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THINK FOR YOURSELF

Think for Yourself

by

ROBERT P. CRAWFORD

New York WHITTLESEY HOUSE *London*
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Preface

Many men and many things make the book. Our first scene is the classroom of a great university. The question is: "As your education has progressed from year to year, have you felt more or less able to master yourself and to control your destiny in the world?" There is a very large showing of hands on the "less side" of the question.

Most of these young people felt that the more they studied, the less faith they had in themselves and in the ultimate successful outcome of their lives. Perhaps the majority of people today are in the position of these young men and women, even though they are willing to admit it only in their own candid moments. Twenty-five years have done strange things to people and to their mental command of themselves. Yet how can we seek stability in the world without seeking it in the individual also? In a way the purpose of this book is to re-create in the individual some of that innate power, without which he wanders aimlessly up

and down the streets of life. We are to do this honestly and fairly in the light of present knowledge. Thinking and thought are the mainstays of our lives and it is vitally important how we use them.

But there is another side to this book. Several years ago I was sitting in the office of the late Dr. Henry Suzzallo, president of the Carnegie Foundation for the Advancement of Teaching. Our conversation had touched many things and had turned finally upon the question of creative thought, that original thought that seems to invent and of a surety paints, composes and writes. "The one field about which no one seems to know much," Dr. Suzzallo suddenly remarked.

Unquestionably the greatest division in the whole field of thinking is that of creative thought and yet it is this part to which such meager attention has been given. It is true that many eminent men have simply passed the matter by with the declaration that nothing could be done about it, while others have written around rather than at the subject. One hopes that the three chapters in this book devoted particularly to this subject will be illuminating. For a few years we have conducted a class dealing with creative thought and we feel that something has been accomplished with those students with whom we have been working.

The idea of triplication rather than the old theory of combination as lying at the root of creation does, we believe, make a contribution to the subject.

But to keep from wandering along the confused by-paths of philosophy and psychology is not an easy task. Undoubtedly you have read many books on philosophy and psychology but perhaps you have felt that you were somehow left out. The chapters were for everyone except you. But you are the important one, particularly in an age that has dealt with the masses rather than with the individuals. Nothing can be a world problem without also being a personal one. Let us see what we can do for ourselves. We are going to be interested in things only as they have a message for us.

The author makes no claim for the development of genius but he does fully believe that in the case of most readers of this book an improvement of from fifteen to twenty-five per cent, and in some cases more, in the important matters of problem solving and creation may be readily achieved.

There may be those who will see in this book the influence of many men and women down through the ages. If their ideas do appear here and there it will certainly be an evidence of the theory of the book

itself. No one can approach this matter without giving unusual recognition to Dr. C. Spearman, psychologist of the University of London. And there are many others to whom credit is due, many associates at the University of Nebraska who have from time to time checked and advised on matters of fact and opinion, educators and authors who have generously permitted quotation in this book and all those who have so willingly assisted and endorsed our course in creative thought.

ROBERT P. CRAWFORD.

LINCOLN, NEBRASKA,
December, 1936.

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THINK FOR YOURSELF

Think for yourselves! Absorb knowledge wherever possible and listen to the opinions of those more experienced than yourself, but don't let anyone do your thinking for you.

—PRESIDENT CONANT of Harvard

No words are oftener on our lips than *thinking* and *thought*.

—JOHN DEWEY

The fatal beginning is made when a people first pay heed to an orator who preaches that freedom is in servitude, that personality grows by being submerged, that henceforth he himself will do their thinking for them.—*London Times*

Mind is the first and most direct thing in our experience; all else is remote inference.—SIR ARTHUR EDDINGTON

While self-dependent power can time defy,
As rocks resist the billows and the sky.

—GOLDSMITH

It must be remembered that the purpose of education is not to fill the minds of students with facts; it is not to reform them, or amuse them, or to make them expert technicians in any field. It is to teach them to think, if that is possible, and to think always for themselves.—PRESIDENT HUTCHINS of Chicago

*Do You Think, or Only Think You
Think?*

THE grand gentleman, whose like has often been pictured by the masters of painting, clattered up on horseback. Past eighty years of age and in perfect health, he had just turned the cows into the pasture down by the woods. Spying me standing there, he hastened up, first with a word of greeting and then with a word of philosophy.

"Thought—and how much more important it is than money. Everything that we do in the world is but the product of thought. Your automobile there is thought, your house is thought, life itself is thought."

And he might even have added that riches themselves are but the products of thought. Life begins and ends with thought. The whole world is made and unmade by that mysterious and vague thing called thought. What an opportunity for thought there is in the world and yet how little thinking is done!

You really don't think, you only think you think.

"Think? Why, of course I think! What an absurd assertion!" Before we have even started, here you

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are indignant and all wrought up about the matter. I am rather pleased that you are excited because, if we are to accomplish what we are setting out to do, you must be in that frame of mind.

Whether you have willed it or not, hasn't your entire life come to you ready-made? When you got up this morning, you put on a pair of socks advertised in the *Saturday Evening Post*. You went down to breakfast and drank coffee the precise merits of which you (and your wife) had heard lovingly and feelingly described on the radio the Sunday evening before. No, you did not eat much of a breakfast, just toast and coffee, because you have been led to believe that heavy breakfasts should not be indulged in. You drove to work in your car, a car that you had purchased because your neighbor told you that it was a good one. You went to your office in a building that has the reputation of attracting the most prosperous clients, and you put on a fine air of prosperity, although you were not just sure that it was warranted. To the club at noon because it seemed to be the thing to do. To dinner and cards at the Joneses' in the evening. You do not care for cards but you played, nevertheless. To bed at midnight. Wooing sleep with a little reading, you and your wife were deeply engrossed in the latest best sellers.

To a very large extent your thoughts, as well as the things they represent, have come to you ready-

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made. You are handed packages of thought as if they were packages of Grape-Nuts, Shredded Wheat or Post Toasties. Eat and live, say your thought doctors.

Most people today do not make a civilization; rather they are made by the civilization in which they live. You are dictated to, not by kings and queens, but by much more insidious forces. Thought waves and impressions and ideas sweep across the country like drought-stricken summer's dust.

Where and why do people get these thoughts in the first place? Thoughts are much more important than socks and coffee and automobiles. Thoughts make and unmake the world and make and unmake the individual. How do you get thoughts, your thoughts?

"Think for yourselves," exhorts President Conant. "Think for yourselves," advises President Hutchins. Why not think for yourself? Everyone's talking about this matter of *thinking for yourself*. Of what, after all, does it consist?

But we are ahead of our story, the story, in a way, most fundamental to life, your own life.

Write Your Own Ideas Here

Write Your Own Ideas Here

An Expanding World and a Bewildered Mind

An Age which knows not what it wants, yet is intensely pre-occupied with getting it, must evoke a smile, if rather a sad one.—GALSWORTHY.

Few can attain equilibrium. The pendulum of the time is felt trembling at one extreme, high above all heads, and threatening them. Men dash about underneath it like disturbed ants.

—HERVEY ALLEN.

Something lies outside of ourselves—of that the physicist is convinced. But what it is his symphonies about the atom do not tell. Yet out of this questioning comes a revolution in thought as destructive as any that we owe to Copernicus, Galileo and Newton. What the ultimate effect will be on art, religion, science itself no one can foresee. But it is at least certain that when atom smashing began there also began a smashing of much scientific and philosophic self-satisfaction.

—WALDEMAR KAEMPFERT, *The New York Times*.

THE picture I paint here is that of a bewildered mind in an expanding world.

Yet the world no longer a world.

The universe no longer a universe.

It staggers the imagination and stupefies the mind.

Can you conceive this? Telescopes photograph stars the light of which has been traveling 300

million years to reach us—and light moves at the rate of 186,000 miles a second. Perhaps those stars (disregarding relativity) no longer even exist.

What a terrifying thought shook most people five centuries ago when civilization stepped out of the narrow confines of a few countries and Columbus swept away the theory of a flat earth.

What a terrifying thought today is the conception that our own universe or galaxy comprises about 40 billion* stars. And that is not all. This galaxy of 40 billion stars is only one of about 75 million star systems in the new universe.

Today we step out to bridge this conception of the greater universe—a conception to stagger man's mentality as much as the growing ideas of Columbus's time staggered his era.

No longer a world—no longer even a universe.



It is November 11, 1918, and the world lives again in the "day of the century." You remember the bands and the bells, the whistles and the streaming confetti. The war, the World War, has ended. Those thousands living in ever-present fear of death will not die. Righteousness has again proved its immortality. Democracy has spread its mantle over the war-torn states of Europe.

The next year, while we were still eagerly rejoicing in Woodrow Wilson's vision of a good world,

* Some astronomers place this figure much higher.

there occurred one of the great scientific discoveries of all time—the transmutation of chemical elements. Rutherford, one-time scientist of McGill University, a man still unknown to most Americans, succeeded in forcing the element hydrogen out of the element nitrogen. You know something of the struggles of the alchemists of old and their search to find gold in other elements, but until this recent achievement the changing of one element into another or the breaking down of elements had been impossible.

When the World War has dropped out of mind as something in the musty pages of history books, Ernest Rutherford, now Lord Rutherford of Nelson, of Cambridge University, may be remembered. (Strangely enough, it was also a Rutherford who discovered nitrogen in 1772.) Such a discovery as the later Rutherford's in its final analysis deals with the actual process of creating the world. Today almost innumerable elements are actually changed into other elements.

What do these two things have to do with thought and with thinking for ourselves?

To a large extent these two events, and others in science, initiated the thought, *your thought*, of the next fifteen years.

Rutherford's discovery opened an entire line of research, that of actually determining how the world was and is created. Other elements were

broken down and there began the search for elemental matter (an idle thought here: maybe there is no such thing). Proton and electron became the two distinguishing parts of atoms. Positrons and neutrons were arrived at in 1932—and the search is by no means ended. The breaking down of atoms may take millions of volts and the energy generated when atoms are broken down is so prodigious as to beggar description. As Watson Davis has suggested, if the internal energy of atoms could only be released, a breath of air would operate an airplane for a year and the pasteboard in a railroad ticket would run a passenger train several times around the globe. Of course this is only a fanciful thought. Releasing that energy will not be an easy task.

Another great idea had been growing during the past generation: maybe matter after all is only energy and maybe energy is only matter. In the first decade of this century such things were hardly to be suggested in textbooks, but the idea strengthened gradually until the suggestion permeated first the scientific and then the popular mind. In 1932 actual conversion of mass into energy was observed in the laboratory.

Mr. Einstein appeared like a sun upon the horizon and staggered us with his mathematical computations. To be sure, the beginnings of his work had been achieved two decades before but they had not been given acclaim. The whole science of

physics has seemed to tumble about our heads and we have come into a universe or a series of universes that may be finite or infinite (whether one or the other, or possibly both, is not yet known), where time is no longer time and space no longer space.

We have found that vast energies of even more than 100 billion volts exist in our greater universe, cosmic rays, as they are called. One of the distinguished thinkers in this field believes that they may come from the building of other universes and other worlds; another scientist judges them to be the result of the annihilation of matter.

Clearly then, we have been going through a physical and a consequent mental revolution quite as striking and quite as astonishing to the human spirit as anything in the world's history. What people were so afraid of in the Middle Ages—knowledge—comes to us today with a force at least one hundred times as potent. Knowledge has been added unto knowledge until it has become a great Niagara. "We feel so small—why, we're almost nothing!" a young woman student exclaimed.

Along with the expansion of the universe in man's thought came a narrowing of the individual mind.

Millions today are staggered by the revelation.

Speeding the Mental Miles

What did the World War do to the world's thought and the world's way of thinking?

Perhaps, the war itself was no greater shock to the human understanding than was the aftermath of the war.

Let no one think that we did not enter the conflict with the highest of motives. We were idealists. It was all to the credit of America. The shock came when people found that we were far from realizing those ideals.

But the war influenced the world's mentality in still another way. The forced discoveries and developments of the war brought to peacetime pursuits a great mechanical era. The airplane and the radio, developing as wartime necessities, remained as peacetime adjuncts. There came the day of speedy automobiles, speedy airplanes, speedy trains. We annihilated distance by foot. The moving picture and radio came and we annihilated distance by thought. It took two years for Stanley to deliver letters from America to Livingstone in the heart of Africa. Today it takes two-fifths of a second for communication between the same two points.

What happened here was not so much an annihilation of physical miles as of mental miles. To a degree our soldiers in the war had learned that mental miles are traveled along with the physical ones. Many a man who had never been beyond the boundaries of his own state found himself actually beyond the boundaries of the United States. For

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all these men there was never again to be the same steady, quiet existence.

But we are not concerned so much with the World War as we are with our own minds. The rapidity of the spread of thought had much more important consequences to our own thinking than are at first apparent. As in a kaleidoscope, one idea succeeds another. In my desk I have a report of a society of composers, authors and publishers. And what is their complaint? Just this: that because the transmission of thought today is so rapid, popular songs no longer last for a year and a half but die out within the space of a few months.

In small towns today people are better dressed than they used to be. This is just another way of saying that with fashions spreading so rapidly over the country we are no longer conscious of there being much difference in dress in widely separated parts of America. "Be modern," say the advertisements. Moving pictures within a comparatively few months lay America before the world. Newspapers today receive even their pictures by wire.

It is a question as to whether or not the recent financial depression would have been so severe had it not been for the rapidity of the spread of thought throughout the world. A professor of economics used to point out that both depressions and booms were going on at the same time in different places in the world. His theory was that by proper han-

dling of one's money, it would be possible always to enjoy advancing security prices. But, this time, the depression apparently visited nearly every nook and corner of the world almost at once. The banking panic no doubt progressed largely in the same fashion. The rapidity with which prohibition repeal developed is an illustration of the same thing, as was the adoption of Roosevelt policies. But the latter might be rejected quite as quickly.

Russia, Germany and Italy are much nearer to us than before the war. Dictators once ruled through the ignorance of their subjects; today they rule through control of the thought of their subjects.

But what is the significance of all this? In years past an idea might originate in one country or in one section of the country, hold sway for a time and then die down, without ever reaching the outside world. Consider how little our grandfathers really knew about Russia or Turkey. But today the American mind, as well as the world mind, is subjected to a succession of bombardments. Ideas run their course through humanity, much like epidemics. The rapid dissemination of knowledge is, of course, extremely beneficial in many ways, but as it spreads, there is no longer a resting process. Formerly ideas remained dormant, more or less, in their respective localities and, if they were of little consequence, did not become world-wide property. But today practically all thought spreads, espe-

cially the cheap and the tawdry because from the promoter's standpoint (when there is a promoter) the spread of such thought returns the quickest and largest financial income. It is much easier to popularize a sex movie than grand opera.

To understand how to control and use our minds, it is rather essential to know how we got the way we are. We have already learned two great influences on the mind and on our own thinking:

1. The dread of knowledge. This is an old fear, one that has appeared many times in history. Surging knowledge is likely to create in the individual mind the belief in an indifferent, rather than a sympathetic, universe. But it is a foundation of material development.

2. The speed of knowledge. This involves world-wide and country-wide forces that are exceedingly difficult to control. Most people do not think for themselves. These forces produce, along with an abundance of excellent knowledge, much unsound and unworthy thought. Things are magnified out of proportion. Strange isms arise. To a degree this speed of transmission often brings to the individual a sense of the futility of his powers, as does also the dread of knowledge.

Can Our Minds Defeat Themselves?

But after all, isn't it ourselves in whom we are interested—rather than world forces? We want to

live happy, contented and reasonably successful lives. What is happening right at the present time—something of the greatest consequence—is this. *In our generation the mind has not admitted that it could be defeated*, but now the possibility of such a thing has been arising in the common mind. What happened in the Middle Ages was not simply the fact that people feared knowledge on account of its influence on religion, but rather that they feared it would end the supremacy of their own personalities. Apparently the latter consequence has almost come about in Russia. A successful and happy life, however, nearly always involves to a great degree the feeling of the supremacy of our own minds.

The forces that we have discussed so far are outside forces. While these forces have been influencing us from without, our own minds have been challenged from within, so to speak. The mind is a strange thing. It is the strangest thing in the world. Indeed, as has been remarked, no one has ever seen a mind. The brain, yes, but that is not the mind any more than the powerhouse is electricity. Parts of the brain have been removed without the mind's being harmed, apparently. No one knows precisely what electricity is, but it turns motors and lights lights just the same.

Ask many different people what the mind is and you will get many different answers. Deeply religious people sometimes call it the soul, that evanes-

cent something within the human body. But probably most of these people see a difference between the soul and the mind. The soul, so to speak, is to them the spiritual part, while the mind is the practical part.

Others have likened the mind to a mystic something that is part of the great power of the universe. You press a button, as it were, and out gushes the dynamic energy, well-being and thought of the universe. This may be a fanciful description, but it illustrates their principle.

Still others have looked upon the mind as a purely mechanical something, nerves motivated by the routine functions of the body, glands busy controlling the life forces, the whole a great and wonderful automaton. To many of these people, it appears almost as if there were not a mind at all. But these conceptions, perhaps the ones most commonly accepted by the present age, are not entirely new, with the possible exception of the last. They have formed systems of philosophy for hundreds of years. There are many variations and combinations of them.

Whatever we may think of the mind, that is not half so important as what we do with it. Here we are concerned primarily with using it rather than with philosophizing about it.

If man has feared for his own mental control by outside forces, he has feared a great many more

times for its control by his own inward direction. Largely in the past fifteen years a new question has arisen. Can the mind in the light of science illumine its own path, or is man a helpless puppet in the hands of his own body? Are you, so to speak, "the captain of your fate"? Millions are asking that question today.

A generally accepted idea during our grandfathers' and fathers' decades was that by application and energy a young man could attain to success and supremacy in life.

Many men, unfamiliar with psychology and philosophy, will tell you that largely by their own efforts they did attain to highly worth-while lives. Emerson's "Hitch your wagon to a star" was a call to ideals repeated from every teacher's lips. From the pens of poets and prose writers was reechoed the supremacy of God and man. There was little dismal writing in the poetry and fiction of those days.

Thoreau wrote:

I know of no more encouraging fact than the unquestionable ability of man to elevate his life by a conscious endeavor. It is something to be able to paint a particular picture, or to carve a statue, and so to make a few objects beautiful; but it is far more glorious to carve and paint the very atmosphere and medium through which we look, which morally we can do.

How strange this all sounds, copying it here today! I think I detect in most people the nostalgia

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for that consummate faith in the individual power as sung and depicted by the poets and essayists of the past generation. Everywhere one turned, in copybook and poetry, oration and sermon there was once this call to individual power.

What happened then? In more recent years man began to question his own power, for the simple reason that science seemed to be going against him. *The great outside world was growing larger; the mind itself seemed to be getting smaller or, rather, to have less power.* What a combination of adverse circumstances to make mankind powerless!

Fear of Ancestors

First of all, man began to be afraid of what his own ancestors had done to him—a strange fear, but a very real one, nevertheless, for it is impossible to change one's forebears! What is done is done. But, wait a little while. Is it?

The change came about at the conclusion of the World War. Soldiers returning from the war had heard much about intelligence tests. It seemed that if your I.Q. were 75 or below, you did not have much chance to forge ahead and become anything more than high private in the rear rank. Intelligence tests had been known for some time before the war, ever since Binet published the results of his study in 1905, and they had begun to be used to a modest extent in schools during the following fifteen years. Your I.Q. was nothing more or less than your

mental age divided by your actual age. This intelligence quotient, or I.Q., in the case of an eight-year-old boy with the mind of a ten-year-old would obviously be 125. In the case of an eight-year-old with a mental age of a six-year-old his I.Q. would be 75.

America began to be very much excited over the low scores made by the army boys. These apparently showed that 49 per cent of the people in the country had a mental age of about thirteen or below. You can readily see what evidence of this sort would do to the thinking of millions of people. They were told that nothing they could do could possibly change their intelligence. That had been fixed at birth and they were simply out of luck. This was certainly a tremendous blow to the idea of supremacy of the individual personality.

Before we become too excited, as so many educators did, let us examine another matter, that dealing primarily with heredity. From this standpoint, why are you what you are? Science had begun to learn about genes and what they do to the individual. Here was a discovery of sensational importance. From each parent you receive twenty-four separate groups of determinants, or genes, each group contained in a chromosome. These genes determine your entire make-up from the standpoint of heredity. Defects in these genes are reflected in defects in the individual. But in this connection nature is very wise. Your chances of being a "nit-

wit" are decidedly cut down by the fact that there are always two instead of one gene of each kind. Suppose a gene from one of your parents is defective. Now it is altogether unlikely that the corresponding gene from the other parent will likewise be defective. If it is, there may be consequences to your heredity; otherwise, the good gene from your father will offset the bad one from your mother, or vice versa. But nature is so wise in taking this precaution that it cuts down enormously the number of individuals in the world who are seriously deficient.

These genes, of course, were likewise inherited by your father and mother from their fathers and mothers. So you are made up of a large number of ancestors. It will be seen that two apparently entirely healthy individuals may have a child that is deficient in some way, and it is likewise apparent that two feeble-minded persons might have a child that would be entirely normal—provided the feeble-mindedness had not been caused by defects in exactly the same genes from both sides. There probably are defective genes in many of us and they may or may not crop out. There will be defective children as long as the corresponding genes in father and mother happen to be defective.

"My! My!" said my old professor. "How lucky we are not to know what is in each gene, or what a time we would have getting married!"

This is a subject to which a great deal of study is being devoted. Strange things have been accomplished in fruit flies by altering certain genes, but as yet we do not know any means of altering genes in the human organism.

One disturber of thought who came swiftly into view was Freud. He added to the general perplexity of mind by his implications that sex plays a dominant role in our mental make-up. Psychoanalysis, reaching the popular mind, led to a feeling on the part of many that inhibitions cause undesirable developments in life—so why have them? More confusion!

Still another man has appeared on our horizon in the past fifteen years to give us a good mental scare. That man is John B. Watson with his theory of behaviorism. Behaviorism had been known for a number of years but it did not arrive in the educational, let alone the public, consciousness until the period of the twenties. What an effect this was to have on human life and human feeling! In its essence it made people feel that they were but the tools, not of an unfriendly universe, but possibly of an unfriendly world, in which they were tossed to and fro by their environment. Dr. Watson, a vivid and lucid writer, threw so many things out of the window that his ideas could not fail to add to the human mind a great feeling of insecurity. He claimed philosophy to be disappearing and

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turning into a history of science; sociology, to be changing into psychology and economics. Religion he dismissed altogether.

Everything, with the possible exception of a few obvious hereditary mistakes, hinged upon one's environment. He declared:

Our conclusion, then, is that we have no real evidence of the inheritance of traits. I would feel perfectly confident in the ultimately favorable outcome of careful upbringing of a *healthy, well-formed baby* born of a long line of crooks, murderers and thieves, and prostitutes. Who has any evidence to the contrary? Many, many thousands of children yearly, born from moral households and steadfast parents become wayward, steal, become prostitutes, through one mishap or another of nurture. Many more thousands of sons and daughters of the wicked grow up to be wicked because they couldn't grow up any other way in such surroundings. But let one adopted child who has a bad ancestry go wrong and it is used as incontestable evidence for the inheritance of moral turpitude, and criminal tendencies. As a matter of fact, there has not been a double handful of cases in the whole of our civilization of which records have been carefully enough kept for us to draw any such conclusions—mental testers, Lombroso, and all other students of criminality to the contrary notwithstanding. As a matter of fact adopted children are never brought up as one's own. One cannot use statistics gained from observations in charitable institutions and orphan asylums. All one needs to do to discount such statistics is to go there and work for awhile, and I say this without trying to belittle the work of such organizations.

I should like to go one step further now and say, "Give me a dozen healthy infants, well-formed, and my own specified

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world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. I am going beyond my facts and I admit it, but so have the advocates of the contrary and they have been doing it for many thousands of years. Please note that when this experiment is made I am to be allowed to specify the way the children are to be brought up and the type of world they have to live in.”*

Was there, according to Dr. Watson, no leadership, divine or human, either in the universe or in the world? Was everything simply running hit or miss? What a discouraging thought!

First, the individual had been bewildered by the terror of an expanding universe. He dreaded the revelation of knowledge. In the second place, the speed of ideas pelting at his mind threw him off the track he had so long followed. But now came the apparent revelation that intelligence was fixed at birth and he could do nothing about it.† This seemed to be reinforced by studies in heredity. Wasn't it shock enough to feel that you were nothing and could do nothing? Then came the startling doctrine of behaviorism. Man was, and had been, in a maelstrom of a mad world and he

* WATSON, JOHN B., "Behaviorism," W. W. Norton & Company, Inc.

† It is said that Binet himself did not necessarily agree with this conclusion, which grew up in the educational thought at a later time.

was being made by that world. Men seemed to see light and were blinded by it.

Now that we have analyzed the matter and looked into our own minds, so to speak, the question naturally arises, "What can we do about it?" The answer is, "A very great deal." This answer could not have been given ten years ago. While science has brought us certain fears, later science has brought us many consolations and possibilities, as well.

Is It Possible to Control Intelligence?

Schoolteachers used to say "no" to this question and shake their heads very dubiously at Dumbbell Johnny. Still, you remember Dumbbell Johnny very well. You did not think much of him. School and college professors did not give him very much on those intelligence tests. You did not expect him to do very well in the race of life. But he surprised you. You have a kind of sneaking feeling, you who were sure that you were so much better prepared and were going to outdistance him. The schoolteachers, too, are surprised, they who had been setting so much store by their intelligence tests. What happened? What most people have failed to see is that Johnny has been making use of all of his mental possibilities. Maybe he did not have very much with which to start, but he wasted none of it. The point is that Johnny did make use of the old

copybook maxims of diligence and hard work and he accidentally caught on to the principles underlying creative thinking and originating of ideas. Then, too, he possessed a pleasing personality, which covered many mental deficiencies. You sat back, content with your high intelligence score, and did nothing about it—there, you see, was one mistake in placing so much emphasis on intelligence tests. There are brilliant people everywhere, but how many of them are really making much of a contribution to life? As we shall see later, strange things enter into the composition of genius.

That isn't the whole story. Psychology and education, as pointed out by Freeman of Chicago and others, seem to show that intelligence can be increased.* This increase may not seem to amount to very much, but 10 to 20 per cent added to a boy's or a girl's equipment may make a very great difference in the race of life. Throughout the length and breadth of the world, teachers had accepted the idea that intelligence could not be changed. "We all believed it without seriously investigating its

* Note to teachers: Teachers who studied at colleges between the years 1915 and 1930 and are under the domination of a somewhat fatalistic view of intelligence should read "The Effect of Environment on Intelligence" in *School and Society*, May 10, 1930, and "Heredity and Environment in the Determination of Intelligence" in the *Bulletin of the School of Education of Indiana University*, December, 1934. Both articles, by Dr. Frank N. Freeman, professor of educational psychology, University of Chicago, present this newer point of view in clear fashion.

truthfulness," a professor of education remarked to me.

The work of Dr. Frank Freeman of the University of Chicago has been remarkable in combating this fatalistic view of education, an idea that has threatened in a way even to obviate the necessity of education. A few decades ago we regarded the increase of intelligence as a part of education. But when educators themselves became convinced that intelligence could not be increased, much so-called general education seemed valueless. Then it appeared that education was a matter of specific training in things to be definitely used.

Dr. Freeman studied adopted children; he studied their brothers and sisters still living in poor environments; he studied cases of identical twins brought up in different surroundings. The evidence showed that environment does play a good part in determining the outcome of intelligence tests. Foster children generally have far from the best of heredity, yet the average intelligence quotient of 401 foster children was 97.5, almost identical with that of children in general. The average intelligence quotient of children from poor environments similar to the original ones of these foster children was 85. Another survey had shown that the intelligence quotient of foster children at the time of commitment to a children's placement agency was but 87.

Again, there was a difference of twelve points between the intelligence quotient of legitimate children adopted into good homes and those adopted into poor homes. And in still another case, of 125 pairs of brothers and sisters who had been adopted into different homes, those who had been adopted into good homes had an average intelligence quotient of 95 and those adopted into poor homes, of 86. Pairs of identical twins separated in infancy and brought up in different homes throughout their lives have been studied and the results cannot help but be disquieting to those who have so boldly asserted that intelligence cannot be changed.

Professor E. A. Lincoln of Harvard University has found that exceptionally bright children seem to fail to keep their intellectual superiority over their fellow students, judged by tests given five years later. Apparently an entirely new field of thought has been opened in this connection and we may find startling developments in the next few years.

There is another side to this picture. Even those who still question the raising of intelligence probably would have to admit that the tests of intelligence are all tests of cultural adaptation. We change the cultural background of a child and his I.Q. as measured by tests may be raised. Even though we might wish to say that his native intel-

ligence may not have been increased, we must remember that all our tests depend upon the use of words or upon the manipulation of objects and it is obvious that a child whose environment and practice with such things has been decidedly limited will not make a high score when we thus test him. Nor will he make a high score in life.

Obviously the lack of a high intelligence quotient does not mean that you may not have a successful and happy life. You may even occasionally make a brilliant contribution to the world. Environment and contact with new fields of thought, as we shall learn later, may work wonders for you.

Can You Change Your Heredity?

We used to give an absolute "no" to this question. We have not learned as yet to change genes in the human body but we are learning to change many of the deficiencies arising from those faulty genes. In other words, we repair the effects of heredity after the individual has been born. Someday we may learn to change the genes.

Much of the world's medical discussion in recent years had had to do with glands and their effects on the human body and mind. Marvelous developments are coming in this new field of thought.

For instance, in the base of the brain there is the pituitary gland—a gland not only important in its own right but having much to do with commanding

the other glands of the body. Often giants result from an overdevelopment of the gland and dwarfs, from an underdevelopment of it. Seven young persons, from seven to eighteen years of age, all dwarfs showing virtually no growth before, added from one to nearly three inches to their stature while receiving pituitary gland potion.

You have already heard of the thyroid gland and goiter. This other gland, the pituitary, plays a part in the control of the thyroid. Perhaps operations for goiter may be done away with by cutting down on the stimulation from the pituitary gland. This gland likewise seems to be related to diabetes and the body's use of sugar. Even high blood pressure may be connected with it. The possibilities of study here are enormous.

Then there are the parathyroid glands, situated near the thyroid. In the early days of operation for goiter, physicians often removed them as well, resulting in the strange and unaccountable death of the patient. Lack of the thyroid secretion itself results in an individual's becoming a cretin, with inability to learn and with stunted growth. This result can be corrected by the administration of the gland extract, which is also given to people who have lost the thyroid in operation for goiter.

