How to Get *IDEAS*

by
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I

Where Ideas Come From

There was once a young preacher who boasted that he could make a sermon out of anything anyone would say, and urged the members to send up their slips with suggestions. A tease among those present sent up a blank slip of paper. The preacher looked at it, turned it over and said, "Here is nothing and there is nothing." He paused for a moment, considering what text he could get out of this. Then his face brightened and he was off. "Out of nothing, God created the world," he said.

Unfortunately we are not always so successful when we have to produce an idea out of nothing.

It is the people with ideas who win most of the desirable places in the world. The person who can create something new and different is wanted—and rarely by the police! He is in demand for his ability to develop ideas. Those who achieve conspicuous success in business and advertising, in radio, drama, literature, journalism, in politics, society, and indeed all the professions and walks of life can attribute the large portion of their success to their capacity for getting and using their ideas.

Many large corporations maintain research departments which do nothing but look for and create new ideas. It is the new in automobiles, airplanes and technology in gen-

eral—the new in government, politics, labor and industrial relations—the new in fashions, entertaining, advertising, books—that people constantly seek. We even say "What's new?" as a greeting instead of "Hello."

Many people work long and hard at a piece of work only to discover that their idea was no good to begin with. Why not make your ideas count for something? Do you have difficulty in getting ideas in the first place?

It is interesting to note that your education, race, age or experience have nothing to do with your success as an idea producer. You do not have to be a scientist, a technician, a writer, an artist. If your idea requires skills in these directions you can hire them later if needed. Successful ideas come from persons in all walks of life, all ages and the least experience. No credentials are needed to go in the idea producing business. Even the sick and handicapped can participate in this rewarding activity.

Neither do your ideas have to be of long lasting value. As soon as they are utilized they make their contribution in increased production, jobs and sales even if only for a short time. Change and novelty may be useful in themselves and may encourage further ideas. Since every new idea is merely a combination of two or more old ideas or parts of old ideas, every new idea contains parts or material for a still newer one.

The need for new ideas is universal. Nothing in the world is completed to finality and cannot ever be, for the world changes from instant to instant. And nowhere is change so persistent, so quickly taken up, so lively and active as in the United States. We are an active people, quickly bored, restless, eager for change. Whole books have been written about induced obsolescence, the deliberate creation of changes in things which still possess much utility, wear, or

beauty, merely to make them old fashioned or dated, so that new and different things will be purchased. It may be highly uneconomic, but it is profitable, especially to the idea producer.

I used to think of creating ideas as something tinged with considerable mystery. Like many others, I believed that it could not be developed, that it happened or did not happen. Yet I could not reconcile myself to the notion that God was bothering to send inspirations in the form of better mouse traps or fancier perfume bottles. I came to the conclusion that getting an idea was a process—part of the cause and effect processes that control all of life. Since there must be a reason for what happens, the matter comes down to knowing the reason and applying the method.

What then is the process of creating ideas?

People have been successful in extracting the wealth of the earth for their use but they have not learned to seek for the untold wealth which lies hidden in their own hearts and minds. It is in human beings as it is in soils where sometimes there is a vein of gold concealed.

To get ideas is a matter of creative thinking. It is a method for those who wish to get results in their own fields of work and in their own lives, for people with ideas live more enjoyably and more profitably than those without. A method of producing ideas is fundamental for any occupation and for life itself.

Everything that man produces begins as an idea. From the wrapper on a loaf of bread or the tube of shave cream all the way up to the latest best-seller; from nylon stockings to television; from seedless grapes to a magazine printed in Braille for the blind—all began as an idea.

Most of our ideas come from someone else. Where does the someone else get them? Is there any way we can get an

idea, better yet, a succession of ideas, by ourselves? Yes, there is a way, and I don't mean inspiration which some people would like to meet by appointment in a lunch room.

Developing an idea is much like developing an invention. Sir Joshua Reynolds, the great painter and founder of the Royal Academy, tells us that invention is little more than a new combination of those images which have been previously gathered and deposited in the memory. Despite the ingenious preacher, nothing can come of nothing, at least by manmade efforts. He who has laid up no materials can produce no combinations.

Accordingly, the idea searcher explores human experience and thought—history, psychology, science—anything and everything for analogies and stepping stones for the imagination. The more extensive our acquaintance with the work of those who have excelled, the more extensive will be our own ingenuity. Then when an image comes to us, we can use it, juggle with it, be receptive to its possibilities, not simply hold it isolated as an amusing or interesting curiosity, but have it as a basis for experiment. Most of us get ideas that we do not develop in this way, and nothing ever comes of them.

Some people have their heads full of so-called bright ideas all the time, but only too often they are merely half-baked notions. The techniques suggested herein should improve the quality of the ideas so they really become workable and useful. Practicing better methods need not mean getting more ideas when one is prolific already, but it should mean getting better ones.

To be receptive to the creative impulse, one must have a certain discontent, a confidence in the potential ideal, a sense that betterment is always possible. This gives birth to constructive curiosity.

We are all inventors in minor things. The one who would improve a thing must realize its present qualities and its possibilities; must recognize that the possibility of perfection outweighs the probability of imperfection. We do not, for example, believe that violin strings have been made to create horrible discord, although the probability of discord is far greater than that of harmony, and for one who can play the violin, there are thousands who cannot.

To get an idea, observation is the first requisite, analysis the second, faith the third. Without observation, the need or opportunity would not be recognized. Without analysis, the method would not be devised. Without faith, the impulse would be lacking. The successful effort, then, combines a physical, a mental and a spiritual activity—in other words, a union of all our available powers directed toward a single goal.

Perhaps this sounds harder than it is. How does one create in nature? One plants a seed. One allows it to germinate. Surely that is a simple pattern. But it involves the same three points Observation. You see a need or a chance to grow a certain thing. Analysis. You do not plant a grapefruit seed to grow a beet. You consider the conditions and other factors. Faith. If you did not expect a grapefruit plant to grow from a grapefruit seed, you wouldn't bother in the first place. We must keep a sense of direction toward our goal. A traveler in Rome asked someone, "If I go straight from here, how far is it to the Vatican?" "Well," was the reply, "if you keep straight on the way you are going, it is nearly 25,000 miles, but if you turn around and walk the other way, it is about a mile and a half."

In the production of ideas there is a similarly straight road, a definite method, so clear that it may be called a

technique. Whenever an idea is produced, this procedure is followed, knowingly or not. And this technique can be cultivated. It is the purpose of this book to show you both in theory and practical analysis, how to arrive at new ideas, together with specific methods for developing meaningful ideas quickly and at will.

The early portion of the book necessarily deals in part with the theories. But the major part of it concerns actual formulas, techniques and practical examples of how people have used them to produce the ideas that are more or less familiar to us now, and how you may use them to forward your own purposes.

The new frontiers of the coming age will not be in the form of new worlds to conquer but in the conquest of the world we know. And this can be accomplished only by ideas. We stand upon the threshold of a new world of ideas. On the other side of the door can be a bright tomorrow.

II

What Is An Idea?

What most of us call an idea is merely an impulse. It's the beginning or germ of an idea, with many possibilities but only if we add to it the factors that give it value.

My father was an inventor, and sometimes people would say to him, "I have an idea . . . the desert needs water . . . let's go in business together." Eight times out of ten, what these people had was not an idea at all—it was an impulse.

Merely recognizing a need for an idea is very far from having the idea. Anyone who undertook to handle such an impulse would have had to add ninety-nine percent to make anything of it. Finding the need is not creation, as it does not change anything. After you find the need, then you first go to work to fill it.

Ways of testing such an impulse will be given later, although this example is so exaggerated that no one would have to test it to know it was ridiculous. Or is it? What about irrigation reclamation projects which have made parts of some deserts to bloom? The virtues of an idea-seed are by no means always obvious.

Since everything starts with an idea, the subject covers enormous territory, as does the definition. However the word "idea" as employed in this book will be the popular and colloquial usage, not the philosophical or technical.

What I am discussing, really, is how to produce a good or practical plan, a suggestion, a new approach, a solution to a problem.

An idea, then, starts as an idea-seed, a notion, a vague conception or supposition, a thought or mental impression, from which the idea itself is then developed.

The idea-seed begins as something to which as yet there is no corresponding reality. At the outset it is fantasy, or a fiction or a figment of the imagination.

After it is developed, it will be a plan or purpose or action, an intention or a design. It will be an accurate image or concept of an object which is either tangible or intangible, either concrete or abstract.

Impulses are often valuable beginnings of ideas and they should not be ignored or neglected. Write them down and save them; and some time you'll find that they combine with other thoughts to make something interesting.

In that statement is a clue to a real idea. An idea is a new combination of old elements. Ideas are for certain purposes—to overcome difficulties, to improve things, to entertain or attract, to find good or different ways of doing things.

Successful ideas, contrary to belief, are hardly ever based on original thoughts. They come to one as the result of some outside impulse nudging one's attention. Talking to someone, listening to a speaker, reading, hearing something on the radio, looking into a shop window, passing something on the street.

Genius itself depends upon the information within its reach. Even Archimedes, great thinker that he was, around 200 B.C., could not have devised Edison's inventions because scientific knowledge had not developed to the necessary point.

It is obvious that the more we know about a subject, the more abundant and the more effective will be our ideas concerning it. Sometimes this seems to be contradicted by the fact that many innovations come from inexperienced outsiders. But their apparent lack of specialized knowledge is counteracted by their interest and enthusiasm. They find the information. They get the experience.

Recently, for example, an advertising company had the assignment of promoting a cigarette lighter—a typical man's product. Newspapers always have columns for women's and household topics, but there seemed no appropriate section for this man's novelty. The idea that solved the problem was to design a lighter that could be used as part of a handsome table setting to go with the silverware at dinner. This lighter, when designed, was avidly seized upon by the editors of women's pages and the new product got enormous publicity. No lighter expert or technician worked up this solution. It came from an enthusiastic outsider.

And right here I get the idea, or rather the impulse, of why similar newspaper columns devoted to men's products could not be promoted.

Ideas are either abstract or concrete. The abstract idea is primarily important to the writer of stories, novels or plays and the author of books of contemporary or other non-fiction nature.

On the other hand concrete or specific ideas are of interest to the writer of movies, to painters and artists and engineers, and other workers in pictorial media or graphic presentation, as well as to business people and advertising writers.

Usually the abstract idea is a vague thing in origin. Your mind is in the state known as wandering over miscellaneous odd situations or conditions. All at once one of these sub-

jects attracts you more than others. It "clicks" with something in your mind. It seems to fit in, to belong.

Such an idea is vital to a writer. If you have already mastered the art of writing what you mean, your ability to come up with fresh ideas is important to your continued success. Other factors being equal, your output will vary in quality and vitality, with the force and appeal of your ideas.

The abstract idea seems to come from nowhere, or to bubble up from the depths of your imagination, and usually without reference to preliminary facts. But we shall see later how to expedite such ideas and produce them almost on an assembly line basis.

Such casually obtained ideas are all right when there is no time factor involved. A Nobel prize winner in literature does not have to worry if he gets another idea in a hurry or not. When he gets it, it may be any idea on any subject, just so it's an idea.

But most business people need ideas to solve particular problems. They are restricted by the specific facts and conditions, and they also have a time limit in which to "come across" with something. This puts a very different approach to the problem than that of the more leisurely "creative" thinker. As a matter of fact, it takes considerably more creativeness to be creative on schedule than to amble along at one's own serene pace. The tempo of modern business is such that it no longer wishes to wait even for time or tide. It seems to be getting even with the long eons in which time or tide refused to wait for man.

The concrete idea cannot proceed by stretching an arm into the blue sky and drawing down something to do business with. It depends on specific facts that must be previ-

ously gathered, organized and adapted to the purpose in view.

Playing with ideas without knowing the process is something like constructing a television set by using the trial and error method! You may finally get it done but it would surely be simpler if you knew how at the start.

Most of our ideas come to us from outside by way of seeing, hearing, feeling or some of the other senses. But these ideas are merely raw material for writers. They are shared in that form with all human beings. A creative mind does something to those ideas. He selects, adapts and transforms them.

For example, my mother had a long siege of insomnia which nothing seemed to help. So I decided that there must be some way of getting the better of it, and determined to do a lot of research and write a little book on How to Sleep Soundly. Was that an idea? No, up to that point it was merely an impulse. The idea only appeared after I did the research and knew how I was going to relate the factors. It became a successful idea after it was published and put all the readers to sleep—except my mother!

So, first of all, the writer selects certain impulses that arouse his interest. This determines his basic material, and to a large degree the personality of his writing as well. With other planned methods and skill, these impressions, fleeting glimpses of life and basic facts of human behavior are recombined into work that the writer has every right to call his own.

The same process of gathering raw material, selecting, refitting and refining, characterizes all idea development whether abstract or concrete. The chief requisite is imagination. This can be so aided and controlled by devices pres-

ently to be explained, that the process of idea-getting becomes almost automatic.

Ideas result from mental attitudes. They originate in points of view. Hence by seeking true and natural points of view one may secure the best and most superior ideas. The world is governed by ideas—good ones and bad ones. Each nation is ruled by its political policy which is the general expression of the ideas of its leading minds. Each individual is as he is by virtue of the particular ideas which prevail in him.

It is more necessary today than ever to look for the good. There is a great deal of superficiality, triviality, to say nothing of evil, in modern life. When the attention is concentrated upon the continual discovery or development of good, its creative energies will multiply the good. There is a better side, a superior side, a beautiful side to everyone and everything. By learning to look for the better and higher qualities in persons and things we ally ourselves with these and not only produce better ideas and more constructive ones, but improve ourselves at the same time by more desirable and up building attitudes.

A major requirement in getting an idea is to believe that it is possible. In other words, we said something above about faith. Before you can do anything, you have to believe it can be done. This more than anything, sets the mind in motion to find the way. Your mind always takes its cue from your beliefs. If you believe it cannot be done, your mind will produce the reasons why it cannot. If you believe it can, your mind will be equally proficient in showing how it can. That is a necessary step in releasing creative power.

Of course to get an idea you must be receptive. A dog on Fifth Avenue, New York, may be surrounded by all the

idea material which the creative thinker sees. Receptiveness is what you as a human being can make of it.

You cannot harbor in your mind such negative attitudes as fear, worry, resentment, jealousy, anger, anxiety and the like, and at the same time expect to receive any inspiration from the finer portions of your being. The creativeness of a person is of the same substance as universal creativeness. You must ask this creativeness within for what you want, visualizing it as clearly as possible in picture form. Then you must still your mind in an attitude of faith, expectation and confidence that you will get your reply. You can't pour grain into a sack unless the sack is open to receive, and your subconscious cannot pour ideas into your mind unless your mind is receptive.

I much like the word "amateur" as we might apply it to the subject of getting ideas. From the French verb, "to love," its literal English meaning is to have such a strong fondness for a particular endeavor that one cultivates it eagerly without pursuing it professionally. Many notable discoveries in science have been made by amateurs. Newton's occupation was that of a government employee. His scientific exploits were the hobbies of an "amateur." To Einstein, mathematics was a hobby, his work being in the Swiss patent office.

To do anything with the spirit of love is to add profoundly to its potentiality for success. Everyone knows that love is magnetic. In the field of thought it attracts other thoughts that are needed, in a mysterious way. It removes much of the stress and strain of compulsion and adds the glow of happiness and inspiration.

When your dominant mental attitude is aspiring, harmonious and positive your mental powers will be directed

into constructive channels. If the state of mind is discordant, apathetic, negative, then the forces will be misdirected and wasted. Attitudes of harmony and goodwill promote improved conditions of satisfaction and progress. Only trouble and discontent, confusion and discord can result from destructive attitudes. Creative skills enable us to deal ably with every problem of living. They aid us in developing our individual character to an increasingly higher creative level. Since it is creative skill which enables us to advance to economic stability and to enjoy life at the highest level, the development of creative skill is a most important practice for each of us to undertake.

Creativeness in the production of ideas when successful is far more than a financial asset, for it serves in a big way as an emotional outlet as well. Such ills as nervousness, discouragement, the inferiority sense, and general restlessness, are due to the feeling that one is not contributing to life to the hilt of his capacities.

A single new idea may reshape your whole future. It is worth trying for. The results of ideas extend far beyond money. They bring one into new business and social contacts. They furnish the priceless opportunity to be of service, and thereby achieve appreciation, so yearningly desired by every human being. They justify one's existence, for one has no right to consume all the pleasures and benefits and comforts of life without producing some in return. The idea producer also gains in the pleasures and rewards of alertness, interest in surroundings, the conquest of boredom, and the possession of a hobby with many challenging qualities. The successful idea producer also develops his own personality by adding interest, enthusiasm, purpose to his life. He increases his mental stature by becoming more observant, more analytical, more concentrated. Most people,

however, do not lack the capacity to be more creative. The difficulty up to now has been that the methods of accomplishing such a purpose have nowhere been imparted to them. As a result, they view the subject with awe and mystery and ineptly allow themselves to be stumped by imaginary obstacles.

One has only to look around at the world to see in the most casual glance that there is untold opportunity for improvement and change. Granting the tremendous need for creative thinking and for new ideas, it is high time to place their production on a more systematic and reliable basis than has heretofore been done.

III

The Expert Stumped

What do you do when you decide to think of an idea? Sit down at a desk, look out of the window, chew a pencil, doodle on a pad, worry about the bill from the insurance, mope about that girl you saw in the streetcar. In other words, you think of everything but producing an idea. Result, no idea produced.

You have two ways to go about solving your difficulty,—the wrong way or the right way. Here is the too familiar picture of the wrong way. You neatly set before you some blank paper. You sharpen your pencils. You light a cigarette. You gape, then glare at the uncompromising white sheets upon which no idea appears. Your mind wanders, thumping heavily on the flowers that bloom in the spring and other matters that have nothing to do with the case. At last, with a sense of horror on a par with that of the man in "The Pit and the Pendulum" as your time-limit expires, you seize upon some half-baked plan that suits no one. You admit you are beaten. This process is in complete accord with the definition of Kettering, the dynamic research wizard of General Motors: "Experts are people paid to tell you it can't be done."

The right way is a planned activity devised to avoid mental confusion. It endeavors to keep your mind clear of ir-

relevant matters and to put your attention on points useful to your purpose. It seeks to place idea production on a practical technique based on fundamental principles. To acquire any art the essentials are to learn principles and then methods. A mental giant differs from the ordinary person in that the mental giant can put his mind on one thing for hours at a time, and observe all sorts of connections, relationships and associations with other things. The ordinary person becomes mentally tired after a short period of mental activity. He loses the connecting links, associations and relationships which could lead to new ideas, or otherwise solve his problems. The easier, resultful ways of doing this, presently to be described, take much of the fatigue and defeatism out of it.

