a greater privilege to be living as pioneers in a planetary existence under a Copernican system. In the new America, which our pioneer fathers fought to make independent and to keep one and indivisible, we had to shun world entanglements. It was our time of preparation in the wilderness—our John the Baptist period of locusts and wild honey. But to live permanently as an anchorite, henceforth, is to make futile all this preparation and hardship; except for a personal selfish salvation, which could, after all, be but as damnation to one conscious of the avoidable pain and of the possible redemption of others.

You are pioneers of this new age of America and of the world—you, whose lives are to be as the foremost files of a time that is known to reach millions of years toward that eternity which lies back of us—you, who as that young hero who has stirred the imagination and warmed the heart of the world, are *post-war men* and with him *planetary precursors*. We, of the generation ahead of you, are like David. We have planned, but have not been permitted to build, the great world structure of peace that will stand against all aggressive warfare. You are as the son—Solomon, endowed with greater wisdom, to whom that great world-task and greatest opportunity are committed.

I found on the galleys one night, a little time ago, a poem by one of your generation, beginning,

I think God kept on talking when His book had gone to press
That He continues speaking to the listening sons of men,
I think His voice is busy, still to teach and guide and bless,
That every time we ask for light He speaks to us again.

There is to be a new revelation to you, pioneers of the lens and the meter—the retort and the syllogism. You are to have, as never we have had, a part in world affairs.

I was at this season two years ago, in Athens, the ancient capital of the Perinikian world—the world of the near. When the young men of that city reached a certain age, each was given a spear and shield, and, in accepting them, he took an oath of loyalty to his city which was to him the State, the world—promising to bring no disgrace to the city by any dishonest act—to fight for the ideals and sacred things alone or with many, not to desert a faltering comrade nor forget those who had nourished him—to revere and obey the law—and to transmit the city, not only not less, but more beautiful and better than it was transmitted to him.

May you, as you go forth with your spears—(your trained minds)—and your shields—(your faith)—take like oath in your hearts and minds—not alone to your several cities and states but to the world in this tele-victorian age.

JOHN H. FINLEY.