Knowledge is by no means complete on the subject of glands. Undoubtedly the field is just opening up. But the point is that sometimes—and

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this will probably be true to a much greater extent in the future—the bad effect of a faulty gene in the hereditary make-up may be overcome by treatment in life. To a degree, then, you can change your heredity.

Remember, also, that the chances of your having an outstanding heredity are just as good as the chances of having a poorer one. It all seems to depend on the individual genes. What a joke this is on those who have been proclaiming the supremacy of the aristocracy! In recent years the proclamation has had to do with the aristocracy of learning. Some private educational institutions have endeavored to restrict enrollment to the “best families.” Only the “cream” should be educated, so to speak, from their point of view. Much has been said about the airs of aristocracy, but when we really understand this matter we see that much heredity is accidental and there are opportunities for superior individuals to arise from very common stock and likewise “nitwits” from good families, as you have often noticed. Also, it is not alone “intelligence” that determines productivity and success in life.

The complete story is as yet unwritten. Psychology is an unfinished science. So are the study of heredity and the study of glands. But the important point here is that the situation as regards the *thinking individual* is becoming increasingly favor-

able. If environment plays a part, the matter can to a much larger extent than any of us imagine be controlled. Possibly our intelligence may be increased. Certainly there is opportunity for all of us to use our mental equipment to much better advantage. We can all run at more than our customary 50 to 60 per cent capacity. And likewise we may be sure that our power to learn and achieve is not going to stop at forty or fifty years of age—except in so far as our body slows down or we become the victims of environment.

Still there are many questions unanswered. For instance, was Abraham Lincoln the product of certain stray genes in his heredity, was he the product of his environment, or was it simply Abraham Lincoln pulling himself up by his own bootstraps?

Ourselves in a Looking Glass

After this excursion into science, we come back to the main subject, "An Expanding World and a Bewildered Mind."

Is it this theory of the helplessness of mankind that has brought

To youth, cynicism—a "what's the use?" attitude—lack of responsibility—lack of will?

To the middle-aged, the doctrine of escape from life? (But why, one might ask, escape and throw away your most valuable possession?)

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To the old, the longing for the good old times?
(Old age has always had this longing, but now it is more evident than before.)

To government, a willingness on the part of people to accept dictators—men who defy this helplessness and talk with authority?

To literature, a thousand themes and situations in novels and plays emphasizing this helpless aspect of life—the beauty of ugliness?

And to all of us, the feeling that mentally we are flat on our backs?

For the past decade and a half we have been suffering from an indigestion of knowledge—and a severe case it has been indeed. Ours has become a terrifying and a terrified world.

The Reconciliation of Knowledge

Science and education are endeavoring today to bring about a reconciliation of knowledge. Ten years ago paths of knowledge diverged in every direction. I once asked a teacher studying at a well-known university how her professors reconciled the principles in intelligence testing with the principles laid down by Watson in behaviorism. "Oh, they didn't do anything about it," she replied. "They kept them in *separate* courses." It is nothing uncommon, indeed, for separate chains of knowledge to be operating in the human mind. One may be a devout religionist in one chain and

quite the opposite in another. There is no reconciliation of principles.

The world would like to stop today to digest its knowledge, but not all of the world has the time, the inclination or the method. But chemistry and physics have literally been forced to join hands. Step by step, the social sciences are merging, the physical sciences are going together. If you do not believe this, notice what is happening at many famous universities and colleges. A generation ago, departments in colleges were breaking up, the number of individual departments listed in the catalogue was a source of pride and the faculty members sometimes did not even speak to one another. Today we see a distinct correlation between political sciences, sociology and economics—for instance, one does not exist without the others. For the college teacher this has brought one of the most unusual problems: how can he be a specialist and a broad student at the same time? The multiplicity of books has often tended to decrease the range of knowledge while increasing its intensity.

How long this reconciliation will take remains to be seen. The tendency today has been to turn backward in some directions, because this extra knowledge has seemingly meant nothing to us. The strange thing, of course, is that no knowledge is absolute. We may never reach the ultimate. Indeed,

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it may never be given to us to know the final riddle of existence.

Frankly, the world seems to be sick; but how, indeed, can it be sick if the individuals in it are not sick also? Shall we begin by curing the world or by curing the individual?

Yet, is mankind so helpless after all? How can we help ourselves? And so we come to the next chapter in the book.

Write Your Own Ideas Here

Write Your Own Ideas Here

III

Four Kinds of Thinking

They broke the bands of philosophic doubt and came to grips with reality; they cast off the nightmare of dreadful impotence, and, struggling against all throttling fears, they awoke to find themselves masters of a new world. They made for mankind, not a theory, but a discovery.—JOHN STEWART BRYAN.

Plato's definition of education as a "turning about of the soul" is very significant. It implies a certain contempt for the belief that education is mere acquisition of knowledge, as though some "furniture of the mind" could be bought from a dealer in such wares. It places the emphasis on action, on the restless activity of the mind which persists in living and growing whether we cultivate it or not.—GEORGE S. BRETT.

HAVE you perchance ever gone through an office and watched the little old gray-haired man at the corner desk? He has been there for long years, he knows every detail of that business. If you were to ask him the price of canned apricots ten years ago today he would be able to tell you to an exact one-quarter of a cent. He draws \$100 a month, he has been drawing that amount for a great many years now. He is as much a fixture in that business as the chandeliers that hang from the ceiling.

One of these days he will retire and there will be a dinner and long speeches about his faithfulness to the wholesale house for which he has worked half a century, and they will present him with a leather traveling bag—goodness knows what for, since he has never traveled in his life and hasn't money enough now to go anywhere.

Isn't there something a little sad and wistful about it all? He has worked long and faithfully—everyone says so—but he will have to wait for his reward until he gets to heaven.

How many of us, in a way, are like that? Our thoughts and our very existence are cut out for us. Like the little old man, we never have an original thought. What shall we do about it?

The little old man's problem in many ways is simply one of thinking. That's the problem with all of us—but how are we to get thought?

Let us not confuse thinking with memorizing things. The little old man had a good memory as to the price of canned apricots, but it was thinking of a low order. Many college graduates have acquired the art of remembering things—for it is an art—but for all their high grades have never learned the higher art of thinking.

Thinking That Is Not Thinking

Picture yourself seated in your big easy chair; your feet are resting on an ottoman, and you are

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to all intents and purposes taking life easy. Jot down with a pencil the different things that come into your mind. Here might be such a list:

Ought to be making out that report, but I guess I won't. . . . Funny thing the boss said today about doing more business with fewer employees. . . . Stocks looked cheap in the paper. Guess I'd better buy some. . . . Weather warm for this time of year. . . . Betty should have an operation on those tonsils. . . . The house needs shingling. . . . Might be a chance to buy that house across the street for a song. . . . These shoes sure pinch those corns. . . . This suit will do another year. . . . Teacher angry at Bobby. Friend wife angry at teacher. Ought to be angry at Bobby. . . . Look at all those books stacked up there ready to read. . . . Guess I won't buy those stocks after all. . . . This cigar is rotten. . . . Wonder if landlord will cut the rent. . . . Guess I ought to be making out that report, but I'll let it go—stocks cheap—warm weather.

And there you go all over again.

A large part of our thought is always of this character and, in the case of many, thought only occasionally rises above this level. It doesn't accomplish much as a rule. Occasionally it may develop into really constructive and worth-while thought, valuable either to ourselves or to civilization, but generally it is idle and unproductive.

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Your mind shooting outward may hit something, but it needs more than this aimless discharge. It reminds one of the way in which the French peasants used to treat bee stings. If you were a French peasant and had been stung, you took a leaf from each of the five trees nearest you, crushed them in your hand and rubbed the resulting juice on the sting. You got relief and this prescription seemed miraculous indeed. But it was not until centuries later that science found that the sap of a certain elm had excellent properties in counteracting the effect of bee stings. Furthermore, it was found that one out of every five trees in southern France was this elm. So in making up your magic prescription the chances were always in your favor that you would include the leaves of that tree. In much the same way the mind might chance to strike a valuable idea. This type of thinking may play a part along with other types, but for a person who has constantly followed this kind of mental exercise to develop anything outstanding is unusual. We might call this thinking on the *first plane*.

Thinking on the Second Plane—The Imitator

Somewhat advanced from this first plane is our second plane of thought—the derivation of valuable thought out of our necessities and experiences.

The early cave men thought in this fashion. Take the discovery of fire, for instance. Possibly it first

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came to the consciousness of man when lightning fired some combustible material and man conceived that warmth was a very delightful feeling. Man learned to preserve this fire as he would a great treasure. Stones could kill animals, and flesh was good to eat.

In the same way we today do things out of our necessity or compulsion. Like the cave man, each of us has discovered the necessity of eating, of dressing, of sleeping, and the means by which we do those things are very largely imitations of what we have seen other people doing. Here belong office employees who have always to be told what to do. Thinking on the second plane is very largely imitation and routine, and most of us—including many college graduates—actually do our living on this plane.

You may be inclined to debate this point, but ask yourself if your own thoughts are not largely imitated thoughts handed to you by others. You do things not because you will to do them, but very often because, as we shall learn in the next chapter, someone else wills that you should do them. The mind is not free unless we assert its freedom.

Strange to say, even education has been much more an imitative than a creative process. Education follows the past much more than one would believe, as witness the systems of academic costume, of awarding degrees, of examinations, of

four-year college courses. The latter are said to have come out of the fact that a group of students from England once spent four years in study on the Continent. It is only now and then that an institution has a distinctly original idea and when that idea does percolate outward, it is talked about for months. Government and education, while they tend to grow largely out of our necessities, also imitate the past. Law particularly, by basing its decisions upon other decisions made in the past, is only too strongly imitative. Civilization tends to become imitative because it is made up of people and their products.

The little old man at the roll-top desk did most of his thinking on this plane. It is largely "monkey thinking."

Thinking on the Third Plane—Beginning to Think

We used to hear much of the daily dozen—athletic exercises designed to keep one fit for active American life. Let us substitute for them here the daily decision. For life seems to be made up of nothing but decisions. You are lost, so to speak, in a great forest—at least most people seem to feel that way today—and you are seeking the way out. Here's a road, there's a road, roads in every direction, but which one will you choose? Or will you, like most people, not decide at all and remain hopelessly lost?

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The decision at which you arrive is in each case the solution of a problem. Life is a problem, everything is a problem, and how are you to solve the problem? Prayers are offered in churches, legislatures convene, the League of Nations comes into session—all in order to solve problems. On how things are decided depend both your personal future and the future of the world.

And here we arrive at our *third plane* of thinking, indeed, the first evidence of real thinking. Thinking on our first plane was largely daydreaming and thinking on our second plane was largely imitation. Now we begin to use our heads, so to speak.

A few pages back I pictured you seated in your chair with your mind wandering in all directions. You came to many turns of thought and to many suggestions. Each one of these things might have developed into real thought, but with your mind working as it was there was no thought of consequence. Many of the things that flitted through your mind involved problems—and serious ones, too. But even if you had elected to do anything with them, you would not have considered them as problems. Betty would have had her tonsils out, you would have bought some stocks, you would have purchased the house across the street, all perhaps without a great deal of thought. Indeed, you might have followed the wrong course of action. I am not particularly worried over the fact

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that you would have made the wrong decision, since most people with the daydreaming type of mind never solve any problems. They never come to a decision until forced to do so. To you, sitting there so idly in your chair, these matters might have been of great moment, but you passed them by.

On the way problems are solved much depends. Fortunes are lost because of a tiny signature. Lives are lost because of the wrong decision as to one's health. Whole countries have been lost because of the wrong solution of a problem by an emperor or a parliament.

Thinking on the Fourth Plane—Great Thought

But where do the symphonies, the great paintings, the great books, and the great architectural triumphs come from? What kind of thought goes on in the minds of those comparatively few people who produce such things? Why are there so few such men and women? Can this power be developed?

Whether we have realized it or not, we all now and then do some thinking that is in a very modest degree similar to that of these great masters. It is the real thought essential to the development of civilization.

The businessman sitting at his mahogany desk and devising a means of selling more automobiles during the month of November is indulging in this

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type of thought. Likewise, the student working out a mathematical equation and even the housekeeper who adds a new ruffle to a dress use this kind of thought.

You see, thinking on the *fourth plane* introduces the most important element of all into our thinking, that of being able to create things in smaller or greater degree. Unfortunately, however, we have come to associate creation only with art, music and literature, not realizing that every one of us has the opportunity to do some of this same creative work in our daily living.

Often thinking on the third and fourth planes is closely associated, because in the solution of the problem you may do real creative thinking.

Here, then, are the four kinds of thinkers:

THE DAYDREAMER
THE IMITATOR
THE PROBLEM SOLVER
THE CREATOR

Which kind of thinker are you?

What Is Thought?

How do the Problem Solvers and the Creators—to whom we have given so much praise—differ from the Daydreamers and the Imitators? Primarily in this way: The Problem Solvers and Creators work over what comes to their minds. Thinking implies

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more than merely shuffling the cards in our minds; thinking implies playing the game, as well. Into some minds go prosaic facts, abstract questions and tidbits of knowledge; out of them come great works of literature, cures for supposedly incurable diseases and ideas that change even civilization itself. Thinking, so to speak, is a working over of things within your mind. And on the way you work them over much depends.

But I am a little disturbed, as I sit here writing. You, too, are disturbed. You have been to school, perhaps you have been graduated from college, and yet you are dissatisfied with what you got out of it. Here you are reading this book on thinking.

On my desk there lies a letter from a prominent businessman. His letter to me is a little disconcerting. He says that he would not permit his own son to go on with higher education for fear that he would become a "committer," rather than a "thinker."

I am a little disturbed by his remarks, but here is something else from another individual:

Henry Ford's leadership was never impeded by too much instruction. Neither was Lincoln's, nor Einstein's, nor Mussolini's, nor Pupin's, nor Orville Wright's, nor Charles Lindbergh's, nor Napoleon's, nor Bobby Burns', nor Walter Scott's. In all these minds there was room left for hospitality to thought. It may be that the true sign of genius is capacity for resistance to mind-stuffing.

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We must give thanks to E. S. Martin, in *Life*, for that bit of wisdom. Or is it wisdom at all?

Somehow or other education may not have done for you what you expected. "Things have not clicked." There are many courses in our colleges and schools that have for their basic attraction the fact that they propose to "teach us to think." How often have you heard that? Doubtless many teachers and parents who so glibly say those words would find it extremely difficult to explain just what they mean by them. Many teachers telling their students that they are "learning to think" have been unwittingly drilling them in the art of memory.

To introduce the subject, let me ask you a question. Looking back at your own education, be it elementary, high school or college, what seemed to be the dominant idea back of it that overshadowed everything else? Consider it carefully and I believe the answer you will give me is that you were memorizing things. In fact, I question very much whether or not you would have proceeded from grade school to high school and from high school to college without having developed a reasonably good memory. Practically every examination that you passed depended very largely on your ability to memorize the subject matter of your particular course. If you could not memorize it, you failed. If your memory was exceptional, you went much further, possibly even to Phi Beta Kappa.

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In fact, you were unconsciously led to believe that a great memory represented the sum total of scholastic success in college. Now, there is no use decrying the fact that a good memory is a wonderful thing to have and that it serves its place in education, but the *mere fact of a good memory does not insure future success. In fact, the knowledge that is assimilated in college is seldom remembered a few years after graduation.*

Well, then, what are knowledge and facts for? They are simply things with which you build, like bricks and mortar, lumber and plumbing fixtures. Deposited in a heap in a fine residential district, the latter are simply so much junk, to be speedily condemned by the city inspector. Wrought together by architect and contractor into the lines of an English manor house, they become an asset to the city and the community.

If your building materials are left in a heap too long, they may wear out and presumably will be discarded without ever being used. In much the same way knowledge decays and a mind stuffed with facts alone becomes a mental junk pile. The president of a well-known university told me once that in college he studied engineering, one of the important courses of which had to do with building wooden bridges. But upon securing a position with a railroad after graduation, he found that, lo and behold, wooden bridges had been superseded by

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steel bridges. His technical knowledge no longer served him.

It is strange, when you stop to think of it, that we have given so much attention to this matter of memory and of accumulating mere facts. This tradition arose in very early days. Step back a few hundred years. People had almost no knowledge at all other than hearsay. Facts were things to be eagerly treasured and passed on to the next individual. When the art of printing burst upon the world, it was an enrichment of the individual life through the dissemination of still more facts. Knowledge and facts were a precious possession.

Two generations ago, a boy was fortunate if he had a half-dozen books to read; today the growing boy has his choice of ten thousand. Every library has its collection. He does not sit back in the candlelight and ponder upon what he has read, searching for a new interpretation. He dashes to the library for another book. Creative power in a great many people has been smothered by the overflow of knowledge.

The old tradition has continued down to very recent times, even to today. There are, of course, some facts that we must all know, tools of learning, if you want to call them that; and this is one reason why memory must play a considerable part in early life. But the real difference between higher education and grade schoolwork should be the

emphasis placed on original thinking. Strange to say, however, our primary schools seem to have placed more emphasis on these original powers than have our universities and colleges, which still follow to a very large extent the old tradition.

Memory, then, is something that you use. It is not much of an asset, just in itself. I hesitate to call it thinking. One might in jest term it concentrated daydreaming. When you step to the two high planes of thinking, problem solving and creation, you are really fulfilling your education. Strange, indeed, how few people do fulfill it!

Getting Rid of "Nerves"

There is another side to this matter. For most people to live a life of happiness and great success it is essential that they be moderately successful in both problem solving and creation, unless they are simply nincompoops. Much mental unrest can be cured by the proper use of the mind.

Look at the question a minute. To solve problems means to solve life. You have met the issues fairly and squarely. Worry, which is such a source of mental tumult and disaster, is simply a reflection of unsolved problems floating round in your mind. As worry becomes more and more irksome, you try to escape from it by turning your mind to other things. The number of people trying to "escape things"—an occupation much in vogue today—is enormous. The great cities are full of them, men and

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women whose minds are seemingly beaten in life. In its worst form this results in suicide. Most people who do commit suicide have simply a great problem which seemingly they are unable to solve; so they seek to escape from life. Virtually all suicides resulting from money worries are of this type. Solve the problem, and the troubles are over.

Dictators and wars (which represent attacks of "national nerves") arise because of our failure or inability to solve problems. Ely Culbertson, returning from a trip in Europe, reported that everyone on the Continent was playing cards. You would think that would have made Mr. Culbertson very, very happy, particularly if they were following his methods. But apparently it did not—at least, not in print. Newspapers quoted him as saying that card playing in Europe was becoming a hysteria, people were playing to get their minds off the realities they were facing, playing just as they had twenty-two years earlier, before the outbreak of the World War; and Mr. Culbertson was reported as fearing the same outcome. A while after Mr. Culbertson's remarks were published, the Italo-Ethiopian war started, followed by the Spanish War.

Here is a quotation from the weekly, *Barron's*:

A brilliant light played on the European scene last week and showed the quaking floor on which the contentment of the nations treads so insecurely. The cry of the governments to their people has been to tighten their belts. It is the only solution they can suggest. There is nothing that occurs to

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anyone as to how to restore earnings, purchasing capacity, and industry in general. The problem remains insolvable anywhere in the world, and the only thing a government feels able to say is: "There is nothing to be done, except to eat less, wear less, amuse yourselves less, and thus leave more for the government to spend in its effort to see that everybody eats less, wears less and amuses himself less."

The difficulty in solving this problem has given Hitler and Mussolini their power. They have assured their people that they propose to solve it, and the masses welcome one who asserts that he can solve a problem. German and Italian people want their problem solved. It is too big a problem for most minds, and Hitler and Mussolini appear to be the easiest way out.

Creative accomplishment likewise quiets the nerves, your nerves. We hear much about living one's own life. We see people everywhere unhappy, dissatisfied with their lot, aiming at something else, and yet not knowing at what they are aiming. One sees this restlessness among young people, particularly young women. One very eminent psychologist believes that the absence of creative outlet for energy is responsible for serious mental unrest. You can observe it in yourself. When you are producing things, be they small or great, you are reasonably happy. Your mind seems at rest and you have increasing energy for your undertaking. But suppose that you have the feeling of lack of accomplishment. You are dissatisfied and unhappy from head to foot. The world does not seem worth the

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hours of living. Many of the people suffering thus are well educated, a large proportion are graduates of colleges and universities, they may even have doctor's degrees, and yet their education has all been of the "cram-it-in" type and hardly once have they been forced to go out and devote their time to creating anything original. Creativeness in the individual gives an emotional outlet. Much nervousness, unsettlement and discouragement are due to the feeling that one is making little contribution to life.

When the man in any walk of life realizes that there is opportunity for this originality, that he does have the power within himself to create original ideas and the energy to push them along, he will realize that he is attaining a satisfaction from life that he cannot otherwise achieve. When one considers that there is no line of work or occupation that cannot be greatly improved, not to mention revolutionized, one approaches a new standard of thought in this matter. We make no claim to the development of great genius in these chapters. But we do believe that on a conservative basis the average reader will be able to improve his problem-solving and creative ability fully 25 per cent. In many cases it will be doubled. The difficulty with most people is not so much lack of capacity as it is the fact that the means and methods of accomplishing these ends have not come to their attention.

Write Your Own Ideas Here

Write Your Own Ideas Here

IV

You Can Own Your Own Mind

Better indeed is a humble peasant who serves God than a proud philosopher who watches the stars and neglects the knowledge of himself.

Thou must conscientiously endeavor that thou in every place and in every action or external employment mayst be inwardly free and thoroughly master of thyself; and that all things be under thee, and thou not under them; that thou be lord and ruler of thine actions, not a slave and hireling. . . . —THOMAS À KEMPIS.

✓ Man is born free; and everywhere he is in chains. One thinks himself the master of others, and still remains a greater slave than they.—J. J. ROUSSEAU.

Government and people always had to learn, sometimes by highly uncomfortable experience, which of the innovations must be quickly discarded and which had come to stay. But history also tells us of no such episode in which the longer outcome was not a better world.—ALEXANDER D. NOYES.

“WHAT about the things that I read—the books and magazines and newspapers, not to mention the circular letters that clutter my mail?” I know a reader is asking. “And then there are the things that I hear—the occasional lectures, the radio broadcasts, the conversation at the club. Where does all this fit into the scheme of

things? Isn't it thinking? At least, I think I'm thinking."

Will you be angry if I assert that most of this seems to be what I have already mentioned as thinking on the lower planes, that is, if it be thinking at all? If you turned these things over in your mind, analyzed them, arrived at conclusions, other than a conclusion at which someone else intended that you should arrive, and built some thought upon your conclusions—problem solving, if you want to call it that—then your thinking would be *really* thinking.

Let me furnish an example. Picture yourself back in the boom of 1929. There you are, reading the newspaper day by day, and each day that you read the paper you become more and more inclined to "make investments." In the minds of certain individuals there is the idea that you should buy stocks—the stocks indeed that they are promoting. Their problem is to get their idea into your mind and make you act accordingly. The boom of 1929 illustrated one of the most interesting developments in thought compulsion. The advertising regarding the particular stock in question was a very small item in influencing you to buy it. Instead, an aura of prosperity was spread upon the entire country; stocks were advanced in price from day to day, often very artificially; "a new era" became the property of the public mind, and soon all of us

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succumbed to the fever. It then took very little to sway you to the particular stock in question. The strange thing, of course, was that the promoters finally convinced even themselves that "a new era" had arrived and were caught in the deluge that followed the bright sunny days. I knew the manager of the branch of a large metropolitan bank, who told me that he was constantly making bad personal investments because of his propensity to be swayed, not by a barrage of advertising and publicity, but by small items regarding the turn of affairs in a certain industry or a certain corporation.

This naturally raises the question as to whether or not our minds are really our own. Thought becomes a confused process of reconciliation between the forces within the mind and body and the forces without, playing their shrapnel upon the mind.

First of all, you must learn to own your own mind.

The Fear of Propaganda

The fear of propaganda is one of the great fears of the decade. Propaganda, or concerted and definite effort to remake our thought or to save us from thinking for ourselves, has suddenly burst into view like a meteor. Our college professors, disdaining for years to recognize such a mundane thing as publicity, have suddenly sounded the tocsin

and many of them have become veritable propagandists against propaganda. What shall we believe?

I can plainly see that this section of the book is going to be an interesting one. A lecturer, when he desires to arouse the enthusiasm of his audience or at least to keep them awake, not only proclaims the importance of the immediate subject but tells some stories, all with good morals and lessons to them. Let us follow the same principle here.

Some years ago the world was thrilled with the story of a dog team mushing its way through the snow and ice of Alaska bearing precious diphtheria antitoxin to the stricken city of Nome. Day by day for nine days its progress was noted by the press and the American people hoped and prayed for the dogs and for Gunnar Kassen, the driver. Would they get there in time to save the stricken populace? What you saw was the great human battle against nature and the elements, always the greatest story in the world; but what really happened was that a chemical house was popularizing the use of anti-diphtheritic serum and had chosen a spectacular exhibition to make the whole world acquainted with the fact that there was such a thing. A little thought would have pointed out the much greater practicability of having an airplane drop a package into Nome in a few hours' time. But even the dogs got a job in vaudeville after the real show was over.

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Picture the family fireside a few years ago. All our kiddies are cutting statuary out of soap. We're using pounds and pounds of soap. Who could have dreamed of such a wonderful new use for soap. Teddy bears and elephants and ships and even Papa's face, carved from soap, brighten every mantelpiece. But here's the inside story. A certain brand of soap, Ivory, seems to lend itself particularly to this sort of carving and, indeed, is the only kind recommended by our teachers. The thing you thought of was the discovery of latent artistic talent in thousands of our children, but what really happened was that a large soap company used this means of promoting its soap. Not only was soap sold, but the idea of Ivory soap was firmly implanted in the growing young mind. Mothers used the shavings for laundry purposes, and if they had not become acquainted with Ivory soap before, did so in connection with the soap competition. And everyone cooperated nicely, from art authorities down through school superintendents and teachers.

You are helping out the unemployed on a busy New York street by buying an apple. Apples, it seems, are going to waste with the market glutted. Likewise, the stomachs of the unemployed are empty. Mr. Joseph Sicker of the International Apple Association has a bright idea. He is going to put apples and the unemployed together. He is going to make the unemployed subsist on apples—not

fill their empty stomachs with apples, but sell the apples to other folks. All over the country the idea spreads and out of the warehouse in New York go countless boxes of apples at two dollars a box, whereas without the help of the unemployed they would have brought but one dollar apiece. Ten thousand men subsist on the profits of stray apples in New York, and everyone is happy. Mr. Sicker wins one silver cup after another for his aid to the apple industry.

But wait a minute! What is that speck upon the distant horizon, now coming nearer and nearer? Down below on the ground are cheering thousands, necks stretching upward. The plane alights and from the cockpit emerges Amelia Earhart to greet the cheering thousands and to be snapped by the camera and movie men. Amelia Earhart has just arrived from Hawaii and to all of us apparently the idea comes that she has enjoyed a pleasure jaunt from the magic islands, just to show how easily it is done. But it develops that the aviatrix is receiving \$10,000 from the Pan-Pacific Press Bureau. What has that to do with it? Well, the Pan-Pacific Press Bureau is interested in advancing the sugar and tourist interests of Hawaii. The big idea on the sugar side is to promote the thought that since Hawaii is part of the United States, it is not subject to tariff on sugar. And what could be a better way of promoting tours to Hawaii than by placing in the

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public mind the thought of the close proximity of this wonderful playground? Look out there, California! Hawaii will get your tourists.*

You have had a good laugh at these things. Most of them did not do any harm; quite the contrary, some of them did a great deal of good, despite the ulterior purpose. But propaganda usually has this particular feature in connection with it—it exists for the purpose of benefiting some individual, corporation, group or nation at the expense of the rest of us, either through our money or our own mental supremacy. To accomplish this end:

The best side of the matter must be exhibited to the world in such a way that people realize that there is a "best side."

The worst side must be minimized or in some cases, suppressed.

Today in ten European countries—Italy, Germany, Russia, Portugal, Austria, Bulgaria, Yugoslavia, Hungary, Albania and Lithuania—populated by nearly a third of a billion people—there is almost absolute dictation as to what those people shall read. Only in Great Britain, France, Switzerland, Czechoslovakia, Belgium, the Irish Free State, the Netherlands, Finland, Sweden, Norway and Denmark, with a population less than one-half as great, is there freedom of expression in the daily

* See *Annals of the American Academy of Political and Social Science*, May, 1935, pp. 204-205.

press. Even in the remaining countries of Europe there is censorship of news.*

In Italy bulletins are sent to newspapers indicating almost the exact position that certain stories are to have in the paper and the nature of the headlines. In Germany Dr. Paul Goebbels is a *minister* of propaganda, entitled to just as much consideration as any member of the Cabinet in our country, and in actual practice receiving a great deal more. With his huge program of public exercises, his dissemination of the right facts and his suppression of the others, he commands rank next to Hitler himself. In Russia it is permitted to criticize small matters of lack of efficiency in government, but it is unthinkable to attack the great fundamental fact of its government.

Before our social scientists had so fertile a field as Europe with which to find fault, they had leveled their guns at the American businessman with his cosmetics, his tooth paste, his gas and electricity, his cigarettes, his fashions for women; but these were really quite picayunish compared with such choice subjects as Stalin, Mussolini and Hitler.

Still there were sizable things to be thought about. There was that bright individual, for example, who organized the association of foreign language newspapers to fight against prohibition. He didn't even invite their membership. All that he

* RIEGEL, O. W., "Mobilizing for Chaos," Yale University Press.

proceeded to do was to send them articles derogatory to prohibition to be run in their papers free of charge, while at the same time he sent to the brewing interests sizable bills for his valuable services rendered.

In our spare moments we take advertising lessons in eating yeast and in wearing furs in the summertime. If we are to believe what is indicated, there are organized whispering campaigns. One company will for a stated sum spread information anywhere in America on a few hours' notice. Its work is very useful in labor disputes where dissension among the ranks of strikers may be brought about. This organization assumes to engage in the spreading of rumors only of an ethical character, but the possibility of things of this sort is enormous.