Edison said that in working out an invention the most important quality is persistence. Nearly everyone who develops a new idea works it up to a point where it looks impossible and then he gets discouraged. That's the place to get interested. Hard work and forever sticking to a thing until it's done are the main things an inventor needs. And they won't do a bit of harm to those of us who may be working on lesser ideas.

At the same time, Rev. D. S. Parkes Cadman who favored the old virtue of diligence, admitted that it could be overdone or perverted. He cited the example of a bishop who industriously got up every morning at four o'clock. The rest of the day he divided between congratulating himself on his early rising, and yawning.

Rather than look for any one particular idea, it is much wiser to train the mind in the method by which all ideas are produced. There are certain principles we shall get to presently. Knowing these, your pencil-chewing, pad doodling days are over. You can always help yourself to an idea.

Some persons regard each fact as a separate piece of information. Others realize it is a link in a chain of knowledge, with relationships, similarities and contrasts that can illustrate a general law which applies to all facts. If we had to learn afresh why every apple falls to the ground, we should never get anywhere. The one principle of gravitation covers this situation wherever it occurs. Similarly we have an over-all principle that the production of an idea results from the capacity to bring old elements into new combinations. This depends largely on the ability to see relationships. And to see relationships is readily prearranged by means of certain devices which it is the purpose of this book to describe.

Most people have considered creativeness an elusive ability that is born, not made. They look upon a new idea as an accident that descends from the ether and just dangles before the eyes of some fortunate person. But as we shall see, there is no mystery or magic involved. The whole problem resolves itself merely into getting the right combinations of old ideas or parts of old ideas into a new, practical or interesting arrangement.

To be sure, information gained from wide experience prepares one to see a particular subject in relation to other things and to have a proper sense of proportion about values and possibilities. With this sense of relationship closer and sounder analysis is achieved. The widely informed person can do a better job of recognizing pertinent and significant factors than one who is not so alert. So keep exposing yourself to new experiences. Avoid doing things exclusively by force of habit. Habits have many valuable and profound uses, but we can carry this to extreme. The idea seeker must be flexible, not bound by tradition, the same old thing, the habitual reaction. He should go to different restaurants, go

to work by a different route, avoid the same vacation every year, read books in different fields, meet people in different groups or classes, expose himself to new and different situations and experiences.

It may be said, before considering the various sources of material for particular ideas, that there is present in every completed idea the broad general background of your individuality. Often it is this background of individuality that determines whether an idea is to be a success or a failure. The whole man is always present in every sincere effort.

Therefore, try to know yourself and your real interests, for the enthusiasm which interest begets has great carrying power. In developing a fundamental approach to getting ideas, start by listing your own skills, special talents and experiences. You cannot make the most of your assets in the fields you know best, and permit them the opportunity of being useful to you, if you do not know what they are. Decide whether your skills or interests are primarily scientific, artistic, business, social, mechanical, organizational, visual, domestic. Decide whether you prefer details or generalities, whether you think better concretely or abstractly. After you decide in which you are strongest, list the rest in the order of their appeal for you.

In addition, there are certain character qualities which are useful, not only in getting ideas, but in any phase of successful living. These include open-mindedness which enables you to judge new ideas or things on their merits, avoiding their rejection because they are strange or unfamiliar. Also planning, which helps you to work out in advance the details of what you must do to achieve the results you want. Without planning, you leave things to chance, to hit or miss, trial and error. Likewise carefulness,

which permits you to carry out your work with painstaking effort, thoroughness and cautiousness in avoiding mistake Overlook this, and you perform your work in a slipshod manner, which surely cannot reach a result in which you can take pride. Very important, of which we shall speak later on, is observation, whereby you can pick out the res facts of a situation, the facts that count, enabling you t analyze and form sound judgments. Without this valuable trait, the real facts of a situation are obscured, and inconsequential factors loom more important than the essential matter. In addition there is resolution to stick to the right decision once you have made it, rather than wavering changing your mind and being unpredictable to yourself, not to speak of being unreliable where others are concerned. *A* valuable asset is patience which enables you to stay with *i* task which makes severe demands on your attention particularly if the outcome is in doubt and overlong in coming. Without this, you tend to be restless, irritable, causing the haste that makes waste, and resulting in serious errors From this brief comment it must be apparent that mental efficiency is important to the creative thinker. Those who realize this and work to develop their mental faculties are the ones who stand the best chance of becoming skillful producers of ideas. Ideas can be produced by a process of combinations and permutations, but they are more fun when the spark of individual fire is added.

IV

Imagination and Observation

Most persons whose lives fall short of their great possibilities do so for lack of imagination. Imagination is the power of the mind to create mental images of objects previously perceived; the power to reconstruct or recombine the materials furnished by direct apprehension; the power to recombine the materials furnished by experience or memory. It should be for the accomplishment of a worthy purpose; the power of conceiving and expressing the ideal. Producing ideas is an art. But an art is a waste of effort if it spends itself on the production, no matter how skillful, of something not worth doing. The human mind is not limited to the present by means of perception, nor to the past by means of memory, but can anticipate the future by means of imagination.

Man's imagination enables him to think things out before he does them. Therefore if he perceives an error, he need not actually commit the error. He can discard the process before making the error and use his imagination to avert it and try another method.

The ability to produce ideas relies heavily upon imagination. Imagination is the source from which arise the mental pictures which are essential to the functioning of intelligence. It is the inspiration of all creative production.

It has led scientists to all their great discoveries and is the starting point for all new inventions. It is indeed the driving force and guide of all our activity.

Imagination, obviously, is imaging or picturing. It is the power that enables us to record on our minds, to remember, to recall at will, pictures of previous experiences, and to recombine these into different forms and impressions. The mind draws the mental pictures it makes from external objects. These pictures can only be created through our own perception and feelings. Each of our senses conveys the picture appropriate to it to the brain. Through the eyes we form visual images composed of line, form, light and color. Our ears provide images of sound in its infinity of combinations. The senses of taste and smell bring us pictures of flavor and perfume while the sense of touch presents to our mind such tactile sensations as heat, cold, damp, rough, sharp, soft, smooth, and so on.

Everyone has the ability to see pictures in his mind. Imagination is well named a plan making department. There is no limit to your ability to use imagination. People do not generally use it very efficiently but it is there and can be developed. You can take an idea or the memory of an experience and join it with other ideas and memories. You have the power to associate ideas and think through to a logical conclusion, thereby coming up with a new idea.

Other things being equal, the person who has the greatest store of concepts or mental images concerning the general subject of his definite purpose; and who has that material the most thoroughly classified and indexed, either in his memory or mechanically; that person will manifest the highest degree of success in his work of constructive imagination.

"That man," says Thomas Carlyle, "is most original who can adapt from the greatest number of sources."

Creation generally consists in the shifting of attributes from one thing to another. In other words, we give the thing with which we are working some new quality or characteristic or attribute heretofore applied to something else.

You not only can see such pictures in the mind of past memories and experiences, but you can create pictures, patterns and plans in your mind which were not there. Life, being responsive, flows over these plans and patterns, creating in reality what you have depicted in your mind. Everyone has imagination and everyone uses it, either to make plans for what he wants or for what he doesn't want. The action is automatic. This is why it is so important to imagine only what you want, not what you fear or don't want. You must be the engineer.

It is not the role of imagination to rule the mind or to make decisions. It sows the seed of desire, creates energy and fires the enthusiasm, all of which incite the will, thus setting in force powers of the greatest importance in achievement. Like any other natural faculty, imagination can be directed. It is creative. It is powerful. We automatically move in the direction of what we imagine, so we cannot be too careful of what we imagine, either for ourselves or for other persons.

We think in pictures, not words. It is important to form clear mental pictures. As you progress in your idea development, see every phase sharply in mind. This specific quality, this accuracy, will be of immense help. The images are the mental reproductions of things previously observed and experienced. They are the raw material of all intel-

lectual work. To have enough of them available, we mus have sufficient perceptions stored away in our minds. Thai means we must have been good observers. More on thi; presently.

Our sensory powers also enable us to make sharp psycho logical observations, since we can frequently recognize £ person's thoughts from his expression and realize the state of his emotions from the tone of his voice. Imagination lets us bring to our minds the pictures of things separated from us by time or space, greatly enlarging the scope of our intellectual activities.

Middleclass minds recognize only those relationships that are immediate, obvious and direct. Imagination enables a thinker to discern more inconspicuous analogies as when Newton had his first glimmering of the law of gravitation on noting an apple drop from its twig to the ground. Man, strictly speaking, creates nothing. He can only rearrange and transform elements that already exist. All processes of manufacture presuppose the existence of raw material. Raw material in idea production depends strongly upon imagination, which in turn relies upon observation for its validity.

Before your imagination can produce practically, it is necessary to proceed with a high degree of observation. Otherwise imagination will turn to fantasy and will not jibe with the requirements of reality.

Very few persons know what it is to observe. It isn't a passive condition of letting your eyes rest upon whatever happens to fall within the limits of your vision. Observation is a highly active process, requiring intense concentration and exercise of your mental processes. Dr. H. B. Brown has reported in the *Journal of Criminal Law and Criminology,* for instance, how he experimented by having a plumber

come into a classroom while class was being conducted, ind tinker with the radiator in plain view of the entire class. \L couple of weeks later the one hundred and seventeen students in the class were asked to pick this plumber out of i group of six "suspects" who were lined up before them. About one third of the students picked the wrong man. It is fortunate that this was only an experiment and not a criminal trial, or else wrong identification, based on poor observation, might have convicted the wrong person. But that tragic mistake has happened many times and innocent men nd women have been sent up for a term of years, or sacri-iced their lives by being wrongly testified against by witnesses who were poor observers.

Observation is perception with a purpose. You can be responsive to sensations without either perceiving or observing. This is usually called thoughtlessness, wool gathering or mind wandering. As has been well said, "Every normal creature has seen the lightning flash, but Benjamin Franklin observed it." Extend your eyes and your ears into unfamiliar matters and consider continually how some idea 'leaned from one of these fields can be put to use by you n your own project. Listening, too, which is much more than keeping your mouth shut, should be cultivated observantly with a view to accuracy and precision.

Observation depends on two things. First, trained senses, ind second, organized information on the subject of the observation. There is some question whether a keen judge of human nature with indifferent senses can judge a person better than a keen-sensed person who has indifferent knowledge of human nature. The only lesson to take from this debate is to realize that the ideal is to combine keen senses with expansive knowledge of a subject. With limited sense raining you'd lack accurate material to combine with your

past experience. With limited knowledge you might be so engulfed in details of observation that you couldn't stand back and view the situation as a whole and give the detail meaning.

Many of the traits we discuss herein, if cultivated, hav values beyond helping you to get ideas. Observation i surely one of these. It is to your interest in every way t cultivate your power of observation. The sense of observa tion may be defined as attention applied not only to your usual occupation but also to every circumstance of lift Far too common is it for us to go on living, year after year, without learning anything from what happens all around us. It is wise, when you look at a thing, to see it Train yourself to observe not only accurately but quickly This is at the foundation of making contrasts, similarities, additions, eliminations, and proceeding with all the proc esses involved in the search for ideas.

Observation is necessary to anyone who wishes to progress at all in the field of ideas. It forms the basis of success in art, literature, science, business, government, persons relations and any endeavor. An artist is able to put life into his work because he has observed the subject he wishes to represent on his canvas. Playwrights or novelists succeed according to the accuracy of their psychological observe tions. Knowledge of the human heart requires a sum c experience which can only be gained through extensive observation. The business man must be a keen observer t evaluate the people with whom he deals, the goods or sen ices with which he is involved.

First hand knowledge based on personal observation makes for confidence, originality, leadership, memory, imagination, purpose, achievement. The basis of all detective work is keen observation and accurate interpretation. Will

anyone say a good detective is not an idea producer? Observation and accurate interpretation are the basis of all hidden opportunities.

A young man walked into a store to buy a necktie. The blank, bare wall behind the tie counter depressed him. What would fill it attractively and increase sales? Why not giant photographic enlargements? He experimented with his camera and darkroom, produced an enlargement more than ten feet long and sold it to the clothing store. He had started an entirely new business idea, now called Photo Murals, that paid him handsomely.

One single observation or interpretation of a sensation has been the turning point of a person's life in thousands of cases. One single observation has built fortunes, won wars and achieved in any number of cases, which confront us all the time.

The higher mental processes—reasoning, reflection, memory, imagination, and so on, are of no value unless the material composing them—sensations—are accurate. Interpretations of the sensation can be no more accurate than the observation thereof. So spare no effort to be a competent observer.

Imagination is not the same as fancy, though they are different exercises of the same plastic or creative faculty. Fancy employs the laws of association capriciously and without purpose. Imagination aims at definite and useful results. Fancy is a passive, drifting affair, while imagination is active and guided. It is subject to control, and the more intelligent and planned its control, the more effective its results in creative achievement.

"I never thought of it," is a common remark in many a post-mortem analysis of a situation when someone asks "Why didn't you do so and so?" In such a case the creative

intelligence did not work. The failure was one of imagination, for it is the imagination which looks ahead, supplies, plans, solves, and originates ideas.

Ordinarily when a person is confronted with some disagreeable task which could be made easy by an improved method, he grumbles, "Why doesn't somebody do something about this?" Rarely the victim of such a condition happens to be a person who asks himself, "Why don't *I* do something about this?" The substitution of I for *somebody* makes all the difference in stimulating the imagination. It gives you an open minded, active approach, in which you may strike something that will be effective and rewarding. At least this cannot happen just by doing nothing and waiting for someone else to find a solution.

Do something. Look around where you are, at home, at work, at mealtime, while traveling. Select any object, or any method. Consider it carefully and see if it can be changed or improved. Stop taking everything for granted as final. Start analyzing in view of today's different needs and new techniques. Lightweight luggage for airplanes. Vitamin-enriched foods. Remote control for TV.

The constructive imagination does not merely recall images from the memory of experience in their original form. It rearranges, recombines and readapts the factors into a different form. It associates things or ideas in new ways. This is the basis for invention, for artistic creativeness. It is essential for improvement of any kind, for the discovery of new relationships, for adapting old things to new uses. It is at the foundation of the idea-producing process.

V

"Thinking Up" An Idea

The phrase "thinking up an idea" is a common one. It is certainly fair to say that thinking, to most people, is the chief, if not the only factor that occurs to them when the job of producing an idea presents itself. How then, should one think? Have you ever thought about thinking? Surely a subject on which so much depends, deserves at least a very brief survey of some common pitfalls before we get down to actual idea production.

Thinking of the lowest order is day dreaming. The mind flits like a butterfly from one subject to another, not resting long enough to draw a drop of sweet from the flower.

Another thing which often passes for thinking is nothing more than imitation. You do the thing you have always done, based on what you have always seen someone else always do.

Sometimes, on a higher level, is a type of thinking which is done to solve problems. Many people "think" about even the most serious problems on the first level mentioned—the daydreamer or flitter. The subject is on his mind, and worries him, but none of the processes that go on in his head, if processes they may be called, are directed to solving the problem effectively. A life's savings may be lost because of a wrong idea on the part of a business man. A

loved one may die because of the wrong idea on the part of a mother. A nation may be ruined by a false idea on the part of a general. Someone signs the wrong paper, someone picks the wrong medicine, and the impulsive or stupid act causes ruin.

That the world *is* full of such situations is only too well known to us. Examples abound, if anyone wishes to get them, in a book by Prof. Walter B. Pitkin, with the sprightly and satiric title, A *Short Introduction to the History of Human Stupidity.* The short introduction is over five hundred pages long!

The highest level of thinking, of course, is performed by the creative thinker. He is the one who works over what enters his head. In creative thinking, prosaic facts, abstract questions, and oddities of information are transformed into fine literature, cures for dreadful diseases, and ideas which may change the way the world goes.

Most people do not even know that when they are confronted with a problem to solve, they have to do certain things in a certain order to solve it. Thinking in some respects resembles cooking. The thinker must follow a formula just as the cook follows a recipe. There is a regular order in which the ingredients are added and prepared. Proper combinations are made, proper timing is considered. The dinner suffers if instead of soup, a delicious dessert is brought in before the roast. The thinker must produce not the right answer to the wrong question but to the right one.

To produce a specific idea for a definite purpose you must first state your problem in definite terms. All too often the wrong problem is tackled, and as a result, no matter how good the ideas devised to solve it, they are necessarily ineffective.

An interesting example has been cited of a buyer who devoted much time and effort in persuading a seller to reduce the wholesale price of a product because the retail price was otherwise too high to make sales. The wholesaler agreed to the request, the article was put on sale at the lower price and—it didn't sell any better than it did at the higher price.

The reason was that the buyer picked the wrong problem to solve. The need was not to get the price reduced. The article itself was not popular regardless of price. The moral is that the buyer was worse off when he actually solved the problem he set himself because it was the wrong one.

Stating a problem definitely has several advantages. It practically compels you to understand it better, evaluate its significance and act intelligently about it. The man who wanted the price reduced, had he stated his problem, could have seen he was after the wrong one. His problem was, why didn't the article sell? It could have been for any number of reasons other than price. It may have not served any purpose of use or beauty or novelty. It may have filled a need, but inefficiently. It may have needed more advertising. But there is no need here to analyze a list of reasons.

Before putting a lot of work into the production of an idea, you should decide whether the problem you have definitely stated is worth solving. Getting an idea requires time, effort, and perhaps money as well. If these assets could solve some other problem that would produce greater advantages for the same time, effort and money, the problem you are considering now should be reserved for another time. In other words, it is worthwhile considering not only whether you are working on the right problem, but also whether you are doing it at the most favorable time.

There are other things to safeguard you in your thinking

against the faults of being either uninformed or misinformed. In this connection you should realize that there is a certain amount of information necessary to the solution of every idea problem. You must ask yourself how many of the necessary facts you already possess; how many more are readily available, either in books or through interviews; how much more can be obtained by reasonable effort, and how much is simply not to be had at all through any feasible effort. In addition, you must know not only how much of the needed information you either have or can obtain, but also how dependable and accurate it is and whether it is in a form which you can use.

Such questions have a connection in determining whether a problem should be solved, because the time factor previously mentioned is affected by them. Far too often these simple considerations of finding out whether you have enough information, and whether it is dependable, are completely overlooked.

A further menace to thinking *is* the sway of prejudice and emotion. People feel as well as think, or it might be better to say they feel more than they think. Anyway, these two sides of human nature are closely merged.

Prejudice means literally judging in advance. It exists by ignoring some of the evidence, over-estimating other parts of it, to conform with a conclusion decided upon ahead of time before enough evidence is in. If we accept a conclusion under the influence of a wish, a hope or a fear, our thinking is warped to that degree. Our feelings, then, injure the clarity of our thinking. Individually and collectively, when our feelings are involved, the quality, the fairness and the objectivity of our outlook and hence of our thinking is reduced.

Thus, love is blind to faults. We are apt to ascribe to

beautiful persons other desirable qualities which they do not possess, while the good qualities of the unattractive are proportionately difficult to detect.

Prejudice is not always crude and obvious. It may be subtle, delicate, and may reach people under all kinds of circumstances. Books could be written about our prejudices. All feeling, however, does not obstruct thinking. It also gives purpose and direction to it, which is quite essential at the very outset of creativeness. You must know, at least in a general way, just what you wish to create, before you may expect successfully to accomplish creative mental work. You must select at least the general goal toward which you desire to journey. You must not be content to sing, in the worlds of the familiar ballad, "I don't know where I'm going but I'm on the way."

It is feeling and desire which determine the goal and objective, and one cannot even get started without that emotional impulse.

But one should know and make allowances for this influence on thinking, and separate as far as possible, all emotional influences from your thinking for the time being. However do not banish your emotions permanently, for as will be seen, they play a later part in idea production.

Reasoning as such is seldom a process of following a straight line to an objective. The thinker goes off on many a tangent, rejecting one hypothesis after another before he hits upon the right one. New ideas are not generated in a vacuum without relation to existing ideas and conclusions about a subject. It is not true that thinking is consciously creating, producing concepts and ideas out of nothing. To think, you recall everything you know about the subject in hand, ransack your memory, collect and review all the relevant facts from any source that bear upon it. Only as

you explore and put together this and that combination, do you see new relationships that point the way to new conceptions.

We all have smiled at stories like the one about the sound effects expert in a broadcasting studio who was having trouble simulating the noise made by an egg beater until he listened to the office simpleton's suggestion, "Why not get an egg beater and work it?" Often the obvious answer is the right one. At least it should not be overlooked or spurned. But more often, a great deal of hard work comes first.

In business organizations, a strong idea-producing procedure is the conference, because it brings together persons with a common interest and objective. It also takes away the resistance to new ideas because all of the leaders participate in evolving them. This gives a new idea a better chance of acceptance and co-operation.

Obviously the conference pools the experiences, abilities and education of the conference group. By discussion and rubbing one thought against another, it starts flashes of insight which would not occur if each person tried to go it alone.

Many firms now hold regular conferences, brainstorming sessions and discussion groups for the purpose of initiating new and better ideas for business success. Ideas thrown into the free association methods of such sessions do often border on the absurd, but even so, they loosen up the mind, abolish tension, develop a relaxed state, and when conducted in the right spirit, do produce unusual results from which may or may not be reclaimed ideas of value. But for the most part this book will discuss what you, by yourself, can do to develop ideas.

VI

The Formula

The business of producing an idea is not magical. It is in no way hopeless or erratic. It follows a certain procedure. But it does take a degree of effort. That is why I can safely hand over a formula as valuable as this. People are glad to read about it, but many will not annoy themselves to work it.

At the same time, that is what you get paid for. If everyone could have an idea merely by putting his feet on the desk and wishing, it would be of no value. It should certainly be a comfort to know that if you follow the procedure you will get the result.

This brings us to the pleasant fact that only five steps are needed to produce an idea. And of the five, not even all of them involve work.

While each of the five steps is ordinary enough, the feature that is not usually realized is that they have to be taken in a regular order. Never can a later one be attempted successfully before the previous one in the sequence is effectively performed.

Step One. *ASSEMBLE YOUR INGREDIENTS*

This sounds simple enough, but most people do anything to avoid it. Remembering that an idea is a combination of

elements, you have to have elements before you can combine them. Precious hours are spent in wool gathering which should be spent in material gathering. Valuable time is frittered away while people in search of ideas sit around waiting for an inspiration. When they do this they are trying to take the fourth step without taking the three that must go before. It is absolutely essential to take the first step first, and the first step is to gather your raw material. There is no substitute for this.

There are two kinds of material to collect—the specific and the general. The specific kind concerns the object or situation about which you want an idea. It involves finding out everything you can about its purposes, uses, materials, operation, construction, the people concerned with it, and so on. We shall see later how this is done.

The other kind of material to be gathered is general. Always keep in mind that an idea is a new combination of elements. The more elements you have stored away, the more the chances are for producing new and striking combinations of ideas. You can combine your specific knowledge about objects and people with your general knowledge of life and affairs. This second, general type of material gathering does not have to be done for your specific idea. It is in your head already, as a result of your alertness and intelligent interest in the world around you. This is what was indicated previously in connection with experience and individuality. These are cultivated as a continuous life process, but you should be aware of what there is in that head of yours, and make use of it in new and different ways beyond those for which they may have been originally intended.

I remember that some time ago I was listening to someone discuss, of all things, Julius Caesar's military tactics. I

suppose I didn't seem very intelligent or responsive, as he exclaimed rather impatiently, "Good Lord, you did read Caesar's *Gallic Wars,* didn't you?" I had to admit I had suffered through a year of them in my Latin course, but to me they were nothing more than grammar lessons. That they might have any use as historical facts never even entered my head.

Let us consider now some of the aspects of gathering specific material. This is done in various ways, through interviews, reading, study of what competitive businesses are doing or have done.

If you are going to use the idea for advertising, promotion, propaganda or the like, you are certainly not going to play up any of the faults or weaknesses of the product or cause. However, you make notes of everything good and bad you can say about the subject, as you must never deceive yourself. Even if you do not use the faults in your final presentation, you must be aware of them and be able to overcome them. Each note should be made on a separate card, the popular 3 x 5 inch size being the best for the purpose. This will be discussed in more detail later, under the heading of research.

When you have the needed information together all in one place, it is little use to you for it will be a confused, unorganized mass of facts. It therefore becomes necessary to classify it.

Step Two. CLASSIFY YOUR INGREDIENTS

This is very easy to do. Lay all your cards out on your table or desk, and gather together those that group themselves logically under particular divisions. If you are discussing a certain product, you will have headings con-

cerned with purpose, how it works, what it is made of, appearance, cost, benefits to user, advantages over competing products, or other topics that naturally suggest themselves.

After you have this general organization, you refine the classification. You decide which of these factors is the most important or significant to your purpose. You make up your mind if you will emphasize how economical it is, or how easily it works, or which other advantage you will play up. Thus instead of mind-wandering over anything at all and not even knowing what you want the idea about, you now have a definite thought and one with vital bearing upon the problem that is up for your attention. You then continue your game of solitaire by taking any cards from any of the divisions which reinforce the idea you intend to concentrate upon.

Step Three. PREPARATION

Having gathered and classified your ingredients, you now prepare them. You take the various scraps of information, turn them one way and another, look at one fact at a time from every angle, consider its possibilities. You walk around it, as it were, and mull over it, in a state of brooding preoccupation. You combine it with other facts and see if a different relation can be established.

At this point you give yourself mental stimulation by a system to be fully explained later, utilizing a collection of words and pictures and other source material that prods your mind, stirs your feelings, and works on your imagination. All these aids animate you, make you impressionable and susceptible, and make it easy for you to react in new and interesting ways to your material in a thoroughly wide

awake and enthusiastic fashion. This process is really fun. You can carry it on without precise concentration. Someone has characterized this stage as more a listening process than a looking one. It is the stage at which the "thinker" gets his reputation for absentmindedness, as when Sir Isaac Newton made a big hole in his wall for a large cat to come in, and then made a little hole next to it to admit a kitten.

In this stage, what you'll get at first will be little tentative or partial ideas, but write them down anyhow, regardless of how absurd or unfinished they appear to be. They are little seed thoughts from which the ripe idea will later grow.

You keep on doing this until you are tired out and the whole thing looks hopeless. But don't admit this tiredness too readily. Remember, the mind too has a second wind, just like the exhausted runner. Having really arrived at genuine fatigue, with the third stage having been performed as conscientiously as possible, you are ready for the fourth.

Step Four. INSPIRATION

Now, at last, you are ready to be "inspired." Yes, that is part of it, but far different from the idle sitting around which is usually done at Stage One. Now you have something to be inspired with. In this stage, you drop the entire matter from your mind. You forget all about it. You make no conscious effort at all. And yet this is just as definite and just as necessary as the previous steps in the process. Your conscious mind is now saturated with aspects of the subject. It has done its job up to this point. Now you must turn the problem over to your subconscious mind to work upon as you rest. Do whatever relaxes you. Read a detective story; listen to music; go to a movie; take in a show; see a game; have a party; meet friends. This is really

an important part of the formula, as you will see in a later chapter.

Here you have a kind of a cooking process going on within. You have gathered your ingredients, classified and prepared them, and now they are on the stove, in your subconscious mind. You don't have to watch them any more than you watch your digestive processes. Like the piece of toast in a "toastmaster" your idea will pop up when it is ready.

The idea usually arrives when you least expect it, when you are relaxed in a warm bath, or when you're half awake in bed, or while you're working at something else, or reading the newspaper, or in some totally unrelated occupation.

Step Five. VERIFICATION

Unfortunately you're not through when you have the idea this far by the tail. A good bit of physical effort now remains in putting it on paper, capturing aspects which did not seem thoroughly clear at the "inspiration," and adapting it to the hard cold facts.

Now you have given birth to a fine bouncing idea, but you must be sure it isn't going to bounce back like a rubber check. Most people tend to stop when they have the idea. It is necessary to take your little newborn idea out into the world and see how it fits the critical judgment of those who must be satisfied.

Nothing is more defeatist and humiliating than to go enthusiastically to the foreman, boss or any other prospect, get his interest and attention and then have the thing blow up in his face. You must first assure yourself of its feasibility and practicality. You must anticipate arguments against it, and have answers ready to meet them. You must make your

presentation accurate, specific, attractive and businesslike. Don't jump to conclusions. Become objective. Imagine you are your own worst enemy, and have the right answer ready for every criticism he may make. Test it in advance; test on a small scale first. Make a model if possible, or be ready to demonstrate. Don't be half-baked. Develop the costs, explain the savings. List the advantages. Corrections, changes and practical additions may be needed. When all this has been taken care of, you have an ideal Details and aids in each step are covered in the following pages.

VII

The Question Technique

One of the handiest bits of "equipment" to the idea searcher may be an inquisitive child. The best place for him may prove to be, not the quiet spot on a mountain top he dreams of, away from people, but in a battle of wits with his children. The number of questions a child can ask is astonishing and often stirs the "little gray cells" of the "quizzee." Why are handkerchiefs square? Why is soap slippery? Why is a clock called a clock? Why is a fountain pen round? Why is printing done black on white? Why are envelopes only for letters? Why don't men wear high heels? Why don't men wear wedding rings? Why can't we have pumpkin pie in summer? All of these typical children's questions could and often already have started grown folks in profitable ideas.

Of course being asked questions is not a reliable aid unless it is organized and guided. So the thing to do is to ask them yourself.

You must be sure you are supplied with all the relevant facts. You must make an inventory of all the essential elements involved in your special subject, and each name on that list must be so well understood by you that it stands

in your mind as a definite and exact mental image or concept.

Naturally there is no need to discuss easy-to-get ideas that just come in, sit on the arm of your chair, tweak your ear, and say, "Here I am." The processes given here are for the elusive, hard-to-get ideas that really do take some brain cudgeling. They are, in effect, aids to cudgeling.

The ideal inventory of important elements, then, must include every discoverable important thing employed or used in connection with the subject; every discoverable important fact concerning that subject and concerning the application of it. It must include every discoverable important event or experience in its history; every important cause affecting it, and, in turn, every important effect produced by it. It should include every important law, principle or method employed in the processes connected with it.

You must know of what the thing is made, and consider of what other materials it might be made.

You must know how it is made, and consider whether it can be made a more convenient or better way.

You must know who makes it and whether anyone else may make it. Here you safeguard yourself against patent or copyright infringements, and also open up new opportunities, as when the Hershey Chocolate Company discovers it can make a good toilet soap out of a byproduct—cocoa butter. .

You must also know who uses it or may use it; what the users need it for; whether another purpose can be found for it; how they use it and how others may use it, and other ways in which it may be used, as gloves worn for indoor housecleaning. You must know how it is sold or may be

sold to those who use it; other ways of selling it, as through vending machines which let out one package at a time. And how it may be distributed, as through agents as well as advertising.

In addition to having all the relevant facts, it is equally important that you clearly understand your problem. You cannot have a successful result if you do not thoroughly understand your problem. You will only get the right answer to the wrong question. You must know just what the problem is before you can solve it.

The gist of the situation is to apply relevant facts to a specific problem systematically without confusion. You cannot have a successful result if a relevant fact is missing, any more than you can make a successful cake if one required ingredient is left out. The idea you will finally evolve can only be as good as the relevant facts you have utilized to produce it. Vague facts, irrelevant facts, partial information, can only produce results that will be unsatisfactory.

The best starting point to mental activity consists of asking yourself questions. Socrates discovered over 2,300 years ago that a question stimulates thought far more effectively than a statement. But much depends on the kind of question.

Most of us have a great deal of subconscious information. We don't realize we have it, and we certainly do not use it effectively. We remember vaguely. But certain all-embracing questions can clarify and reveal what we know—draw it out of us by a direct process rather than a hit or miss, accidental guess.

A list of questions has been devised to keep you moving on a straight track instead of foggily in a circle. These questions will help you quickly analyze an ordinary problem; enable you to see all around it completely, get at its

hidden values, give you many fresh ideas, talking points and idea-seeds.

Every newspaper reporter is familiar with the five questions—*what, who, when, where, why*. These are a good beginning for any analysis of a situation. Using these, you should seek every possible association of your subject—the subjects closely related to it in any practical way. But you should not be content merely to learn the names of such connected or related things, though even these are of great importance and form the first step of your task. You should seek also to learn the meaning of those names. You should consult the best dictionaries, reference works, and so on and uncover other terms closely associated with the one you are running down.

WHAT?

Begin any search for ideas with a definition. Just *what* is the problem or the thing? Of what is it composed, and of what other materials might it be made? Thus the use of plastics for metals saves vast quantities of useful natural resources. What is the purpose, and can an additional purpose be found for it, as a truck that moves from town to town and also houses its occupants (the trailer); or a hassock that opens on top and provides space for little oddments inside.

WHO?

Who are the people concerned. Every product or idea is good only as far as it is suitable, and available to the people for whom it is intended. You must know the buyer, the audience, the user, the reader, or whatever group you wish

to appeal to. You must keep your idea within the range of their capacity to use, enjoy and pay. Think of the people—their needs, tastes, comforts. Think too of the people who will be engaged in producing the product. This often opens up new angles.

Do some thinking around each of these five—what, who, when, where, why. Can your product or idea be for additional *people,* another group, as when cigarettes were introduced for women, and now there is a great industry in cosmetics for men. Can it be extended to a different *place,* a longer season, another climate or country?

WHEN?

When is it used? Can it be used at another time? For instance basic dresses which may be worn day or evening by a simple change of accessories. Or a canned fruit which may be preserved in summer for use in winter. Or a book of the month plan which functions recurrently.

WHERE?

Some ideas can be transplanted from another part of the world. A few years ago someone traveling in Japan found that the natives used only paper handkerchiefs. The practice impressed the traveler for its sanitary, disposable quality, and when he returned, he invented a modern, better way based on this idea, and gave us Kleenex. He also gave us by way of his advertising, countless additional uses for the same product, and was among the first to awaken other people to the value of paper for kitchen and household uses. So much for "where."

WHY?

Can you find additional reasons—*why*—for its use, other virtues or values to exploit in it that make a stronger idea? Some products have such values that are never even realized by users. Thus few people who used a certain well known soap, knew that there was a reason why there was a little indentation in the top of it. But when the piece was well worn down, you could fit it into this recess of a new cake the two wet pieces merging and thus eliminating waste scraps. Look for these plus values.

Ask yourself why a thing is the way it is. Is force of habit alone responsible, or can it be changed. Formerly it was thought that a diabetic person had to walk a tightrope of resistance to such taste diversion as candy, but someone removed the vetoed sugar, put in a substitute sweetening, and now diabetics may have their special candy.

Sometimes an object grows obsolete, but can be revived if another reason is found for its use. Early radios used earphones, but when loudspeakers came in, earphones went out. Now earphones have been brought back for another purpose. Lewis & Conger, famous for their Sleep Shop, concealed them in little pillows for people who wish to listen to radio in bed without disturbing a sleeping companion.

HOW?

Another important question is *How.* By analyzing all the processes and methods, new ideas and improvements may

be discovered. Thus, crinkled hairpins or bobby pins that stay put. Another manufacturer roughened his paper clips, causing them to hold papers together more securely, and made a large fortune on this small improvement. Consider how it was made and whether it can be made a more convenient way, as windows which may be washed from inside the room.

EFFECTS

Under *why,* we have considered causes. Equally important is it to have a clear awareness of the profitable *effects.* Much clarification of thinking can be elicited by asking oneself what are or will be the probable effects. By thinking around this subject, one can avoid pitfalls which occur from hit or miss methods. Often an elaborate procedure has to be set up to keep a plan under control whose unexpected effects have gotten out of bounds. People who make toy guns, for instance, might think how their use might affect the attitudes of children, increase delinquency and cause other social ills. Chemists may evolve alleged pain-killers, which prevent a patient from knowing he is in danger from a disease which requires medical aid. Foods may be mixed with preservatives which are highly detrimental to health. How much easier to consider such effects before becoming involved.

TRANSFER

Valuable ideas are also obtained by imagining the results that would occur if you *transfer* the object or product to a different time, place or condition. You may take library

books to the people in a bookmobile, instead of having distant rural people try to get to a far library. You might rewrite a successful story, but you change the sex of each character, making the men in the first story, women in the new version, and the women in the former story, men in yours.

Instead of limiting gardens to the backyard, city people may have gardens in the roof.

SIMILARITY

Another idea nudger is to ask what are the things that resemble it. An idea-man in the Waldorf Astoria took down two dummy pillars, replacing them with showcases that rented for $5000 a year.

CONTRAST

What is unlike it, opposite, different? By *contrasting* it with different ones, factors or elements of these may be incorporated to give an interesting idea.