Calvin Coolidge gave us the strangest example of publicity. Simply by sitting still and making a minimum of noise, he became to all of us silent and strong Calvin Coolidge. Mr. Hoover tried much the same plan, but it didn't work in his era. Mr. Hoover lacked nerve, while Franklin D. Roosevelt has so much nerve that often he makes us all nervous. Publicity and propaganda, you see, are made up of many things,—paid advertising, free material printed in the daily newspapers, inspired events or simply striking an attitude that is pleasing to the people in general.

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“It pays to advertise” is an old slogan and we may readily judge that it is true from the money spent for different types of advertising in 1935:*

Newspapers.	\$517,513,000
National magazines	123,093,289
Radio broadcasting	87,523,848
National farm papers	5,565,059
Total.	\$733,695,196

All this money is being spent to urge you to buy some particular product for the benefit of some particular corporation. Nearly three-quarters of a billion dollars expended to control many more billions of purchases! As a result of this we are going to buy certain automobiles, certain brands of tooth paste, certain kinds of soap, certain bed-springs and certain hair tonics. A rancher in western Nebraska, impressed by the omnipotence of modern merchandising and advertising, wrote to a mail-order house asking for a wife.

Poor things do not succeed because the people want them, but usually because they are promoted. Worth-while things often fail because of the lack of promotion. “Virtue without a trumpet will die and wither,” declare our publicity men.

* Report of the National Association of Broadcasters, Feb. 7, 1936. Newspapers, estimated.

Propaganda Is Not New

Alarming! Disastrous! Civilization Tottering!
World Will End Soon!

Like the sensational newspapers, shall we spread a cry of alarm with our headlines? Indeed, these headlines are not greatly different from the implications of some of our social scientists.

Frankly, as this chapter unfolds, we want to know the answers to several questions.

Is it propaganda that is doing the damage or is it the fear of propaganda? What is it doing to *us*? What shall we believe? Can we know the truth? Is it true that a lie with a million behind it is more potent than the truth without one cent?

More people are afraid of the thunder than of the lightning, strange to say. Personally, I am afraid on top of a high tower, although when there is a railing surrounding it there can be no real danger. I am afraid, nevertheless. Is the fear of propaganda more injurious than the propaganda itself?

"Knowledge of exploitation is the key to power," the promotional man tells us. But hasn't it been ever thus? First of all, let us take encouragement. In recent years there has been a disposition to regard publicity and propaganda as something very, very modern. The truth is that they are very, very old. Perhaps it is to the credit of advertising and publicity men that they are now used in the open,

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to our very great astonishment. Formerly people hardly knew that they existed or did not identify them. Once they were used by few people, only the leaders in civilization; today they are used by everyone, with many conflicting ideas impressed upon today's civilization. Our general living is more closely wrapped up with promotion than ever before. It is harder to live an independent life.

Your mind immediately goes back to P. T. Barnum, who in the last century turned publicity to his own account. Looking backward, you laugh at his audacity in having even the crowned heads of Europe cooperate in his advertising. Who can ever forget "General" Tom Thumb, whose title was bestowed by Queen Victoria, and the other dwarfs? Who can ever forget the elephant Jumbo? Barnum had the trick of the really great publicity agent. He made things happen and did not merely hand out news releases to reporters.

But Barnum was a very modern child of publicity. Maybe you have heard of William Shakespeare. Shakespeare, it turns out, was no mean propagandist. Here comes B. R. Ward, secretary of the Shakespeare Fellowship, with the following tidbit of information:

All the famous Elizabethan historical plays—including Shakespeare's Richard III—were produced during this period of national stress. The evidence we have succeeded in accu-

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mulating shows quite conclusively that a Government Propaganda Department was instituted in 1586, and that stage plays in the public theaters were made use of during the remaining years of Queen Elizabeth's reign in order to infuse a warlike spirit into the English people and to inculcate the virtue of loyalty to the Tudor dynasty.

The play of Richard III belongs to the latter category, and is a fine piece of government propaganda, bearing no relation whatever to the facts of the case.

These facts have been investigated by Sir Clements Markham, whose defense of "Richard III" is not only a brilliant piece of advocacy, but a judicial review of contemporary evidence.

Our discovery of the Elizabethan Government Propaganda Department is a complete confirmation of this view.

Maybe you have heard of Titian. He had what we would call a publicity agent by the name of Aretino. Aretino was a great advertising man. Not only did he praise Titian with impressive eloquence, but secured him business, and if we may judge reports, tripled his income. Aretino saw to it that Titian won the support of royalty.

"Propaganda" was recognized in the College of Propaganda at Rome, founded by Pope Urban VIII in 1627 in order that missionary priests might be educated. By its means Christianity was to be spread throughout the world.

Perhaps the most important idea ever disseminated was that of the divine right of kings. What a comfortable idea that was for the reigning

rulers! Until the time of the American Revolution, indeed, that idea was hardly challenged.

Propaganda, you see, is simply evidence of conflict between different people and different ideas. Our thought changes naturally but propaganda changes it on purpose, so to speak. There are thousands of individuals in our country, each with his own interest. It is natural that each should wish to see his side victorious. Propaganda has existed from earliest times and doubtless will continue to exist. One thing we should be thankful for is that now it is more out in the open than it has ever been before.

But the crux of the more serious world situation is epitomized in the challenging statement of Dr. Goebbels that "It is the absolute right of the State to supervise the formation of public opinion." That, indeed, is a thought for the twentieth century. Or are we stepping back a few hundred years?

"Woolly" Thinking on Depressions

I have been most interested during the past few years in watching the reaction of people to the recent depression. It has seemed the worst depression in history, the world has steadily been going to the dogs, and there has been no help for us. The time comes, of course, when people look back and laugh loudly at their dire forebodings, or—what is

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more probable— they forget entirely that they were victims of pessimism. You see, it is not always designing propaganda that influences us; sometimes we are simply engulfed by a wave of thought that sweeps the country like an epidemic of influenza. Perhaps the best example of this sort of thing is in connection with booms and depressions. With this thought in mind, I have been looking back over the years of our American history, ascertaining just how people were thinking at the times of other crises. Here is George Washington speaking on October 22, 1780:

1780

We are without money, and have been so for a great length of time; without provision and forage, except what is taken by impress; without clothing, and shortly shall be (in a manner) without men. In a word we have lived upon expedients till we can live no longer, and it may be truly said that the history of this war, is a history of false hopes and temporary devices, instead of system, and economy which results from it.

Washington was then forty-eight years old. But when he died, he left a tidy estate worth about three-quarters of a million dollars.

It is quite evident that all panics are a good deal the same, however much we like to think that the immediate one is an isolated phenomenon. One might have thought the world had come to an end, judging by the way people acted following the panic of 1837. Times were bad for several years,

and this is what a traveler in North Carolina reported in 1840:

1840

Lands . . . that once commanded from twenty to fifty dollars per acre may now be bought for three or five dollars, and that with considerable improvements, while many have been sold at sheriff sales at 50 cents, that were considered worth ten to twenty dollars . . . So great is the panic, and so dreadful the distress, that there are a great many farms prepared to receive crops, and some of them actually planted, and yet deserted, not a human being to be found upon them.

But we got over our troubles then.

In many particulars you might judge the following to be an almost exact description of the years from 1929 to 1933, instead of what it really is—a leading editorial in *Harper's Weekly* for October 10, 1857:

1857

It is a gloomy moment in history. Not for many years—not in the lifetime of most men who read this paper—has there been so much grave and deep apprehension; never has the future seemed so incalculable as at this time. In our own country there is a universal commercial prostration and panic, and thousands of our poorest fellow-citizens are turned out against the approaching winter without employment, and without the prospect of it. In France, the political caldron seethes and bubbles with uncertainty; Russia hangs as usual, like a cloud, dark and silent upon the horizon of Europe; while all the energies, resources, and influences of the British Empire are sorely tried, and are yet to be tried more sorely, in

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coping with the vast and deadly Indian insurrection, and with its disturbed relations in China.

It is a solemn moment, and no man can feel an indifference—which, happily, no man pretends to feel—in the issue of events.

Of our own troubles no man can see the end. They are, fortunately, as yet mainly commercial; and if we are only to lose money, and by painful poverty to be taught wisdom—the wisdom of honor, of faith, of sympathy, and of charity—no man need seriously to despair. And yet the very haste to be rich, which is the occasion of this wide-spread calamity, has also tended to destroy the moral forces with which we are to resist and subdue the calamity.

The panic of 1873 was akin to that of 1929 in that it arrived several years after the close of a great war. Does not this description, from a great American weekly of November 15, 1873, sound as if it might have been written but yesterday?

1873

All over the country manufacturers are closing their works and discharging their operatives, simply because they can neither sell the goods they make nor borrow money to carry them until the demand for them revives. The acknowledged leaders in the manufacture of dry-goods have set the example of closing the bulk of their factories, and smaller makers are following the example. Iron forges in this State and Pennsylvania which have never cooled since they were first set up are being closed, and the men thrown out of employ at the commencement of winter. It is roughly estimated that forty per cent of the Northern forges are at the present time out of blast. Necessity has compelled the Vanderbilt and the

Pennsylvania railroads to stop all new construction, and even all but the most necessary repairs, thus adding thirty to forty thousand men to the throng of idle workmen. Throughout the West the same policy is being pursued. Work is stopped on all new railroads, and all hands are being dismissed from rolling-mills and car-building works. Letters from New England announce that in the manufacturing towns of that section from one-half to two-thirds of the operatives are being or have been discharged. Altogether an army of workmen to be counted rather by hundreds than tens of thousands is being let loose on society to be provided for throughout the winter.

But the clouds of the seventies blew away and there were plenty of good times still in store for America.

Chauncey M. Depew was a great man but he was mightily upset by the panic of 1893, as witness his remarks in the closing month of that year:

1893

I have been through all the panics of the last thirty years, but I have never seen one in which the distress was so widespread and reached so many people who previously had not been affected as this panic of 1893. It has thrown over 2,000,000 people out of employment; and calculating five persons, which is a small estimate, to a family, that means 10,000,000 people with no breadwinner among them and no possibility of winning bread.

Here we are in 1914, just getting ready to become the most powerful nation in the world, but terribly

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worried over stocks, bonds, our disappearing gold and the state of trade:

1914

Extraordinary occasions require extraordinary treatment. Desperate situations call for heroic measures of relief. It is a grave situation that confronts our financial leaders and the Government.



Owing to the critical state of things abroad and the tremendous liquidation here of securities on foreign account, gold went out from this port in a perfect deluge . . .

On the Stock Exchange things went from bad to worse and the month will long stand as one of the most disastrous on record.

But cheer up! In only a few short years people were falling over one another to buy what they had been trying to give away in 1914.

And here are the bright boys on November 4, 1921:

1921

In a recent speech, Professor _____ referred to the meeting of a group of leading financial statisticians—experts in business forecasting—in New York City on November 4. Professor _____ quoted eight of these experts as follows: “The farmers will not buy much from the proceeds of this harvest; and, with the price declines in process throughout the world, there would seem to be little prospect of any extensive business revival in the near future.” “The general prospect is for slow and irregular

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business for ten years." "I expect to see a long and slow recovery to a general level of subnormal, slow business." "Prices will advance a little from present levels and then fall once more. Recovery will be slow." "Conditions abroad will continue to affect our business conditions here. It is a conservative estimate to say that ten years must elapse before we can see genuinely prosperous business in this country." "Business will come back to fair, slow operations in three years." "The period of readjustment will be long. It will take at least 10 years." "We may expect a slow return to a basis on which business can be done at a profit in about three years."

These forecasters really missed everything, for they did not sense the great point that the real panic does not come for several years after a great war. They seemed to have had no inkling of the huge boom just ready to start.

Perhaps you have noticed that we omitted 1907. We have done so for a most interesting reason, for John D. Rockefeller was in that year a voice crying in the wilderness. This is what he was telling people, according to *The New York Times* of October 20, 1907:

People sometimes talk as if we older men lived in a day of peculiar opportunity, as if there were no chance to-day for a young man to do what has been done by my generation of men, as if all the avenues were closed, all the big things done. Nothing could be more mistaken. The truth is the exact reverse of it. Why, the time in which I opened my eyes was a midnight of darkness, and this is blazing noon.

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You young men can't imagine, you can't conceive, what things were in our day. There was everything to do—nothing to do it with. There were no paths marked out, no experience of others to profit by. There were years of doubt and distrust and distress—to this great day a contrast as great as conditions could possibly furnish.

The opportunities past? They are multiplied a thousand-fold. The resources of our great land are scarcely scratched.

Our population is enormously increased, and its wants are multiplied infinitely. Across two oceans at either hand are vaster populations still, who are as if just discovered by us.

In the East, as we say, a quarter of the whole human race are just awakening to become a part of civilization. The future? Why it dazzles the mind. It stupefies the imagination.

It would be an interesting fact to open up the Rockefeller ledgers and see how much money was made following that memorable year.

Looking calmly at the matter today, you probably have had a laugh at all these expressions of excited feeling, but how tragic and black everything must have seemed to most people at the respective times. It would be a fascinating undertaking, could it be done, to ascertain how many of the dire effects of depressions are due to real fundamentals and how many to popular psychology. Booms and depressions and many other things depend to a very large extent on our mental state.

Changing Thought and the Modern Mind

Once before in this book, I had you, the reader, seated in your big armchair (or was it a rocking

chair?), and I think I shall place you in that position again. A thought doctor, like the dentist, must have his patient in a position conducive to easing a major extraction.

Your mind is now ready to function, as soon as it receives the proper cue. In the early pages of this book you may have received a shock,—your pyramid of building blocks came tumbling down. I think that the tumbling down really took place a long time before you read this book, only you had not realized what was the matter with your own mind and life. In the past ten years it has been a common practice to “de-bunk” things. Facts no longer seem to be facts and quite rightly you ask, “What shall we believe?” You are not equal to your environment.

The real contribution of Mr. Watson to psychology was that he directed attention in a forceful way to the influence of environment. The thought of the world does make and unmake your own thought. Your own ideas change. If you doubt this, step backward twenty years, then return to the present and ask yourself these same questions—

1. Shall we enter the World War? In 1917 probably your answer was a forceful “yes.” What is your answer today? Has Woodrow Wilson gone up or down, in your own estimation?

2. Russia. Where do you stand on Russia today as contrasted with fifteen years ago?

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3. Divorce. Twenty years ago and today. Are you more or less favorable to it?

4.* We used to say that we as a nation became prosperous by saving money. Now a large number of people say that we become prosperous by spending it. Reconcile these ideas.

5. We used to think that bumper crops meant prosperity. Now we seem to work on the opposite idea. Farmers had a greater income in 1934, on the heels of drought and crop destruction, than in 1932 or 1933. How can the destruction of wealth make for prosperity?

6. If you live in a small town, are you as enthusiastic about good roads as you were twenty years ago? In some communities in Missouri people worked diligently for paved roads, only to find that their own towns disappeared.

And if you want to look ahead twenty years, here are two questions:

7. While, owing to better medical service, the life expectation of individuals is constantly being increased fewer children are being born in each family. What will be the effect of this tendency upon the country and upon individuals?

8. Study President Roosevelt's administration. Looking at this matter from the point of

* A number of the following questions were part of the examination in creative thinking at the University of Nebraska last year and were widely discussed editorially.

view of twenty years hence, will the important things be those today most in the public eye or those not so readily discernible at the present time?

Whew! Don't throw up your hands in despair, for I'm not going to ask you to answer these questions. I'm quite willing to let them soak into your mind. Undoubtedly, looking over these questions, you have sensed many changes in your opinion. Pressed for an answer as to why you have changed, you will simply say that people think differently, that "they say" the evidence is different, but you yourself do not know much about it—to you it is only hearsay. "It must be so, because I read it in a book," harks back to the childhood of many of us. How often have you taken that as the criterion of the soundness of any idea! But today with so much printed matter of such diverse opinions, what indeed must be the influence of that doctrine of our childhood?

The currents of thought are like a great, sprawling claybank river in the Middle West. During a large part of the year there are innumerable channels and offshoots of the main stream. Sometimes it is next to impossible to say which is the main channel. Land appears and only after a bit do you learn that it was only an island. But in floodtime in spring the river becomes a raging torrent, sweeping all before it. All channels then

are only a part of the main stream. Islands have all but disappeared. After a week or so the river quiets down and everything is serene again. Only occasionally in a period of years are the flood-waters strong enough to make an appreciable change in the course of the river.

This analogy to the thought of a country or the thought of the world may hold for us both alarm and encouragement. Now and then we do have great floods of thought that bowl over everything that stands in their way. Such flood thoughts were crystallized in America's entry into the World War, the rise of Soviet Russia, the advent (and later abrogation) of prohibition, the great boom of 1929, Mussolini and Hitler, the easy election of Mr. Roosevelt, with his New Deal. But most of the time we have only small currents, such as those incident to railroad or industrial strikes, the Graf Zeppelin, the rule of the gangster, the Lindbergh kidnaping, and the Chicago World's Fair. The remarkable thing, of course, is that many of these floods of crystallized thought do not change the country as much as one supposes. Modern art becomes a part of traditional art and the same thing is true of literature and music.

Even a great flood of thought may be simply absorbed into civilization. The probabilities are that we shall become more or less used to new developments in government. The systems of capi-

talism in this country, of fascism in Italy, of communism in Russia may succeed in their own way in the respective countries. But as government evolves, we may see Russia become more individualistic, Italy less fascistic and America less capitalistic. New things always tend to be absorbed in the world and to a degree leaven the whole. The final contribution of Mr. Townsend will not be the enactment and carrying out of his plan but the direction of thought to the matter of old-age pensions. Many people who would have considered a \$30-a-month pension decidedly socialistic a few years ago, today accept the thought as a matter of course, so "reasonable" does it sound after the proposal of \$200-a-month. The world is not completely remade by every event that happens, even though we like to think so. The very trifling matters overlooked by most may in the long run have much the greater influence. Knowledge pulled apart always goes together again in its endeavor to preserve a mental equilibrium in the world. Roosevelt's plans will not remake America; they will be absorbed into civilization.

What is the truth?

That is perhaps the most puzzling question in the entire world. No one knows the answer precisely. Even the scientist does not always know the truth, for he builds much of his work upon hypotheses. He often assumes such and such things

to be so and then builds his systems of deduction upon them.

Not only does the apparent fact change from time to time, but also what we feel to be the best thing for us changes. You see, that is something quite different from the mere matter of truth. We are prone to confuse "truth" and the interests of the world or the nation or of just ourselves. In reality, the two are entirely different matters. The system of government is not the truth, nor is human behavior the truth. These are simply systems of what we believe to be the best things for us.

A few months ago I met a famous editor in Chicago. He had just given an address at a meeting of a society dedicated to the perpetuation of the principles of Henry George. "And yet," he remarked to me, "I wonder if Henry George today would be saying the same things—in the light of present-day civilization—that he did in his time." How much emphasis we often place on something said by someone a generation or two ago, when we do not know what he would have said in the light of today.

Achieving Security of Mind

The grave danger is that we begin to think too much about the world and its good health instead of our own mental health and well-being. We must not forget that it is we, ourselves, with whom we

are primarily concerned in this book. Maybe we can control ourselves, even if we cannot control the world. We may as well admit that propaganda is here to stay and indeed it is somewhat fortunate that we all know about it.

What we are really after is security of mind. Possibly in civilization this security of mind can never be obtained. Perhaps, after all, insecurity of mind is in reality security. Perhaps it is a sign that we are going forward instead of backward.

But apparently today it is quite as important for an individual to be resistant to ideas as to be easy and pliable toward everything. The occasional peddler with his wares is not the real offender. We shut the door in his face but open our minds to all sorts of diverse influences.

Civilization, together with advertising, merchandising and social custom, has been giving us solutions and we have been accepting them as a matter of course, often without our even knowing what the problem is. There might well be spread across the world a great sign, "Let Us Do Your Thinking for You." Shall we live in the exclusive section of the city? Shall we play bridge afternoon and evening, even though we heartily dislike it? Shall we observe the cocktail hour, even though we personally abhor it? Shall we go on a reducing diet, even though we are in perfect health? You might question these things, but skillful promotion and in

some cases civilization say "Yes" and you do as you are told. You keep saying, "I think I think so and so," until you deceive yourself into thinking that you really do think. But someone else is doing the thinking for you.

I once taught a course in advertising. In this class was a large group of young women. I realized that by no chance would they ever go into advertising as such, but I felt that I was being a very useful instructor when I told them that one of the great benefits they would derive from the course would be resistance to advertising—how not to let themselves be influenced by the printed word! We have many courses in universities and colleges on the way to influence the other fellow, but how little is ever said about developing the resistance of ourselves. And there was I setting out to turn those young women into hard-boiled purchasing agents.

The sum of the matter apparently is to develop a mental attitude that will be a happy mean between resistance to new ideas and their acquisition. A generation ago people were too resistant. Today they are undoubtedly too pliable. On the one side there are the "old fogies" who refuse to see any good at all in the present and the "ultramodern young people" who refuse to see any good in the past. Undoubtedly both are wrong.

Let us meet this question fairly and squarely. For a long time we have been telling you of the outside

influences that make and unmake your thought. Now quite naturally you are ready to ask the question, "How am I to keep from being influenced by this great barrage laid down by corporations, governments and individuals? How am I to know what I should believe and what I should not believe? How do I get at the facts?" Now, the first answer is that it may be difficult for you to determine the truth and the merits of each question. Scholars often spend ten to fifteen years determining the truth or falsity of some point in history. You cannot be expected to work over each idea that comes to you. But it is possible for us to lay down some general suggestions that will help you in keeping your mind straight.

1. *Learn to Challenge Things*

Lincoln challenged slavery. Washington challenged autocracy. How few of us challenge anything, even tooth paste! You may not be able to determine the absolute truth, but a few minutes spent thinking about a matter, especially one that is important financially, may bring you surprising answers. Many old axioms are particularly untrue. For instance, recall the one, "The best is the cheapest." For your purpose, the thing in question may be far from the cheapest. No one can say that a high-priced motorcar is cheaper than a low-priced one for a man with a \$1,500 income. There

is the old axiom that two can live as cheaply as one. But it is not true, certainly not at the present time. Many people represent marriage as a great sacrifice, when in reality the individuals concerned are following what they believe to be the most pleasant course for themselves.

The appraisal of thought is important from another standpoint, that of building on facts. If thought is built largely out of other thought, it is most important that our first thought be reasonably sound, otherwise the unsound foundation may cause the whole structure to come toppling down. We cannot always be sure of these foundations. At the present time, for instance, the chemists and physicists are puzzled over new developments and yet they must go on basing their routine work on the old foundations until the new ones can be put in place. Knowledge, strange to say, is a very flexible thing, going forward, retreating, trying a new path, often to find that it leads nowhere.

Most people do not meet issues. Instead, they go around them. Remember that the group mind dominates only those who let it dominate them.

2. Have the Right Perspective

Avoid the excitement that arises from permitting things to get out of perspective—a very common fault in our American life. It not only disturbs our personal equanimity but often leads us into paths

that are damaging to our peace of mind and to our pocketbooks and life ambitions as well.

Take the trial of the alleged kidnaper of the Lindbergh baby. The kidnaping of the Lindbergh baby was a very serious matter, but such a thing has happened before and there has been hardly half a column about it in the papers. But great streamer headlines and entire pages in our newspapers devoted to this case threw the public mind out of perspective. The most important world news and national news were subordinated to it. Public and private discussion hinged on this case. How many worth-while hours were wasted in American lives cannot be estimated.

Give attention to big things and not to little. I am always much amused at those people who try to save dimes but, when it comes to buying big things, pay fifty or a hundred dollars more than is necessary without so much as a whimper. In reality, it ought to be the other way around. Big things should have big thought and little things, little thought. Yet, how seldom is this the case!

3. *Watch Your Emotions*

Avoid permitting yourself to be governed entirely by your emotions. To an extent this is a corollary of our previous suggestion. Our emotions cost us not only mental energy but money from our pocketbooks as well. An advertising pamphlet

lying before me carries the information that a survey of the processes of selling showed that knowledge of the product entered into the sale to the extent of only 15 per cent while knowledge of other things influenced 85 per cent of the sale. There is 15 per cent of reason and 85 per cent of emotion.

If you want proof of this point you need only pick up a magazine and go through the advertising pages. There are, in fact, two kinds of advertising—"reason why" advertising and "human interest" advertising. "Reason why" advertising is recommended for the hard-boiled purchasing agent and for display in trade magazines where definite, tangible facts make for the final sales decision. "Human interest" advertising is recommended particularly for the general reader. Look at the magazine a minute. Do you see the Ford car standing outside of a \$3,000 house? No, indeed, it is out in front of the \$30,000 to \$40,000 house. This was a very valuable idea for Mr. Ford. The idea, of course, was to combat the suggestion that the Ford was a cheap car. If it is good enough for Mr. and Mrs. Vandergoof, then it surely must be good enough for us.

Take a look at those cigarette advertisements. How lacking they are in real reason. Most of the "reason" consists in the suggestion that since certain social headliners are willing to use such and

such a cigarette, it must be good indeed. What would the grandparents of these same social leaders have said if they were to have pictured their granddaughters writing cigarette testimonials for public print? Note to readers: Beware of testimonial advertising. Testimonials are easy to secure, particularly when a fee is offered, and really mean little or nothing.

4. *Know Your Real Reason*

Before taking a course of action, ascertain the real reason in your own mind. More often than not we do things not because of the real reason but because of some reason that we like to think is the real reason. You are a woman and you are buying a new dress at the store. You know very well that you should not buy a \$100 dress. But you look at one at that price. You like it very much. You know that you cannot afford it; so you begin to think up all the reasons as to why you should have it. It will wear longer, it will make a much better appearance. Dozens of reasons occur to you as to why you should have that dress, yet no one of those reasons is a logical one. Such a course of thought is followed by all of us constantly. We do things and try to think up the reasons afterwards.

For the most part, people seek outward symbols rather than inward accomplishment. Are you going to college for an education or because you are seek-

ing to be known as the proud possessor of a degree? No doubt the ideal university today would be one without any degrees or diplomas whatever.

5. Avoid Following the Crowd

Here again we have something related to our preceding suggestions. Remember the Florida boom. Following the crowd may end disastrously.

Are you the owner of Wall Street stocks that today have little or no value? What made you believe in 1928 and 1929 that the future of the country was so secure? The great majority of our people believed so, and the great majority of our financial writers indicated so. Wall Street is known particularly for its sayings that turn out to be untrue. In the market place it has always paid in the long run to be against the crowd. Is it not obvious that the majority must be wrong? Otherwise, how would it be possible for anyone to make money?

Strangely enough, men and women who are not following the crowd often in later years achieve great political prominence. Who could have predicted what was to happen to Senator George W. Norris? In fact, it is not so many years ago that he was all but retiring from the Senate and was prevented from doing so only by a newspaperman who tore up a telegram he had dispatched renouncing his candidacy. A few years ago it was quite the

thing in some circles to pooh-pooh George W. Norris, but after all, he was called to sit in the seat of the mighty.

It is interesting to speculate as to what might be the reaction of the country were W. J. Bryan living today. How might his war attitude be interpreted now? Or, his free silver ideas? We see this same situation in all countries of the world. Leaders coming up are usually leaders not of the old tradition but rather of a new one. When the time is ripe, they blossom out.

A remarkable meeting was held in Copenhagen in 1910. A convention today with the same individuals present would be first-page news in every paper in the world. However, not much was said of it then; in looking through our leading magazine of public affairs published at that time I could find but a single sentence—simply that a socialist convention had been held in Copenhagen. That was all.

Among those present, it is said, there were twelve future prime ministers and well toward a hundred future ministers of state. For instance, there was Ramsay MacDonald. There was Hjalmar Branting, a leader in founding the League of Nations. There was Friedrich Ebert, later to be president of the German Republic. There was Émile Vandervelde, a signer of the Treaty of Locarno. There was Lenin. There was Trotsky.

Those who follow the crowd blindly are often left high and dry at the next turn. But another remarkable thing in this connection is that men's minds change as they progress. Who would have believed that Mussolini, once a socialist, would become a dictator?

6. *Be Tolerant and Renounce Your Prejudices*

Here again is something of a corollary to our previous suggestions, since tolerance depends a great deal upon calm emotion. A system of government or a public idea may not be to your liking but, after all, as Mr. Noyes has suggested at the beginning of the chapter, "History also tells us of no such episode in which the longer outcome was not a better world." Your own peace of mind and your own enjoyment of living are the important things to you. Ideas and developments in religion, in government and in business may come and go. They may be absorbed into the world's civilization and leave an impress, but, on the other hand, they may be forgotten.

Are not Americans the most tolerant people in the world? The depression was acute, and yet there were only occasional riots and a minimum of class feeling. This is all to the credit of our country. But intolerance does creep out in surprising places, most often in our minds. The radical is as intolerant of America as the conservative is of Russia.

YOU CAN OWN YOUR OWN MIND

There are usually two sides to every question. Truth or even the best interest of the group are not always absolute; they are often in between.

Those Unhappy People

Today you see innumerable people going about unhappy and dissatisfied. They are trying to find themselves, they tell you. Some of them are neurotic. When you stop to analyze them, you very often will find the trouble to be that they have become parasites on the thinking of other people. Nine times out of ten you will discover that they are repeating, parrot-like, some ideas contained in recent books. To a large extent they have been like sponges absorbing all sorts of facts from teachers and the library but not one time in a thousand arriving at a single original thought in their own minds. They have become so dependent on the ideas of other people that their own minds have become sterile. The cure for such a condition among people is to plunge them into situations where they will have to use their minds, solve problems and solve them well.

Write Your Own Ideas Here

Write Your Own Ideas Here

Human Beings and Their Puzzles

I have dreamed a dream, and there is none that can interpret it.—Genesis.

A man of good judgment in a given set of affairs is a man in so far educated, trained, whatever may be his literacy. And if our schools turn out their pupils in that attitude of mind which is conducive to good judgment in any department of affairs in which the pupils are placed, they have done more than if they sent out their pupils merely possessed of vast stores of information, or high degrees of skill in specialized branches.—JOHN DEWEY.

Ends do not come of themselves. They must be actively sought. The purpose of thinking is to contrive, to invent, to figure ways and means of gaining our ends. To think is to adjust means to ends.—M. T. McCLURE.

The old croupier at Monte Carlo:

"The women, they cause too much trouble. They sit around the roulette table and try to make up their minds which number they are going to put their chip on. Then, when the ball is already rolling, they ask, 'Monsieur, it isn't too late to place my bet, is it?' And when we say 'Yes' they put it on anyway."—HUGO ROBOZ.