The name of Blue Goose on fruit has become a familiar one. The story behind it reveals an interesting application of this question of contrast. Gordon Green observed that loving care went into every phase of the actual development of a fine product, but then the beauties of grove and orchard were dumped into rough wooden boxes, carted to the freight house, stacked unsentimentally in the trains to green grocers, and finally stuck under the customer's arm in a brown paper bag. Green perceived that there was a romantic and aesthetic side to the growing and marketing of fine fruit which was being entirely overlooked. He was

convinced that the fine flavor and beauty of the fruits demanded packaging and marketing in keeping with their superiority. The idea of selling flowers arranged in bowls and baskets was an old one. Fruit was just as beautiful and had the added virtue of usefulness. With this comparison in mind, he created a fine business of gift baskets to commemorate anniversaries, convalescence, bon-voyage and other special occasions. He now ships to some 100,000 people in every state of the country.

He also used the *when* question, devising an idea similar to the book-of-the-month club, which he calls Fruit o' the Calendar Club. He supplies seasonal delicacies. At Christmas he ships more than 250,000 boxes and baskets grossing more than $1,200,000.

ASSOCIATION

Association is invaluable to creative ideas. As an example of association of ideas, anyone who is looking for inspiration in the field of textile design can find an unlimited number of beauties by a visit to any aquarium or the survey of colored pictures of fish in a good book on the subject.

VISUALIZATION—CAN YOU IMAGINE?

What mental picture does it or can it suggest? *Visualization* aids memory and has been called the basis of confidence, autosuggestion and inspiration. Keen images are immensely important to accurate, colorful, graphic descriptions in explaining ideas to other people and influencing them.

IMPRESSION—WHAT WILL PEOPLE SAY?

Specify to yourself in so many words, what *impression* the concept or product makes upon you. What feelings, interests or opinions does it arouse? These are the factors that will create resistances or the approval of others, and if you anticipate them, you will be that far ahead, and can build up the good and eliminate the unfavorable impressions.

CHARACTERISTICS—WHATS IT GOT THAT STANDS OUT?

It is well to be aware of the most distinguishing *characteristics* or *functions,* such as food—nourishment; building—shelter. This knowledge highlights essential information when discussing with others and indeed when first analyzing a project.

CO-EXISTENCE (Non-Political)

By this we mean what is necessary for the existence of the object or idea. Thus atomic energy requires uranium; an aquacade must have water; a library must have books. There is little use for an individual to attempt a project which may involve the use of a material which it is manifestly impossible for him to acquire.

THE WHOLE—OUTSIDE LOOKING IN

A keyword which helps to establish relationships is this one of *whole.* The object or plan is composed of what parts

or materials, as chair—legs, wood, etc.; or the whole 01 general classification of what particular thing, as city—Paris.

PARTS—INSIDE LOOKING OUT

Closely related to whole is the sort of obverse, namely *part.* It is a part of what larger whole, as India—Asia. Or a particular thing is in what larger whole or general classification, as Menuhin—violinist; or rug—home furnishing.

THE PAST—LOOK BACK

Of much value to the idea seeker, since all ideas are the result of combinations of known things, is the keyword *past.* If you can work out how and where your subject is or can be related to the past, you have a good point of departure. You should ask yourself about the past history—the story of the evolution of the prime factors of your special interest. You should learn the various attempts to solve certain of the problems involved; the failures and the successes. You should know the various theories advanced in its history, and answer the objections to each. This saves much energy in retracing work that has already been done or endorsed or repudiated. If you fairly saturate yourself with the known facts concerning the subject and the subjects associated with it, you will find such information a fine nucleus for ideas. Many idea producers use the past directly to inspire the present. Most things in which fashion is concerned, are derived with the past as a beginning point. Industrial designers go to museums for ideas as to objects in ancient use which can inspire new ideas for today. Costume jewelry is a case in point. The Egyptian displays are

especially wonderful for this. Often we can satisfy the desire for something new by changing the old thing in some simple way, just as we frequently hear classical music themes utilized in modern songs.

THE FUTURE—LOOK FORWARD

And finally, since we necessarily live in the *future,* even if it is only as far as the next minute or day or week, we should question ourselves as to how the matter is likely to affect the future or be affected by it, or how it may develop.

IMPROVEMENT

Naturally the search for *improvement* is always prolific of new ideas. Few things are perfect, and anything you can do to improve its operation, or performance, simplify its complexity, lower its cost, or add a value to it, is the subject of an idea.

Some years ago a grocery clerk was cutting cheese for a customer. He kept it under a glass bell, which was removed from the whole large piece while he cut, weighed and wrapped the small piece. Meanwhile the large piece was exposed to air and flies. The thought came to the clerk: Why not put cheese in sanitary packages? That would eliminate inaccurate weight, for each package would contain a pound, and no one would have to bother weighing it or wrapping it. It would speed up service, keep off flies and other spoilage. It was this simple, obvious idea which gave to J. L. Kraft, the alert grocer who had it, wealth and fame which he very rightly deserved for filling several good needs at a time.

More will be said about the improvement urge in the next chapter.

In any search for ideas, one or more of the foregoing keywords will give you a clue, start a train of thought and bring you eventually face to face with a solution.

Incidentally, as a most valuable byproduct, should you be unexpectedly required to make a speech or write a piece, follow down this entire list of twenty keywords in the order given, and relate your subject to each of them which is appropriate. You will be amazed at the easy, orderly, guided, logical result you can produce on the spot. It will pay anyone in a thousand ways in all kinds of situations, to know these twenty as well as he knows the alphabet. To do so can serve as a constant check upon the comprehensiveness and clarity of your thinking.

VIII

The Improvement Urge

It is paradoxical that much as new ideas are wanted, nothing in this world is more resisted than a new idea. The clergy itself opposed many forward advances—even such a commonplace of today as forks. Fingers were made before forks, they said. Even educated persons for a long time discouraged bathing, on the assumption that the body was mortal and to be despised and that this life was only a preparation for the life to come. Why wash this miserable body which holds the soul away from heaven? they wanted to know. Similarly, they also discouraged any science of medicine. They expected cures to be effected by religious rites alone. The first manufacturer of baby carriages was considered sacrilegious for designing a substitute for feminine arms which the Creator had expressly made to carry infants.

As far as profit from an idea is concerned it should also be noted that the new thing should not be too different from anything that has gone before. People will change their methods only gradually, not radically. They may accept something totally new if it is a "first" such as radio when there had been no radio before. But they are slow to accept an automobile with the works at the back instead

of at the front, even though such a design is available and very efficient.

The creative person is a pathfinder. By the very nature of the term he creates what does not previously exist. But people have gotten along without this new thing, whatever it may be. They are accustomed to their well tried methods, and even a much better method means the forming of new habits and new adjustments—the discarding of old equipment and its replacement with something else.

This matter of equipment is particularly pernicious in matters of revolutionary industrial inventions. As long as a great corporation is making profit on its present equipment, it will be very slow indeed to throw it all in the discard for something requiring totally new equipment unless, perchance, a competitor does it. Thus it is that many fine inventions are acquired by these corporations for a song, and merely shelved to keep the inventor quiet and prevent him from enlightening a competitor.

In addition, there is the apathy and inertia of the average person. People prefer the old familiar road. Profit in wealth or applause does not necessarily follow when you have discovered a good short cut. You must convince the possible users that it is worth their readjustment to it. Indeed you are more apt to become a successful business man or writer or even inventor if you are not too original. The experience of those who were too far ahead of their time has been to win a reward consisting chiefly of ridicule. The word, original, includes a meaning of eccentric, odd, queer. This is if you are original and purposeful. If you merely wander off the conventional path for the sake of being individual without benefit of purpose, you may find yourself where others are not, and little other satisfaction. For all these reasons, do not try to be too original.

Most of our ideas come from someone else. They are passed on to us, often half ideas. We carry a great burden of foolish and curious conceptions of what is of worth, moral, right, lasting, that does not stand scientific scrutiny. Many of our opinions are prejudices. Ideas were put over upon our forebears by witch doctors and others of that ilk. Today ideas are being put over on us, for better or worse, For social or selfish purposes, mostly by those who are paid to do it. Some of the most vicious ideas "take," while we remain impervious to some of the most worthy. Often sinister propaganda succeeds in getting more power behind it than does the beneficial.

On the whole, people tend to accept things as they are, view them in an unillumined, stodgy fashion, and approach nothing with that dynamic improvement urge which is the basis for constructive imagination. As long as we remain Fenced in by precedents and afraid of anything unusual Dr unpredictable, there is little hope for us. Life grows truly interesting, alive and glowing, when we put our constructive imaginations into action. Chiefly courage and resistance to inertia are essential to the original creative thinker. Other qualities and conditions outside him, determine whether [is work shall be permitted to be a valuable contribution to society. As Victor Hugo put it, there is nothing quite so powerful in the world as an idea whose time has come.

However, meantime, we live in an age in which superflu-3us ideas abound and essential ideas are lacking. If one is really going to cultivate the development of ideas, would it not be a plus value to strive for ideas that have significance—ideas that are not merely different for the sake of substituting one foolishness for another?

Always remember that the final combination which you develop from your recombinations, depends upon the ideal

you hold in mind. Once you can picture a worthy ideal-object or idea—you can create it by adding here, eliminating there, smoothing, building, rearranging. By ideal we mean a mental image of something of superior worth, good ness and value, serving as a standard of excellence, utility beauty, efficiency, or whatever the case may be. The imag ination, being the creative force, manifests from within out ward, from the ideal conception in the mind to its objective manifestation.

If we make our combinations along a pattern of inferior or mediocre significance by the use of inferior or mediocre mental images, the result will be in accordance. That i why those who imagine situations of calamity create the very thing they fear. That is why the first step in creating anything we wish is to create the image in the mind, ant nourish it by constantly keeping it sharp and clear in one' thoughts.

Improvement in idea development is acquired by de-liberately making some improvement every day on every thing we see or do. Things are improved when something useless is made useful; when an unattractive thing is made lovely; when discordant conditions are harmonized; when we produce a better way for doing anything; when we establish better relationships among people. Life is not in tended to be an empty dream, nor to be spent in struggling for a hollow survival. Everyone can strive to make it more meaningful, more satisfying. In the process of improving anything we create something new, but we also enrich ourselves. Not only are we demonstrating and enlarging our creative abilities, but we also acquire more extensive first hand understanding of life's processes. And even a minor improvement which anyone contributes through his own life, raises the standard for life everywhere.

It has been said that the better is the enemy of the best. That is, we are so pleased when we have devised an improvment, that we stop when this has been accomplished. But why not use the improvement itself as a base for still more progress?

It is not necessary to redesign a thing in its entirety. A detail improved can be very appealing. Even little betterments may lead to greater sales. It is easier, too, than trying to change a whole plan or product. A builder increases his sales through little differences in otherwise standardized homes. One will have an especially good garage, another an unusually attractive fireplace, a third may have two fine trees out front, a fourth may have flower boxes in the front windows, and so on.

I am sure most of us remember the inimitable story that Charles Lamb tells us of the origin of roast pig, which points up this thought. A careless boy accidentally set fire to the little hut in which some newborn pigs were quartered. The lad, at first, was much disturbed, not at the destruction of the house—that was a mere matter of some new straw and a couple hours' work to replace. But the pigs I How his father would beat him for that! He felt one to see if it might still be alive. He burned his finger and put it into his mouth. A wonderful flavor assailed his nostrils. What a rare taste was this. Soon he was so busy eating the roast pigs that he did not even notice his father's beatings. In the same way, the father, lamenting over the pigs, touched one, burned himself, and put his finger to his mouth. The same result. Soon the neighbors noticed that one conflagration after another was taking place on this man's estate. They watched him, discovered his secret, had him arraigned in court, and the court sampling some of the pig, reported Not Guilty. As a result, people began building frailer and

frailer huts, and burning them down oftener and oftener, until some ingenious person discovered that it was not necessary to burn down the house to roast the pig.

Improvements can take an infinite number of forms. There never was and never can be an end to them. The idea of improvement makes a wonderful point of departure for the idea searcher, for it carries inherent in it a value beyond that of being merely different. It is being different with a purpose. And the purpose is one which the prospect will view sympathetically. Half your selling is done if you are trying to sell an idea that embodies an improvement.

One of the best ways of locating a potential improvement is to think of the annoying and disagreeable processes, duties and conditions that people face. Sometimes the world seems full of them. Merely to grumble is adding just another to the collection. To improve or remove them is the one justification for thinking about them.

Can you think of something people need yet hate to touch? An outstanding success in the fish business was built by Gorton of Gloucester, Mass., on this principle, when he imagined how women would welcome codfish from which the bones had been removed. He also found he could distribute his product inland all over the country by means of his convenient packages.

Are you interested in an object whose use may cause injury or strain? Carrying a heavy ironing board from a closet to a work table was one of these, until a thoughtful architect devised an ironing board of a built-in variety, which could be lowered from the wall into working position.

Many improvements have been thought of to eliminate

damage to property or clothes. Sunfast curtains, or cellophane bags may be cited.

Did you ever have the awkward experience of carving a roast and having it skid off the tray? A large specialty shop sells a tray that has spikes in it to secure the roast.

Do you know of disagreeable jobs that are neglected because they are so inconvenient to do? Your pet peeve may be a blessing in disguise. Think of the years that women had to mop laboriously under and behind the bathtub until someone thought of a flat tub on the floor that would fit tight against walls and corners.

Is there something that causes you to bend over, carry something heavy, put yourself in an awkward position? It is a proper subject for an improvement. When I drop a paper on the floor, I never bother stooping down to pick it up. I use the long desk scissors which extends the length of my arm about ten inches, and grasp the paper without bending. Many portable objects such as radios, typewriters and the like, are sold with cases to relieve the load and awkwardness of carrying.

What kind of a situation always makes you want to "cuss?" Let us say you hate subway crowds when you ride in a big city. The signs all say that no one is permitted to ride on the platforms, yet they are jammed to the gills. But by designing a subway car without end platforms, no one could ride on them.

How about jobs that get people dirty, wet, cold? They are susceptible of an improvement idea. That is the basis of the success of paper towels which are largely displacing the oldtime dish-rag and the newer dish mop, to say nothing of regular dish towels and hand towels in the kitchen. Their disposable quality enables one to wash the greasy dishes

without soiling either the hands or a dish towel, thus saving time, energy and laundry. One may wipe the stove or anything else without a qualm. One may use them for countless cleaning purposes about the kitchen and bathroom, doing away with soiled, damp towels, and having always a fresh sanitary one that costs next to nothing and protects health, time and temper.

The boredom that children feel when they have to get a haircut led one barber to build a children's seat on a merry-go-round type of horse. Consider improvements in the use of waste and byproducts. Experiment, even with the useless. Bricks that were overburned or underdone used to be thrown away, until one day somebody built them experimentally into a wall. The varicolored effect turned out to be more pleasing than the perfect uniformity of properly made bricks had been. The earlier discards were henceforth renamed tapestry bricks, and became standard, at greater profit to all concerned.

Is there a safety hazard you know about that you car improve? Color is used as a safety device in many places For example, instead of making black leather shoes on black machinery so that the operator doesn't know where the leather leaves off and the machinery begins, the machinery is painted a bright contrasting color, and accidents are reduced. Another way to reduce accidents is to add light A fluorescent pattern was designed for a rug in movie theatres' aisles to keep people from stumbling in the dark And for those awkward moments when you wish you had another hand, there's Ristlight"-—a small flashlight attached to a band much like a wrist watch, so you don't have tc waste a hand working the flashlight.

Embarrassing situations also often call for an idea to im

prove them. A screen and a bathrobe are two good answers. Another is noiseless plumbing. Another is Air-Wick.

Again, what *is* more annoying than a row of buttons to make clumsy mistakes with. The zipper was an answer to that problem. The first time I saw this contraption it was on a pair of galoshes, and for a long while this was the only place I saw it. So much so that when I used the word zippers I meant galoshes. Now of course, the handy device has been applied to almost any kind of closing on apparel.

Activities that cause too strenuous work call for an improvement, such as a washing machine. Jobs that cause eyestrain require an improvement somewhere along the line—perhaps bifocal glasses, or sun glasses, or magnifying glasses, or glareless paper, or rough, non-reflecting typewriter surfaces.

A popular incentive for producing ideas nowadays is the company suggestion box. Some 10,000 American companies maintain suggestion systems for the consideration of ideas submitted by employees. There *is* even a National Association of Suggestion Systems with headquarters in Chicago. General Motors is securing about 30,000 usable ideas from its employees each year. And just about one out of every four ideas submitted is usable. To date it has paid out over $9,000,000 for suggestions from employees.

The Suggestion Box has become an established factor in employee-management relations because of its two-way pay-off: it supplies companies with more than a million ideas a year, and workers with bonuses totalling some $16,000,000 or more, annually. Employers and government administrators are happy about the whole thing. They estimate that for every dollar paid out for employee suggestions, about ten dollars comes back to management or gov-

eminent in the forms of savings. Suggesters whose idea; click are usually paid 10 to 15 per cent of the saving that results.

Some ideas are extremely simple and obvious and ye can have results in remuneration out of all proportion to their simplicity. Remington Rand richly rewarded a woman who found that a useless hole was being drilled in a par ticular type of office machine—an operation carried over: from a previous model. One employee at General Motor became annoyed while typing up process sheets because they were so arranged that she could not use the tabulator: stops on her typewriter. So she sat down at home that nigh and revised the entire form. The idea was worth $750 to her. No one can say that ordinary men and women cannot think up new things.

Suggestions are desirable for any idea to make you work easier or to make the Company's service better. Hen are a few typical ones:

1. Improve methods of doing work
2. Eliminate needless processes
3. Remove overlapping clerical work, duplicate records
4. Eliminate unused forms or used parts of forms
5. Decrease production costs
6. Diminish waste
7. Utilize or develop by-products
8. Improve working conditions
9. Minimize fatigue
10. Prevent accidents
11. Change locations of items to combine work into on operation
12. Reroute product to avoid bottlenecks
13. Improve service to customers

14. Improve service to other departments
15. Use equipment more efficiently
16. Improve storage, "housekeeping"
17. Improve handling
18. Improve packaging, delivery, etc.
19. Make working conditions more agreeable
20. Help the Company meet competition and grow

Lists of this kind could continue indefinitely, but you get the point.

IX

Change Is the Secret

People often want change merely for the sake of change, whether they are changes for the better or not. The human animal is easily bored. Furthermore, change is necessary for those in business, as it is the best aid to replacement and profit.

We have also been made aware by such books as Vance Packard's *The Waste Makers,* that obsolescence is built into much merchandise to make it wear out long before its time. Or new styles are introduced so different from the current ones that one must abandon useful articles to keep pace. Much of this is of course highly objectionable.

We find that many good ideas are abandoned for the sake of change, such as the elimination of pockets in women's clothes, or the use of small purses instead of spacious ones, stiff collars instead of comfortable ones and so on.

On the other hand, an improvement by its very nature implies change too. So whenever you want an idea, consider all the facts and factors involved in your product or your subject, and see what aspects you can change. Some of the possible changes will doubtless seem foolish at first, but you may be able to find a justification for them later on that

would permit you to use them. In any case there is nothing to lose in noting down whatever you think of, even if it seems far-fetched.

There are, of course, many kinds of rearrangement. One may use different sizes, different shapes, different materials or colors; or the same for different purposes; or in a different position, and so on ad infinitum.

The idea of interchangeable parts was first used by Eli Whitney in stepping up production for weapons for the War of 1812. Many years later Ford adopted it as part of his assembly line production method. The idea had many other applications, even down to basic dresses which can be used for different occasions simply by the use of other accessories.

You can imagine the familiar thing in almost any new position. Transposition from one place to another gave us the idea of serving meals not in homes but in restaurants. The same process of transposing gives us all sorts of outside services formerly done at home—laundries, hospitals, garment centers, schools and so on.

Which factors from one kind of service overlapping your own, can be applied to yours? A sunroom has a glass roof. In New York, some taxicabs have glass roofs to enable the passenger to look up and see the tall buildings—same idea, different purpose. Bathing caps for the swimmer are transferred to raincoat outfits. An ocean-going luxury liner supplies much more than mere passage. It draws for ideas upon restaurants, hotels, the entertainment field. Any large business can be analyzed for such overlapping of interests and can use them for idea sources.

A writer of articles may find in one magazine or trade journal possibilities for similar articles for another field. How a laundry found new customers may suggest that

every business is looking for new customers. The fundamental principles do not vary much, and can be adapted to how other small business may find new customers.

Just as radio has brought music to homes no matter how isolated, beautiful reproductions of pictures can be had to do the same for visual art experience. In the newspaper, prizes are given to camera fans and their photographs are printed. This could be transferred to radio by having contests for amateur composers to play their compositions.

A pretty good transfer occurred when Walt Disney thought that a mouse could play the part of a human being. That idea changed Disney's entire life.

Today people are very aware of the tools and methods of science and technology, and the result is that gadgets have a large appeal. Adjustable features such as three-way electric lamps for bright, medium and dim are of interest, as are stoves with temperature measurements, irons with separate regulation for wool, cotton, rayon or other materials, vacuum cleaners with assorted attachments, pocketbooks with unusual interior architecture and other multiple purpose affairs. Children can get a great thrill out of candy whistles that they can blow first and eat afterward.

When Benjamin Franklin was seated lazily in his chair, he hated to get up and climb a ladder to reach a book at the top shelf of his library. He wished his arm were long enough to do the job without his moving. So he got a long stick, attached a couple of metal fingers to the end of it, and was thus able to reach the desired book without stirring from his chair. This is the contrivance that shoe-clerks and grocers now use to get boxes down from shelves near the ceiling.

A method of increasing sales for some products may be

to utilize the object in another way, as for a hobby which has nothing to do with its original intended use. Thus Ivory Soap sold tons of its product in a contest for amateur sculptors to make little figurines with it. The same reasoning was behind a two-purpose arrangement my father told of when as a little boy he trudged to school in frigid weather with a hot hard-boiled egg in each hand as a hand-warmer, which later in the day served for his lunch.

A change in material is the basis for many good ideas. Lighter weight materials, transparent materials, cooler or warmer materials, those that are easier to clean, or those like plastic or glass which conserve more valuable ones, are the foundation both for style changes and actual improvements.

Again there are many possibilities in the changing of sizes and shapes. A woman is out walking and wishes she could have a clock along to keep track of the time. A small clock is developed which may be carried around, and thus we have a wrist watch. That is a change of size.

Someone takes the usual 35 mm. motion picture film and does a similar job on 16 mm. film, opening up a new branch of the industry for use in schools, salesmanship and other purposes. Someone else found a wonderful new use in the form of V-mail. From this the idea was transferred to microphotography, a method of reproducing documents. These compact records on film occupy only two per cent of the space required by the original documents to preserve vital records against loss or damage; make duplicates of records, save space by reducing the need of preserving such large bulky volumes as bound newspapers in libraries and giving them the size of rolls of film which can be slipped into a coat pocket. Since they are so small, much material

now confined to one place can be sent to scholars and research workers wherever they may be, without requiring them to spend time and money to travel to the original records. Now the original can be kept safe while the duplicate goes traveling. Savings of postage, of time because they can be sent airmail, saving of copying endless documents by hand, and assurance of photographic accuracy, as well as many other advantages can be seen.

Let's look at a few changes of shape. A chair with a single widened arm developed a new type of lunchroom. Classrooms and lecture halls also employ it for students' greater convenience in taking notes. Again, the use of squared milk bottles makes it possible for a milk truck to carry almost half again as much milk due to more economical stacking.

Another device in creating change is to alter the name of a product. One manufacturer had a cosmetic long known as body sachet. Sales increased pleasingly when they experimentally named it dry perfume instead. Name changing may be used either to clarify the use of the product, or to glamorize it, or to mystify the user and appeal to curiosity. For a while, "halitosis" attracted national attention.

In speculating over possible changes, ask yourself also: Can its appearance be altered to add novelty or interest? Color alone can add much individuality to a business. It can identify the packages interestingly, or can be used in saleswomen's uniforms, or waitresses' dresses, and the like, to add attractiveness.

A midwestern cafeteria doubled its sales of salads by serving them on green plates instead of white ones, creating the illusion of bigger and greener salads.

In industry, certain conventions in color have been adopted to signify codes. Red pipes mean fire protection;

yellow or orange mean dangerous materials; green is for safe materials; blue for protective materials; purple for valuable materials.

There are also numerous psychological effects obtainable through color that lend themselves to many ideas. When Alonzo Stagg was football coach at the University of Chicago, he made a practical application of colors in increasing the effectiveness of his players. Knowing the exciting effect of the color red, and the soothing effect of blue, he fitted out two dressing rooms for his team. One was painted in flaming red. In this he delivered his pep talks before the players went out on the field, and it acted as a wonderful stimulant. The other was decorated in blue, and was used after the game for rest and recuperation.

The right kind of paint in offices and factories saves the eyesight of the workers and lessens strain and poor work. It also makes the place more cheerful and agreeable to work in. In factories, cheerful yellow walls quicken and warm the spirits of the workers, and it is known that better work is accomplished at less cost when a painting reform of this kind is made. In fact, such is the suggestibility of this sunny color, that in winter actually less heat is required in public places.

The idea searcher should not overlook opportunities in time changes. Some manufacturers "date for freshness" and we see this carried out in coffee, camera film, flowers, flashlight batteries, candy, milk and other products. Others again exploit varieties in sevens—a change for every day in the week, as a certain fruit juice distributor does it, or seven different colors, again for every day in the week. *The Readers Digest* has it, "An article a day." An adaptation of the idea is in subscriptions. While subscriptions to

magazines, books of the month, opera and theatre guilds are well known, the same can be applied to very different things. People can subscribe to various types of services as long as they have repeat qualities. And for a final time-idea, daylight saving itself is a good example.

The utilization of waste has given many wonderful by-products which have in some cases built industries greater than the original from which they started. It is said in the stockyards that everything is used of the pig except the squeal.

George W. Carver, an abandoned baby of slave parents, grew up to make such marvelous discoveries in utilizing waste agricultural products that he practically transformed the South. From the peanut alone he built a $200,000,000 a year industry, producing at least some 300 items with no apparent relation to one another, yet all derived from that lowly legume. From the peanut he drew milk, butter, cheese, shaving lotion, breakfast food, salad oils, soft drinks, wood stains, axle grease, insulation boards and about 300 more. From the sweet potato he brought starch, vinegar, shoe-blacking, ink, library paste, dyes, candy, coffee substitute, molasses, rubber, and flour, to name but a few of more than 118 by-products. Other treasure-filled products are the soybean, the castor bean, corn, cotton and many other common everyday farm crops.

Carver's work sounds like a miracle but it shows the pursuit of an idea in action. He took the potato or the peanut apart chemically, separating the water, fats, oils, gums, resins, sugars, starches and other factors, trying endless combinations of the parts under varying temperatures and pressures. This is the same technique that has been stated and illustrated by many instances all through these pages.

It can be applied endlessly to make other new products and develop new ideas of every kind.

The process of "making change" also quite properly involves addition and subtraction. You can add vitamins to improve one thing, or subtract caffeine to make another. Or you can add the salt, which has been humorously defined as that which, if not put in the soup, spoils it.

Or you may perhaps eliminate some factor to simplify a complexity, remove some old-fashioned feature, reduce the cost, or just make it more exciting and modern looking. Removal of a factor is well exemplified in the field of dehydrated foods—a method of removing the liquid content of foods to permit space-saving during transportation—the liquid to be replaced by adding water when ready to use.

Adding, subtracting, combining. Once lead pencils had no erasers. A new convenience was provided when someone added the now familiar rubber tip.

A Hungarian sculptor, Dezso Lanyi of Budapest, became famous by combining caricature, usually done in only two dimensions, with three-dimensional sculpture. And in color, too. A biographical sketch of Orson Welles describes a useful addition he made to movie technique when movie work first engaged his attention. Observing how the men in charge took turns looking at the action through a rangefinder on the camera, he merely added a second rangefinder to the camera, enabling two persons to look at one time, and cut the time for this in half.

Adding, subtracting, combining. A practical idea in selling is to watch for possibilities of combination selling. Home furnishing businesses always try to add small pieces when a large order has been concluded. The family who buys a living room davenport and two easy chairs will be

prevailed upon to get the lamps, end tables and other "finishing touches." The woman who buys a suit will b€ beguiled with the correct hat, purse, shoes and gloves to gc with it.

Socks and ties, mufflers and gloves; pens and pencils; bath towels and bath mats; perfume and soap; cold cream and powder; rouge and lipstick; pipes and tobacco; playing cards and bridge covers are popular combinations. Desk sets; sets of books; sets of dishes are other examples. I: an object can be combined with some other object or ide$ to multiply its usefulness or novelty you have a usable idea Like a double picture-frame for two photographs side by side; or a picture backed by a mirror on a swinging frame Again, small chairs were formerly sold only individually now they are often sold in fours with a bridge table.

Sometimes a single unit can be subdivided. For example instead of buying a set of dishes as a whole, one can but; needed pieces from open stock.

Not only is it well to sell combinations of goods when possible, in a "wholesale" fashion, but it is of course also well to strive always for orders as large as possible. Thu if you have a product that can be applied to whole industries or great organizations at a time, do not neglect them For instance, hotels as markets for products logical to their needs should not be overlooked. Millions of sheets, towels sets of cutlery may be mentioned.

Suppose the subject about which you want an idea i soap. Put it down on a sheet of paper. Then go through a the questions and suggestions given herein systematical!) one at a time, and answer them in connection with soap an its various aspects to see whether they offer a possibility you can use. The examples given show graphically and spe-

cifically the kind of reasoning applied to ideas that surround us everywhere. Analyze the following easy idea starters:

EASY IDEA STARTERS

1. Change Sizes or Proportions
   a. Longer or larger, like economy size packages; dining tables to expand for more guests, etc.
   b. Shorter or smaller, like digest magazines; hearing aids; wrist watches; portable rainwear.
   c. Thicker, like lather; thinner, like diet bread; re movable coat linings.
   d. Divide, as a large breakfast food box into indi vidual portion boxes; plates for a blue-plate dinner.
   e. Combine, as radio and clock, sell a lamp with a chair; set of tie, handkerchief and socks.
   f. Alter shape, as L-shaped room for dinette, stack ing chairs.
2. Change Positions
   a. Lower, higher icebox shelves. Swivel chairs. Baby play pen. Gardens on the roof. Rumpus room in the basement.
3. Double Uses
   Mirror on a closet door.
   Cake mixes with suggested recipes,
   4-piece interchangeable coat, suit and dress.
   Chair-ladder.
4. Change Time Factors
   Faster with fast drying paint. Faster with pressure cooker. Faster with self service arrangements.

Faster with automatic devices.
Last longer with reinforcing. Pack to preserve, as in cellophane.

5. Can Noise be Reduced?
   Rubber flooring, asbestos walls, felt on bottom.
6. Can Safety Hazards be Eliminated?
   Sharp edges protected.
   Safety glass.
   Color contrast.
   Remove glare.
   Fire resistant material.
   More stability.
   Better labels.
7. Can Material Be Improved?
   Wrinkle-proof, drip-dry, no iron, runproof, sunfast. Lighter weight as aluminum. Disposable as paper plates. Burr-type fastenings instead of buttons and zippers.
8. Can Material Be Conserved?
   Using inexpensive plastic instead of expensive metal.
   Eliminate unnecessary pieces of material, metal, etc.
   Plastic sheeting on kitchen walls to protect same.
9. Can You Improve Its Appearance?
   Color, form, shape, lines, grace, texture.
10. Find an Easier Way to do Something Difficult
    Electric hairdryer.
11. Less Expensive, as Paperbound Books
12. Cleaner Way, as Scotch Tape Instead of Glue
13. More Accurate Way
    Pre-measured material; electric clock; better directions.
14. Can It Be Used for an Additional Market?
    Cigarettes for women.

Cosmetics for men.
Baby foods for invalids.

Consider carefully the who, when, where, why, how, and all the others and see how well they organize your own thinking on your particular idea problem.

X

Ideas from Nature

No one should underestimate the importance of observation as a source of constructive imagination and idea suggestions.

As we stated earlier, everyone in search of ideas should cultivate first of all the habit of careful observation. This habit is essential to clear thinking. Ideas gained through observation are usually of the most vivid kind and appear to be much more definite and specific than those acquired by other means. Observation has been the source of good ideas ever since man arrived on this planet.

The primitive seemed a poor competitor against the powerful animals that were his rivals in the fight for survival. They had greater size, strength and speed, tougher claws and many other powers besides which his assets were weak and puny. But by means of his constructive imagination, well backed up by observation, these obstacles were overcome by man and he was able to outwit his adverse conditions. What Nature had denied him in physical powers, he supplied to himself through the exercise of such of his thinking as he could make dynamic and constructive.

Seeing the claws of animals, he took for his own use the idea of the rake and the hoe. He created artificial claws and teeth, imitating those he saw the animals possessed,

making them in the form of spears, knives, axes and other tools.

From the woodpecker he visualized the gimlet; from the beaver the trowel; from the rolling log, a wheel to drag his burden.

Seeing a floating log, he imagined the idea of boats to carry him across the water.

And in turn, he imagined step by step all the ingenious improvements, comforts, buildings, clothes, foods, tools and inventions that have kept him alive and advancing through the ages.

As a general rule, Nature did it first. The spider taught us to spin. The human eye gave us the principle of the camera. The arm taught us about levers. The sun and moon suggested ways to measure time. A large leafy twig was the first sunshade. A sea shell was the first spoon. The fish, ages later, was model for the submarine, and the bird founded the aviation industry.

It is not the way of primitive man to imagine an Empire State building. But by taking a natural cave, he could roll a large rock at the entrance for a door, then gradually making other improvements and utilizing ideas built up in other connections over long periods of time, he could construct comfortable dwellings and later, complex structures for other purposes.

The primitive woman, style-conscious as she may have been, did not at a single step create what passes for modern attire. Each article of dress started simply, and gradually evolved.

It is so with all ideas. They begin simply, and only time and experience evolve from it a complex matter at which the uninitiated wonder as though it had sprung at one leap From the magician's mind.

The term "observation" is generally used to refer only to the sense of sight, but it may also be used in connection with the other senses as well. It is just as truly observation if we use the sense of hearing, taste, touch or smell.

Careful and fruitful observation requires that one should cultivate keen sense perception. When one looks at a thing he should really see it. He should notice every characteristic of the sounds he hears. He should sharpen his sense of taste and of smell, and his fingers should be sensitive to the distinctions, however slight, between soft and hard, wet and dry, warm and cold, rough and smooth, tense and flexible. In all his observations he should be keenly alert and sensitive.

It is well to look for the unusual in everything, ever the commonplace. Most people notice only the plainly obvious things and do nothing to exercise their sensibilities As a result we have dullness and boredom in our lives instead of vigorous enjoyment of all the things around us that are waiting to stimulate our minds, prod our thinking and give us the materials for many an idea.

There is no point in going around day after day expecting everything to be the same—the same sights and sounds as though as far as we are concerned, we might as well be robots in an automatic world. There are always differences even though they may be slight ones. So activate you senses, look for the differences, analyze them, put them to use. It will be a much more interesting and profitable world if you do.

All these habits of careful observation, of wide reading of always being on the lookout for material, should be sought, not necessarily with the view of any specific use, but for the purpose of broadening information and deepening thought. The object should always be the improving of

oneself by adding to one's stock of information, that there may always be a full storehouse of material which may be drawn upon at will, making up that subtle background of authority and individuality which molds an idea in the long run.

Before the industrial era mankind had few benefits beyond those which Nature unassisted was able to supply. Since that time, man has tired of the slow process of evolution. He has found out how to utilize Nature's laws to advance his own creative ideas. He has realized that whatever the need might be, whether a new steel alloy, a synthetic rubber, a motion picture film, it can only be produced by adhering to Nature's laws. It must be created. Creative knowledge does not come of itself out of nowhere. It is built upon previous ideas and experiences.

Experience alone, however, was too slow. It also lacked reliability, for there was too much of an element of chance as to whether one would have the experience needed. So from relying upon experience, man utilized a creative idea to produce creative ideas—he devised experimenting as a process.

Soon he realized that an experiment had to be carefully planned and controlled. Further, the initial plan had to be continually revised as new facts developed. He learned :hat Nature, like himself, could answer but one question it a time. If he wished to discover the effect of more than me variable condition he could best do this by analyzing he influence of each one separately, namely by allowing only one at a time to vary, and keep the others constant. This is a clue for your own experimenting, whether you do it with materials or with ideas.

It has been said that certain intellectually honest, enthusiastically persevering individuals, endowed with in-

satiable curiosity, keen power of observation, ingenuity, patience, common sense, and the urge to take infinite pains, have been notably successful in inducing Nature to reveal her secret methods. You don't need all these qualities, but they help, just as in the case of the industrious man who died possessed of a fortune of $100,000. It helped that his uncle had left him $99,000.

X I

If You Wish to Invent

The inventor does not differ markedly from any other idea producer. Merely in some cases his work is more complex, his risks often greater, and so some practical comments concerning his procedure may be appropriate.

It has been said that the greatest room in the world is the room for improvement. It is probably this fact that motivates inventors. Not that they are averse to making money from their ideas, but they do seem to go about it the hard way.

The world is full of all kinds of contrivances, big machines and little gadgets which are far from perfect. They simply remain in use because no one bothers to correct their faults. Just because they were once an "improvement" on something, people are prone to accept them as they are, with whatever defects come with them at no extra charge.