HUMAN puzzles haunt nearly every heart, disturb nearly every fireside and threaten nearly every business. If you haven't right now a problem that needs solving, then you are either in the blissful state of complete ignorance of yourself or

you are one out of ten thousand. My guess is that you have a problem, probably not only one but a dozen problems.

What fun it would be if we could assemble all the readers of this book—even those who are reading this particular chapter at this particular moment—and hear them state their problems!

That plump, well-fed individual in the \$90 hand-tailored suit is one of the city's leading businessmen. He has solved problems pretty well and arrived at his present position by that very course. But Mr. Roosevelt has got him up a tree, and the man-of-affairs who has solved his problems so easily before cannot tell whether or not we are going to have inflation and, if it does come, what it will do or not do to him. This man has a whole bagful of problems.

Over there is a thin underfed man with lined face and threadbare clothes. His very carriage betokens a hard battle and sleepless nights. From the public library he has borrowed this book. "A job, kind sir, any kind of a job!"

That timid-looking little man runs the corner grocery. His appearance belies those succulent meats, rich cheeses and tasty sweets that should create in him a living picture of what the corner grocery can do for the inner man. The trouble is that he is worried—very much so—for the chain store a block away is stealing his trade.

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That's a housewife there, with a droopy, perplexed look and an account book, likewise droopy. Her problem is a common one, known to all American families, great and small, that of making one side of the page marked "Expenditures" come down to the same level as the opposite side labeled "Income."

He is a doctor—you might have known it—with an old-time goatee and piercing black eyes. He is in trouble. Shall he proceed with a rigorous and difficult course of treatment for his patient, a course of treatment that if successful will restore the patient to usefulness but if unsuccessful will result in death?

Over there in the corner is a well-dressed but startled little woman. She is troubled over religion. The props, so to speak, have been pulled out from under some of her old religious beliefs and now she's all at sea. What shall she believe? There are millions like her—both men and women.

My heart goes out to that young couple, seated there in the front row. You see they have been married only a year, and now the young man has \$500 all saved (strange to say), and put away. Shall they buy a home? That's a question involving more than appears on the surface, as many have found out.

But who is that precise-looking young woman, with the eyeglasses and the look of "Who did

that?" who has just come into the room with a book under her arm entitled "Child Study"? You have guessed it, she is a teacher, and in Room No. 9 in the Seventh Avenue School she has a "problem child" to deal with. This is her problem.

We have many in our audience of readers: the young businessman with his first thousand to invest; the professor with his problems and his discourse on higher mathematics which he hopes will bring him national recognition and a better position; the boy in the second row who cannot decide whether or not to go on to college; the boy next to him, now in college, who wants to know what to study there; and the new sales manager of the Golden Butter Company, eager and anxious to prove his worth in the great battle that the directors of Golden Butter, Incorporated, have heroically launched against oleomargarine—puzzled human beings, all on their way through life, each step of which is a problem.

What Is a Problem?

And suddenly we, ourselves, have arrived at the matter of problem solving. But how are we to solve our problems?

A Mohammedan has a very easy way of taking care of such matters. Shall he or shall he not? He gets out his rosary, or *tasbeih*. Turning towards Mecca, he makes a ritualistic prayer, and the

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beads dictate to him whether he shall or shall not. But those of us who are not Mohammedans have to use our heads instead.

What we are trying to do here is to come to some basis of procedure that we may adapt to the solution of those problems that concern us, problems which we identify and want to solve. This is something more important to be learned than are isolated bits of knowledge. We have all watched and wondered at the able technicians of thought, to whom all knowledge and procedure in their field seem to be like an open book. These outstanding men, and women, too, have learned that it is not entirely routine education that enables one to be conversant with humanity's problems but rather the ability to go ahead and assemble knowledge from all quarters, appraise it and, most important, come to a course of action. The mind should be able to push into almost any field of knowledge and come out with an answer—a well-considered answer that is as nearly foolproof as we can make it. In solving problems you take command of your own mind.

We learned in the preceding chapter that many people have been solving our problems for us, without so much as asking our leave. We paid our respects to world problems, as well. World peace, disarmament, tariff barriers, the World Court—these are all world problems. It is idle to say that

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world problems are not our own concerns for, in truth, they are, although not quite so intimate. They are more distant and it takes more than our own minds to solve them. But world problems often do disturb our mental well-being, and we must take them into consideration in solving our own personal problems, such, for instance, as financial ones. We usually do not, indeed cannot, solve the world problems by ourselves.

After all, what is a problem?

Many things that seem to be problems really are not problems at all. They are simply trivial matters that, through some quirk of our make-up, we cannot decide. For instance: Shall I go downtown this afternoon? No, I guess I'll wait until tomorrow. No, I think I'll go this afternoon. No, I'll wait.

Shall it be a green or a blue rug? Which will look the better in the bedroom?

Or shall the evening drive be to the north of the city or to the south of the city? Shall one wear the blue or the green dress to the party? The family is called into consultation on these grave matters and when compared with the comments of Mother, Sister Sally, Sister Betty and all the others, the signing of a peace treaty is as nothing.

We seem to feel that we are dealing with very weighty problems when we are deciding such matters as these. In reality, when we stop to think of it, they are very trivial, indeed. Whichever

course of action is decided upon will not make a great deal of difference in the long run. In fact, if there were any definite advantage in either course of action, our minds would be more easily made up.

Now why are things like these not really problems? The answer is because they entail no consequences, or consequences so trifling that the decision can easily go either way. If either course of action entailed a possible loss of money or danger to life or limb, there might be an excuse for considering it a problem. But under the circumstances there is no excuse.

One kind of problem, then, is the kind that is not a problem. The way to handle this kind of problem is to decide it promptly one way or the other. If you cannot decide little things, how can you decide the really big and important ones? Deciding little matters of this sort often constitutes a waste of mental energy that might readily be spent to much more profitable advantage.

The first thing we must learn in handling our own minds is that the time and energy devoted to solving a problem should be in proportion to the importance of that problem. Will your decision today make a difference ten years hence or not? Try that with your own problems and notice how some of them recede and how others of them come immediately to the foreground. The trivial problems disappear before you have even given them

consideration, while, strange to say, many matters that you have kept putting off are seen to be of vital importance.

Besides these there are the real, tangible problems, such as those we imagined at the beginning of this chapter: the problem of a job, the problem of buying a home, the problem of bringing up children, the problem of investing one's money, the problem of the failing business. All these and hundreds of others are definite ones that mean something vital to each one of us. These we propose to deal with in this chapter.

The Problem within the Problem

When you are confronted with a problem how and where do you start? In order to solve a problem we must first of all know what the problem really is. Mathematics, at least lower mathematics, states the problem in precise terms, or endeavors to do so; life often states its problems in terms that are far from precise. Many people, endeavoring to solve a problem, fail to find the real problem within the problem.

The lights on my automobile have suddenly gone out. It is getting dark and what am I to do? I try the most likely thing, that of putting in new bulbs, but my common sense tells me that such a procedure is the wrong one, since all of the lights have gone out and it would not be likely that they

would all "burn out" at the same time. The problem is an acute one and I am all at sea. The trouble might be in the switch on the steering wheel or somewhere in the wiring or in a bad fuse—but the latter, I remember, is impossible, for this car does not have fuses. The main problem, you see, is that of restoring the lights, but the real problem within the problem is to repair that part of the mechanism that has gone wrong. Driving carefully along, I finally find my way to a garage. The mechanic sticks his head under the dashboard of the car, pushes a little spring that I have never discovered and the lights come on again. The big problem is really a very simple one when the problem within the problem is solved.

Solving problems is something like going to the doctor, except that in this case the doctor is most often yourself. To your professional doctor you complain of a pain in the leg, but perhaps the doctor does nothing for the leg itself. Instead he extracts an infected tooth or gives you something for your digestion. Two generations ago the doctor might have endeavored to treat the leg alone. Diagnosis of the problem itself is a very important part in solving it. But in your thinking you are most often both doctor and patient.

Here is a man who, for the life of him, cannot get a job. He goes everywhere and everywhere he is turned down. Is it his ability, his references or, as

the advertisements (if you think about many advertisements, they will give you a good laugh) try to tell us, halitosis? In the case of this individual we happen to know that he is a painstaking, capable man and would make good. But he cannot get a job. The trouble turns out to be his personality, and the trouble within his personality is that he talks too much. He is always telling other people how to do things. He really knows, but he talks so much that one doubts it.

Several years ago I used to visit on occasion the Opportunity School in Denver, Colorado, which among other things specialized in helping people to meet all sorts of problems. One day a man came to the school with a strange problem. The company that employed him was considering advancing him to a much more important position, one in which he would have to entertain visitors and customers at the hotel. But he never had had any experience in social life. That very evening the head of the company, together with his wife and daughter, were going to entertain this man at the hotel by way of a test, as it were, of his table etiquette. So the principal of the school went downstairs and laid out a table in best dinner fashion, and they sat down to go through the entire procedure, ending up with a line of small talk to go with the dinner. The happy outcome was that the man that evening passed his "table

examination" and secured the position. It was truly fortunate that his employer had told him or that the man himself had sensed the critical point in the problem of advancement within the company.

A woman writes a letter to a doctor asking him what to do about her boy. There is nothing wrong with him physically, but he abhors school, is always having trouble with his teachers, is always being threatened by the teachers either with a spanking or with being sent to a sort of reform school in that city; in any school he is truant most of the time. A few years ago he was a model boy at school. What is the difficulty? Evidently the teachers, despite their pedagogy, have failed to see the real problem. Here it is. The family has been forced to go on government relief and in the case of the sensitive boy this has probably upset his life. Undoubtedly he abhors what he thinks to be the odium attached to it. Perhaps he cannot stand it to associate with his better schoolmates, or perhaps some of them know of the family's difficulty. You see, the teachers themselves have missed the real crux of the problem. It is a problem for the specialist in psychology rather than for the specialist in truancy. In spite of our preaching that the love of money is the root of evil, the lack of money may surely be the root of as many evils.

At this very moment you are being solicited by a salesman of bonds. The bonds are good ones;

they are secured by assets worth many times the amount of money they represent, and there can be no question in anyone's mind of their ultimate security. But the interest rate they pay is very low, only about 4 per cent and they run for a long term of years. All about you the interest rates have gone to exceedingly low levels. You, however, expect higher prices for commodities and you expect something of a boom after a few years have gone by. What is your problem here? You might say that the security of those bonds means a safe and sound investment. But wait a moment; is it? If we are to enter upon highly prosperous times with advancing commodity prices, that is going to mean higher interest rates. Instead of 4 per cent, those same bonds, issued at a later time, would have to bear an interest rate of 6 per cent. What will be happening to you? If the rate on similar new bonds is much higher, your bonds are going to depreciate in market value. You may not worry about this fact if you are going to hold them until maturity, but if prices of clothes, fuel, rent and everything else increase 50 per cent, then your buying power with the bond interest will be cut a third. You will be receiving \$40 on each \$1,000 bond, but instead of \$40 worth of goods, you will find it buying only \$26.67 worth on the old price basis. This is what actually happened in varying degrees during the World War, when many bonds,

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perfectly good as to their security, did depreciate seriously in value. The solution of the problem, of course, is the buying of short-term bonds.

This matter of solving problems is much more than simply answering the question, "Shall I, or shall I not?" It becomes, instead, "What shall I do?" There may be several problems within the problem itself, all of them varying in their importance according to the surrounding circumstances. Even after you have solved your problem, as you think, you may be up against your real problem, that of convincing other people that you have the solution.

How trite an observation it is that you cannot solve problems until you know what the problems are. It is not alone the matter of solving problems but of discovering what they really are in your own life. Education, indeed, should develop the faculty of finding the vital spot. See if you can state your own problems clearly and simply and think them over. Even as I write here I feel the danger of my writing *around* this highly interesting subject rather than *at* the subject. I wonder if I am being vague in determining the real point at issue here.

Let us take some more examples.

You are thinking of buying a house. What is your critical problem? There are so many critical problems here that we are almost staggered by them. Can I get the money to pay for the house?

Is property on the way up or on the way down in price? Will this particular location in the city depreciate seriously in ten years? Am I really getting an unusual bargain? Which question in your own case becomes the real problem?

You are confronted with that all-important matter of being "hard up,"—most people are. What shall you do about it? One line of thought suggests that, as a logical solution, you cut expenses. But more thinking suggests that you find some way to secure more money. Able businessmen have suggested the latter as being a preferred solution. Everywhere, however, we find people trying to pinch the pennies, when perhaps the same mental effort devoted to increasing income would be much more successful and much pleasanter.

Again it is not alone the matter of solving problems, but that of discovering what they really are in your own life. Your decisions from day to day and from month to month determine the pattern and outcome of your life.

Getting at the heart of any question is exceedingly important, whether you are setting out to solve a problem or not. How often have you picked up books, read long chapters and finally come to the conclusion that the matter the author was trying to explain was not clear in his own mind? Vagueness in determining the real point at issue is responsible for poor writing, poor intelligibility

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and poor everything. Many people confuse profundity with something that is nothing more or less than lack of knowledge of the subject. I have often had occasion to consult with men famous in the fields of science or business and usually they have been able to come to the heart of the question without much ado. Lesser men have talked around the subject. One famous author of books of chemistry told me that he never so learned his subject as he did when he had to put everything down in black and white in order that the other person could understand it. The solving of problems is education in itself, something quite different from the mere memory work that we sometimes call education.

- ✓ First of all, find the problem within the problem. State this problem clearly to yourself—better still, write it out to make sure that you know what it is.

Securing and Weighing the Facts

We used to meet and talk things over; now we hold conferences. We used to content ourselves with committees, now we have commissions. However ludicrous the emphasis placed on such organizations has become in the public mind, we must remember that the fundamental purpose has nearly always been the solving of problems or the securing of facts by which problems may be solved.

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A famous lecturer and writer told me, the other day, that his family was confronted with a serious problem when one of his brothers lost his money and found himself out of a job as well. It was not an easy time to secure a new position. A family conference of all the brothers and sisters was called and it was decided that the only thing to do was somehow or other to reestablish this man. What could best be done? After looking around, it was decided that the opportunity at that moment was the establishment of a road stand near a large city. That was done and the other day the lecturer told me that the brother who had been out of a job was now doing better than any of the rest of them. Strange to say, there is often little family cooperation these days, but we have all seen what it will accomplish in those families where it does exist.

Apparently we all recognize how necessary it is to have accurate facts before we can solve the problem. It is not enough to have just facts and information; we must have *accurate* facts and information. Do any of you remember the old-time country store, where Josiah and Ephraim and old Jonah used to solve the problems of the world while whittling away on barrel staves? They were the ancestors of a modern-day committee, but how meager was the information on which they had to work. Many times when you cannot get the correct answer to your problem, you simply do not have

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the background of facts on which the mind is to work.

Most businessmen in 1921 made the mistake of believing that the depression then was the great depression that follows all wars. A little study would have shown that such depressions do not come for a period of years. It was, instead, simply an opportunity for them to buy cheap and later sell high. Few recognized that the boom in the late twenties was the real boom that usually follows, some years after a great war, and that inevitably it would be followed by a serious depression. A mistake was made in 1930 when it was believed that we would be getting out of the depression that year, that, indeed, it was not a "real depression." As we look back at these things, they seem plain enough, but they were far from plain at the time, and yet similar facts were available in history books. The most pressing need of education is the handling of past knowledge so that it throws light on the present.

Where does the information come from? Sometimes from other people, sometimes from books, including pamphlets and reports, and sometimes from experimentation. It can come only from the information that has accumulated in the world and that information is usually available to all. People with information are everywhere, but we must make sure that they know what they are talking

about. Often, again, it is a matter not so much of securing information as of coming face to face with the problem itself. Books with their information are everywhere—books on securing positions, on remodeling houses, on investing money or on choosing a career.

The United States Department of Agriculture checks very carefully on the experimental work being done with federal funds in various agricultural colleges. This is to avoid the possibility that one college might be carrying out the very same experiment as another. Valuable time, effort and money might easily be wasted. You will find that many problems have already been solved by someone else. Information and suggestion may be in books; they may be found in other people's minds as well.

You see, what you are trying to obtain is *accurate, definite, tangible* information. Such information is priceless. The danger in the traditional conference or in simply talking with people is that we secure opinion rather than information. A successful businessman's opinion may be valuable, but there is always the possibility that it may be wrong. Some very successful businessmen have confidentially told me of the mistakes they have made. One of them advised a widow to put her money in a streetcar line that later went bankrupt; another, an economist, advised a relative to put

her money in a small manufacturing plant that, likewise, went to the wall. Both of these men out of their own pockets made good the loss due to the advice that they had given. It cost them tidy sums, but they felt in a way responsible for what they had done. No doubt an excellent rule here is to be rather chary of the advice you give other people on financial matters and at the same time careful about following the financial advice you receive. You will not make much out of the good advice you give, but you will receive a great deal of blame and censure when you make one mistake.

As we have indicated, often it is not even necessary to dig up the facts; you simply take them out of your mind and line them up fairly and squarely for estimate. How many of your own affairs, for instance, have you ever analyzed? Shall you or shall you not trade in your automobile? You are offered \$500 on a trade-in for your old car, which you have had two years. It will cost you \$500 more for the new car of similar make and class. Shall you or shall you not "trade"? Take your pencil and figure it out. Meet the facts.

The problem in solving problems is often largely that of meeting facts. How few of us do meet facts, particularly financial ones! In solving your problem, then, secure as many facts—background, if you want to call them that—as possible.

Exploring the Byways of a Problem

The other evening I attended a banquet and I drew for one of my table companions an elderly lady, white-haired and altogether charming. She had a problem, only unfortunately, like most of us, she was coming to the solution of the problem after it was too late.

"Why should I be treated like this?" she asked as she explained to me the numbers of first-mortgage bonds that she owned and the disaster that had overtaken them. "My husband and I were always kind to everyone, we obeyed all the laws, we went to church Sundays and here all this has come upon us in our old age."

How often one hears things like that! We somehow or other assume that Providence should always keep us from the results of mistakes. But it is too much to ask Providence to look after the contents of our safe-deposit boxes, particularly during hard times.

What really happened to this old lady and to countless others like her? She had chosen what had in normal times been regarded as a tried investment—first-mortgage bonds. She had diversified her investments as the experts advised and had bonds, or pieces of mortgages, on different properties. But there were two paths to her problem that she had failed to explore. First, what would be

the fate of her securities in the event of a long-drawn-out depression? Second, in the event of such a depression, what would happen to small mortgages split up into small pieces? The problem is much more acute for those who own only a piece of a mortgage, those very small issues of bonds that are too small to be listed on a stock exchange, than for those who own first mortgages outright. None of the bondholders can agree on a course of action, and the result is that the properties go from bad to worse. If she had taken time to pursue these problems to their several conclusions, she might not have been in that difficulty.

Do not get the idea that all great historical problems have been solved well. When you look at the facts of history, you readily determine that many men instead of being outstanding successes were in reality "terrible flops." There is General Custer. Was he such a hero after all? I think not. His bid to advertised fame is the fact that he lost his entire forces because he failed to analyze his problem. He refused proffered troops and guns, he failed to await Gibbon's troops and, worst of all, he failed to secure the facts. He certainly did not consider the possibility of an outcome opposite to that which he expected, otherwise he would have made better connections with the troops that were to assist him. If he had considered the opposite outcome and had made preparations for meeting

it, probably the disaster would never have taken place.

The strange thing in problem solving is that after you have examined and weighed everything, you may still be wrong. What causes these wrong decisions? When you look at this old world, you sometimes feel that there are more mistakes than correct solutions. Our problem is to guard against as many as possible. Like Amos and Andy, we are to check and double-check our solutions. What we really do, you see, is to carry our solution through and see where it brings us out. A very famous knitting company made bathing suits. It sent salesmen throughout the Middle West to sell those bathing suits. But soon the salesmen came back with the query, "How can we sell bathing suits when there is no place for people to swim?" In other words, it had apparently never occurred to the company that people had to have a place to swim before they would buy bathing suits. The knitting company thought its problem had been solved in turning out the nifty suit, but it immediately found itself confronted with a much more potent problem. It was smart enough to solve this latter problem by encouraging the building of swimming pools throughout the Middle West. Plans and pictures of such pools were sent everywhere and there is no doubt that a little of the popularity of the swimming pool is due to the company's idea.

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The strange question that you are prone to ask in this connection is, "Why do so many things end up in a way opposite to what *most people* expect?" We expect a great wave of expanding business and instead there comes a depression. We think that the world is "going to the bow-wows" and instead there comes a boom, as happened in the stock market almost immediately after the banking panic in 1933.

The answer to this question is not that things go by contraries, but rather that when the great majority of people expect a certain calamity to come, it does not come because they have taken all precautions to be ready for it. Hurricanes do not kill people when people have prepared for them. When people expect still worse financial conditions, they liquidate everything that can be liquidated and are "sitting tight" awaiting the worst. Of course the worst never comes. In 1929 the great majority of people expected still better conditions and were hanging on to their possessions. Nearly everyone expected things to continue upward. That made them *all* much more vulnerable. Even many forecasting agencies, telling people what stocks and bonds to buy, have been woefully inaccurate, and it is said that one advised people to *buy* at every peak for a long period of time. We are all really forecasters and on the way we interpret the future depends much of our success.

HUMAN BEINGS AND THEIR PUZZLES

Those of us who are businessmen may think we have solved the problem of our future reasonably well, but we are constantly subjected to the possibility that new developments may make our plants and our stocks of goods obsolete. As was set forth in the weekly, *Barron's*:

Normal recovery or credit inflation is always difficult to foresee. A chief reason is in our trying to envisage the expansion of former lines and products to which we are accustomed. Business progress, however, does not usually consist of increased production of familiar products, unless at lower prices due to increased efficiency, as in the automobile. Principally it consists of the development and exploitation of new products, such as those now coming into greater use. Among these are air-conditioning, oil burners, electric household appliances of all kinds, prefabricated homes, streamlined trains, Diesel engines, mercury vapor turbines, electric eyes, cellophane, monel metal, and numerous new alloys and other devices and materials for both the manufacturer and the consumer. Many products familiar today will be obsolete tomorrow.

Finally, in exploring your problem, remember that there are really two ways of handling it. One is to build it up and arrive at a conclusion; the other is to assume a conclusion and find whether the beginning and the end hang together. The difficulty in proceeding with this sort of solution is the fact that your supposition as to how things will finally turn out may be all wrong. However, occasionally it may work.

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You may picture yourself working for a certain corporation and then work back to find the steps necessary to arrive at that position. Indeed, I have known many young men to write to large corporations or organizations with the idea that they would like to work for them someday. They have asked what would be necessary in the way of preparation for holding a position. A great scientist may feel that he has the solution of his problem through observation, but he is not sure that he can prove offhand that he has the solution. So he proceeds both backward and forward, as it were, and finds whether or not the facts and the experiments support his conclusion.

The final outcome of your project may always be in your mind and you may keep working toward that particular end, but it is often well to ask whether or not the final end of your project is worth while. Suppose you are an author. After an entire book has been written, it is too late to decide that you might well have written something else. As the old saying goes, "Consider the end before you begin, and before you advance, provide a retreat."

— In your own mind carry your problem through to what you believe will be the final outcome. Consider particularly the bypaths that you may encounter on the way or the possibility of a different outcome from the one you expect.

Thinking Things Over—The Original Solution

You jump from your bed with a start. While you were wooing sleep, there suddenly popped into your mind a solution of the very problem on which you have been working for weeks—and it turns out to be a very brilliant solution, indeed. How diligently you *thought* and *thought* and *thought* and here it is as plain as day without any apparent work at all!

How often do you find yourself saying, "Yes, I'll think it over," and then you go home and do no more thinking about it. Sometimes after a while the solution does come popping into your mind. What does one really mean by "thinking things over"? In the minds of many who have given considerable attention to psychology and philosophy there is the feeling that the mind goes on working on a problem long after one has finished with it out in the open. Some people attribute this to the subconscious mind, as they called it when there seemed to be much quackery about what the subconscious mind could do for one. In the opinion of many scientists, there is no such thing as a subconscious mind. Perhaps the matter could best be stated by picturing things as retreating and then coming forward in the mind. But no matter how we designate the process there seems to be something in "thinking over."

Many problems solve themselves simply by our weighing the facts. The evidence is very strongly one way or the other, and you find no difficulty in determining a policy. But there are problems that are not so easily solved. It is then not a question of "Shall I?" or "Shall I not?" but of "What shall I do?" It is no longer a matter of alternatives. You want a bright idea in science or in business or in everyday life. You have perhaps guessed that this is really a form of creative thinking and that is something of which we shall treat in much greater detail in succeeding chapters. More often the solution that you seek and obtain by "thinking over" is an original one. What you would like to do would be to solve the problem in the grand manner. If not, you would at least like to be so bright and original that everyone would say, "See what he did!"

When, therefore, you have gathered all your facts for consideration, you may well spend a few days in thinking them over. Now, when you think the matter over you do not need to be thinking of it, strange to say. You let the mind itself digest the facts and when, a few days or a week later, you come to solving your problem, you may find it outlined in your mind in a very clear fashion. When you come to a wall in your thinking, do not try to jump over that wall or to wear yourself out trying to push it over. Let that particular problem rest

for a few days, or even longer, while you are working in the open with another problem. Every two or three mornings, go over the material and see how it fits together. Or when the mind is fresh, try another avenue toward the solution of the problem. Sometimes you will find coming to the surface of your mind the need for a certain fact. Get it and put it in.

The apparently "original" solution was used by Faraday, by Pasteur and by all the other great figures that have marked the progress of the world. To most minds it seems to be something that is spontaneous and out of the ordinary. Creative power does not simply solve problems, unless everything related to life and progress is a problem. It composes music, it writes novels, it paints pictures, it is man's most valuable asset. For that reason we are devoting Chapters VI, VII and VIII in this book to the particular matter of creative thinking. So, if you are interested in solving your problem creatively, or if it is a problem that demands an original solution, you might do well to delay trying to use this type of solution until you have digested those chapters.

- ✓ When you find difficulty in solving your problem, put it away for a few days, then go back to it. Your mind, working independently, may have progressed immeasurably toward the solution.

Testing Your Solution

Galileo has a problem. He has climbed the tower of Pisa with his two balls of unequal weight. Down on the ground beneath him are the learned men of the University, firm in their philosophy that the heavier an object the faster it will fall. Galileo has questioned this. See, there he is, leaning out from the tower, and letting go his two balls. An instant intervenes; then both strike the ground at the same time. Galileo has tested the knowledge handed to him by the learned men of the generation and has found it wanting.

Another picture. We turn back less than two hundred years. Theory has said that lightning and thunder might be due to the explosion of gases in the air, or perhaps to the spontaneous combustion of mysterious inflammable material. To test this, Franklin has sent his kite toward the sky. He touches his knuckles to the key attached to the string and sparks are given out. Lightning is, indeed, electricity. Galileo and Franklin and the other great scientists and explorers set out to ascertain by experiment the answer to their problems.

Galileo demonstrated the simplest way to go about solving a problem: try to find out whether your idea really works. And Galileo, if the story be true, performed a very simple experiment that was

thoroughly discomfiting to the academic world of his time. Franklin had to use a little more ingenuity in solving his problem. Columbus, to prove that the earth was round, set out to sail in the *wrong* direction to the Indies.

This has seemingly always proved to be the one method that no one can contradict. Seeing is believing. In countless scientific laboratories compounds are being devised and *tried out, tried out, tried out*. Hundreds of medicinal preparations are made before the right one is found. On state and agricultural college farms there are scores of different plats, where all sorts of crops are grown under all sorts of conditions. Do they grow better this way? Or that?

Not so many years ago, farmers in northwestern Nebraska were absolutely sure that they could not grow good seed potatoes. Not only that, but they felt that they must every year import seed potatoes from Minnesota and other northern states. Then along came the agricultural college. Plats of potatoes were laid out and watched over, as well-behaved potatoes should be looked after. It was soon found that not only would the land produce excellent seed potatoes for the use of Nebraskans themselves, but indeed such outstanding seed potatoes as could be sold at a big premium down south. Soon whole trains of seed potatoes began leaving northwestern Nebraska.

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This idea of trying out by experiment is in truth comparatively new. Astonishing as it may seem, less than seventy-five years ago the building of an experimental laboratory at the University of Cambridge was looked down upon, because it was not considered a nice thing to experiment rather than to depend upon past authority.

Soon there was a great vogue for working by experiment. Not only was new information discovered and checked by experimentation, but old "truth" was overhauled and in many cases found to be untrue. As I write, I have before me a list of Nebraska folk cures, compiled by Pauline Black—reputed cures handed down from one pioneer to another. For instance, to cure headache you carry rattlesnake rattles in your hatband. Or again, if you have headache, put a bowl on your head, cut your hair around the bowl and burn the hair. Your headache will soon be gone. If you have earache, melt a grubworm and pour the warm oil into your ear, or if you do not like that, have someone spit tobacco juice into the ear. To cure sore throat, wear a necklace of amber beads. For pneumonia, you cut a live chicken in two and place it over the lungs of the sick person. When baby has the colic, you take a teaspoonful of soot in a cloth, pour over it three tablespoonfuls of hot water, and after it has steeped like tea give the baby a teaspoonful every half hour. Piercing the ears strengthens the eyes.

These things seem foolish and silly and yet they represented unverified "knowledge," running wild in the world.

The great wave of insistence upon verification of knowledge was needed when it came, but in many cases it has been pushed to such a fine point that nothing is accomplished. Some examinations for the degree of doctor of philosophy in a university have included such silly questions as to tell the color of socks a certain author wore. Instead, a professor might better request this: "Now you have been studying literature for three or four years and you are supposed to have specialized in the great English novel; please sit down and write one for me."

This process of experimentation might seem at first thought an ideal way for all of us to proceed in the solution of our own problems. The frank truth is that most of us do use it and disastrously, too, just as great scientists use it with success. In fact, it is a method much followed in the "trial and error" system. A rat is enclosed in a cage. He wants to get out. He tries one thing and then another. Finally, perhaps accidentally, he pushes a latch and a door opens, and he gets the cheese. He has hit upon the answer to his problem.

But the difficulty in this form of problem solving is that in many cases it is tremendously expensive and often time consuming. You, with a few thou-

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sand dollars, cannot invest it here, there and everywhere, without much regard to results, in the hope that you will discover in some of the places an excellent form of investment. You cannot build your house in a half-dozen different ways and then choose the style you like best. A great agricultural college may grow crops in several different ways, but the average farmer cannot risk the expense.