Yet the person who is looking for a bright idea can almost always find something to improve.

At this time I am not talking about the emergency business idea that has to be produced on schedule to fill a specific need. The invention type of idea discussed in this chapter is more of the abstract, indefinite, any-time-will-do affair in which one starts from scratch—and scratches.

Let us take a simple idea that anyone could have had,

and see how it developed—into the collar industry. An industrious housewife had the unpleasant chore of wash ing a continuous number of her husband's shirts. There seemed no end to the job. She decided to see if sh couldn't improve her lot. She turned an observant eye t the problem and noticed that the collar became soiled faster than the shirt, and that she often had to wash whole shirt when only the collar needed it. Out of that ob servation came the idea of separating them and washing each as required. And out of the idea, in turn, came the then new industry of separate collars.

You see here that the inventive process begins with critical attitude that will take a problem of any size am dissect it into its component parts. Instead of getting alone; in the same old way with the day-to-day discomforts, some one looks into the matter, studies it without prejudice, reasons soundly, and comes up with a newer and better method. Almost all the machines we use are crude and inefficient compared to what they could be. It is said that locomotives use only eight per cent of the energy in the coal required to move them. Many motor-moved appliance are over-noisy, to say the least, and numerous other ill beset the things we use. Often these ills are far more basic than superficial inconveniences like noise. They may affect actual efficiency and safety as well. People who will pu their minds to improving such things can find many oppotunities to engage in constructive work of widespread bene fit and resulting personal satisfaction.

What about accidental ideas? They may be all right a far as they go, but it is certainly not reliable to go out and wait for an accident. If one bumps into you, fine. It's certainly a plus value, but it doesn't make you an inventor o an idea producer of any other kind. Many so-called acci-

dental inventions are not properly so designated. They are made possible by the trained observation and intelligent deductions of the person who sizes up the given situation.

Typical of such ideas are the discovery of aniline dyes by Perkins. He was looking for something totally different —an improved quinine, if I remember. Then this turned up as he was throwing a disappointing but beautiful purple mixture into the drain. But he had the wisdom to stop throwing it down the drain, and to analyze it and investigate how it happened, how to do it again, what it was good for and all the other things that made it of value.

The same procedure occurred when Roentgen discovered the X-ray; and when a bit of sulphur dropped into the rubber mixture which Goodyear was working over after a disheartening attempt over a period of years to vulcanize rubber. This gave us the multitudinous valuable product of this substance which would have been impossible without the "accident."

Sometimes the accidental idea brings a fortune to the person who gets it, as was the case with a man who was waiting for a street car and idly picked up a hairpin at his foot. As he waited for the car, he played with the pin, bending it around his fingers. The idea entered his head that papers could be held together if it were properly bent. So we have paper clips, and he made a fortune, though he had never invented anything before.

But there are few inventions which a sudden inspiration reveals as a perfect thing. The inventor who takes his vocation seriously, will search for a problem that challenges his interest, and work at it until he finds a solution that satisfies him. Often the creative thinker stops when he says, "I have an idea." That is the time to study it, develop it, prove it, either actually if the cost is not too great, or theo-

retically in every last detail. An idea is only an abstraction until it is reduced to practice.

Many people in deciding to invent or improve something endeavor to imitate exactly the process as found in nature or in previous practice. The creative thinker leaves imitation behind him and tries a different way. Thus someone cites the fact that the person who made the first carpe sweeper did not try to incorporate the motion of human arms brushing a broom over the floor. He developed a new principle—that of rotating brushes which would auto matically force the dust up into a small receptacle. Similarly the man who wished to improve the carpet sweeper perfected another new system—setting air to do the job of the brushes and giving us the vacuum cleaner.

Have you been afraid you don't know enough to make an invention? It was Morse, a painter of portraits, who invented the telegraph, and another artist, Robert Fulton, who invented the steamboat. Often the mind that is uninfluenced by precedent has a better chance of succeeding than one who knows all the difficulties and has been told by the experts that "it can't be done." It seems even people who have enough confidence in an inventor to put some money into his venture do so fearing his failure. The men who loaned Fulton money stipulated that he should not publish their names, for they were so sure of failure that they expected nothing could come to them but ridicule.

Discouragement is one of the difficulties which inventors and many other creative thinkers have to overcome. It is so easy for the average person to stand in the bylines and make fun of a sincere original effort. Imagine what people said when Edison claimed a plate made of metal could talk like a human voice. When he invented the phonograph, the least objectionable thing he was called was a clever ven-

triloquist. People "knew" that iron ships would sink; that the earth was flat; that it had to take eighteen days to paint a new auomobile and thus hold up the assembly line into a fine jam—until somone tried another finish.

It is odd that Edison himself was guilty of discouraging other inventors at every turn. Instead of seeing things from their side of the fence, since they had so much in common, he often ridiculed ideas that he did not originate. But he did at least have unbounded faith in his own, even though they were much more far-fetched than what an outsider might suggest.

That is what the inventor or other creative thinker needs to keep all the time despite obstacles and discouragement—his faith, for the difficulties are of considerable variety. A reasonable argument against some new inventions *is* that they may cause unemployment. In the 16th century a Council ordered the inventor of a weaving machine to be strangled to prevent his machine from causing beggary among hand weavers. And in England, long after, rioters broke up the early cotton machinery because it was considered an enemy of honest workers. Today we have automation, strikes, featherbedding and so on.

A distinction must be made in lands of inventions. Some simple inventions in the form of novelties may be immediately adopted and have a vogue of but one or two years—a matter which the inventor may fully understand in advance.

The other and far more important class of inventions may not come into use despite all efforts of the patentee, during the seventeen year life of the patent. Among these are those of a highly original and fundamental type which may form a new departure from previous and well established practice. Or again, inventions that are ahead of their time

and require the art to grow up to a point where they can be successfully utilized; or those that from their very nature require the investment and risk of a large amount of money before a practical demonstration of the advantages claimed by the inventor can be had; or such inventions as can be used only by some existing monopoly, like a government railroad, telegraph or telephone corporation, whose interests or fancied interests may He in throttling or shelving the invention.

Fortunately for civilization, there are always some inventors who are willing to be martyrs for an idea or a cause. None of the difficulties mentioned seem to have any effect upon their morale and stamina to keep going on. The awe they may feel at the idea of patents, and the disgust they may later have at the workings, non-workings and inept workings of the Patent Office will not faze them.

But to make money at inventing may require a compromise between helping out civilization and helping out your immediate family with your brains. If you're in it for money, you will avoid these long-time projects with all their complexities. At its best and easiest, invention requires concentration, patience and some technical knowledge of the problems involved. There should certainly be in addition enough business sense to protect one's financial interest. It also requires action after the invention is made. Every time you go to a dime store, you can see little ingenious gadgets that you realize are so obvious that you could have done them yourself. The fact remains that you didn't. To make money on an idea means acting upon it.

It also means sticking to fairly simple things that people will accept. It means thinking of something that won't be too hard to manufacture or too expensive to sell or too hard to use. To be commercially successful an invention should

accomplish one or more of the following: save time, lower costs, sell easier, do more, work better. Inventors do sometimes gain quick wealth but only provided they have a practical knowledge of the business aspects of manufacturing, promoting and selling the invention in addition to the special requisites of making the invention in the first place. This world is a very materialistic, practical and hard one, and it will not go for an inventor's brainwave unless it fills a want.

For all the technical cleverness of inventors, they do manage to devote their energies to some strange things. One man came out with a motor-driven corkscrew. Another sewed a ring of sponges around a hat brim or umbrella, so the rain would be absorbed there and not drip down on him. So take a warning from these, and when you get a new idea, think up every reason you can think of as to why you should forget it. If you then still think it's good, 50 ahead. There are enough things in our daily lives which lave faults to challenge ingenuity, and which fill the requirements of a potentially successful improvement. There ire, for example, tea kettles whose handles become too hot; :alt shakers that don't shake salt; egg beaters that are hard o wash; smelly ashtrays. You go on from there.

It is wise to keep to fields which are in the public eye. Direct your work to specific companies by improving their present wares or by providing them with competitive products which they can produce with a minimum of expense. Or at least before you make a heavy investment in time, money, experiments and hard work, take into consideration the difficulties we have enumerated, and outwit them by avoiding the roads they travel on.

Another thing, if you want to invent and don't know where to begin, there are a number of books which make

you a present of plenty of practical needs to explore, and which prove very stimulating indeed. Once you have worked out a good idea, manufacturers will be interested They don't care who you are, where you were born, or how much education you have.

Your inventive powers depend on your previously acquired impressions. All artistic, scientific and technical in ventions are in essence the production in new forms of mental pictures previously engraved on the brain through the senses. The more the mind is stored with these pictures the more material it has at its disposal for the production of original work.

Mere possession of a multitude of impressions, however is not in itself sufficient for the creation of a new work Invention involves the painstaking use of analysis, dissecttion, comparison and assortment of ideas in order to pro duce an original synthesis which, while borrowing some thing from every impression examined, will not reproduce any of them in its original form. In other words, invention is the product of an immense amount of thought. That i why great artists, scholars and inventors sometimes appear absentminded. They are not so in fact; it is just that their minds are so deeply concentrated on one subject that the are oblivious to every other.

Creative thinking can be enormously valuable even if i is not inspired but is dug out by deliberate conscientious effort. Indeed this factor is the dependable one, and the inspired thinker himself must use it if he would really cor vert his inspiration to use.

"How did you discover the law of gravitation?" someone asked Newton. "By thinking about it all the time," he replied. Or, as Alexander Hamilton put it, "All the genius have lies in this: When I have a subject in hand, I study

it profoundly. Day and night it is before me. I explore it in all its bearings. My mind becomes pervaded with it. Then the effort which I have made is what people are pleased to call the fruit of genius. It is the fruit of labor and thought."

XII

Abstract Ideas

The achievements of men which we enjoy today—diseases stamped out, pain silenced or relieved, span of life lengthened, sanitation supplied to multitudes, knowledge made popular, comforts and conveniences established, all started as ideas. Ideas show us how mankind, by making use of his knowledge and ingenuity, can progressively emancipate itself from plagues, famines and social disasters, and subjugate the materials and forces of the earth, here and now, to the purposes of the good life.

The question technique set forth in an earlier chapter may also be effectively used for abstract ideas. Take the idea of freedom, of power, independence, strikes, labor, industry, peace, education, or almost any other, and apply to it the questions of who, what, when, where, why, how, similarity, contrast, effects, improvement, and the others, and they will guide your thinking on these subjects.

Take the one of transferring an idea to a different group of people. This was the process employed in a more or less educational idea just developed. A library of films of well selected features has just been set up for children, thus doing a much needed job for a different group of people. The films are to be given in special Saturday morning per-

formances, thus utilizing an additional time for the purpose as well.

Another educational idea based on transferring a service to another place is the one of the bookmobile, which is an automobile carrying library services to rural districts which are out of reach of metropolitan libraries.

Thus we might exemplify independence. Where? In the Congo.

National resources—Why must we conserve them?

Peace—How has it been accomplished before, how can it be improved now?

Speed—What are the effects on the human system?

Labor—What are its problems? How can they be solved?

Industry—Who are the leaders. Where are its methods leading our economy?

Hydroponics—Growing food in water solution instead of soil. How can it help the famine lands.

Climate—Can man change it.

Atomic energy—How will it affect the coal industry if one pound of uranium can heat a house for 171 years?

Nor do you stop at one question. Use all in the list that can be applied to the subject. Try it out for yourself.

Naturally I am not going into any philosophical or thorough pursuit of these subjects, and these examples are of the most superficial quality. I only touch on them to indicate a process, which the idea seeker may elaborate to his heart's content. To the thinker the most trifling external object often suggests ideas which may extend anywhere in time or space. There is no limit to the sphere of ideas you may get by asking the questions suggested. The whole world lies open to your thoughts and feelings. How about the abstract thinker whose thoughts turn to writing?

Of course there is no intention here to tell anyone how to plan or write any particular form of literature. This is limited strictly to a method of approach for ideas when one is stale or infertile. If one pursues writing as a profession, it is necessary to be able to develop ideas at will. It would be fine if one could press a button and out would come an inspiration whenever needed. That's not the way it happens, however. But a reasonable facsimile can be provided by the method to be described in this chapter.

Many people think they must get the idea first and then write. Quite the contrary. There is something about holding a pencil to paper that will start a flow of ideas. At first not necessarily sensible, but, as they say, one word leads to another, and one suggests another, and as you loosen up, you begin to draw more intelligently on your great subconscious storehouse.

When an idea first glimmers on your horizon, it clicks in your emotions. You feel that something interesting is on the way. You then pick it up, as it were, and look at it, listen to it, and begin to think about it. What you need, therefore, is a "button to press" that will stir your feelings. The only things that stir our feelings and give us sense excitement are our own experiences. These, for the most part, are the things we see and hear. And the things we see and hear, in their lowest common denominator, are pictures and words.

Does it not, then, seem eminently reasonable, that if you provide yourself with vivid words and pictures that rouse your emotions and make you feel, you are well on the way to idea seeds whenever needed.

The housekeeper does not keep house from hand to mouth. She tries to have some reserve stock in the pantry for rainy days. So too with the idea researcher. He at least

needs some ingredients from which he can whip up an emergency meal. So we shall now consider an "ingredients larder" that will serve this purpose.

You begin by making up a list of characters which you find interesting. At some future time you may glance over it and select a character that suits the mood of the moment, and use him in your story. No one can say for you what kinds of characters would appear on your own list. You must make it yourself and keep adding to it as new interesting types suggest themselves. They might include chemist, congressman, tailor, union leader, poet, chauffeur, jeweler, miser, flirt, florist, bishop, invalid, interpreter, explorer, auctioneer, football coach, or any others.

Make a similar list for women.

The characters chosen for any one story should be in contrast, otherwise it is less likely that convincing conflicts will take place.

Since conflicts are the essence of a story, lists of these should be drawn up in the same way. The conflict must always be a problem, a dilemma, a forked road, a difficult choice to be made, resistance set up against the hero or heroine. Conflicts are in three major divisions: between man and nature or man and society; between equals or seeming equals; and psychological conflicts—man against himself.

Now you do the same with a list of interesting places which can be picturesque locale, such as newspaper office, stock exchange, slum, beach, lonely road, prefabricated house, cotton mill, agricultural experiment station, Alaska, jungle, banquet, museum, docks, coal mine, airport, plantation, frontier, gymnasium, summer resort, court, customs office, department store, governor's mansion, telegraph office, and so on.

Repeat this with a list of desires such as love (various

kinds—girl's, man's, mother's, etc.), money, fame, honor, beauty, jewelry, knowledge, secrets, automobile, legacy, and the like.

Another list will be objects or conditions to be relieved of, such as poverty, sickness, blindness, deformity, hunger, lonelines, ridicule, suspicion, etc.

Also have a list of obstacles to achievement: poverty, weakness, imprisonment, ignorance, mistaken identity, rivals, enemies and so on. There are probably hundreds of obstacles to love which the fiction writer should collect for ideas. Lover is a political or religious enemy. Duty to profession stands in the way. Lover and loved are business rivals. Match is opposed by a parent. Difference in rank stands in the way.

In the same way, every factor of the piece may be the subject of lists which may be used as thought stimulators and combined to suit.

Collect titles, as these are often stimulating: Television Love; Lost Evidence; Uninhibited; Fake Mother; Irate Santa Claus; The Lost Vote; The Crooked Road; False Pardon; Contact; The Secret; The Silver Thimble.

You can also list from time to time, surprise twists or endings.

It is said that there are only thirty-six possible dramatic situations. They have been fully written up in Polti's classic book, and appear in many other books for writers. Of the thirty-six, some are not practicable due to conventional taboos. Those who write fiction in any form should lool into these situations and list possibilities under each of them, available for the moment of idea-drought.

Another aid is a set of plot cards, which can be dealt tc make all sorts of combinations. Each card contains several factors: a list of male characters, a list of female characters

adjectives describing each, settings, complications, plot problem, climax, and so on.

Such devices do not mechanize creativeness at all. You always make your own combinations and add your personal knowledge and experience and individuality to these various factors. All they do, and all they presume to do, is to give you that tremendously valuable initial push to start you going. For the purpose intended, they are entirely legitimate and need give no one any inferiority sense as to his originality.

Single words that are dramatic and colorful to you should also form a list. Here might be some suggestions: Birth: high; low; first-born; heritage; illegitimate; foundling; birthmark; birthday.

Lists of possible themes should also come in handy, such as: abdication; absent-mindedness; accusation; adolescence; adventure; after-death; alumni; anniversary; antiquarian; auction; autosuggestion; betrayal; bitterness; blindness; bombs; bribe; buried treasure; captive; cause and effect; challenge; child delinquency; conscience; crisis; cross examination; defiance; deception; disguise—and so on through the dictionary.

Writers need pictorial help too, and artists certainly do. Getting it is largely a job of clipping illustrations from reliable magazines, old books, catalogs, advertisements and other sources, indexing and filing them under suitable classifications.

A fine nucleus of photographs can be secured free of charge or for but a few cents each, from the research departments of industrial organizations, chambers of commerce, government agencies, moving picture stills, museums and so on. There are also many second-hand bookstores and those dealing in old magazines which are wonderful

sources, not only for unusual ideas, but accurate descriptions and authoritative information concerning them.

Picture files or collections are therefore almost indispensable, not only for the initial impetus to an idea, but for giving it definite and graphic expression. Pictures of accidents, sports events, tenement scenes, children, industrial processes, personalities and a limitless number of other subjects are very worth while.

All these aids give you a point of departure—elements to combine. You don't have to gaze at a blank wall and wonder why the good Lord left a vacuum where your brain was supposed to be. You simply go through your collection or file of notes and pictures, and select the tiling that seems to click at the moment. And all the while you are enriching your life by living by proxy the experiences you would otherwise miss entirely.

Ideas which are expressed in words are magnets that draw other ideas toward them. The Chinese have a saying, "A journey of a thousand miles begins with one step." Ideas and words begin to flow when you make the initial effort.

In addition to collections of single words and pictures, there may also be suggested the use of thought-provoking phrases and sentences. Epigrams, aphorisms, proverbs and other bits of philosophy often contain stimulating idea germs.

We have "When poverty comes in at the door, love flies out of the window"—"A bird in the hand is worth two in the bush." Sometimes such little bits of wisdom embody all the factors of a good piece of fiction.

Many ideas occur by means of reversals or twists of familiar statements, such as the paradoxes of Oscar Wilde, Chesterton and others. "Work is the curse of the drinking

classes." "I can resist everything except temptation." "Genius is born, not paid."