The great corporation may build a half-dozen different styles of automobile bodies and then pick the most desirable one before it is produced in quantity. But you, the average man and woman, cannot use this method to any great extent. It means too much risk, because in finding the solution of the problem you may ruin your own fortune or your own life. How often do you meet elderly men or women who say, "If I had it to do over again, I would do thus and so." In other words, they have used the system of experimentation in their own lives and have discovered at least one way *not* to do things.

Indeed, the great corporations and the great scientists who do use the system of experimentation make use of other methods as well. Experiment becomes the final check on the problem's solution. But before the scientist tries the method, he thinks he has a good idea as to how it will turn out. He has reason for following his line of experimentation.

Experimentation may be done in a small way at first. The solution may be tested out in actual

practice. Indeed that is often the plan of the advertising expert. He writes a few different kinds of sales letters and sends them out to the people on selected lists to find out which letter draws the most replies. Or the man who feels that he would be a genius at stock speculation first keeps a little book and pretends to buy and sell certain stocks therein. Does he make a profit or a loss?

So, we may lay down something of a rule here. Experimentation is the surest method of arriving at the truth of a solution of a problem, but it simply tells you that your solution is or is not right. It does not necessarily prove anything as to what is the best solution, unless there are many experiments testing the possibilities of each angle. Often it does not give you "the lead" as to what to experiment about. Experiment is something to be used at the conclusion rather than at the beginning of our problem solving. More people experiment than you imagine, but the trouble is that they begin to experiment on the solving of their problem without knowing what they are about.

✓ Use experimentation—proof of your solution—at the conclusion of your problem solving, rather than at the beginning.

Putting Your Solution Across

As we come to the end of this immediate discussion there is yet something more to be said. It is true that in proportion as we solve problems well we

succeed in the world; in proportion as we fail to solve them well we, too, fail. But it is not enough to solve the problem; after we have solved it, we must do something with the solution. We have known many people who perhaps did not solve their problems well and yet who made a success out of their solutions. They had dash and daring. Daring consists in taking an insecure hold of a problem and of seeing it through.

Putting your solution across is entirely different from solving the problem. Indeed, even in the field of creative thought, many great inventions have been made that did not bring material success to the inventors. After you have solved the immediate problem, the next problem may be to convince other people so as to gain support for your solution. Many problems have been solved wrongly and the solution "put across" in the world. Perhaps that is not altogether strange. The field of government is full of examples of this kind of thing.

Samuel Vauclain, of the Baldwin Locomotive Works, once asked an old Irishwoman to vacate her property on the site where the company was planning to erect a great building. She was holding up the entire project. Vauclain's problem was to convince her of the wisdom of her moving. That he did, and he did it so well by skillful flattery and praise that the old woman who had been blocking the building plans actually assisted in moving all the other tenants.

A young university teacher of English is out of a position. His problem is how to secure another post. As in most cases of this kind, his first problem is that of finding where a position is open. He sends a letter to two hundred educational institutions and out of that number finds only one good prospect. But he secures that position. Most of us would have thought we had done the job well when we had sent out five letters, but this young man sent out two hundred.

Many famous authors owe as much of their success to the matter of persistence as to anything else. A young woman works over her book manuscript fifteen times, with constant rejections in between. Many people would have given up in discouragement at that, but at last, after it has been sent to the same place again, it turns up with a \$5,000 prize. Berton Braley, who, you might think, would be able to sell his popular verse without effort, confessed the other day that he sent out some of it 138 times, then sold it to a paper that had turned it down six times. Suppose that Columbus had not been persistent enough in trying to secure financial aid for his famous journey. Whatever one may think of the solutions of problems by President Roosevelt, one must certainly credit him with being a master hand at pushing his solution through.

The carrying out of the solution of most problems involves a certain amount of risk, and that is

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why our solutions should be as nearly foolproof as possible. Having a really good solution—one of which we are both proud and sure—will give us confidence in seeing it through. We shall not be so likely to change our mind and go off on some tangent because we have become fearful of our own solution. Frankly, what we do in this case is to try to decide the problems ourselves, instead of letting fate decide.

Take your own problem in hand, not as if it were a piece of hot iron, but rather a friendly visitor that you are going to enjoy. Work and play with it.

- ✓ Our advice to you is not to be overcome by problems but rather to overcome problems with thought. Solving problems is a happy, natural part of life,—the part of life that really does something for you. It is the fundamental part of education.

Write Your Own Ideas Here

Write Your Own Ideas Here

VI

The Power to Create

Talent is perennially springing up but is extinguished before it has taken root.—LORADO TAFT.

Effort, and expectation, and desire,
And something evermore about to be.—WORDSWORTH.

“EUREKA! Eureka!”
What a word, and what power it has always had to stir the human breast!

Shouted by Archimedes over 2,000 years ago, it has been echoed in the names of present-day cities and towns and in the names of spectacular mines, and has been picked up by everyone to denote unusual success in any quest.

“I have found it! I have found it!”

To Archimedes, commanded by the king to ascertain whether his crown was of solid gold or only partly of gold, came the bright idea, retold these 2,000 years.

It was a knotty problem for Archimedes. But suddenly, while taking his bath, he observed the water in the tub overflow in proportion to his own bulk. And it perhaps dawned upon him that nothing could be simpler than to put the crown and

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an equal weight of gold separately into a vessel of water to note the difference in overflow.

As the story goes, Archimedes was so excited that he ran all the way home without his clothes. Wouldn't it be fun if we, you and I and all the rest of us, could really discover something? But how do you do it? How do you produce creative thinking? How do you get ideas?

Creative ability is about the most highly prized mental possession in the world. It is the one thing that changes the ordinary author, musician or artist into the outstanding author, musician or artist. It is the quality of mind that has enabled many a man to take a run-down business and make it an outstanding success, or to develop an entirely new business. It is the one thing, above all others, that adds most to the growth of civilization. If there had not been new thought and new developments, we should be living back in the Stone Age.

Where does new thought come from?

One of the common sights among those who aspire to work in music, literature and painting is that of the man or woman sitting down and waiting for "inspiration." This has often implied that inspiration comes direct from the heart of the universe—something so spontaneous that you yourself apparently have nothing to do with it.

Rodin's statue "The Thinker" shows a man bent over, diligently engaged in thought. Is this statue

entirely true to life? Does thought come simply by waiting for it?

Perhaps you have tried it. You have sat on the veranda of the summer hotel the whole season long and waited for that inspiration, but nothing happened. The strange thing with most of us is that brilliant thought, new thought, does not seem to come while we are sitting down and waiting for it.

I think we can safely say in the first place that there have been very few people in the history of the world who have so much as implied that they were divinely inspired. Out of this small number, even a much smaller number have been recognized by others as having been inspired. No doubt, we attribute divine inspiration to many individuals who would have laughed if you had suggested such a thing in their lifetime.

One of the great discussions in theology has always hinged on the question as to who was an inspired writer and who was not. So far as we are concerned the discussion of direct inspiration is going to be placed outside the scope of this book. Perhaps we should say that everyone should be more or less inspired, even though in many cases the process is easily discernible.

Let us ask again: "Where does thought come from?"

There is not nearly so much mystery about the matter as has commonly been supposed. In the

first place, it is necessary to lay down something of a principle here:

You make use of that which has already entered into the mind.

At first sight, this principle seems to preclude rather than to induce this type of thinking. Let us analyze it. You ask how the epoch-making inventions came about? How did the railways originate? How did our great buildings come to be? How did our airplanes develop? The answer is that they did not develop all at once. When man set out to fly, he tried first to imitate the birds. When he first erected a great cathedral, he did not do it merely according to something entirely new, in his own mind, but he made use of hundreds and thousands of ideas that had been tried out before his time. So we come to a second, related principle:

Creative knowledge cannot be expected to come of itself, but is built upon past ideas and experiences.

Civilization itself is built upon this cumulative knowledge. For centuries men and women have been adding little by little to the development of the world until we have civilization as we know it today. In this connection it is interesting to note what things we might have had or might not have had if there had not been certain developments within the minds of men.

Consider the matter of wireless telegraphy, wireless telephony and radio broadcasting. Back in the

nineteenth century in the Karlsruhe Polytechnic was Rudolf Hertz, experimenting with and discovering the Hertzian wave. A little later at the University of Bologna in Italy, Professor Righi was teaching the principles of the Hertzian wave. The exact application of the discovery had not been sensed. But along came Marconi, a young man with a practical mind, to study with Professor Righi, and it was Marconi who adapted the principles of the Hertzian wave to the transmission of messages. Out of the transmission of messages with dots and dashes was evolved the transmission of the voice itself. During the war the telephone, instead of the telegraph, began to play the great part in wireless transmission. On top of this came the transmission of telephonic messages in such a way that they were heard, not by a single individual, but by everyone who had a wireless receiver, or, in other words, a radio set. The next step, practically accomplished, is adapting the principle not only to dots and dashes, not only to the voice, but to the transmission of pictures as well. There indeed is a practical illustration of how one fact of knowledge is built upon another fact.

You are willing to call all of this creative thought, and so it is. Perhaps, however, it is not yet entirely clear as to how this creative thought really arises. Even to most psychologists it is still a new field of adventure. For many years it was commonly said

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that creative thought simply consisted in making combinations. In a way, such an assertion leaves one quite as much in the dark as before. Suppose you were to combine sauerkraut and beefsteak. What would you get? Sauerkraut and beefsteak, presumably. You might combine radiators and window glass and get nothing at all—or pianos and rowboats, or ink and soda water. This idea of combinations was a very impracticable one, for you might make thousands of such combinations and get very little at all.

Only a few years ago C. Spearman, psychologist of the University of London, inferred that it was not the question of combinations that mattered, but rather the adaptations that were made.* That explains in much finer detail how much of this creative thought takes place. In the development of wireless telephony and radio broadcasting it was the constant adaptation of principles that counted, rather than simply making the combinations.

Call the roll of civilization, and you will notice the part that adaptation has played. Take science for example. Here is Professor Faraday lecturing before his audience at the Royal Institution in London. He shows that when a magnet is brought near a coil of wire, electricity is produced in the

* One of the few works of significance in connection with creative thinking is "Creative Mind" by C. Spearman. Cambridge University Press, England; D. Appleton-Century Company, New York, 1931.

wire. The audience does not seem to be awe-struck and a lady remarks, "But what is the use of it?" Yet what they saw before their very eyes was actually the beginning of the dynamo. It was fifty years before the elemental fact demonstrated to them took its place in the field of commercial electricity, but without that elemental fact there would have been no electric railways, no electric lights and no electric power.

Where did Faraday's idea come from? A comparatively few years before, Hans Oersted, professor at the University of Copenhagen, noted accidentally that when a wire with an electric current was placed lengthwise over a compass needle, the needle turned aside from it. Faraday and other experimenters reasoned that since electricity could disturb a magnet, the reverse would also be true and a magnet in motion should produce an electric current. Oersted's work had a very direct relation to telegraphy, and it was hardly fourteen years after his discovery that the telegraph was born in a small way, as an adaptation of his principle.

Let us look into the field of medicine. To most people it had been an observed fact that anyone who had had cowpox did not contract smallpox. On May 14, 1796, Jenner, when he inoculated a boy eight years of age, adapted this principle to giving people cowpox in order that they might not have smallpox. Afterwards, efforts were made to

inoculate the boy with smallpox but without success. This proved the truth of the principle. Eighty-five years later, Louis Pasteur, who had not studied medicine, adapted much the same principle to producing in animals immunity from anthrax, and that was only a step to the great triumph of his career, the Pasteur treatment for hydrophobia.

Further, one of the great medical discoveries of all time grew out of the observation made by Pasteur that germs might cause brewer's ale to become sour or bad. Lord Lister then asked himself if it might not be germs crowding their way into the wounds of human beings that made surgery in his day so treacherous and fatal to mankind. Thus was born the era of antiseptic surgery.

How much really came out of things that to most people might seem very simple and hardly worth noticing! The name of the milkmaid who proclaimed to Jenner, "I cannot take this disease for I have had cowpox," is now forgotten. Thanks to abstract principles and men who had the courage and foresight to make adaptations from them, thousands of people now on hospital beds need not die. By 1900 Lord Lister was credited with having saved more lives than had been lost in all the wars of the nineteenth century.

Turn to the field of agriculture. Even as I write, some Russian scientists have practically discovered

a perennial wheat. Expression is beggared in trying to recount the possibilities that this might have upon civilization. More wheat in the world, less expense in growing wheat, cheaper bread, but possibly more financial trouble for farmers—all sorts of thoughts come to us. But did I call this “discovery”? It cannot be a discovery, for the scientists are simply making use of principles long understood. Perennial grasses are being crossed with the various varieties of wheat and out of them come hybrids that are perennial producers of wheat.

Turn to the field of literature. Not only has one type of writing developed out of another type, but practically all authors have adapted to their own work facts, stories and principles used by others. There is Shakespeare making use of all sorts of material known to the people of his time. Everything is grist for his literary mill. Modern-day writing is not greatly different in the matter of sources. A doctor in Lincoln, Nebraska, tells a present-day author where the facts regarding the life of a certain Catholic archbishop may be found hidden away in the archives of the Southwest, and a famous novel grows out of that material. One of the most talked-about novels of the past few years was made up partly of books that had been written long before, and it was so admitted by the author.

Sometimes this has gone so far as to have been outright plagiarism, not adaptation at all. One famous but unscrupulous writer was berated by her publisher when he discovered that some of her description had been taken bodily from an older book. The author not only admitted it, but retorted, "Well, why not? Why should I not take a short cut to a scene which this other writer knows so much better than I?"

Then think of popular music. We are surprised, indeed amazed, at the lack of originality here. Many, if not most, so-called popular compositions are very simple adaptations of other things. That is why, in spite of pleasing melodies, they are entitled to little credit. "Moonlight and Roses" is from "Andantino in D Flat," a famous composition for the organ. The music for "The Star-Spangled Banner" was that of an English drinking song.

In the classical field, Dvořák, for instance, in composing his "New World Symphony," made use of the old Negro spirituals which he had heard. Visitors to Lucerne rush down immediately upon their arrival in the evening to the organ concert at the church, where the son of the composer plays "Storm in the Alps," a reproduction in music of a storm. The same sort of adaptation is found in thousands of classical compositions. If you want to experiment to find how this works out, see what happens when you place your fingers on the keyboard

and try giving a little different rhythm to any line of music you may choose.

In business the adaptations are many and simple. W. T. Grant observes that a shoe department with a \$30,000 inventory and a highly paid sales force is making less money than a small jewelry department with a \$2,000 inventory and one salesgirl. So is born his idea of entire stores selling quantities of things at low prices. How many business interests have endeavored to imitate Henry Ford in his quantity production at popular prices? To how many things is the streamline design being applied? To airplanes, to automobiles, to railway trains, and then to what next? The cafeteria furnishes the serve-yourself idea to the grocery. A New York advertising writer adapts humor to advertising and it is imitated in every department store in the country. The newspaper adapts the principle of the continued story to its comic strips and secures readers by creating suspense from evening to evening. A young minister after church goes down the street and stops in a drugstore and says, "Give me some ice cream with some of that soda fountain syrup poured over it." "Call it a Sunday," he tells the clerk, and the ice-cream sundae, corrupted in its spelling to appear somewhat foreign and more attractive to us, is born. Two men adapt the candy bar idea to ice cream and create "Eskimo Pie."

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After all, then, this matter of adaptation accounts for progress in the world, be it an insignificant step or an epoch-making one.

"If"

Let nothing that we are saying here detract from the credit that belongs to the great men of the world. To reveal mental processes and the means whereby great things have been accomplished is not more to be discredited than in a college to reveal the processes of building a machine, which is oftentimes simply an imitative process.

The most interesting speculation is the trend or tendency that civilization might have taken had not thought, particularly adaptive thought, taken precisely the turn that it did.

If Oersted and Faraday had not conducted their electrical experiments—

If the great development of electricity, perhaps produced by water power, had antedated that of steam—

If Lord Lister had not applied Pasteur's ale discovery to surgery—

"If," "If," "If."

How strange, if we stop to think of them, are many of the things that we consider usual and familiar today—grand opera, for instance, or even the novel, both of which are in truth highly unusual. And we might have discovered something

far better than what we now have, if our minds had really been awake.

We are so used to certain developments and to certain ways of doing things that we seem always to have had them with us. The frank truth is that the world and its varied chains of development, which we find so satisfactory on the whole, are perhaps very clumsy compared with what they might be—who knows? “Facts known to everyone often have to wait hundreds of years before their true significance is understood,” declares Sir Richard Gregory. Even Mendel’s great work with hybrids was not recognized by science for a generation and was missed entirely by Darwin. The alarming thought is not so much what we *might* have missed as what we undoubtedly *have* missed. Despite boasted civilization, the universe remains almost entirely undiscovered.

One of the great short stories of the past generation was “The Stick-in-the-Muds” by Rupert Hughes.* Every young man and woman, every teacher should read it. The title is no advertisement for the story’s magnificence. An American businessman is visiting the shrine of Shakespeare. Suddenly he becomes unusually thoughtful as he looks back at his own boyhood and sees his chum who might have been another Shakespeare. Mr.

* From *Collier’s Weekly*, reprinted in O’Brien’s “The Best Short Stories of 1920.” Copyright. Reproduced in part by permission of the author.

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Hughes proclaims the great theme—the tens of thousands who might have topped the greatest of the great had they kept their lamps atrim, had circumstances been propitious, had there been something in their lives to bring their talents forth. Indeed, how many great things have been lost to the world on account of the apathy of the human mind! But to the story:

A skiff went prowling along the Avon River in the unhurried English twilight that releases the sunset with reluctance and defers luxuriously the roll call of the stars.

The skiff floated low, for the man alone in it was heavy and he was in no greater haste than the northern night. Which was against the traditions, for he was an American, an American business man.

He was making his way through the sky-hued water stealthily lest he disturb the leisure of the swans, drowsy above their own images; lest he discourage the nightingale trying a few low flute notes in the cathedral tower of shadow that was a tree above the tomb of Shakespeare.

The American had never heard a nightingale and it was his first pilgrimage to the shrine of the actor-manager whose productions Americans curiously couple with the Bible as sacred lore.

During the day Joel Wixon had seen the sights of Stratford with the others from his country and from England and the Continent. But now he wanted to get close to Shakespeare. So he hired the skiff and declined the services of the old boat lender.

And now he was stealing up into the rich gloom the church spread across the river. He was pushing the stern of the boat foremost so that he could feast his eyes. He was making so

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little speed that the only sounds were the choked sob of the water where the boat cleaved it gently and the tinkle of the drops that fell from the laxy oars with something of the delicate music of the uncertain nightingale.

Being a successful business man, Wixon was a suffocated poet. The imagination and the passion and the orderliness that brought him money were the same energies that would have made him a success in verse. But lines were not his line, and he was inarticulate and incoherent when beauty overwhelmed him, as it did in nearly every form.

He shivered now before the immediate majesty of the scene, and the historic meanings that enriched it as with an embroidered arras. Yet he gave out no more words than an Eolian harp shuddering with ecstasy in a wind too gentle to make it audible.

In such moods he hunted solitude, for he was ashamed to be seen, afraid to be observed in the raptures that did not belong in the vocabulary of a business man.

He had talked at noon about the fact that he and Shakespeare's father were in wool, and he had annoyed a few modest Americans by comparing the petty amount of the elder Shakespeare's trade with the vast total pouring from his own innumerable looms driven with the electricity that the Shakespeares had never dreamed of.

He had redeemed himself for his pretended brag by a meek admission:

"But I'm afraid my boy will never write another 'Hamlet.'"

Yet what could he know of his own son? How little Will Shakespeare's father or his scandalized neighbors could have fancied that the scapegrace good-for-naught who left the town for the town's good would make it immortal; and, coming back to die and lie down forever beside the Avon, would bring a world of pilgrims to a new Mecca, the shrine of the supreme unique poet of all human time?

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A young boy even now was sauntering the path along the other shore, so lazily tossing pebbles into the stream that the swans hardly protested. It came upon Wixon with a kind of silent lightning that Shakespeare had once been such another boy skipping pebbles across the narrow river and peering up into the trees to find out where the nightingale lurked.

Perhaps three hundred years from now some other shrine would claim the pilgrims, the home perhaps of some American boy now groping through the amber mists of adolescence or some man as little revered by his own neighbors and rivals as the man Shakespeare was when he went back to Avon to send back to London his two plays a year to the theatres.

Being a practical man, which is a man who strives to make his visions palpable, Wixon thought of his own home town and the colony of boys that prospered there in the Middle West.

He knew that no one would seek the town because of his birth there, for he was but a buyer of fleeces, a carder of wools, a spinner of threads, and a weaver of fabrics to keep folks' bodies warm. His weaves wore well, but they wore out.

The weavers of words were the ones whose fabrics lasted beyond the power of time and mocked the moths. Was there any such spinner in Carthage to give the town eternal blazon to ears of flesh and blood? There was one who might have been the man if—

And so Mr. Hughes proceeds with his story, the boy who might have been another Shakespeare, but wasn't:

The world was full of men and women like Luke and Kit. Some had given up great hopes because they were too good to tread others down in their quest. Some had quenched great talents because they were too fearsome or too weak or too

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lazy to feed their lamps with oil and keep them trimmed and alight. Some had stumbled through life darkly with no gift of talent, without even appreciation of the talents of others or of the flowerlike beauties that star the meadows.

Those were the people he had known. And then there were the people he had not known, the innumerable caravan that had passed across the earth while he lived, the inconceivable hosts that had gone before, tribe after tribe, generation upon generation, nation at the heels of nation, cycle on era on age, and the backward perpetuity from everlasting unto everlasting. People, people, peoples—poor souls, until the thronged stars that make a dust of the Milky Way were a lesser mob.

Here in this graveyard at Stratford lay men who might have overtopped Shakespeare's glory if they had but "had a mind to." Some of them had been held in higher esteem in their town. But they were forgotten, their names leveled with the surface of their fallen tombstones.

How refreshing and delightful Mr. Hughes's story has seemed to us, particularly in a day inclined to belittle individual power!

The philosopher looking down from the mountaintop of thought is staggered by what he sees. Even the businessman with vision looks forth and proclaims the world an undiscovered empire. The man on the street may well say, "the world is my oyster." Greater things than the world has known are waiting for eyes that can see them and hands that can pluck them.

Write Your Own Ideas Here

Write Your Own Ideas Here

VII

The Process of Creative Thought

Minds live in caverns and when they emerge, they wear blinders.—JOSEPH JASTROW.

Tis to create, and in creating live
A being more intense, that we endow
With form our fancy, gaining as we give
The life we image, even as I do now.—BYRON.

He who can fruitfully associate facts which independently of himself would never have been thought of as belonging together can think.—EVERETT DEAN MARTIN.

PSYCHOLOGY recognizes it. Education approves it. Religion prays for it. And, we might add, everyone seeks it.

We now approach the most interesting side of our thinking, the actual creation of new thought. *How do you do it?*

In the preceding chapter we have already stripped the subject of some of its obscurity. We now propose to begin to show how this creative power can be developed. Twenty years hence, it is safe to say, psychology will no longer skirt about and hint semivaguely at the matter; education will no longer approve creative thought and then by its

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very system discourage it; the means and methods of creation will, in varying degrees, be followed by all.

We have been too prone to accept as a final dictum that, in the field of the mind, what is, *is*. Science and industry and outward life have developed themselves by leaps and bounds, with the innovators and originators in those fields ironically enough using the very powers that it has been said no one can develop.

Fifteen years ago, a well-known psychologist declared:

There are certain minds in which ideas spring readily, that seem fertile in suggestions of all sorts; certain others that practically never get away from the commonplace, from the prosaic memories. Blessed is he whose psychophysical disposition is of the former type. The man who happens not to possess this touch of genius can do nothing but substitute persistence and methodical trial for the quick advances of the chosen few. No rules can be given for making the unfertile brain fertile, nor for the better use of the fertile brain.

Psychologists have admitted the matter of combinations and even adaptations such as were mentioned in the preceding chapter but as to how to make the mind furnish the *right* combination or adaptation they are very much puzzled. Ten years ago an eminent writer on psychology declared that the "ability to seize the significant factor" was "something which cannot be taught." "It must pop

into the right man's head at the right time," he declared. "There is no device for making such an idea ever come into a man's mind. It just has to walk in unexpectedly."

I hesitate to give the names of these writers, since in a period of ten to fifteen years they may have reversed their positions. I really wonder if the first author intended to be quite so final and abrupt in his declaration. This quotation from his book has gone a long way in the world—I found it both in America and in England—and it is always given to show that nothing can be done about the matter. It has been used as an excuse for omitting whole chapters from books on thinking.

We all have some of this creative power and originality and the question naturally arises as to whether or not our process of living and education serves to deaden it. The next question is whether or not it is possible to develop or greatly increase this power. Before we discuss these matters, in the unfolding of these chapters, it is appropriate to say that there are many progressive elementary schools experimenting with this creative problem. However, grownups with their minds already "fixed," so to speak, are not receiving nearly so much attention as are boys and girls.

The revolutionary change that is taking place in the attitude of many toward the development of creative power is perhaps best illustrated by these

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two remarkable quotations from the work of Professor H. A. Overstreet:*

Hitherto, as we saw, the creative mind has been accepted simply as a kind of inexplicable gift to the human race. There is, however, every reason to believe that this supposed gift need no longer be waited for humbly, and accepted with gratitude when it comes. By intelligent understanding and direction, it can actually be stimulated into growth. He who can develop the creative mind whether in himself or in others, produces an effect upon the human situation which is so endlessly wide-reaching as to be in reality incalculable.



Let us suppose, however, that in another generation we should become convinced that inventive or creative power, in greater or lesser degree, is possessed by everybody; moreover that there are ways of stimulating and of training it which are capable of increasing it far beyond its latent condition. One suspects that if once such a conviction were widespread, education would be revolutionized. Instead of serving, as education now does, chiefly as a technique for the transmission of past information, its major energies would be directed towards the arousing and training of the inventive powers latent in all its children. For it would realize that a society alive with inventive power would, on the whole, be the most powerfully progressive society.

It is no longer possible simply to say that nothing can be done about it. Education can no longer leave this question unanswered. It is no longer enough to say that you have "it" or that

* OVERSTREET, H. A., "Influencing Human Behavior," W. W. Norton & Company, Inc.

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you haven't "it." We all know that there are times when this creative power seems more strongly evident within us than at others and we have all seen people who have grown enormously in the amount of it that they either possess or exhibit. There must be an answer to our problem; indeed, there is an answer.

It is one thing to understand, or attempt to understand, principles that underlie creative thinking and another thing to develop those same powers in our own minds. Creative power means a great deal to each one of us. So let us proceed on our adventure.

A Simple Adventure into Creation

The newspaper reporter, ever eager for new news stories, learns in the development of his career that a certain amount of originality and ability to make combinations and adaptations can be developed. The mathematician, too, is always finding the significant factor that enables him to solve his problem. These apparently widely diverse types of thinkers demonstrate that the development of creative thinking is not so impossible as it seems.

Let us for a moment go back to the matter of memory and see where at least part of the difficulty lies. Memory is a very delightful and a very wonderful thing to have. But how do you remember? What seems to help you remember more than any-

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thing else? Largely observation. When you are introduced to another individual and you accept the introduction in a perfunctory way, you remember neither the individual nor the name. But if you are paying attention, if you are observing closely, the chances are that you will be able to avoid embarrassment the next time you see the person. Memory depends a great deal on observation and on association of certain facts. You may associate the individual with a certain party at which you met him. You may associate the individual with another individual whose name is the same. You may associate the individual with a certain book that he has written. In short, you take note of the man to whom you are talking. What makes him or his presence out of the ordinary? You are paying attention to peculiarities and you will likely remember the name in connection with one or more of them. The recollection of almost any one fact may cause all of them to come rushing into your mind.

Most people use observation solely for the purpose of enhancing memory. *But suppose that you use it instead to enhance your creative power.*

Let us take an example. Suppose you enter a coffee shop for breakfast and you say to the waiter, "Bring me a glass of orange juice, two pieces of buttered toast and a cup of coffee." You prop the daily paper before you and peruse the

headlines. You sip the orange juice and the coffee, munch the toast and pay the cashier your twenty-five cents and go your way.

Now let us think the matter over a bit. What does the thought of that orange juice bring to your own mind? Here might be some of the things:

Your trip to California. Beautiful orange groves. Bright sunshiny days. Good times swimming, bathing and picnicking.

This thought might grow and indicate the good times at other places than California. And before long you might think of dancing at a New Orleans hotel or sitting in the Radio City Music Hall in New York City. So far you do not seem to have found anything to arouse creative thought. But suppose that this chain of thought had come to you instead:

Doctor's orders to drink orange juice. Hospital.

Not a very pleasant association perhaps. Has anything come to you as yet? Possibly not. Pursue the matter further. Ask yourself why it is that you drink the orange juice. Perhaps because it is the fashion. But what, after all, is the "big idea"? Well, it is good for the digestion, you say, and if you are to believe the advertisements, it is very beneficial in producing an alkaline reaction in the system. Has any bright idea come to you as yet? There has to me—*are there not any other fruit juices that might benefit the health?*

Well, that is exactly what advertisers and promoters thought of and so there have come grapefruit juice, pineapple juice and prune juice. Who would have believed in tomato juice twenty years ago—the juice that our mothers used to drain off into the sink—or in sauerkraut juice, which hardly was to be mentioned in “best families”? In this case, you see, we have simply asked ourselves the real reason for the particular product and then have asked ourselves if similar products might not have beneficial effects.

Orange juice—reason for—benefit to health.

Other juices—reason for—benefit to health.

Now, the adaptation of similar ideas has been the foundation of thousands of advertising promotions. Find out whether your product does not have the same property as that possessed by some other product, or a different property of equal value.

What you usually do when you make adaptations is to find the outstanding point in the thing at hand and determine its real significance. What are its properties? What will it do? Will it do anything besides what people think it will? Get all you can out of your mental questions.

As I sit here in my chair, I have an electric fan blowing. What is its object? Why, of course, to keep things cool. The opposite would be to keep

things hot. Well, the idea comes that a heating coil might be incorporated and hot air blown out. Indeed, that idea has recently arrived. Carry the idea a little further. If a coil would produce hot air, could not a cooling device be incorporated so that very cold air would be blown out? Some machines of this type are now available; very soon you will be able to purchase them in compact form in any store. In fact, the need today is a cheap cooling system.

What will be the next step in air conditioning? First, we had it in theaters. Then, only a few years ago, I ate dinner in the first railway car so equipped, a dining car operating between Washington and New York City. Finally, entire trains were air conditioned, and so now are great office buildings and stores everywhere. Undoubtedly one of the next steps will be air-conditioned automobiles (air-conditioned buses have arrived since I wrote that statement).

You are an ordinary man or woman. You want a home,—a house. What is the trouble? Houses are too expensive. The problem—to make building cheaper. How? What methods have been applied in other industries? Mass production and low construction cost. And that is what steel and other companies are endeavoring to adapt to building. Low-cost houses—what an infinite market!—like low-cost automobiles.

Finding new uses for products is simply a form of adaptation. Remember when linoleum was no longer tucked away in only the kitchen and the bathroom but sold to people for the floors of the whole house. I can recall when a suggestion was made in my class that it might be sold for wall covering, and in fact products of that character have now come into use.

Vitamins. What almost endless adaptations there have been in discovering the vitamins and in putting them into certain products!

Let us think, then, in terms of creating or adapting things rather than simply in terms of memory. If you had been doing this all along and if more emphasis had been placed on it in your routine education, you would come naturally to think of things from a creative angle. You remember by association, so why not invent by association? In memory, the routine associations are very valuable, but for creative thinking we break them down and often substitute something quite different. We deliberately explore all associations.

Adaptation Involves Three Things

I realize that the subject of creation—precisely how you do it—is as yet a complex one to you. The purpose of this chapter, particularly the next few pages, is to clarify the matter.

Here is something very important. Adaptation is not a combination but more in the nature of a triplication involving three things, one of which is eliminated.

The word "combination" has to most minds always implied two things. This is where the old psychological idea of combinations' being at the root of creation ran into difficulty. You remember the fun we had when we put soda water and ink together, as an illustration of how we could put thousands of different things together and not advance creative thought one whit.

Let us take wheat and rice and put them together mentally. What have we? Very little except a good laugh. But wait a minute. Suppose that we have puffed wheat or rather

Wheat + process of puffing

and we desire now to substitute rice for the wheat. Then we have

Rice + process of puffing, or Puffed Rice*

Now we are at the root of the matter. An adaptation is a triplication, involving *three things rather than two* as we have always been told. In our illustration, we have wheat, the process of puffing and

* In the original experiments carried on by A. P. Anderson of Red Wing, Minn., wheat preceded rice in experimentation, but puffed rice was the first of such products made commercially. Others to which the process was applied included corn starch, pearl tapioca, sago, barley, buckwheat and kaffir corn.

rice. Out of this comes puffed rice. Now, of course, you might say that we have simply the process of puffing plus rice, but when we consider the process of puffing we must remember it in its relation to having been applied to some product before. We must introduce the thought of wheat (or some other product), and if there had been no such product, in our case there would have been no idea of puffing.

Look at our original idea of fruit juices. We had two things, orange juice and the drinking of orange juice as a particular aid to health. In our creative work we introduced a third factor, such as grapefruit juice or tomato juice, and we obtained our bit of creation, the use of these other juices as aids to health. Of course you might ask where puffed rice or the use of orange juice as an aid to health originated in the first place, but such matters undoubtedly involve an entirely different adaptation. In our examples at this point we are dealing with very simple creations.

Adaptations often involve simply a thing plus a process. It is only necessary to substitute some other thing to undergo approximately the same process or the same promotion, or in short the same adaptation.

Or it is quite possible to substitute some other process to be applied to the same thing. You are selling men's shirts through the regular retail

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channels, but you are not doing so well as you should. You feel that retailers are not pushing them as they might. You suddenly decide to change the process and you try direct-mail selling with letters and circulars to lists of prospects.

Men's shirts + process of selling through dealers
Men's shirts + process of direct-mail selling

Here again we have the three elements, men's shirts and two processes, that of selling through dealers and that of direct-mail selling. Now of course great pieces of creation are not so simple as these, because they represent not one adaptation or substitution but many adaptations until the entire project stands revealed as something entirely original. Any great building of original lines is composed of not one but scores of adaptations that make it the original structure that it is. Study any great building someday and determine how much adaptation you can find. Without adaptation anything put together becomes simply imitation.

But you encounter another trouble here. You are confused because, while adaptation is the means to the end, you often do not know what you should go out and adapt. You want to know what is needed, so to speak. Often you first create a problem and then solve it by adaptation. Sometimes the idea proceeds directly, as when you adapt the promotional plan to other things besides orange

juice or when you adapt the same puffing process to rice that you used with wheat. But in very many cases you discover a need or a desire on the part of people and then you fill the need or desire by adaptation. That is a matter for the succeeding pages.

The Observing Man

It was Archimedes who *observed* the water overflowing from his bathtub. Accidental, but he observed it. It was Oersted who *observed* that a compass needle was affected when a wire containing an electric current was passed over it. Accidental, but he observed it, nevertheless. It was Jenner who *observed* the milkmaid's assertion that cowpox had made her immune to smallpox. It was W. T. Grant who *observed* that a shoe department with a \$30,000 inventory and highly paid sales force was making less than a jewelry department with a \$2,000 inventory and one salesgirl.

Now and then scientists assert that great discoveries are often made accidentally. What of that? Profitable accidental discoveries happen only to those men and women who have observant minds. D'Orbigny, it is said, watched a peasant woman as she was ironing clothes. When she spit upon the iron he observed that the saliva flew off before it could evaporate. Thousands of people had seen that happen and it had meant nothing to them. But

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to d'Orbigny it meant that he had in his mind cleared up the matter of volcanic eruptions.

I have been speculating last night, what makes a man a discoverer of undiscovered things; and a most perplexing problem it is. Many men who are very clever—much cleverer than the discoverers—never originate anything. As far as I can conjecture the art consists in habitually searching the causes and meaning of everything that occurs.

So remarked Charles Darwin.

Without observation all things are lost. In fact, many things in history have gone unobserved for a long time. Darwin admitted failure. While a student, he accompanied his professor to Wales to examine rocks for fossils. Agassiz had not yet pointed out that there had been a glacial period in the history of the world. Neither Darwin nor his professor observed all about them countless evidences of past glaciers. As Darwin himself says, "We did not notice plainly scored rocks, the perched boulders, the lateral and terminal moraines." "A house burnt down by fire did not tell its story more plainly than did this valley." But Darwin and his professor saw nothing of it at the time.

Three hundred years ago we were almost on the threshold of a great discovery—that of rayon. The adaptation had, indeed, roughly been made. Dr. Robert Hooke in 1664 mentioned:

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A pretty kinde of artificial Stuff I have seen, looking almost like transparent Parchment, Horn, or Ising-glass and perhaps some such thing it may be made of, which being transparent, and of a glutinous nature, and easily mollified by keeping in water, as I found upon trial, had imbib'd and did remain ting'd with a great variety of very vivid colours, and to the naked eye, it look'd very like the substance of the Silk.

And, in fact, Hooke did contemplate turning it into silk.

Agassiz once kept a student busy three days examining the points of a certain fish, although that same student thought that he had observed everything in ten minutes.

What we are getting at here is a much more fundamental matter than simply that of observation. In preceding chapters you have perhaps sensed that we were dealing occasionally with what seemed to you to be discoveries or observations rather than pieces of creation. Oersted observed; Jenner and Grant observed before they created.

Are great discoveries necessarily creative? Is the perceiving of what already exists creative? In a sense, of course, we may say that adding to the world's knowledge is creative. In another sense we may say that this matter of observation is to be looked upon as preliminary to that of adaptation and real creation—the advent of something new.

There are many variations to this thought. For instance, the actual carrying out of an experiment by Pasteur and Jenner in the prevention and cur-

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ing of diseases by inoculation may not have been in itself creative, but the idea back of the experiment was creative and the method used probably showed many adaptations. After all, the mere carrying out of an experiment, endeavoring to prove the point after the thinking has been done, may be a routine matter, involving only simple adaptations from time to time. In fact, many scientists, after they have, so to speak, completed their bit of creative thought, turn over to an assistant the carrying out of an experiment. Again, the laying out of a great advertising campaign is often decidedly creative, while the actual writing of the advertising copy and the drawing of the pictures are often more or less routine.

This discussion as to the interpretation of creation is not of great moment. Classifying the perceiving of relationships as creative or not does not make much difference. But generally observation may be looked upon as preliminary to that of adaptation.

Observation is a much deeper matter than appears on the surface. To observe is to "keep" (Latin—*servare*) the idea "before" (Latin—*ob*) oneself. It is more than simply seeing a thing. The other day I picked up a well-known magazine and looked it through. It had been lying on my desk for several days and had survived successive perusals. And yet during all those days I had failed

absolutely to see, or rather to comprehend, one article in which I was very much interested and which contained information that at the time I was actually planning to seek out.

How often do you walk down the street and fail to observe what is passing directly before your eyes? An architect was taken out by a real estate man to look at an old house. He came back and confided to me, "If that real estate man had seen what I saw in that house, he would have asked at least \$1,000 more." Not far from where I live there was an old house, somewhat dilapidated, that had stood there for a long time. I had doubtless seen it many times but had never really observed it. Finally, one day I perceived what the architect had seen so quickly, that the house had something in it for me. Investigation confirmed my idea, and thirty days after buying it I had been able to arrange to sell it at a profit before I had put any of my own money into it at all. My observation turned to the matter of houses (I saw numerous places for adaptation) and from now on I am likely to be observant of old rundown places. But I confess that up to that time I had never observed them. We observe things in which we are very much interested and we shall learn later in this book that the more things in which we have an interest, the more likely we are to bring those things to bear upon our own lives.

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Great authors are great because they are always observing people. Their regular business is making adaptations from life. O. Henry jokingly remarked one day that he was going down to the lower end of New York to make a hobo pay him \$300. He meant that in talking with these down-and-outers he would secure an idea for a story that would sell for \$300. E. Phillips Oppenheim when he travels about makes a regular business of going into cafés and listening to the conversation of the people there. James Stephens, the great Irish poet and novelist, in writing his little book called "Reincarnations" declares:

For although everything in it can be referred to the Irish of from one hundred to three hundred years ago the word translation would be a misdescription. . . . Some of the poems owe no more than a phrase, a line, half a line, to the Irish, and around these scraps I have blown a bubble of verse and made my poem.

Let me illustrate again. George W. Hill, tobacco merchant, went into a corner store to buy a pack of cigarettes. He made cigarettes himself, and it might have been a very simple matter for him to send his office boy to the shipping department to bring back two or three cartons. But he doubtless wanted to observe at first hand the final disposition of his products. While in the store he saw women. One, very stout, was eating chocolates from a bag. Her slender companion was smoking a cigarette. Mr.

Hill observed the situation and thought it over. Back in his office he suddenly rang for his stenographer and the "Reach for a Lucky instead of a sweet" campaign was under way. He adapted what he had seen to a whole advertising campaign.

Now, let us not think for a moment that we are placing Mr. Hill in the same class with Archimedes or Pasteur or Oersted. But this story does illustrate an interesting point and that is the fact that observation plays an enormous part in modern business. Successful advertising, merchandising and other business men have suddenly become trained observers. Advertising men have literally schooled themselves in observation and it is the observation resulting in an idea that counts rather than merely the writing of advertising copy, which is a very simple matter.

How do *you* observe? You are ready to tell me that you have been very observant, you have looked carefully and yet you have found nothing. You are seeking that almost intangible something that enables you to go ahead and produce a work of creation. We shall call that the *point of observation*.

Advertisers and promotion men a long time ago discovered what they sometimes call "talking points" or "points of contact." Sometimes when you answer the ring of your doorbell, the individual on your doorstep has nothing to sell to you but he does have a lot of questions to ask—so many

about particular products and your likes and dislikes that you are tempted to discontinue the conversation. He has been sent out by a manufacturer or an advertising agency to discover, if possible, by firsthand observation, what might be good talking points for his employer's product or, better still, to discover an adaptation that might make a great merchandising success. He is trying to find points of contact, out of your experience, that might mean something to his own company. In your own observation you must come to one of these *points*, for therein lies something on which to build your creative work.

When you are endeavoring to discover a point of observation, what you really do is to see around the subject. You look into all possible angles of it to ascertain what adaptations you might make. You travel new paths of thought. For instance, William Henry Perkin, seventeen years of age, set for himself the production of quinine artificially. At one point he found himself with a black mass. He began to investigate, to see what could be done with it. Out of it came aniline purple and coal-tar dyes, an adaptation to coloring. An entirely new industry was made.

Large statistical bureaus exist for the sole purpose of being observant and furnishing facts and deductions to people whose minds may not have become observant. Dare we suggest that educa-

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tion has not aroused this power of observation in its students to so great a degree as has modern business in its disciples? The consequence is that we are becoming more or less engulfed by the advances of modern merchandising.

Practice *observation*. When you walk down the street this afternoon, look at the buildings and at people and notice how many things you have never really seen before. Open your eyes. When you go to bed, listen and notice how many sounds you hear that you have never heard before. Have we found or discovered an ingredient that makes for much more original thinking? It is the willingness to become really observant.

A New Kind of Notebook

Before you say you "cannot think up anything," I am asking you to consider carefully this chapter and the following one, bear in mind the instructions and see what happens to your own thinking. The discovery of ideas can be made the greatest game in the world. In truth, it is an interesting game, and it also represents the highest form of thinking. In comparison, bridge and crossword puzzles are trivial indeed. Learn to play with ideas.

In order to play this game you are going to keep a notebook. "What, a notebook?" you ask incredulously. Of course you are going to keep a

notebook. But it is to be an entirely different kind of notebook from any you have ever kept before. A strange notebook! Do you remember those funny notebooks that you used to keep in school, where you put down everything that the professor told you and then returned the knowledge to him at the end of the semester, entirely unused? Instead of putting down here what someone else tells you, you are going to put down your own reaction to things. This is to be a notebook of your own creative thought.

When you have once begun to turn your mind to original ideas, you will find occasion after occasion when you will take out this little notebook and jot down those ideas, your ideas. From time to time, on the train or whenever you have a few spare minutes, you will remove the little book from your pocket and turn these ideas over in your own mind, after they have "soaked," so to speak. During the months that follow the beginning of this experiment, you will be amazed at how many interesting things find their way into the little book. Why, you never thought you had an original idea, but here you are jotting them down so fast and working them over so rapidly that you have surprised yourself. Incidentally, what a wonderful thing it would be if our professors and teachers could require notebooks of original reactions to thought rather than of pedantic facts!

Your little notebook will have plenty of five-finger mental exercises in it and now and then a really great composition, so to speak. From your observations of newspapers may come the suggestion that you might invent a new type of cartoon or comic strip. Think what Ripley did with "Believe It or Not." If you are an old bachelor and have wondered and wondered many times what to do when buttons pull off so easily, you will invent a thread or a button (or both) that will hang on to the coat indefinitely or, at least, until the suit goes to the Salvation Army. Perhaps you are a railroad man and you would like to find some way to solve the passenger traffic problem. The plan has already been suggested of charging a flat price and of letting people ride as far as they desire on the particular train, an adaptation of the way in which letters are sent by mail. But what other clever adaptations can you think of? You will say that you are not trained in these lines, or in any lines, that you do not have the background necessary. But on the other hand the very fact that you do not have technical knowledge may be a blessing to you. You may be able to adapt the process of an entirely different industry to the matter at hand and prosper accordingly. Luck is often simply the sensing of an opportunity—an opportunity that is there for all of us to see.

Some underemployees once complained to John D. Rockefeller of a certain executive who spent much of his time looking out the window. They thought his time was being wasted to the corporation. But John D. Rockefeller didn't think so. "I wish I could find ten men just like him to spend their time looking out the window," Mr. Rockefeller replied. "I would gladly pay them \$50,000 a year each."

Creation in the Fine Arts

Music and art and literature, including drama and poetry, are among the greatest of all creations. To pass them by in a cursory way, and to throw our emphasis on business, science and invention, as we may be accused of doing, is of course unjustified.

In this and the preceding chapter we have occasionally turned our glance in the direction of the fine arts, particularly in the case of music. Perhaps the entire matter seems clear to you. Perhaps not. You may want to ask the important questions: Is there a decidedly different set of principles that governs creation in the fine arts? Does our old friend adaptation still hold sway here?

But let me ask a question. Why are artists who paint and draw creative? Offhand, you assert that they are. You have always been told so. "Artists are always creative and that is what puts them in a different class of human beings." But Sally Jones,

who lives down the street and paints those beautiful pictures of a vase of chrysanthemums, is creative in only a very small degree. You have seen an artist sitting by the roadside and painting some oaks in autumn colors. When you think this matter over, you quite rightly say, "He is simply reproducing the scene before him. How can simple reproduction be creation?" And you have arrived at the point of the matter.

Of course, one might answer that painting, like literature, is simply the adaptation to canvas of actual life. But that is not a full enough answer. The simple reproduction of reality is not in a sense creative unless something more is put there than the actual reality. Thousands of paintings of autumn leaves have been made and few of them have ever been famous. Thousands of marines have been painted but few of them have ever become known. What the really great artist does, you see, is to put into his work more than actual reproduction. He adapts to his work something that gives it the vital spark.

In asking your questions, you came to the sum and substance that lie at the root of the so-called modern developments in painting, music and even literature. One reason why there has been such an uprush of modern art, modern music and modern literature (although this is only one reason) is that many of the oncoming generation became con-

vinced that nearly everything taking place in those fields was hardly even simple adaptation; in reality it appeared to be little more than imitation.

Let us for a few moments turn exclusively to the matter of painting. Now of course, in its final analysis, everything having to do with painting is adaptation, though hardly recognizable as such. Perhaps the simplest element in painting or drawing is a horizontal line. Your first adaptation is to change the direction of that line and perhaps make a diagonal or a vertical line. Or you may change it to a curving line, and among these different kinds of lines you have the making of an excellent illustration. But perhaps that is too elementary to think about. Again, there is adaptation in the actual depiction of any scene by the artist. Seldom does he paint exactly what he sees, even though he may endeavor to do so; he finds himself confronted with a dozen or more problems that involve the adaptation of the scene he is painting to the canvas on which he is working. Often his adaptation consists in the elimination of the superfluous. The manner in which many of these adaptations were made was crystallized into the hard and fast lines of the old tradition.

But greater and much more important adaptations than these small matters were in the making. Artists began to look about them with the feeling that something distinctly new should be laid out.

There was the feeling that the fields of accomplishment were developing into nothing more than mere imitation. Students found themselves long held in the vise of the tradition of the old masters. They were set to work ceaselessly copying, copying, doing everything in the way that it had been done before.

And here we have the setting for the revolutionary developments in art. Should the artist confine himself to the traditional classical subjects or should he paint real people? Should these people be depicted as idealists or as they actually appeared? Could not new systems of color and brushwork be invented? But wait a minute. When you step aside from mere imitation, there is no limit as to how far you may go and that accounts in a fundamental degree for the great uprush of ideas of all sorts in the field of painting. Unusual subjects seldom held fit for art, strange designs, strange colors in strange places, bodies out of proportion or rather in proportion adaptable to art and not to human beings, strange bits of nothing, if you are to call them that—such constitute the panorama of much modern art. The names of men who have played various parts in the moving picture pass before us swiftly, Cézanne, Van Gogh, Matisse, Gauguin, Picasso and many many others. Impressionism seemed wild, and yet the artists of the later day sought far stranger adaptations.

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In this connection you must remember that photography was making a mighty inroad upon painting that depended closely on actual representation. From a purely utilitarian standpoint, it became necessary perhaps for artists to find a greater reason for their art. Pattern and arrangement seemed more important than representation; the depiction of the inner mind, more important than that of external reality.

Men and women who make great names for themselves have not merely technical skill or background of study. Of course it is obvious that if you are going to paint you must know something about fundamentals. The same thing is true of writing novels, poetry or short stories. But if all your training does not enable you to discover a few points of observation or departure that help you to express *yourself*, then all great things are lost to you, whether you are going into writing, art, music or just plain business. When an artist really finds himself, it simply means that he has discovered a point of adaptation that enables him to bring something different to his work.

Two famous artists have made great names for themselves in the Middle West in the past few years. It is a real achievement, because few have ever been able to do so. You have heard of Grant Wood, of the University of Iowa, and Thomas Benton, of Kansas City, Missouri. For long years

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Grant Wood looked about him, trying his hand at various forms of painting, traveling to Europe and back again to America. On his fourth visit to Europe he discovered, or rather simply observed, the German and Flemish primitives and when he returned to Iowa he had resolved to do that sort of thing for his own state. What was it?

European subjects + primitive process =
German and Flemish primitives
Iowa subjects + primitive process =
Grant Wood's pictures

Benton brought to murals something that critics call "not less than revolutionary" and yet what is it? Actual scenes of men and women, industry, farming, night life—not the poetical ones that we have generally associated with mural paintings—plus an adaptation of the cartoon technique to murals. For the past generation we have seen the same sort of thing arriving in literature and in other arts. It is simply an adaptation of them to murals. What we have said here does not imply that many other things have not entered into the matter of painting. Many small adaptations put together make a painter or any other kind of artist. Without these others, Wood and Benton would not hold the place they do.

Turn to the matter of music. Was it Tschaikowsky who declared that if he were to have his way

about it, every composition would have a Russian folk song in it? Is the hymn, "My Jesus, as Thou Wilt," nothing more than a selection borrowed from "Der Freischütz"? Does the church soloist who vigorously sings "Open the gates of the temple" depend on the innate originality of her own number or on the theme borrowed and taken over bodily from "The Messiah"? Many musicians have spent long periods of time in certain localities, endeavoring to pick up and turn to their own account local melodies. These are very simple instances of pure adaptation.

But there is within every composition itself quite another evidence of adaptation. You are sitting in your easy chair and listening to the ennobling strains of Handel's "Largo," one of the immortal compositions of the world. It suddenly dawns upon you that it is not something "new" all the way through. Why, it is the same melody coming out again and again, a little higher in the scale here, a little lower again, embellished and popping out again on the next page, and finally working itself into a great climax. And the same thing you will find to be true of practically all compositions; the central theme, which the composer picked up somewhere, is subjected to variant treatment until he closes it up and lays it aside. Any piece of music is like a great carpet simply repeating its central design. Sometimes it is almost

nothing but pure imitation, as, for instance, Ravel's "Bolero." If you have heard the latter, you will not readily forget the monotonous repetition—as little adaptation as you will ever find in any composition.

Musicians, like the artists, began to wonder if there were not something more than following the old tradition, and from the time of Wagner there has been an increasing departure from accepted paths. Modern music, which appears to be outside the traditional vogue of pleasing melody, puzzles us with its increased use of dissonance. It will take time to determine whether or not we have something great here. Perhaps to people in the Orient our own melodies and compositions seem strange and unusual, just as theirs seem strange to us. The probable outcome will be that the new music will simply be absorbed into the old forms, as the newer art of painting is absorbed into the older.

In literature and the drama we see the same situation. For instance, in the field of the short story, writers for a generation now have been endeavoring to find some new lines of departure. Yet, I have on my desk letters from a half-dozen famous editors most of whom are greatly bewildered over the situation and hardly able to come to a concrete idea themselves. The strangest example in the entire field of writing is Gertrude Stein with her senseless poetry. Frankly, people do

not know exactly what to make of it and only time will give the final answer. You admit that her words have little or no meaning and she depends on the beauty of the language for her achievement. There has been a feeling on the part of some students that the English language has departed from the idea of beautiful sounds as it is read or spoken. But to depart entirely from real meaning raises a great question.

Far be it from us either to endorse or to discourage these newer developments. Everything new had to start and in fact did start at some time or other. Future time may give the verdict.

The Evaluation of Thought

What kind of thought do you aspire to, great thought or little thought? Perhaps we should be thankful to have any original thought at all. Strange to say, from the standpoint of dollars and cents, little thought is usually more profitable than great thought. Great thought may never be recognized in a man's lifetime. In the case of great thought the adaptation is more radical and out of the ordinary. For instance, most popular music seldom endures as does classical music, because the adaptation is so simple—very often simply the rewriting of other compositions—but it may be very profitable. "Blossom Time," its music taken from Schubert's melodies, undoubtedly brought in

more money every week than Schubert himself earned in years.

Wagner, judged by today's thought, outstripped contemporary composers because his adaptations and ideas were so fresh and different from the musical thought of his time. But he had a narrow escape, for a man's thought may be so original, so great a variation from the thought of his immediate day that he may never succeed in securing his rightful recognition or in seeing his ideas reach fruition. It was a long time before Wagner received recognition in great musical circles.

When the new Nebraska capitol was erected, there was considerable shaking of heads because many people were doubtful whether the departure from accepted lines was simply a passing whim or really great architecture. But in the ten years devoted to its erection it did win recognition as a great architectural triumph.

Strange as it seems, umbrellas, baby carriages, bathtubs and even razors have all in their day been frowned upon as being too radical. Railroads in 1828 were devices "of Satan to lead immortal souls down to Hell."

On the other hand, we often speak of the development of an age as if each new thing logically followed the preceding one. That is the most common form of adaptation. Often we find several people inventing the same thing or writing the

same story—simply because the adaptation is so obvious that it just naturally takes place.

But many editors return pieces of literature or writing because they are too original—editors want originality but it must not be too far off the beaten track of the reader's mind. It may take years for a certain departure in thought to be recognized, and naturally the immediate problem is to determine whether or not such ideas are sound and workable or whether they are simply idle and passing thoughts. For this reason, many wise men hesitate to condemn what at the moment does not seem sound. Great originality usually consists in nothing more than obscurity of the adaptation.

This has perhaps seemed like a peculiar chapter. We have talked about orange juice and Archimedes, about cigarettes and Oersted, all in the same chapter. This has not been without purpose; it is a simple demonstration of the fact that all creation does have an underlying principle. But there is another side to creation and we shall leave that for the next chapter.

Write Your Own Ideas Here

Write Your Own Ideas Here

VIII

The Awakening of Creative Power

I would think until I found
Something I can never find,
Something lying on the ground
In the bottom of my mind.

—JAMES STEPHENS.

Because works of surpassing genius—works in which all the other qualities that may combine with genius are also of first rank—are rare, we get into the way of assuming that genius itself is rare; when, as a matter of fact, it is one of the most widely distributed human traits, no age and no tribe being without its notable examples.—MARY AUSTIN.

Whosoever is inwardly intellectually stimulated will find rich and interesting experience in the most banal little provincial town, but when the inner drive is lacking the most brilliant circles will simply bore him. It was not any dissatisfaction with his immediate neighbourhood which caused Goethe to feel ill-tempered and isolated; it was rather the absence of the right mood in himself which prevented his receiving any stimulation from his environment.—KRETSCHMER.

YOU have learned the rules of the game and you are now ready to play. .

You might be likened to a locomotive standing in the yards, all mechanically perfect, every bolt and nut in place, the road straight ahead. Still, neither you nor the locomotive move, for you have not yet got up steam.

Or you might be likened to a watch lying in the jeweler's case. You do not tick because you have not been wound.

As you have probably already guessed, there is another side to the matter of creative thought. How do you get up steam? How do you wind yourself? Silly as these questions sound when reduced to this elemental form, they involve some of the most significant problems known to psychology, biological science and medicine today.

It is one thing to determine the process of doing a task, it is another thing to do the task. By understanding the process of doing the task, as we did in the last chapter, we aid ourselves. Possessed of knowledge of the road to creation, the average man, not blessed with superior powers, can make hundreds of adaptations in business and professional life that may be very profitable to him, and now and then one that may be of real significance in the world.

But this matter of thinking has another side to it, that of making sure that the mind itself has the power and is in the best working order, so to speak, to carry on this process of adaptation. Once creative thought was a mystical something that "just happened" occasionally to a few people in the world. The mystical side, which no one even attempted to understand, was the "all in all" to

creative thought. But when this side of creative thought is pursued to its final analysis it comes down to this point. What is there that makes the mind resourceful and potent in creating adaptations? That is the matter which we are to consider in this chapter.

What interesting questions arise! Is the fertility of the mind a matter of heredity? Or of environment and training? Or simply of hard work? Or of religious inspiration? Or of being happily or unhappily married? Or of taking stimulants? Or do you have to be "a little off" to be a genius? Is genius the all-powerful mystical thing that it has been made to appear? Does everyone have a bit of this power or of its little brother, talent? What part do the emotions play?

It is one thing to know how creative thought originates; it is perhaps another thing to produce it. One may rightly ask what are the conditions favorable to the production of creative thought.

An Inquiry into Genius

Many strange answers to questions are constantly given in this world because a few generations ago a man said something very forcefully. Galton spoke emphatically on heredity and for two generations people have been repeating what he said, without giving thought to what has been

found out subsequently by those coming after him. Lombroso implied that genius was nothing more or less than mental disorder and his idea has been repeated indefinitely. Schoolboys have read of De Quincey's being an opium eater and from that has come a general inference as to the strange and valuable power of stimulants and narcotics.

There may be those who right at this point will object to any analysis of genius. They will consider it off the subject. They desire to keep genius uninvestigated, as it were, a matter sacred to science and literature and art. You have it, or you have it not. But genius is admitted everywhere as the father of the highest form of creation. Fortified by this thought, let us find out if any of the qualities or attributes or motive powers of the genius do not exist in smaller degree in ourselves or may not be acquired by ourselves.

Let us look things over.

What did the much-quoted Francis Galton really say? Just this:

If a man is gifted with vast intellectual ability, eagerness to work, and power of working, I cannot comprehend how such a man should be repressed. The world is always tormented with difficulties waiting to be solved—struggling with ideas and feelings, to which it can give no adequate expression. If, then, there exists a man capable of solving those difficulties, or of giving a voice to those pent-up feelings, he is sure to be welcomed with universal acclamation.

One might smile at Galton's assertion that every genius is received with acclamation, for many very great geniuses in the world have not even saved their own lives. As we have already learned, the more obscure and unusual the adaptation—and that is the kind of adaptation that most great geniuses make—the harder it is to win ready acceptance in the world. But Galton does surprise us with his assertion that it is not altogether intellectual ability, but also eagerness to work and power of working that count in the world. In his memorable book, "Hereditary Genius," he declared:

By natural ability, I mean those qualities of intellect and disposition which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without capacity, nor even a combination of both of them, without an adequate power of doing a great deal of very laborious work. But I mean a nature which, when left to itself, will, urged by an inherent stimulus, climb the path that leads to eminence, and has strength to reach the summit—one which, if hindered or thwarted, will fret and strive until the hindrance is overcome, and it is again free to follow its labour-loving instinct. It is almost a contradiction in terms, to doubt that such men will generally become eminent. On the other hand, there is plenty of evidence in this volume to show that few have won high reputations, without possessing these peculiar gifts. It follows that the men who achieve eminence, and those who are naturally capable, are, to a large extent, identical.