Today we can alter a worn-out alibi for our troubles by saying, "Don't you know there's a peace on?"

The history of words is a fine source of ideas revealed by the dictionary and gives much graphic point to one's thinking. Since words are quite fundamental to ideas, here are a few examples.

"Sincerity" is a curious and interesting word, and its history as a word is revealing. Mankind first thought in terms of concrete things. Going always from the known to the unknown, such abstractions as he could master were founded on his experience with tangible, visible objects. Many words that we use today to denote abstract ideas are words of this kind whose meanings have been enlarged or expanded by figurative interpretations. This gives great picturesqueness to our language. Thus the literal meaning of the word sincere is "without wax." The term was originally used to designate a piece of pottery that was perfect, for old time potters hid the defects in their wares by the use of wax. Consequently whatever was genuine or free from deception was said to be sincere or "without wax."

Again, the word "scrupulous" is from scruple, a small sharp stone as in a man's shoe. A person thus afflicted naturally proceeds carefully. Scruples are small considerations and indicate exactness. Our word "supercilious" comes from super, meaning over, and cilium, meaning eyelid. It means raising the eyebrows in disdain and thus expresses contempt or haughtiness.

To "ponder" means literally to weigh; to "ruminate" refers to the cud-chewing of cows; "brood," to meditate, goes back to the hen sitting on her eggs. The cow and the hen ought to have a lot of good ideas, but we don't know about them

because these two barnyard friends do not follow step five of bringing them out to the view of public opinion. Or do they?

The use of metaphor and simile also bring into relation what is not obvious, in accordance with the idea-producing process. The unimaginative mind is literal, prosaic, imitative, stereotyped, unenterprising, limited, whereas the creative mind is poetic, figurative, sees new relations and proceeds imaginatively.

Clarity of thinking is always increased by the use of the correct word. Since our thinking is frequently so vague a matter, consisting merely of impressions and generalities, hardly thinking at all, it cannot be too much stressed that it is of help to write down one's thoughts, thus compelling the use of specific words and making the idea concrete if it seems of value. Words have so many and such slippery meanings, and we are so easily biased in using them, that misunderstandings arise to confuse our own thinking, not to speak of anyone we wish to inform about our thoughts.

Another pitfall should be noted. We are so accustomed to think in words, and to accept the word which is a symbol for the real thing, that confusions often occur. Many people made mistakes in thinking due to this false use of words. A professor was lecturing on atoms, explaining that an atom is such an infinitesimal thing that nothing smaller could be conceived. A student wanted to know why. The professor replied, "Don't you know that atom is a Greek word and that it means something absolutely indivisible?" Poor neglected electron with its electronic age!

From these various examples we can see that while the chief use of writing has been for communication of thoughts, the improvement of thinking as a result is fully as important.

X I I I

Research

A far too common mistake made by idea seekers is that of depending almost entirely upon such information as they happen to possess by accident upon the subject that engages their interest. No matter how learned one may be, this casual fashion of proceeding is bound to be ineffective. Professional writers and professional idea-men become expert in building up their working material by systematic, thorough research.

Edison himself said, "The first thing is to find out everything everybody else knows and begin where they leave off." Research is just as vital to the development of a commercial idea as it is in literary or other purposes. Whether the idea you want is literary or commercial, give full and exhaustive attention to research.

By now you realize that your imagination does not and cannot create something out of nothing. Instead, it creates by combination, adaptation, adjustment, transformation. And it has no alternative but to employ for the purpose the material which you provide it with. It is therefore necessary that you furnish it with mental images of the kind and variety which are best adapted for the development of the new forms, images or ideas required for the logical promotion of the purpose you have in view.

Your raw materials come from certain obvious sources Reading is undoubtedly a chief source of an idea. There is scarcely a topic on which something has not been written Reading not only can spark ideas but can also help you avoid mistakes. You may find clues as to what other people are doing, or reasons for not pursuing one plan rather that another. One may begin by consulting a dictionary, which gives one a factual and specific start, with historical derivations, synonyms, and other trail-starting thoughts. You may next read the best textbooks covering the general subject starting off with the descriptive articles treating upon it which you find in the best encyclopedias. The general treatment of a subject found in an encyclopedia will often save you much loss of time in narrowing your subject and selecting the salient points. It also fills in the gaps of one's own knowledge and is sure to lead up and down some interesting bypaths.

You will also read the trade journals circulating among those engaged in the field you are studying, and of course the advertisements in these are very revealing and idea-prompting. Fact-finding agencies and sources are at everyone's call. The newspapers, trade papers, magazines, technical and professional journals, the ever-growing mountains of books, the Federal Government (now the largest publisher in the world), the trade associations, and chambers of commerce—all these and many more—are constantly committing and recommitting all known facts to the printed page. Each organization has its own statistics and operational reports. Every firm with salesmen in the field has a potential market-research body at its disposal.

Not only reading, but exposing yourself to experiences, art and science and technical exhibitions, trade conventions, stores, shop windows, museums of various kinds, and

interviewing people are all good ways to stimulate oneself. Find out what people like and what they dislike about the products they use.

Specialized reading, like specialized human associations, limits our mental development. Wide reading helps by supplying us a variety of ideas for cross-breeding. Medical inventions have been made by engineers and electrical gadgets have been invented by physicians. Get over the fence and into other fields regularly—that is a dynamo for getting ideas.

Specialization has some large advantages to its credit but at least one great disadvantage. It causes men to bury their noses in a single vocation to the extent of overlooking relationships that are obvious to the nonspecialist mind. Years are spent working out problems in one field when the solution has already been found in another and may be had for the trouble of a little adaptation.

It is therefore desirable and often very rewarding to consult with persons engaged in the occupation or activity or subject with which your would-be idea is concerned. Conversation with someone who knows a good deal about a given subject is often a quicker means of finding out essential facts than are other methods. Alert business men are constantly asking questions and many times they owe fully as much of their success to the information they have acquired from other people as they do to the information which they themselves have laboriously worked to obtain by personal effort.

Don't hesitate to ask questions for fear you will show your ignorance. The wisest and most intelligent men have learned by asking questions. Some of the questions you ask will lead you nowhere. But what of it? If you ask enough intelligent questions, eventually you will have all the facts

you need, and some of them may lead you to an important discovery.

There is however an art in asking questions. Never ask questions at inopportune times. Never question in an annoying manner. Never explore the ignorance of anyone, especially before others. Don't be discouraged if asking questions gets you into trouble. Try to find out whether it was the way in which you asked the question, the time you selected for making the inquiry, or the jealousy, egotism, or ignorance of the person questioned that caused resentment.

It is odd how many people ask good questions, ask them of the right people, at the right time, yet do not listen to the answers. Listening, like observing, is not a passive matter. On the contrary, it involves close attention to **a** speaker's words, and a constant weighing of his statements. We are often so intent on what we are going to say, that we don't half hear what is being said.

There is much idea material to be had from personal experience—yours or other people's—which is available to you, whether it be a refugee escaping from a concentration camp, or a shoe manufacturer giving a new method he has proved successful, or a mother who has dealt effectively with **a** certain adolescent problem.

The eager fact-finder gets much of his information from talking with people. Theodore Roosevelt had the faculty of learning something from every person with whom he spent as much as five minutes. Henry J. Kaiser is forever pumping people, according to one of his admirers. Men of this calibre are far more interested in listening than in talking. Facts obtained in this way particularly require confirmation, but they are frequently more suggestive than those acquired by reading.

Before you go about questioning others, ask yourself the questions you want answered. Try to arrive at the correct answer yourself. This will develop your ability to analyze and to draw deductions. When you do discover a correct answer you will enjoy the thrill of discovery—a thrill that is far greater than that received from the most interesting and valuable information given to you by someone else. The greatest discoveries in the world have been made by men who asked questions and found the answer themselves.

In other words, you saturate yourself with the subject from as many angles and viewpoints as you can think of.

Having done the heavy reading and the interviewing, one is wise who will read general books, magazines and newspapers. One of the most prolific sources of ideas is the newspaper. This is not always because of the actual story, fact or information that is presented. It is also valuable for the association of thoughts which it brings to your mind. When you have an embryonic idea, everything you see or hear tends to relate itself to that idea to feed and nourish it. It is therefore of much importance to you that you expose yourself to as many experiences, thoughts and impressions as possible, and newspapers cover a great deal of ground with a minimum of time and effort.

The same use of associated thoughts also applies to your use of libraries. Much time can be saved by consulting indexes instead of reading through the books themselves. Read the index in the general library card catalogue under the subject you are interested in, and it will usually open up many new angles of a subject with comparatively little effort. Gaps in your knowledge can then be filled in by consulting the actual books themselves as far as necessary. Once the book is in your hand, you can often gain a good

deal out of the index of the individual book, without delving through the whole of it, but merely referring to the pages that appear to be concerned with your topic.

In consulting the library cards, it may be suggested, do not limit your search only to the single word which best expresses your subject or object. Try other words of related meaning, until you have exhausted all the possibilities. Anyone can look up a reference to the obvious thing. You will get new relationships and ideas by pursuing the matter beyond the obvious boundaries. Often reports and pamphlets issued by the national government or by the state governments, or by organizations that exist for specific purposes, will be found of value. So too, the many free pamphlets available from advertisers. The idea seeker should have a nose for news for such things and should be always ferreting out unusual sources of information which may prove provocative of actual ideas or of background knowledge leading to seed thoughts.

The idea seeker should make it a practice to cultivate the habit of having a blue pencil at hand whenever he reads, so that he may mark every item which describes an interesting person, place or thing which can be followed up for more detailed information. Things are happening every day which are only briefly described in the news and about which many additional facts of interest can be obtained if one will only pursue them for what they are worth and utilize their possibilities. One also derives from newspapers the names of people one might interview for additional authoritative assistance on the subject of the research.

At this point it may be mentioned that an important factor too often neglected is the matter of thinking. Most of us love to drift along without this useful activity, but it is certainly true that thinking should precede any search

for material outside of the mind, and should certainly always accompany all search for idea material.

By this process, a far greater degree of originality is expressed. Thought is approached from a different viewpoint by every personality because no two people have exactly the same experiences back of them. If upon conceiving a subject, you begin reading at once before you do any thinking, there is great danger that you will be completely influenced by the ideas you read. If however, you do your own thinking first, assuming you have some knowledge of the subject, your thinking will be more apt to be fresh and along different lines.

This is also true as a preliminary to conversations or interviews. Before you seek material through conversation with others, do what you can toward original thought. It usually happens that the type of person whom one would consult as an authority will be someone of strong personality. Such a person is likely to exercise a dominating influence and so govern your thought. If on the other hand you have previously done your own reflecting on the subject, there is a greater probability that your questions will govern the trend of the conversation. You will find out the things you require to find out to fill the gaps in your knowledge, and errors in your thinking will have a chance of being corrected.

The warning may be given here that you distinguish between facts and inferences—both yours and the other person's. There is always a tendency for people to jump to conclusions. They infer certain things from what they see, and they frequently confuse what they really see with what they infer. Furthermore, we are always apt to see what we are looking for, even if it isn't there. That is to say, our observations are very likely to be tinged by our desires.

A doting parent often sees signs of promise in a child which are quite invisible to others.

As prompters of ideas, facts are your greatest utility. So whenever you find yourself stuck for a new idea, turn to facts. They afford your best chance of finding new expedients, new lines of action, new modes of treatment. There is a definite relation between the amount of knowledge which people possess and their ability to think creatively and generate original ideas.

It cannot therefore be over-estimated that a file of interesting facts, gathered from all the available sources already mentioned, is one of the best instruments for the serious idea seeker. One man got hold of an obscure marine journal and was able to develop several good sea stories as a result of his find. Another person came across an article on poisons in an old magazine and was able to write a number of detective stories based on the information. People who write stories of the science-fiction type rely to some extent on the Patent Office Gazette. Even Shakespeare is said tc have read old Roman stories for some of his plot ideas, Dumas is said to have maintained a staff of researchers tc provide him with facts.

As you see, you can find facts anywhere and everywhere You may not at first have the slightest inkling as to what you will do with them, but the chances are that if they prove intriguing to you, others will also find them interesting. This means that their value to you lies in ultimate rather than immediate use, and for this reason they should become a part of your file resources, part of the invaluable background material which every idea seeker urgently requires. The subject itself does not have to have any logical connection with the work you are engaged in. A long as it is likely to have a "transfer" value, or stimulate a

train of thought, or arouse an emotion in you, it can be of use. Such facts may represent any field of knowledge, whether of the psychological, human relations type, the scientific or technological, the cultural, the practical or merely the curious.

Such a fact might be one found in The Almighty Atom, that "one pound of uranium 235, reduced to atomic energy, could heat the average home for 171 years."

Here is an odd fact of a different kind: A chair without arms but with a curved back was called a *cathedra* in the early days of Rome. It was the most comfortable chair known in the Roman cities and was at first used only by women, though later men decided that they might as well be comfortable too. Its employment by teachers in the schools of rhetoric gave rise to the expression "ex cathedra" applied to authoritative utterances of every kind, and its use by bishops explains our word "cathedral."

Or as a simpler example, in the days of Marco Polo, petroleum was a substance used to anoint mangy camels.

As a psychological illustration, there was a filling station owner who wanted to increase gasoline sales. He noted that most customers ask for five gallons when often the tank would hold more. By simply asking the question, "Shall I fill her up?" he increased business ten per cent. Not altogether satisfied with this, because he noticed that some people replied, "Oh, I guess five will do," a different question was tried. "How much will she hold?" Asking this question briskly and with the assumption that the customer could use a full tank, the customer almost invariably looked at the gauge and replied that the tank would hold six, eight or ten gallons, or whatever it might be. The attendant immediately began to pump in that amount, and another ten per cent increase was the result.

In this connection, Elmer Wheeler's famous "Sizzle Book" of tested selling sentences may be recalled.

Another practical idea was the one a young man evolved to relieve the effect of excessive vibration in a machine shop where he worked. He brought a rubber mat to stand on. But someone stole the mat. He conceived the idea of cutting bits of rubber and nailing them to his heels so no one could walk away with his mat. This was Humphrey O'Sullivan, and that's how rubber heels were invented.

Or again, as a fascinating fact, according to the famous research group known as Technocracy, everyone in this country could have goods and services at his command to the value of $20,000 a year, on the basis of today's production, if we abandoned our dollar system and utilized energy certificates. This is because dollars can only be useful when there is scarcity. As soon as there is abundance, like air, a money system cannot work. This is a challenging fact if there ever was one, and good for many ideas.

By odd facts is meant anything unusual about anything —people, incidents, localities, statistics, plants, animals, and so on. For instance to bring home the difference between a million and a billion, someone figured out that to tick off a million seconds on a clock would take twelve days, while to tick off a billion seconds would take about thirty-three years.

A research approach to a more sensible use of water supplies would be based on recognition that less than one gallon is actually imbibed out of every 1400 gallons pumped through a city's water mains. It is manifestly unnecessary and uneconomical, and it is becoming less and less possible for many cities to maintain desirable drinking water standards for everything that goes through the public mains. It is a practice already common in Europe and almost uni-

versal in Latin America for people to buy what water they drink from commercial bottlers who have sources that are free of man-made contaminants and to depend upon public service for the rest.

The world is full of odd and interesting things—paradoxes, coincidences, hazards, unusual occupations, innovations of all sorts, curious statistics and scores of things. New materials are especially interesting today for they hold the key to much future progress. The architect, the engineer, the manufacturer, the agriculturalist, the physician, all are limited in their accomplishment by the character of available materials, whether structural, energy-producing, nutritive, curative, or whatever the case may be.

When the researcher is seeking knowledge, his attitude is not antagonistic or belligerent. He is merely inquiring, and his mood should be a happy one. He is, at this stage, not trying to prove anything, nor does he want his own way. In fact he should be entirely open-minded, ready to recognize a new fact regardless of where it takes him. There is more to idea production than fact finding. The facts must be interpreted with reference to their relation to other facts. Therefore if he chances to unearth what seems to be an upsetting fact, he promptly revises his plan to accord with it.

The sincere researcher will not allow any pride of opinion to overbalance his love of the truth. He can be neither "for" nor "against." He must be neutral. If he is not open-minded, he will be inclined to explain away an unexpected result, and will thus injure the value of any idea not based upon his actual findings. Research becomes futile if it is not acted upon. If he tries to force the true facts into some other pattern, he is not playing the game. He also overlooks the fact that some of the greatest discoveries and ideas have come out of unexpected results when such

results were not rejected but were looked into more thoroughly.

Countless important discoveries have come "by accident" but they would have undoubtedly been missed without the observant eye and alert mind of the investigator. As one of our own great scientists, Joseph Henry, put it, "The seeds of great discoveries are constantly floating around us. but they only take root in minds well prepared to receive them." The thing done by accident depends upon someone observant enough to notice it, and analytical enough tc understand it. Men are thus creating, or rather are helping Nature to create a better environment for all of us.

Effective thinking demands one to be a good observer as we have already stated, and what you observe depends a great deal upon your interest. If you have a job that seems dull and boring, your very first step is to find ways of talking yourself into an enthusiastic interest in it. This interest is usually the by-product of information about it Everything is interesting if you view it with a tolerant ail of expectancy as you search out unknown aspects or hidden qualities.

Interest will enable you to make adaptations, and adap tations of similar ideas have been the source of new idea: since time began. In making adaptations you find the out standing quality in the subject or object, and determine it real significance. What are its properties? What will it do? Will it do anything beyond what people think it will? Extract all the values from the questions you ask yourself as previously suggested.

Only a small percentage of haphazard combinations of concepts or parts of ideas make sense. A still smaller percentage are of any value even if they do make sense. For this reason it is necessary to observe certain rules of com-

bining or coupling in order to increase the useful ideas per given numbers of combinations. These rules assist in forming the right kind of combinations.

If you observe carefully you will notice that practical ideas can usually be separated into two parts, parts which we will call the article and the operation. In the example, automobiles are made for driving, we will point out these parts.

Here we have the article, automobiles, and driving,, the operation. Rule 1 is in combining concepts, try to avoid combining two articles or two operations. Rule 2. Use the principle of transference or substitution. Transfer an old idea or part of an old idea to a new setting or surrounding or industry by the process of substitution. For instance, substitute some other concept for either the article or the operation. For example, magazines convey messages by printed words. Substituting another concept for printed words, magazines convey messages by pictures. Incidentally, *Life Magazines* circulation multiplied many fold almost overnight by means of this substitution.

The best way to make combinations is to combine a thing with a process. You cannot combine books and pickles; doors and earrings; lampshades and washlines. But you can combine books and a process of preserving them; doors and hanging knobs; lampshades and a swinging cord. Not that these are intended to be bright ideas, but even though they are rejects, they are still combinations.