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The particular meaning in which I employ the word ability, does not restrict my argument from a wider application; for, if I succeed in showing—as I undoubtedly shall do—that the concrete triple event, of ability combined with zeal and with capacity for hard labour, is inherited, much more will there be justification for believing that any one of its three elements, whether it be ability, or zeal, or capacity for labour, is similarly a gift of inheritance.

Not only did Galton declare that natural ability was inherited, but he asserted that even those special qualities of eagerness to work and power of working were inherited. No chance for anything hit or miss here. If it was the combination of qualities that made for genius, then that combination came through heredity. Galton's idea has been amazingly comforting to so-called "best families" who have seen in it strong justification for the idea of their intellectual supremacy, but in his time the world did not know about genes. I do not find an unfavorable word regarding the omnipotence of environment in Galton's work. He thinks that nothing can hold a genius back.

But let us send for J. McKeen Cattell, veteran American psychologist and editor. In a memorable and much-quoted article* published in February, 1903, he declared:

* A Statistical Study of Eminent Men," *Popular Science Monthly*, February, 1903.

THE AWAKENING OF CREATIVE POWER

It is evident that there are two leading factors in producing a man and making him what he is—one, the endowment given at birth, the other the environment into which he comes. The main lines are certainly laid down by heredity—a man is born a man and not an ape. A savage brought up in cultivated society will not only retain his dark skin, but is likely to have also the incoherent mind of his race. On the other hand, environment has at least an absolute veto. Had the infant Newton been cast among Hottentots he could have announced no laws of motion

So there you are, Mr. Galton. Cattell brings environment into his picture. Significant is the fact that he does not agree with Galton as to the all-powerful influence of heredity.

But another figure enters into the picture here. Catharine Morris Cox, with her imposing study of "The Early Mental Traits of Three Hundred Geniuses," published only ten years ago at Stanford University. What did Dr. Cox find out?

"Youths who achieve eminence have, in general, (a) a heredity above the average, (b) superior advantages in early environment."

"The inheritance of a child of able parents is undoubtedly superior, yet it is not sufficient in itself to account for genius."

"A favorable ancestral background is a definite asset; yet the peculiar combination of inherited traits which makes up a genius—the most favorable chance combination among many only less favorable ones—is an equally significant factor"

"The average opportunity of our young geniuses for superior education and for elevating and inspiring social contacts was unusually high. Instruction by leading scholars of the day and friendly association with contemporary notables were not exceptional experiences."

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"Youths who achieve eminence are distinguished in childhood by behavior which indicates an unusually high IQ (Intelligence Quotient)."

"Youths who achieve eminence are characterized not only by high intellectual traits, but also by persistence of motive and effort, confidence in their abilities, and great strength or force of character."

"The appearance in childhood of a combination of the highest degree of general ability, special talent, seriousness of purpose, and indomitable persistence may well be greeted as indicating a capacity for adult achievement of the highest rank."

"Heredity sets limits, but within these limits the adequate training of the most gifted—and so also of their less distinguished fellows—may raise them to the designed statute of men unmarred by the defects of insufficient experience, and thus realize in each one the complete development of inborn worth."

Here, in brief, is what our authorities have said:

Where Genius Comes From

<i>Galton</i>	<i>Cattell</i>	<i>Cox</i>
Intellectual ability	Inherited endowment at birth	Good heredity —High intel- ligence—Tal- ent
Eagerness to work	Environment	
Power of work- ing (All inherited)		Favorable environment *Persistence *Confidence in abilities *Strength or force of char- acter

* Not stated as to whether by inheritance or by training.

Now what are we to make of all this?

What Galton said was that it took more than intelligence alone to produce a genius, but he went so far as to assert that the qualities of zeal and persistence in laborious work were inherited as well. Cattell added environment and Cox reinforces heredity and environment with the suggestions of persistence, confidence and strength of character. But she does not assert, as did Galton, that these latter are entirely inherited.

Now I think that anyone who looks at all of these elements of genius will have an excellent idea of what it consists. However, I do not believe anyone today is willing to say with Galton that genius will always come to the top.

You who have read the preceding chapter in this book may take a somewhat new view of this entire matter. You are likely to question whether, after all, every great genius was really a genius. Here indeed is a most perplexing question. The men of genius to be included in statistical research have been selected according to the amount of space devoted to them in biographical dictionaries or by general recognition of their being contributors to world development. The former immediately measures them according to the degree of eminence rather than the degree of genius. The difficulty here is generally admitted, but I think there is a

much more serious question than this. The way in which genius develops new creations in the world is, after all, by the simple route of adaptation, even though we are prone to consider those creations as entirely new thought. Many of the adaptations were so important to world history that they seemed to appear like great flights of genius. But many a man has made a much more original adaptation and has not achieved a position of eminence, since his discovery did not mean a great deal to the world. Every man supervising scientific work in an institution knows of the problem in directing men into important lines of experimentation and keeping them away from trivialities. The one who ultimately solves the cancer problem may do so by means of a very simple adaptation, yet I venture to predict that he will win the Nobel Prize and will achieve a position of outstanding eminence and genius in the world's history. We are not detracting from the credit that belongs to those who have made great contributions to life and living, but we present an observation that is perhaps worth thinking over. It would be a most interesting bit of procedure, could it be done, to determine how many men and women of very high intelligence failed to become geniuses or even to win the slightest recognition. I think the number would be very large.

Genius and Ourselves

What can we take out of all this for use in our own lives? As for depending on heredity in advancing our own interests, we may as well forget it. The intelligence shown in intelligence tests comes generally from heredity, but there are some indications that intelligence may be raised (or lowered) to a degree.* However, heredity cannot be changed so easily as can environment. In some forms of mental trouble we are reaching the point where hereditary difficulties may be treated. But for most of us, heredity is as yet a difficult thing to change. Now, of course, it may not be so much the matter of heredity that has enabled people to make important creations as it is a sort of unconscious faculty that they have developed of coining adaptations. Our conscious knowledge of the process involved will help us greatly.

Environment plays a big part and environment can be changed, often with decided profit. We have observed that groups of painters or writers may develop in particular localities. At the beginning it may have seemed that creative work of this kind was far above the conception of anyone in that particular town. But finally someone came along and started writing. He had one or two novels

* See pp. 22-26.

published and they were successful. Other ambitious and talented people looked him over. They said, "If he can do it, why can't I?" The first thing you knew, that community boasted not one successful writer but half a dozen successful writers.

James Stephens, the poet, one day picked up a copy of Browning's poems. He found that his attention had been riveted, and he went out determined to do what Browning had been doing. He became a poet. In some such way students under great teachers often develop great powers. On the other hand, some students with writing ability have felt themselves so bogged down with traditional methods of teaching that they have left college in disgust. Their teachers were not inspiring.

This suggests that it is well for a person to vary what he is doing. He should get out of a rut. He should avoid the tedium of routine. If you are having trouble securing ideas, particularly ones with which to begin your adaptation, spend some time stirring around. Do things in a different way. The railroad president instead of riding in private cars should travel like an ordinary person and see what he can find out about his own railroad. He would undoubtedly learn some strange things about the likes and dislikes of people. Adaptations would rapidly flow into his own mind. The more fields there are in which you have an interest, the more opportunity you have for adaptation.

But, now, what shall we say about persistence, which represents Galton's hard work, and confidence? No doubt these arise partly through heredity and partly through environment. I have seen certain people develop them by taking themselves in hand. I am confident that it can be done. But if our authorities are entirely right in asserting that they are essential to genius, then they are very desirable for everyone to have. The other day I was talking with one of our professors of English about the great number of students going through our institution, apparently with the background of both favorable heredity and favorable environment—young men and women who could become extremely promising writers, even if not great writers, but who to such a degree lack this element of persistence that their talents never come to the surface. One of our famous writers of the day, who shall be nameless here, told me that early in her career she sent one story out thirty-six times and sold it on the thirty-seventh trip. Suppose that she had quit after the thirty-fifth time?

Confidence is a twin brother of persistence. Remember also that the great genius who is seeing his plans succeed naturally develops confidence. It is simply an illustration of the old saying, "Nothing succeeds like success."

"Don't get the big head," we say, and yet many of our great leaders, who have been included in the

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list of geniuses, have had severe attacks of egoism. If you doubt this, just cast your eyes over these paragraphs from the "Confessions" of J. J. Rousseau:

I am commencing a work which has no precedent and will find no imitators. I will draw for my fellow-men a human being, true to nature in all parts, and that being—am I. I alone. I am not made like any other living person. I may not be better, but I am at least different.

The trump of doom may ring out when it will; I shall tread before the Highest Judge, with this book in my hand, and say in a loud voice: "Here is what I have created, what I have thought, what I have been. Gather my brothers around me, let them listen to my confessions, sigh over my infamies and blush for my weaknesses. Let every one of them open his heart with the same truthfulness at the foot of Thy throne, and if then there be one among them who still dares, let him step forward undisturbed and say, 'I was a better being than this man.'"

It might be said, of course, that many men have to talk loudly to secure a hearing from the world.

A word of caution is necessary here. If you are to apply these qualities of persistence and confidence you must have something on which to apply them. *This is important.* To be persistent about some trivial matter is of no consequence whatever. To be confident of its development is of no consequence. The right sort of idea, plus persistence and confidence, will help to make a name for you; and if

you have the right idea, you may readily develop confidence. Think over and test your idea.

Strength or force of character as evidenced in creation is nothing more nor less, usually, than being controlled by one or more great ideals,—a matter to be considered later in this chapter.

But there may be someone among our readers who has misconstrued our meaning. As we have been talking about it, adaptation has seemed so easy a road that the impression may have been given that the baker might become the banker; the musician, the writer; or the lawyer, the doctor, all by suddenly applying principles of adaptation. Of course, Pasteur, who made great discoveries in medicine, was not a doctor, and there have been many examples of the sort. Leonardo da Vinci was a creator in many fields of activity, including painting, engineering, sculpture and architecture, and is reported to have been interested in physics, geology, philosophy and biology. Is it too much to suggest that part of his eminence may have been due to his fertility in making adaptations in many different lines? Perhaps the same thing might be said of Edison. But these men did consider many lines of thought. And, of course, in business there is always the possibility that the man coming in from a different field may be able to bring new ideas to a business new to him. One can safely say that if either environment or heredity or both have

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directed you into a certain field of work, then adaptation can lead you to advance in that field.

Is it genius that we are seeking anyway? You quite rightly say, "I'm not interested in how I got to be the way I am. I'm interested in becoming something better." We may not be able to turn you into a genius, but we may be able to add enough to your creative power to make your life a much greater success. The baker may become a better baker, the banker a better banker, the musician perhaps a composer. Few of us will attain to places of world eminence but if we can better our own conditions even a little our efforts will be very much worth while. Claim your own mental heritage.

Do not worry about heredity. Someday we may, strange to say, be able to change or repair it, but, today, forget it.

You may change your environment—to a considerable degree—without even leaving your town or moving to another house. This, however, is important enough to deserve our next chapter all to itself.

You may bring to bear on your own work persistence and diligence. You may develop self-confidence. But—exceeding y important in this connection—these qualities of genius must be focused on some-

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thing worth doing, else all is lost. Weigh your plan carefully and make sure that you have the best possible idea.

Those Queer People Who Did Things

But now we come to a strange problem. There lies before me a newspaper clipping entitled "The world calls them geniuses,—a doctor calls them insane." The newspaper quoting a psychiatrist attributes insanity, or perhaps we had better say "queerness," to Poe, Byron, Rembrandt, Michelangelo, Voltaire, Beethoven, Liszt and Schopenhauer. A page in a book before me attributes insanity to Rousseau, Nietzsche, de Maupassant, Dostoevski, Strindberg, Tasso and Galton. Lombroso, who did more than almost anyone else to promulgate this idea of genius and insanity, attributed mental instability to so long a list that one might readily ask who was sane, rather than who was insane.

Word has gone out that you have to be "a little queer" to be a genius. How often have you heard that? There must be a screw loose before the machine can run. Indeed, it is widely recognized that many famous writers, artists and musicians have a peculiar approach to life. You, yourself, have seen such individuals. Now, the question naturally arises: Do I have to be "a little queer" in order to have original thought? This is a peculiar

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question, but it is a common one and is fraught with very great significance.

If we are to accept the idea that genius is closely coupled with insanity and "queerness," then why should not insane asylums be sources of great creative thought? In every city we might expect such hospitals to be the centers of valuable discoveries and creations in the field of art, in music and, in fact, in every line of endeavor. Whenever an important question arose in the public mind, it would seem most reasonable to go to the hospital for the insane and secure the expert advice of the inmates. There are millions of "queer people" who are not geniuses.

Apparently these ideas do not make sense. What about them?

Have you ever looked at the strange drawings and noticed the almost uncanny things produced by insane people? Men with two heads, one in each hand, men with three eyes and other monstrosities. Strange as it may seem, when the great wave of modern art swept over the world, there was much discussion as to whether the output was the product of insane people or a sound development of art. I have here on my desk a book the main contention of which is that this outpouring was simply the product of insanity.

One answer to our question is probably this. Insane people and people who are a little "queer"

do not make their adaptations from usual associations, such as the rest of us are prone to put together. Their associations are of a bizarre or, at least, of a different type. Things normal to their minds are highly abnormal to ours. What those people apparently do is to break down the routine and bring forth the unusual. To them it is the natural thing. When their products are too unusual we not only declare them to be queer but to be the products of abnormal minds.

To a lesser extent this same situation prevails in modern music and literature, including poetry. There is nothing to prevent anyone from making as bizarre adaptations as he may see fit. You do not have to be insane or "queer" to do so. The point is that such things are usually outside the ken of normal people. Our common sense forbids them. Insanity used to be described as a mind without a roof. Thoughts, as it were, shot upward, unhampered by the restraints of normal people. Insanity dares more than sanity.

Obviously most of the ideas of insane people do not make sense, but occasionally a man who is a little so affected may in some one of the fine arts bring forth an adaptation that is a departure from the ordinary run of such things. If his adaptation is accepted, he appears to be something of a genius.

There is another side to this same matter. We have already learned that it is necessary to have

not alone the process of great thought but the mental energy to further and develop it as well.

Obviously this is partly a matter of physical well-being, but it has also to do with those times in which we feel more "up and doing." Some practical students of the field have gone so far as to assert that individuals affected with manic-depressive psychosis produce works of a superior character during periods of buoyancy. I was thinking one day of the possibilities of the effect of the periods of exhilaration (which alternate with depression) upon the mental output of individuals, when I came across the assertion of Professor Kretschmer of the University of Marburg that Goethe, generally regarded as a man of most normal mind, was afflicted with this very trouble. His good writing, it was asserted, was done during his periods of exhilaration.

Doubtless, much the same thing may be said for those individuals who take alcoholic or drug stimulants. Such excitants, aside from a certain temporary quickening of the mind, may do away with inhibitions so that the mind is no longer forced to stick to its acquainted paths. Alcohol is sometimes said to stimulate the imagination, but in reality it may simply be turning it loose. Perhaps we may also see here the reason why "bright thoughts" so often occur to us when we are about ready to sleep. Other ideas and inhibitions have been sidetracked and the mind brings forth all sorts

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of things that would have been crowded out in broad daylight.

It is obvious that no man or woman desires to become inebriate or to turn into a drug addict in order to quicken mental output, since the uncomfortable nature of the affliction is at least ten times as detrimental as any advantage secured. One might readily ask the same thing here that we did in the case of insanity. If liquor and other stimulants are such an aid to original thought, why should not the corner saloon become the center of all great creation?

But there are two things that we in sane mind may learn here. One is that rather bizarre adaptations may sometimes be made with success. We do not always have to stick to the accepted paths. The point is that in our normal thinking we cannot contemplate such abnormal things as actual possibilities. But sometimes the man "a little queer" comes along and does put them over.

We shall learn in the next chapter that our environment may be changed, that our minds may be shaken up so that we are no longer hindered by our inhibitions.

You do not always have to stick to accepted paths in your thought. "Queer" people who have mental trouble make strange adaptations, quite often far off the

beaten track. There is nothing to prevent you from doing this in normal mind, but remember that you may have a hard time making the world accept the results.

Certainly no wise person desires insanity or the cultivation of alcoholic or drug habits as an aid to creative intelligence. The chances are against their working for you. The release from inhibitions may be accomplished in other ways. Chapter IX of this book will be of value in this connection.

An Emotional Background to Thought

On some days thoughts come rolling in like great fog banks. On other days nothing appears. There are other factors besides those we have enumerated that make minds more fertile. It is obvious that your emotions, your great consuming desires, play a part in energizing the mind. A dog inside of a cage will make all sorts of efforts to get the piece of meat that has fallen just outside the bars. The force of circumstances—the absolute necessity of securing a position, of saving a failing business, of getting through school—has energized many a mind and made it active. People considered inferior often develop tremendous drives to show others what they can do. A man who feels himself

pushed toward some important end will produce, whether it be by some great inner conviction or by some lighter compulsion.

It was Ribot who pointed out that the strangeness of combinations (adaptations had not been thought of, then) indicated an emotional rather than an intellectual origin. It is here perhaps that we best see the difference between invention and creation, if indeed there be such a difference as some have indicated. Invention appears as something intellectual, thought out, while creation suddenly bursts over the horizon like a rising sun. Invention deals with the practical things of mechanics and business; creation deals with things difficult to analyze, such as poetry and music. But perhaps it is unnecessary for us to make such a distinction here; the two may differ only in degree or in the amount of emotion evident. We may, I think, properly look at creation as an intellectual accomplishment that is reinforced and guided by emotions.

There are many sides to this matter of emotion. There is the one of the conservation or, rather, the direction of our energy, particularly sexual energy. Instead of permitting it to run wild and be wasted, we direct it into the field of our creative work and, lo and behold! our creative endeavors begin to sparkle. It is important, of course, to have laid out for ourselves some definite project, perhaps starting

in an intellectual way on a possible adaptation and then permitting our stream of energy to help push us along. There are, of course, many, many people who have nothing on which to apply their energy—no project worth working on. If their energy is strong, particularly sexual energy, they will find themselves in a difficult mental situation. If you are of this type, try to find something worth while on which to work and see how much better you get along. What we say here is this: Use up your energy in doing useful or creative things, so that you will not have time or energy to devote to sex matters. If the accomplishment in the field where you use your energy is sufficient to bring satisfaction, that satisfaction will take the place of sex in your life.

Likewise, it is necessary to avoid mental fatigue, which after all is different from physical fatigue (some psychologists quibble over this). Strangely enough, sometimes when you work on a subject, the harder you work, the more ideas will come. On the other hand, you may end up tired out. This indicates that you need an immediate change of mental work for a few hours or a few days. Mental fatigue is effectively dissipated by excitement. I have known a woman with a nervous headache to start off suddenly and go somewhere, and find the headache immediately stopping. Excitement fires the mind. Mental fatigue suggests the need of

recreation and play, if possible, in one's life, and that is covered in our next chapter.

Nor must we forget in this connection the exhilaration of music. Many find that it stimulates the activity of the mind, that martial rhythms, for instance, inspire to accomplishment. Of course there are brain workers who have found music disturbing, particularly music that is being practiced. Personally, I have found music an aid to the awakening of ideas but something of a detriment to the logical working out of them.

Creative thought is something that grows. Success will furnish you with more enthusiasm and drive. But direct your energy, particularly sexual energy.

Thinking in the Grand Manner

Some of my readers, doubtless, have been in Canterbury and Chartres and have wandered through the aisles of the cathedrals there. All through the centuries they have stood as symbols of the ideals of the people of their periods. Perhaps you, too, look back at those times with something of a feeling of homesickness as for days that were bright and undisturbed, when the riddle of existence seemed much simpler.

You have passed through the great museums and marveled at the examples of religious art. What shall we say of the origin of creative power that

made such things possible? Then men's ideas were centered on eternity and it was but natural that their creative powers should follow the line of dominant thought. Religion to them was what *The New York Times* even recently called "the act of faith which endows life with meaning."

Among all dominant forces, religion has probably been one of the strongest. Religion has painted great pictures; it has written great works of literature; it has composed great oratorios; it has found great orators and thinkers in out-of-the-way places in the world; it has changed architecture the world over; it has raised great cities from the dust; it has indeed remade the thought of the world. Even if you take away the supernatural part, you can see that religion has played a big part with its compelling power. Much attributed to the supernatural perhaps may be accounted for in a rational way. The mental conviction of religious power caused or motivated the thought itself. To man it has always furnished elevation of thought. Prayer for new strength becomes a desire for a creative solution to a very pressing problem.

Small things, with inner conviction, may wield a mighty power. Life with an idea behind it is always much more potent than life without any governing force. It was Abraham Lincoln who, seeing slaves auctioned off, came to his great conviction that slavery was wrong. Many a man or a woman

possessed of humanitarian emotions has proceeded on a line of thought and action that has made its impress on the world. Florence Nightingale and all those who have fought for the betterment of human life belong in this class. Inspiration comes from contacts with things and ideas and if your inner conviction is strong enough, you will have a force that few can withstand.

Perhaps, unfortunately, most original thought does not depart greatly from the thought of the day. The adaptations that one makes are apt to be those close to the present. Tall business blocks today take precedence over great cathedrals. Yet, throughout history, there have been men and women who have dreamed dreams—figuratively speaking, of course—and have stepped forward into posterity.

It is really this thinking in the grand manner that produces what Dr. Cox calls the great strength and force of character that appear as part of the make-up of the genius. But sometimes this compelling power—inner conviction—goes off on an unsound tangent—people do not weigh their thoughts and solve their problems before starting out, so we have all sorts of strange results. Look through history and you will see how tragic and yet how successful strange causes have sometimes been when coupled with persistence and the determination to see them through. What strange

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developments there have been in religion and in politics! Maybe we should not say that. Perhaps they, the originators, were wiser than we thought. Perchance these men were geniuses whose thought does not meet with common acceptance among us. At any rate we must admit that they possessed some of the qualities of the genius, even when the fundamental idea was unsound. Their inner conviction that they had something to give the world did carry them a distance.

Have you a great purpose, compelling in its appeal both to you and to others? If so, it will carry you a long distance, even far into posterity. But before you start, analyze it carefully to make sure that it is a sound idea.

Taking Time Out to Think

If a man were to advocate longer vacations, more golf games during business hours, fewer home lessons from school, and the observance of every holiday both in school and in business, and at the same time could promise everyone a better income and more world progress, he would prove to be a very popular individual indeed. We are inclined now and then to poke a little fun at the high-powered businessman who is always stopping work at three o'clock in order to enjoy his golf game and who spends much time at Palm Beach,

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White Sulphur Springs, Pebble Beach and other places. Yet, there is really something to this procedure, and many of these businessmen do come back and place in operation ideas that make hundreds of thousands of dollars for their respective corporations. Some great scholars once associated with my own university were noted for the long walks that they took across country. We have all known other men who have arrived at work at eight o'clock every morning and have quit at five-thirty every evening, who have drudged every holiday, yet when they died the preacher at the funeral was hard put to find words for expressing just what they were doing all their lives.

We have seen this same doctrine creep out in lower education in America. Children must be kept with their noses in a book every minute. This is something of a hang-over from the pioneer doctrine that every minute, like every piece of twine and every button, must be saved. You see this same attitude in many who have had a hard struggle and keep on skimping even though they may be rich. If machinery could laugh, what a laugh there would be! Indeed, as if to show us the way, it now appears that machinery is forcing people to take time out to think.

Suddenly, it appears, we have come to the center of the matter, "time to think." We often speak of thinking things over and in a preceding chapter we

alluded to this process. This is even more important in creative thinking than it is in mere problem solving. When we think things over, we seem to work over ideas. We put them together in one form and then rearrange them; finally a bright idea comes.

Among many popular lecturers on psychology and the mind, a few years ago, there was emphasis on the subconscious mind. To them the subconscious mind appeared something like a conjurer's hat into which one reached and pulled out all sorts of mental rabbits. For them, so to speak, the subconscious mind kept working, whether the outer mind was working or not.

Some, probably unduly optimistic, have gone so far as to assert that all the hidden knowledge of a race is stored away in the individual's mind and may be drawn forth at intervals. This doctrine, I am afraid, would not hold very well among most psychologists. It is too optimistic for them to contemplate. But even the conservative of them recognize that there is something accomplished at those times when the mind apparently is not working at all. Otherwise, how is anyone to account for sudden brilliant ideas that dawn upon our consciousness out of nowhere, a long time after we have been seeking a bit of originality? Perhaps the mind does not really go on working on these bits of creation after we have put them aside. Possibly the mind, in a more active state at some other time, suddenly gives the answer. Modern-day psycholo-

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gists do not know whether or not there is a subconscious mind. It is not our place to determine its existence or nonexistence. But this much can undoubtedly be said. Nearly all ideas require "thinking over." In ten days or so, take out the ideas you have jotted down in your notebook and you will find that they have grown into something much more tangible. In other words, the mind directed into certain channels of thought seems to assemble more or less automatically all the associations bearing upon them, and with a little practice it will be found to be able to assemble some that are more unusual.

Mary Austin was, perhaps, the outstanding example of a present-day individual who publicly attributed accomplishment to the management of this inner power. Her declaration was that

Contemplation as the mystics know it is seldom directly attained by the novice, but there is reason to believe that the deep-self, after being trained to meditate, will go on of its own motion after meditation has ceased, probably in sleep, and actually acquire primary truth, which is later delivered to the intelligence.*

An interesting thought of Miss Austin's, but one on which we do not pass judgment!

Spend your "time-out" in doing other things, in going to the theater, in reading books, in hearing music and in many diverse lines of activity. You will be surprised to find how the mind will begin to

* AUSTIN, MARY, "Everyman's Genius," Bobbs-Merrill Company. 1925.

sparkle. I hope that many employers, particularly those who seek creative power in their employees, will read this. Very large corporations deliberately send men and women thousands of miles—often to Europe—with all expenses paid, in order that new and fresh ideas may be obtained. If your business is “seedy” and going to pieces, it is usually because it lacks bright ideas. Encourage, rather than discourage, them.

Does what we are saying here seem to conflict with what we have said about industry and persistence? Galton’s industry and persistence are of great value in carrying out the piece of work, once the idea has been sensed. But in obtaining the idea itself—something on which to exercise industry—taking time out will often be found of great benefit, particularly when you turn to an entirely different field of thought or activity.

Work at a subject until thought no longer comes—then do other things. Later your needed thought may be at hand.

The End of the Chapter

And so we have come to the end of this chapter, probably to you the most complex chapter of the book. What have we said here?

You cannot change your heredity, but you can to a large extent control and change your environment.

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You can develop persistence and confidence, both attributes of genius. But make sure that you have something worth working on and something that you may be able to carry out.

There is nothing to prevent your making unusual adaptations, but you may have a hard time getting the world to accept them. You do not have to be insane in order to make them.

Vary your life—here, again, environment—so that you will avoid mental fatigue and acquire a moderate degree of exhilaration. For your own good, do not depend on artificial stimulants.

Direct your energy, particularly sexual energy, toward your project.

A great and worthy purpose, on which you have definite convictions, will carry you a long way in the world.

Take time out now and then and look about you, particularly when you are in the process of securing ideas. You will find the time saved instead of wasted.

Write Your Own Ideas Here

Write Your Own Ideas Here

IX

The Great Adventure

Our states of consciousness glide through time as a river through a valley. Like the river, we are both change and permanence. We are independent of our environment, much more so than are the other animals. Our intelligence has set us free.

—ALEXIS CARREL.

And this our life, exempt from public haunt,
Finds tongues in trees, books in the running brooks,
Sermons in stones, and good in everything.

—SHAKESPEARE.

LIKE pioneer emigrants, we push forward on our course. To the pioneers the sun, moon and stars may beckon, but there is no turning back or changing of direction. To the easy-chair thinker, however, there is not one course; there are many courses. Here the mind shows its supremacy. The mind *may* pursue many paths, *may* change direction on a moment's notice, *may* digress to charming bypaths, and yet, at command, return to the appointed route. By choosing many bypaths, the mind in a way often works towards its destination.

You make your environment and your environment makes you. The thinking individual makes his environment, whereas environment makes the

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nonthinking individual. If you refuse to assert your own mental dominance, in other words, to *think*, you are bound to become simply the slave of your surroundings.

You are to a degree encompassed by your heredity, but man's medical science is breaking the bonds holding him to his ancestors, and will no doubt break more. One of these days, medical science may change our mental equipment easily and readily. But today you can break with your environment whenever you decide to do so. I see nothing to prevent the average man from leading his own mind.

Indeed, it has always been thus, man against the world. The pioneer adventurer and homesteader sensed this in its crudest form; the great novelist has seen in it the theme for hundreds of novels. Scientists, such as Alexis Carrel, believe that this lack of fighting with an environment produces softness and apathy in individuals, not to mention some real physical and mental weaknesses.

You will look upon your environment, not as something to be endured, but as something to be explored and in exploring it you will finally step outside of it.

The Great Adventure—Changing Environment

What is your great adventure in life? The character of adventure has changed somewhat today.

Opportunities come more often in the realm of the mind than in actual physical encounter. In many cases this zest for adventure that exists in all of us has to be profitably satisfied from our own homes. What a world there is at hand to be explored! But to many of us, I am afraid, this world of knowledge and opportunity is simply a great jungle in which we wander aimlessly about, not knowing even the direction of the compass.

So, it is necessary for us to adventure out of our old environment and into a new one. We are sloughing off old things and picking up new ones. We are abandoning many inhibitions. We are shaking up our own lives. Changing environment in the simplest fashion may be accomplished by doing different things or old things in a different way.

Our prescription for ending dullness of mind is a very simple one. Whatever your most favored line of action, mental or otherwise, drop it for a bit now and then and try something else. If you spend all your spare time reading, try the great outdoors for a while. Let the champion golfer set aside a few hours for music and art. Let the artist look into business—he may find an idea for art. Let the physician look into another branch of science—he may find something of startling importance to his own work. I know of no better tonic for jaded minds than turning now and then to other fields.

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In changing our environment we may look forward to two things:

1. We should from time to time acquire new backgrounds and new ideas from which to draw in building our own new ideas and adaptations. We are out securing ammunition, as it were. We also begin to look at things from the standpoint of their creative aspects. We see how other people have made their creations.

2. We quicken our own mental processes.

Our second point implies that mentally we are in a rut and that in this chapter we are trying to get out of the rut, which in a way is true. We are changing our own mental, and even physical, environment and securing a new view of life, with the hope that our thinking may be immeasurably improved and our process of problem solving and creation quickened.

One speaks of fighting one's environment, when the process is often simply that of changing environment. What you do is to turn your spare minutes to new lines of thought and new lines of work. In other words, you begin to stir around. You find that many things contribute to your mental development and thinking.

What can you do for your environment and what can your environment do for you? These are our problems here.

The Out-of-doors

Take the great out-of-doors, for instance. The out-of-doors will do two things for you. Swift, vigorous exercise will stimulate your mind and remove mental cobwebs. If you are artistically inclined, you will find ideas coming to you. In certain lines of sports, you may make interesting contacts with other people and conversation with them will open new fields of thought to you.

The out-of-doors is, to a large proportion of our people, a forbidden empire. Instead of being part of it, they have had to content themselves with reading Zane Grey and Gene Stratton Porter. How wonderful it would be if the thirty thousand spectators at a football game, instead of being spectators, could all be participants!

Did you ever have the feeling of really letting yourself go? To most of us, living our cramped city existence, it is a feeling seldom experienced. That, it has seemed to me, is the real mental contribution of sports. Let go! Let go!

As simple a thing as walking stirs up the mental activity and when you return home you may find that many excellent ideas will pop into your mind. But please do not walk just around the block and think that you have done something. Get a move on and do at least two miles. Walking has this advantage—you can do it almost anywhere. Some

of the most pleasant occasions to me have been in great cities, just at twilight, with the thousands of people hurrying home—all sorts of faces and all sorts of impressions—the shop windows just beginning to glitter like a page out of a novel. On Fifth Avenue in New York or Pennsylvania Avenue in Washington, the Battery at Charleston, the hilltops of San Francisco—what a chance to exercise the leg muscles! And when you do walk, notice things, notice people—the old man, the young girl and her lover—begin to live your own pages out of a novel, instead of having some author do it for you.

The great romance of the world is at every turn and it is your place to discover it. Artists have made something of a business of painting and photographing unusual things, passed by each year by countless thousands. The spire of a church just peeping out at the turn of a dingy street, the old forgotten railroad station against the reddening sky, the salt marsh—these, in the hands of the great artist, are great impressions! It is here that the mind exerts its power. Eyes see only the bricks and stone, but it is the illumination of the mind that makes the picture.

Do not take all your walks in the sunshine. Many persons have seen the summer landscape but few the winter one. The cold rain, the snow, the leafless trees produce a peculiar beauty of their own, while

the sharp breeze reddens the cheeks and the icy wind invigorates the body. An artist friend of mine receives nearly double the usual price for the paintings of snow landscapes, because to most people they are so unusual and out of the ordinary—few people have ever seen a thing like *that*. Do not be afraid of the cold or the winter wind, of the moonlight or the dusky dawn. Walking is the ideal way of developing *observation*.

Walking, however, does have one disadvantage, particularly if you are inclined to be of a nervous temperament. Aside from the natural benefit of the exercise, it does not usually help much in taking your mind off your troubles. You can walk for miles and miles and still carry your troubles along in your old kit bag, so to speak. Walking is more or less automatic; it does not force you to forget yourself.

It is a very important point for you to learn how to get your mind off yourself. More people than you think are confronted with this difficulty. In such a case, more vigorous sports than walking must be the rule. For instance, one great contribution of horseback riding is that it makes you forget, whether you want to or not. No one can ride a spirited horse and think about anything except that horse—at any rate, not until he becomes a good rider, and when that time arrives he will have forgotten all about nerves.

There is nothing more to prevent you from browsing around in the field of sports than from browsing around in the library or the bookstore. Golf, tennis, swimming—everything in this day of easy accessibility to sports beckons to you.

The strange thing is that the outdoors, instead of consuming time, is really saving it for you and giving you a lot of fun besides. You will have the experience of returning home and of being able to settle business problems that you would never have been able to settle sitting at your mahogany desk. There is more to be said in favor of the executive who apparently “wastes” his time than there is to be said against him. You probably have already found that your best thoughts never come while you are sitting there waiting for them.

Travel, often one form of outdoor experience, is an extremely valuable and prolific source of increased mentality. I hesitate somewhat to mention it here, for travel is one form of background that requires some capital, though by no means so much as people imagine. It is not an expenditure, however; it is rather an investment in oneself. Sums entrusted to stocks and bonds may readily be lost. Indeed, many have been lost, but the investments in oneself are preserved unto death—even to posterity.

Americans do travel and in large numbers, compared with Europeans. But isn't it strange what a

large number of those travelers are not really enjoying their journeys? Look round the Pullman, and your gaze is surprised by meeting bored faces. Many a steamship passenger, likewise, counts the days, waiting for his destination, then counts the days until his return.

But you can let travel be your adventure.

To the gentleman adventurer, using the word in the best sense, travel played a big part in the life of the past. In fact, to be a broad man, a man of the world, one did travel. The trek of countless thousands to western homesteads in the past century was as much of an adventure as Marco Polo ever enjoyed. Perhaps today travel is too easy. We are no longer explorers. Still, travel, even today, can be made just as adventurous and idea-producing as anyone could desire. It serves as an appetizer to the jaded spirit.

The strange thing, of course, is that so many people have so hard a time having a good time. And that brings us to the first of two classes of people: those who, though they have traveled much, have never learned how. They recline during the daylight hours on pillows propped up on the window ledge of the Pullman, they disdain chatting with their fellow travelers, they spend all their time playing cards on the hotel veranda and all in all have a most tiresome time getting back home again.

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But down the boat deck strides our second type, the man who is the powerful, hard-headed sort and is proud of it. He it is who finds the great country estate and purchases it for twenty cents on the dollar. He it is who visits Shanghai and finds new markets for his products. The world is his oyster and he knows it.

But even the hard-headed businessman is missing something that might readily become a part of his own life. Life should be an experience and in traveling you must push out into other lives. It is much more than simply having a good time, for you have an opportunity to live the lives of all who have gone before. Wise and sympathetic traveling means absence of rush and hurry. It means unusual paths and unusual stopovers. Outstanding among the many times I have traveled across the continent, I remember throwing away a perfectly good ticket on one railroad from Leadville to Denver and instead taking the narrow gauge that sought out the high places and the red and yellow aspens. Such brilliance late in September I have never seen before nor since. I seldom make a long railroad trip without stopping here and there. Harper's Ferry; White Sulphur Springs; Fortress Monroe; Ouray, seldom visited, but the gem of Colorado; Santa Barbara, California; Victoria, British Columbia; Winnipeg and a week's steamer trip to the upper reaches of Lake Winni-

peg; quaint hamlets in Nova Scotia—all these and many more stand out in my mind. Rushing here and there at a rapid pace destroys ability to appreciate new sights and places. So, when you travel in this country, in Europe, or in the Orient, get the stopping-over habit. One of my students just home from Japan actually discovered a town where an American or Englishman had never been seen before.

While you travel you will be storing up impressions. These impressions may not blossom into action or into full realization until some time later.

Adventure in Reading

Let reading be your adventure. There are many ways to remake the mind; there are many diverse lanes to learning, many paths to accomplishment and many roads to successful living. Reading is the most common and popular means of mental development, but this very popularity makes it much more hazardous, with its blind alleys, its innumerable turns and its pitfalls. The world is a world of books. Since Gutenberg invented the system of movable type and the process of printing began in earnest, back there in the fifteenth century, there have been published in the world some 30,000,000 different books and printed pieces. Eight thousand different volumes come out every year in the United States and double that number in Great Britain.

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How are you going to know what to read and how to read it? The story is told of a member of a middle-western legislature who, after being asked to support an appropriation for books for the university library, went over the building and the library diligently. Then he came back in triumph to the university president with the exclamation, "You don't mean to tell me that the students have read *all* the 300,000 books in that library already, do you?" This rather clever story does illustrate the point that to many people a book is a book, a paper is a paper, a magazine is a magazine, and it doesn't seem to matter much what is being read. "Give me a book," we say to the bookseller at Christmastime and the recipient of our gift is supposed to be pleased with our selection.

Whereas in early days it was the shortage of reading matter that was the limiting factor in education, today it is the abundance. Perhaps the professors and teachers with their tedious assignments dulled your taste for reading. What fun it must have been for Abraham Lincoln or some other illustrious figure of history to have owned and been obliged to read *only* the Bible and "Pilgrim's Progress"!

A famous literary critic was the other day bemoaning the small amount of reading done by recent college graduates. Many a college professor can go further and tell of the small amount of

reading done by college students while in college. (I can go further and tell of the small amount of reading done by the professor.) The student is so pushed by routine, and sometimes trivial, assignments that he cannot expand his mind in other directions. Again, the large amount of reading on single subjects sometimes becomes an obscuring influence in our endeavors to increase the range of mind.

But here we are sitting in the big armchair, the book fourteen inches in front of us, the light coming over the left shoulder (or should it be the right one?) everything ready to "shoot," as the boys say, but as yet with no ammunition. I always chuckle over these minute directions as to how to read, and quite as much I chuckle over those as to what to read—just as if there should be one exact course of reading for every man and woman.

Some people read books for definite tangible knowledge—honest materialism, if you please—and that is a most important function of reading. Others, like the banker, read for "escape" from present woes and grab anything in sight to take their minds off things. Still others read for "improvement," whatever that may be. It is about at this point that difficulty arises—choosing from among the great number of books that the city library or the bookstore offers. If you are set on

the matter of changing your environment by the reading route, your troubles and your fun are just about to begin. Perhaps the great mistake of all teachers has been to suppose that there should be one set course of reading for all people at all times and at all seasons. Different people need different books and all people need different books at different times and there are different degrees of absorption for different types of reading. Many books hated by college students are to be read only in the mellow stage of life.

I am a great friend of the browser. I always enjoy those libraries and bookstores where the shelves are open, where you can wander here and there without interference and pick out your own books. In the course of an hour or so you can take a peek into some twenty-five or thirty volumes and readily ascertain whether or not you would like to pursue them further. In reconstructing your environment it may be of great importance to choose some books clearly outside the domain of your immediate interests. But that does not mean that they are to be uninteresting books. Try a month on biography, a month on science, a month on poetry, a month on philosophy and psychology, a month on history, a month on essays and travels, a couple of months on fiction and a month here and there on other subjects. Do not let me tell you what

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to read. Adventure forth and discover things for yourself. At the end of six months you will be surprised at what you have accomplished.

Do not be afraid to "skim." You remember how those blessed old teachers used to caution you against skimming. It was a terrible habit, never to be started. Every page of every book must be read diligently, particularly those footnotes in fine print. But, really, the man who skims is not such a bad fellow after all. He is often a wise man. Pick here and there among the multitude of facts and you can handle three books in the time you usually spend on one. When you skim through a book, you do not laboriously digest each part; instead you hurriedly read sections of each page, picking out those things that seem to have meaning. It is intelligent skimming that enables some men and women to be highly educated. So, in reading, do not pore and dawdle over a book too long. Get to something else. A steady diet even of ice cream grows unpalatable.

Now and then *you* will discover a work that you wish to pursue much further. Well and good.

Exploring the Arts

Let the fine arts be your adventure. Indeed, we have already paid our respects to them at some length, as our readers know. I envy your excursion into this field, not only because there is much to

see and observe, but because things are far from quiet and peaceful on the artistic front. That the present generation has nothing to show for itself in art or in music or in literature, as many have said, is not quite true. There are scores of interesting developments concerning which we are not able at the present moment to give judgment. This is a great age of experiment and you yourself may be participating in the experiment. It would be interesting indeed to know just what posterity is going to say about modern art and modern music. Yet, even posterity, as we have learned in this book, has occasionally been wrong.

I love to see people walking through museums, because the walking is pervaded by a sense of curiosity plus a sense of duty. I, too, have been marched past "The Night Watch" and "The Gleaners" and "The Angelus." I, too, have found myself asking just what our great museums really mean to the thousands of visitors. Art once justified itself by being beautiful, but today one is not so sure that all paintings exhibited are beautiful in the old meaning of "beauty." Art is supposed to affect our emotions, but when it is put side by side with music, there is hardly a comparison. A few generations ago, as we have said, art served a highly useful purpose in the depiction of actual scenes and actual happenings, just as books of facts become valuable to posterity. But

the photograph usurped this function of painting and drawing.

In the architecture of our great cathedrals, grand art, if you want to call it that, offers to you aspiration and contemplation and restful repose, and this may, indeed, be one of its great functions. But modern art cannot rest on that claim. Today many feel that art requires an intellectual, rather than an emotional, approach.

So, while the artists themselves are endeavoring to find the real function of their art, the average person has a right to ask, "What will the artistic environment do for me mentally?" Its function in most homes, and art really belongs in the home rather than in the museum, is decorative. It adds a sense of fitness to things, and it is here that modern art has made its great contribution to life. Interior decorators and furniture manufacturers reached over and made one great adaptation that took modern art from the canvas and put it into interior furnishings. Observation of pictures affords you an opportunity to study hundreds of different kinds of arrangements and combinations of colors. It is a great source of adaptation and that is one of the things we are seeking.

We are not quite so bewildered in the case of music. But we have a right to ask as we did in the case of painting, "What will music do for my mind?"

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In the ordinary person music stimulates the emotions, and consequently the imagination, much more than does painting. Martial music inspires to triumph; dull, mournful music starts one to meditating on one's sins; while calm, peaceful music tends to wipe the cobwebs from the mind. The function of music in stimulating creative power is of some importance. It clears the mind—bright ideas suddenly arise much as they do when our minds are cleared just before we drop off to sleep; it inspires to accomplishment; it plays upon our emotions and arouses ideas.

Choosing the right music to which to listen is the same problem that you encounter in deciding upon what to read. For this reason, it is worth one's while to listen to many diverse types of music until one learns the effect of each type. Classical music, so called, usually exhibits more originality and departure from what has been done before. The adaptation in classical music may be decidedly obscure, while oftentimes in popular music it is very obvious. Classical music improves with age, while popular music tends to pall on one. But the dividing line between classical and popular music is often a very fine one. In other words, great compositions stand the repetition of the ages, while those that are very simple adaptations are often soon relegated into oblivion. So, turn your mind to a wide variety of music,

hear it many times, and decide what you will make of it.

Music is peculiar, though, in that there are thousands of people who produce music but do not compose it. They play the piano and the violin. There is nothing quite comparable to this in the case of painting. You either sit back and enjoy paintings just as you sit back and enjoy music or you engage in the actual process of painting or drawing, just as some people engage in actual musical composition. This peculiar side of music bewilders one. A generation ago young people studied music in order to be able to reproduce it for their own delight and the delight of others. But recent years demonstrated that this was no longer necessary. Families traded their pianos for talking machines and, later, radios.

One side to this situation, of course, is that music should be regarded as a field of composition, rather than execution, which is after all to a very large extent simply imitation.

How strange it is that almost all educational institutions practically exclude from their honest field that of composition! One of the most creative fields, that of music, is hardly touched at all. At the same time, throughout the United States one sees music teachers everywhere unemployed, seeking pupils, and yet, in what should be the most creative field of all, engaged in the most banal

aspects of imitation. For, after all, the constant playing of someone else's work *is* imitation.

The average man, perhaps, saw this situation more clearly than did the musicians themselves—if he wanted to enjoy rhythm and melody, it was ten times as easy for him to enjoy hearing someone else produce it as for him to produce it haphazardly, himself. The people, themselves, began to wonder whether learning to play was worth while. No wonder the piano business failed.

And yet, we must remember that a country is more likely to be known by its great composers than by its brilliant performers. If as much time were devoted to studying the elements of composition as the eight or ten years spent in playing exercises, America would have more to show for itself in the field of music, and the student would have a fascinating field in which he would be doing something that cannot be accomplished by the machine.

The point, of course, is that we have surrounded the composition of music with an aura that perhaps does not belong there. We have emphasized the mysteries and not the lucidities. Yet, we do not expect to see great novelists arise among those who have not yet learned to write mere paragraphs, or great painters to arise from the ranks of those who have not learned to mix colors. Strangely enough, music has gone wild on execution and not on composition.

And the dearth of this emphasis on composition, as we have indicated elsewhere in this book, has resulted in an appalling lack of originality. Hymn-book melodies from everywhere, popular music from everywhere, even the most classical of classical scholars borrowing from folk songs.

You have undoubtedly observed what we have already indicated, that not many popular composers are entitled to very much consideration, because they have not adapted so much as they have, rather rawly, imitated.

You Really Live

There are other directions in which we might have traveled in furthering and developing our thinking and originality. We might have paid our respects, for instance, to the very simple art of conversation. As printing has grown, real conversation has decreased. But one can learn many things from other people and secure many ideas, provided one does not permit the conversation to degenerate into trivial inanities.

I should enjoy being with you on your excursions. You will see many things that we have not so much as touched in this chapter. Unconsciously you will be taking great musical compositions apart, analyzing great paintings and determining where the famous author of the day really obtained his ideas.

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What do you make out of all this? Do we seem to be digressing from the central theme of this book? What we have said here is that it is necessary to pursue something of an active life, that it is necessary to stir about in the fields of knowledge. What we have really done is to start an exploration of the world's knowledge, not from the standpoint of remembering, but from the standpoint of building upon it and of stimulating our own minds.

And what we have suggested in this book is a different attitude toward thought. The mind is not an idle machine that runs itself, but one that you yourself direct. Such a development in your mental attitude will do many things. It will change your conception of culture and of education; it will change the possibilities of your making a livelihood. Over a period of years, careful thinking on the part of the world's citizens would remake the world itself.

The strange thing is that few people know what either culture or education really is. Pin down one of culture's most ardent devotees, and the chances are that he will not be able to tell you precisely what he means by the word. Culture, so called, without some purpose and direction behind it, is quite valueless—much like a coat of paint upon a house, without regard to the kind of house. Once culture belonged to men who never worked. They lived upon the labor of others, they did not feel

that it was incumbent upon them to make any contribution to the world. They twiddled their thumbs over aimless trivialities. Such men are comparatively few today—the wealthy man of today feels that it is something of a disgrace not to share his wealth with the day. It is this desire that accounts for hospitals and libraries and educational institutions. Americans really do feel this responsibility in a way that the rest of the world seldom appreciates.

Again, culture is more than simply being a repeater. It is one thing to absorb learning; it is another thing to give it out. Thousands of graduates of our universities have absorbed knowledge, and, as we have said before, have returned it, word for word in examination, wholly unused. I once heard of a Harvard professor who admonished his class that if a student did not return things just the way they had been parceled out, he would “flunk” the luckless individual. One professor at the University of Nebraska, so the story goes, would pop examination questions such as “What does the textbook say on page 242, second paragraph?” And woe betide the poor student who did not know!

But let us not be too severe on the professors. They are having a hard enough time of it, what with lowered salaries, rising living costs and wives and babies who refuse to subsist on cultural giblets. What about that Mrs. Smithers in your card club

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who always seems so well posted on everything, just gleaned from *Time*, and who volunteers the interesting bit when play gets dull, that the father of Walter Fusser, "distinguished" author of "Let Us All Be Dead," once ran a barber college in Marietta, Ohio? You would like to puncture Mrs. Smithers' balloon at once and ask her whether she had really read "Let Us All Be Dead." But better keep out of deep water, you tell yourself. Throughout American life today you see this tendency to pass along facts, but not to reflect upon them.

Occasionally there is another type of man or woman. That person hears things and reads things, like the rest of us. You soon find that he has done more than that; he has turned them over in his mind and announces to you startling and important conclusions. It was this wise old bird who was listening, back there in 1929, and coming to important conclusions—not, like Mrs. Smithers, just retailing and passing along the market tips. The wise old bird was getting out while Mrs. Smithers was getting in. He was solving problems.

The surprising fact is that so many so-called educated people, including a large proportion of college graduates, have accepted the idea that knowledge and culture are possessions simply to be stored away. Knowledge never used ceases to be knowledge. It is this side of the matter that affords

the man who never attended college his opportunity. Securing this cultural background—as good a collection of facts and principles as the average graduate of a liberal arts college actually *remembers*—is very simple. A surprisingly large number of college graduates cease to grow immediately upon receiving their diplomas, and it is not such a hard task to pass them by. No one should be afraid of a college diploma. Progress and success, as we have learned, come through building upon knowledge and not through its mere possession.

Just what is education? Millions of dollars are spent every year on elementary schools, secondary schools and colleges. What we are to take out of the educational process is important. Surely it is not merely the assimilation of a few hundred facts, soon to be forgotten. Nor can it be simply a veneer polish, for if one desired that, it could no doubt be secured better in a one-year “Charm School.”

Altogether, there are three things that seem to be of permanent value in the educational process. Indeed, the intelligent man is to be recognized by his answers to these questions: (1) Can I solve my problem well? (2) Do I recognize relationships between things when I come across them? and (3) Do I really create something and so push the doors of the intellect ajar?

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Whatever comes into your mind is to a large extent simply material to be treated in these ways. The men of good judgment are the men who have learned to solve problems well, the great scientists are the men who are able to perceive relations, the great musicians are those able to create. One of these days, every schoolhouse will give its instruction with these ends in view and every teachers' college will impart to its teachers the logical principles of creative thought.

It is pleasant, of course, for each individual to enjoy the bypaths of civilization and, at least to a moderate degree, the fruits of living. Day after day, simply to rise at seven o'clock, to go to work, to return to supper and go to bed turns out to be a slavish existence. Your wife, in her sphere of activity, perchance feels the same way about it. To turn those spare evenings to account—to really live, as someone has said—would be a matter of enjoyment. There is true adventure in the intellectual journey.

As we go along, let us forget that we are acquiring knowledge. We're not. We're just going along and enjoying ourselves. The sad fact is that education has made it a chore to become educated men and women, instead of letting it be one of the most delightful tasks in the world.

Write Your Own Ideas Here

Write Your Own Ideas Here

X

Man's New Earth

No pleasure is comparable to the standing upon the vantage-ground of Truth—a hill not to be commanded, and where the air is always clear and serene—and to see the errors and wanderings and mists and tempests in the vale below.

—FRANCIS BACON.

I know the failures of my time as well as its most biting critics, but I am not prepared to admit what is so often charged, that my generation was bankrupt of accomplishment. What it hands to you is a country so well off in material things that you cannot bankrupt it by any experiment which you may make in your time.—OWEN D. YOUNG.

For he cared for beauty and all lovely things, goodness and high conduct and the nobility of man.—HUGH WALPOLE.

And I saw a new heaven and a new earth: for the first heaven and the first earth are passed away; and the sea is no more.

—The Revelation.

WHAT else? . . . When one draws to the conclusion of a book it becomes apparent that the things left out may be more important than the things included. The paths of thought lead in many directions and no book written comes to its own end.

Quite rightly, then, you ask, “What else?” What more is there to say?

MAN'S NEW EARTH

Many things are not to be discussed. Large numbers of you will see inspiration arising from outside of the world itself, destiny will appear to ride serenely above the waves of man's impotence—but these things we leave for others. Our conclusions might lead us to the depths of religion or into the innermost recesses of philosophy, but upon those highways we do not propose to travel here.

Briefly, we leave

The World in Your Hands

Civilization is, after all, a flexible thing, not nearly so stereotyped as one might readily believe. The power to make and unmake it is perhaps the supreme privilege of life.

The strange fact of all time is the immortality of thinking. A fanciful idea suggested by radio broadcasting leads us to imagine the vibrations of all words ever spoken as still spreading throughout the universe and to picture some receiving set capable of intercepting and bringing to life the actual words of Gladstone and of Lincoln or even of Socrates and of Abraham. Translated into thought, these same waves actually do exist.

Indeed, the power of thought, followed by action, may never lose its influence. Thoughts and ideas that we have considered long forgotten still exist in out-of-the-way places in the world. Traveling in some of the southern mountains, one may in

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reality step back into the thoughts and ideas of the far past. Thoughts go on for generations, making and unmaking the lives of men and women yet to come.

You who are so well off in dollars may feel that you have protected and provided for your descendants, but actually you have not. How are you to say what marriages may be made in future generations? You will have thousands of descendants, just as you have had thousands of ancestors. Your wealth in a few short generations, at the most, will disappear. But what you have thought may make a tremendous difference to those same descendants.

What a conception it is, when one comes face to face with responsibility for the universe! It is as if the great Creator had laid everything out before us and said: "Here is the world. See not only what you *can* do with it, but what you *will* do with it."

And you will have to admit that some of those thousands of ancestors of yours did a poor job now and then—maybe, most of the time. What you do is important.

It is here, you see, that we come fairly and squarely to determining the validity of our problem solving and our original thinking. The nature of solving a problem or of creating something may not be essentially different, whether we are devising a plan to sell a bit of merchandise or con-

quering a scourge of disease, but our choice here does make a big difference to future generations.

Thought, when reinforced with idealism or a philosophy of life, is capable of doing away with war and of creating happy and worth-while lives for countless multitudes. This world can be made a great place, whenever its people decide to make it so. It is not primarily education in the traditional sense that will accomplish the end, nor indoctrination in the sense of propaganda, of which the world is so full at the present moment, but rather the application and appreciation of the principles of thought on the part of all people. Sensing what is going on before your eyes will help you to conduct your own mind.

A few pages ago we implied that man was *against the world*. Here we propose that man may well be *for the world*. Despite the possibility of using the methods of thinking for the enhancement of our own interests, no one can fail to see the obligation of using thought also for the advantage of the world. Thinking is not entirely a selfish matter.

The Certainty of Uncertainty

Men who say that the world today is entirely devoid of thought are no doubt making a serious mistake. Quite on the contrary, I am inclined to believe that the past thirty years will go down in history as an era of great creative development.

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There have been new developments by the score in the fields of invention, of government, of the arts: Merely to enumerate the changes in civilization staggers one:

The fall of kings and the rise of popular government; communism;* dictators (probably a temporary expedient owing to the inability of people to solve their problems).

Aerial transportation.

Wireless telegraphy and radio.

The automobile and modern highways.

Education for everyone.

The feeling of personal responsibility for great wealth—the conception of the rights of the common man.

The freedom of woman.

The exploration of the farthest outposts of the world.

Advertising and modern merchandising.

One might continue this list almost indefinitely. There is thought, billions of items of thought going out in all directions. It may often be unsifted thought, unevaluated, running here, there and

* Communism, of course, is not so new as many people think it is. Everyone who has traveled across Iowa on the Rock Island Railroad has passed through one-time strongly communistic (but also religious) settlements, the Amana villages near Iowa City. In late years I have been informed that they have tended to become more capitalistic. The history of the world has seen many such ventures.

everywhere, making and unmaking people and making and unmaking the world itself.

The foremost thinkers of our day admit the value of the wonderful discoveries of the past thirty years. It has been a great age, but just the same, they profess to be troubled, because the world does not seem to be so well off, after all. Those of you who have been reading this book have perhaps already sensed the difficulty. Each bit of creative thought taking place in the world brings with it problems that must be settled, often by still another bit of creation. Some have been working overtime at this matter of creation, while thousands of others who have been following along behind have not been able to solve the consequent problems and to create necessary ideas fast enough to maintain an equilibrium for themselves and the world.

Maybe this has not been a good problem-solving period. New things in creation do create problems—the problem of unemployment, the problem of the distribution of wealth or the problem of the machine age, plus all the problems arising from new developments in artistic and moral attitudes. Problems everywhere, to a very great extent brought about by the spirit of originality of which we have written so gloriously a few pages back! Our problem solving has been temporarily snowed under by our creative powers.

For those of you who pine for the calm, peaceful Victorian era, this is not the age in which to be living. Imitative eras, when there is only modest adaptation in invention and art, are always comparatively quiet times. What a shock any one of a score of minor creations of the past ten years would have given our Victorian grandmothers!

Just the same you would not trade your bathtub for the old kitchen tub of the Victorian era, you would not trade your tungsten light for the flickering gas, you would not trade your automobile and paved highways for the one-horse shay and the country lane, you would not trade your simple operation in the modern hospital for the barbarities of surgery of a generation or so ago, you would not trade your job for one of menial labor; of course you would not, and no one asks you to do so. I sometimes smile at people who picture the glories of the past, yet I am quite sure that if they had been living then they would not have enjoyed those glories, for fortune might quite as well have placed them in the occupation of scrubbing floors for the kings and queens of their day. Despite all that troubles us, this is a great age for the common man, a greater age than he has so far experienced.

But what is the answer to our question? Primarily this. Your troubles arise because your own thinking has not kept pace in its creation and its problem solving with this thinking by the few that

has engulfed the world. The reason for so many great achievements is that the rules of creation have become increasingly apparent to those who would apply them. The rest of us have permitted ourselves to be overcome, without doing our own thinking and our own problem solving. The only answer to all this is that your own mind must keep pace with the mind of the world.

Few desire to put Humpty Dumpty together again. Young men and women find it hard to determine upon their course in life. Few can predict their ultimate aim. On the opposite side we have Hitler and Mussolini. These men believe they have purpose and because they seem to have purpose they are able to influence millions of their subjects who themselves lack purpose and find it only in these men. People love dictators because of a craving for certainty.

This certainty that we crave is a strange thing and yet each one of us must achieve it for himself. Few things within the world are completely unchangeable and this very changeability is in reality a form of stability, for it means that we can march forward.

It is a common pastime of the nonthinking person to bemoan the present and extol the past. Goethe in his day thanked God that he was "not young in so thoroughly a finished world." But there came a much finer world than Goethe's. America

has absorbed the culture and ideas of many nations. There are diverse and fruitful paths of thought extending in every direction. The world is still largely unknown. If we use our minds as much for the advancement of the world and civilization as for our own personal advancement, this will be written down in the archives of time as a marvelous age in which to have lived.

Man marches through the universe, but only as he thinks does he assist in controlling it. He meets the world with thought and the world opens to him.

It is a great world, waiting for the exploring hand and the observing mind. It is in your hands. You are making the world itself.

Is your own thought the fitting preliminary to a new earth?

“ . . . after winter comes summer, after night comes day, and after the tempest a great calm.”

Write Your Own Ideas Here

Write Your Own Ideas Here

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