The point is that ideas are combinations. The more elements you have available, the better the combinations. After all, you don't use the elements as you find them on your lists, in your field work, in your files, or elsewhere. They are merely thought starters, and mighty handy when you can't seem to get started yourself.

XIV

Taking and Filing Notes

Reference has been previously made to the taking of notes on index cards. This will now be elaborated as it is of much importance.

Actually the first step in creative thinking is note taking Let us see why it is such a vital procedure.

It is impossible to visualize ideas in logical sequence unless you write them down. As all of us know only too well, ideas are very tenuous affairs. Writing them down is the only effective method for the idea searcher to clarify his contributing elements. It is necessary to bring them out into the open, to look at them and to see them for what they are. What may be indifferent little things as you think of them flitting about in your mind, may prove of real worth when you get them out in the light of day, safely anchored so that you can really go to work on them. You have to be able to see them in relation to other things, and relate them properly to all the other factors concerned in your chief objective. This you cannot do with a miscellaneous lot of stray thoughts wandering through your mind

It is a sad fact about the human brain that it seems to be unable to really think more than one step ahead with an; degree of efficiency. What makes this so unfortunate is the fact that the majority of the problems confronting us that

ire important enough to determine either our success or our Failure, usually are problems which involve not one, but two or more mental steps before they can be solved.

Nothing so relieves this premature brain fag as much as pencil applied to paper at the right time and place. You write the first step, and thus temporarily get it out of your mind. This then frees your mind to think ahead to the second step without at the same time having to keep the first step under control. When you have written down step two, you can repeat this with step three. This method enables people of average intelligence to appear as supermen to others by virtue of what seems to be unusual accomplishment. They will give you credit for being a wonderful concentrator, when all the while you have merely devised an efficient way for not concentrating at all. You see how easily it is done?

All you do to develop an idea is to decide on the subject or object, select one of its dominant qualities or attributes, then change, add to or subtract from it, and you have something new. This does sound like an over-simplification, but n essence it is true. Test it out in a few cases—even in some of the instances previously given, and you will see hat it is a basic process. Of course the things you combine must have something in common. You won't get far adding tomatoes to harmonicas.

It may be stated here that it is perfectly proper to utilize ideas from other fields for the improvement of your own. this has been shown over and over in the examples given throughout this book. It is not plagiarism or infringement if anyone's rights to do so. In fact all the progress which civilization has made has been accomplished on that principle. Plagiarism is sitting down and simply copying what someone else has written. You don't take the idea of a

competitor in your own field, as that does injure his success: But if you take an idea from a different field, a different period of time, a different place, or a non-competing activity, such an application of ideas does not hurt the originators and it is an entirely legitimate and customary an even inevitable procedure. For this reason, it is well to learn to adapt ideas planfully and purposefully instead of in the usual hit or miss fashion.

You run across an immense amount of miscellaneous ii formation which can prove valuable source material i your idea seeking. Such things as newspaper clipping magazine articles, and of course always original observations, can be truly useful to you provided they are not merely fleeting memories. They must be not only permament, at least until used, but they must also be decently organized so that they can be found when required. From such things it is possible to build a valuable file of sug gestive matter.

So let nothing stand in the way of filing ideas as the come to you. And, too, let nothing stand in the way of doing all you can to make the path of their journey to you { easy as possible. As you go about, you see suggestive thoughts everywhere. Not only are the advertisements i newspapers, catalogues and magazines prolific source Shop windows are fertile also. And so too are books an movies. When you have seen a movie, ask yourself what suggestions it held that would be worth recording. Examine everything in the events and experiences of your day-to-ds living for its value in connection with your interest.

The very fact that a certain thing interests you makes it worthy to be written down. Even if it is apparently unimportant, it may prove valuable when added to another thought you will get. There is always time enough to

throw away something that proves useless. But no one can tell at first what he may be able to do with an interesting fact or idea, except to know he can do nothing with it unless he remembers it.

An idea does not always turn out to be for the purpose for which it was originally considered. Should it not be suitable for the salable novelty you hoped to develop, it may be used in another direction. Perhaps you may be able to make a good publicity idea out of it. This reminds me of the mother who asked her little boy what he was drawing, and he replied, "I started to make a picture of Daddy, but I think I'll add a tail to it and have it for a dog."

In the same way, you may have hoped to develop a real invention. If the idea you have produced is not good enough, don't destroy it. You might use it for a toy, and meanwhile do some more work on the major idea for the invention.

When you get a bright idea that is not good enough, share it. This does not mean to let it drip away from you before it jells. It does not mean to waste it or be careless with it, as we point out later. But ideas rubbed together with other people's ideas can be highly productive. If I have a dollar and you have a basket of fruit and we exchange, I will lose my dollar and you will lose your fruit. There will be a mere exchange—no increase. But if I have an idea and you have an idea and we exchange, I will lose nothing and you will lose nothing. I will then have two ideas and you will have two ideas. There will be an exchange, but also an increase in values, at no cost to anyone. Instead of limiting and narrowing opportunities for others, the creator of new ideas expands and enlarges opportunities for others.

A completed idea rolling around in your head only takes

up attention and room that should be occupied by another one. There is little point to producing an idea and not utilizing it. Don't be too money-minded about it. Increase your sphere of influence, your prestige and other by-products even if you don't actually sell it. Give it away rather than let it go out of date or lose its chance. You'll have other satisfactions and meanwhile will have developed your creative ability by that much practice. However, you don't ordinarily do this until you have exhausted the possibilities of your idea by your own efforts.

Always have little slips of paper with you all the time and make notes of any and everything of even remote interest. Don't trust to memory. These slips are to be organized, and you can't organize stray thoughts.

This method of note taking has a number of advantages. Obviously one of the chief of these is that of bringing order to your work, and everyone knows that any kind of a job is greatly simplified and expedited when orderly methods prevail.

This method is also valuable for the reason that it discloses gaps in your knowledge. When you have made lists of your chief divisions and have distributed your notes under them, you can see at a glance that some divisions are but sparsely covered. You can then take measures to add to such sections by doing more research. In the absence of such a plan, your total picture is only too apt to turn out unbalanced and incomplete.

Another value in this method is the fact that it does not permit you to neglect the task of assembling your material. The difficulty most people have in trying to produce ideas is that they want to do it out of nothing. The only thing that will produce ideas is ideas, or at least idea seeds. Just as you cannot get corn from thistles, you cannot produce ideas

from wishes. People ordinarily do not need new ideas as much as the brains, gumption and get-up to make use of old ideas.

In thinking with your pencil for the purpose of discovering the prime factors or essential elements of your problem or purpose, you must strive to get down to the bottom of the subject—to reach the center of the thing. Once having found this, you may work backward and forward in any direction from that focal point. The focal point may be discovered by determined pencil thought upon the following two question: (1) What is the obstacle which I wish to overcome; what is the nature of this thwarted purpose; what is the gist of this difficulty; and (2) What is the first and main factor or element of my purpose in this matter; what is it necessary for me to accomplish; what is the general end to be accomplished; what is the big idea which I wish to make real?

Thinking with your pencil is one of the most valuable of practices. Only if you write down all of the idea factors concerning your project, can you compare these for the purpose of selection and development You have to eliminate the non-essentials, cancel the duplications, examine contradictions, and arrange the selected items in a logical and orderly classification. This type of organizing can only be done if the material is written down so it can be handled. This plan as compared with that of merely piling your ideas and concepts in a miscellaneous heap, is akin to the scientific method of filing away correspondence in a filing cabinet as compared with simply throwing the letters together in a barrel.

You must therefore find a way of making yourself gather source material, and by putting things down in writing, you io the best thing to help yourself actually generate the

idea you need from the materials you have provided yourself. A woman cannot make a dress without a pattern, some material, "findings" and "notions." You need the same tc create in the realm of ideas. It cannot be done, as someone has intriguingly put it, in "seven easy thinks." Nor ever in eight.

Whenever you have a sizable amount of specific material gathering to do, it is well to adopt the card index method of doing it. This is simply to get yourself a quantity of those little 3 x 5 inch white cards and use them to write down the facts of information as you find them.

Be sure to write only one item to a card. This is mosi important. When you have a sufficient number, you can be gin to classify them by logical divisions of the subject anc ultimately you will have a good file box of them well or ganized for use. That is why there may be only one item to a card. It is impossible to make an accurate classification otherwise.

This system of note taking has been aptly called ai "idea trap" and that expresses it exactly. Keep a supply of 3 x 5 inch cards or sheets within reach every minute for the rest of your life, even when you're not playing F.B.I for an idea. Write on them at least one idea or observation every day, from any source. This practice will stimulate your observation by the very virtue of the search. And you are bound to increase your alertness and your recognition of the "makings" of an idea.

Sheets or cards this size are handy and convenient fo desk or pocket. When you have a special interest, you ten« to see things in relation to it, and soon have a collection of possible elements from which usable suggestions ma; be derived.

Since ideas are extremely elusive, it is well to write then

down quickly. You may be so pleased with an idea when it first occurs to you that you'll think you never could forget it. Yet it can evaporate into thin air before you turn around. Without a steady "idea trap" you may find yourself in the sorry situation of a pious man who is said to have had such a wonderful idea that he went out into his garden to thank Cod for it. On arising from his devotions he found that he had forgotten what the idea was.

So write it down. It is always easy enough to throw it away later if it proves unrewarding. If it seemed good when you got it, perhaps it can be used in another conlection some time. Ideas are priceless, so do not be careless or wasteful of anything that seems to have idea possibilities.

One of the advantages of this type of an index is the fact that it permits of free and indefinite expansion under proper classification control. These little blank sheets or cards are so easy to carry around that there *is* no excuse for missing idea opportunities. When anything is found or thought of, just jot it down on one of these cards, and file or future reference. If the matter wanted *is* too long to copy in full, note the book or magazine, with volume and page, where it may be found, together with a line or two of the gist of it. You will be agreeably surprised to find low soon you can have a useful collection of references, epiprams, clippings, and all sorts of material that can be drawn upon for various subjects at a moment's notice.

A file may be variously divided for general topics into large classifications such as science, art, biography, economics, education, women, children, the home, transportation, war and peace, government and politics, and *so* on. In each case, utilize provocative illustrations when possible, as these too help conspicuously in stimulating ideas.

XV

Inspiration and the Subconscious

We have now, under various chapter headings, discusses the first three formula points: Gather Your Ingredients Classify Your Ingredients; Preparation. We shall now take up Inspiration, and in this, the subconscious plays a major part.

Romantically, perhaps, you picture Inspiration as a ben evolent goddess, suddenly appearing from nowhere, filling your dreams with visions of delight and presenting you with a ready-made masterpiece. Unfortunately, it just isn't like that. Inspiration is real, but when it comes to you it will be in a less romantic form. It may appear as just one word which strikes your ear. It may be a vague tenuous thought: which you feel, if it will only hold still a second, perhaps you can grasp it. But whatever it is, you feel instinctively that it holds the seed of a literary composition or a work of art or a scientific formula or some other idea. But that little seed must germinate and grow before develops into a plant and finally comes into bloom. Inspiration will supply you with the seed only. It will not offer the full-grown plant. It is for you to capture, cultivate ai; nurture that seed so that it does not perish.

You realize, of course, that at any particular moment you are aware or conscious of only an infinitesimal portion

of the entire contents of your mind. You have much knowledge, many feelings, beliefs, likes and dislikes, memories, and so on, of which you are not thinking at this moment, no matter how mentally active and alert you may be. Your past experiences include ideas, plans, longings, aspirations, purposes, and the like. Even though your present thoughts are not directed to them, you know that if you do put your attention upon them, they rise to the plane of ordinary consciousness and you become aware of them, if you so desire. That is what occurs when you "think" about things. You start into motion the stream of recollection and memory.

In other words, you have two kinds of knowing—one, that which results from your present awareness of things, and two, that which you have in reserve, stored away and on call, in your subconscious. These contents are just as real when submerged as when raised to consciousness. In fact the mind has often been compared to an iceberg of which seven eighths is submerged. To restrict your mind to your conscious states and ignore the far greater powers below is a great loss and waste of personal resources.

When intelligently exercised, the mind may produce anything, change anything, create anything and transform anything in one's life and conditions. Everything is the product of an idea, and therefore all things are dependent for existence upon ideas. The forces of life are directed by the ideas of the individual, both on conscious and subconscious levels. Marvellous unseen vibrations are constantly at work to produce conditions, events and things in the outer world, and these invisible powers are subject to the active conscious control of the individual.

The mind is a very much more remarkable instrument for thought than we usually appreciate. So-called logical

thinking, direct from premise to conclusion, is only one kind of product of the brain. Not every kind of problem can be handled by this means. Many problems are too perplexing, and only too often the individual does not possess sufficient information on which logical thinking can be based.

Most of us use our conscious minds entirely too hard, with the result that our thinking and our decisions are not so good as they might be. The trouble is, we are working with only part of our minds, and with less than half of our accumulated judgment and experience. The whole mind, including intuition and subconsciousness must be used if ordinary thinking cannot solve the problem. For not only are vast stores of knowledge within, but remarkable mental activity and processes go on ceaselessly, even when the conscious mind is at rest. These processes are often believed to be devoted to physical care of the body—the automatic processes of breathing, digestion, heart beat, cell reproduction, nerve and muscular activity, all of which go on within us without our consciously thinking about them. In addition to this physiological functioning, we know that the subconscious controls habits, memory, and is the seat of the emotional life.

But we are not all aware of the fact, equally true, that this same tremendous power within is qualified to solve your problems, answer your questions, form your judgments, and produce ideas for you. If we are willing to ascribe to the subconscious the physical and emotional powers we know, it should not be so difficult to accept the fact that so-called "ordinary" mental activity can be performed with equal effectiveness by this power.

The truth is that a large part of the mental processes of any and all kinds are performed wholly or in part on

levels of consciousness below the levels of ordinary consciousness. Modern psychology has so thoroughly demonstrated this that it is hardly necessary to do more than mention it.

The biographies of great scientists, inventors, writers, and others employing constructive imagination are filled with examples of the workings of the subconscious faculties. They show conclusively how highly creative people regard these "below the surface" processes.

Robert Louis Stevenson was fond of referring to his subconscious mental faculties as his "Brownies," borrowing the name from the familiar fairy tale in which are told the kind acts of the friendly little Brownies who each night finished the work left undone by the overworked friendly shoemaker who had befriended the tiny creatures. Stevenson said: "My Brownies! God bless them—who do half of my work for me when I am fast asleep, and in all likelihood do the rest for me when I am wide awake and foolishly suppose that I do it for myself."

Yet as he praised the work of his little subconscious Brownies, Stevenson did not deny the important part played by his conscious mind in his creative efforts. He says: "I am an excellent adviser, something like Moliere's servant; I pull back and I cut down; and I dress the whole in the best words and sentences that I can find and make. I hold the pen, too; and I do the sitting at the table, which is about the worst of it; and when all is done, I make up the manuscript and pay for the registration; so that on the whole, I have some claim to share, though not so largely as I do, in the profits of our common enterprise."

Some people who hear of the powers of the subconscious wonder why we have a conscious mentality at all. Since the subconscious can do in a fraction of a second tasks that

require hours of work for the conscious mind, they unduly praise the latter and belittle the former. This mistrust of the conscious is deplorable, for both conscious and subconscious are essential and the best results are obtained when each performs its proper duties. The conscious mind is the path to the subconscious. The subconscious suffers if this path is not well guarded. The conscious is also the way back from the subconscious to the outward world.

The subconscious is completely amenable to suggestion. It does not judge, but accepts as true every message sent to it or impressed upon it by the conscious mind. Every such message, whether true or false, it stores in memory as a fact. You see, then, the importance of giving true and accurate facts to the subconscious. If the information as accepted by the conscious mind is correct, the return message from the subconscious will also be correct. If it *is* incorrect, the return message will be wrong. In other words, the conscious mind directs, and the subconscious accomplishes in accordance with the direction.

The subconscious cannot reason inductively. In its own realm it has no need to do so, for it has access to all knowledge. But man would be at a decided disadvantage if he could not reason inductively on the physical plane. Be that as it may, you have no choice of deciding whether you will use your subconscious or not, as we use it ceaselessly as sure as breathing. Your only choice is whether you will work with it correctly and constructively, or wrongly and destructively. The proper methods are given in this portion of the book.

As has already been shown, the best plan to pursue is first of all to decide with your conscious mind what you want to accomplish. Think about it all the time. Your thoughts, like the molecules in steel, can either concentrate

their power or they can scatter it. All depends on how they are organized. If you organize your thoughts around a definite purpose, and keep that purpose steadfastly in mind, you will give them a direction which will lead to its fulfilment. The basic power of each thought adds its strength to that of each other thought. In time the combination forms a mighty concentration of magnetic force for attraction as well as a powerful current of energy for action.

It is for this that we have stressed all along the necessity of saturating your mind with the subject in question before setting your subconscious the task of rumination over your problem. You should bring into consciousness every associated or related principle that is possible to you. You should read and listen to all possible points of view on the subject. There is no need to be discouraged by any contradictions and seemingly irreconcilable points of view. You may have full confidence that your subconscious will thoroughly digest and assimilate the mental food which you provide it.

People in general do not realize the immense amount of mind energy that is lost in confused, indecisive, aimless and destructive thought. Emotionalism, vexation or anger, wear out the mind and body more in ten minutes than ten hours of manual labor can do. These emotional states react on the central nervous system and glands, and interfere with the chemistry of the body. It can recover quickly from mere physical" fatigue, but not from the emotional exhaustion. When the nervous system is irritated, it recovers slowly. As Prof. William James says, "God may forgive our sins, but our nervous system never does."

If you allow your thoughts to follow one road today and another the next, your mind power will be scattered. This is particularly the case if you add negative ideas such as

fear, worry, hate, or discontent. Then your thought forces will be worse than wasted. Dissipated in unproductive or destructive thoughts, there is nothing left for constructive thinking.

Why not resolve, then, to concentrate your thoughts along the lines of your true and most important desires, and avoid the mental leakage which results from the misuse of our conscious mind in diffusion, worry, regrets, and uncontrolled imagination. Your accomplishment can be amazing if all the misdirected thought energy were conserved and productively employed. Confused judgment, inefficiency and mistakes can be eliminated, and the powers desired can be cultivated.

The mind should not be driven when tired, to concentrate or make important decisions. A better result will be had when the mind is rested and relaxed. When there is difficulty in solving a problem, lay it aside for a while. It often happens that one accumulates a mass of facts and is then unable to advance further by direct thinking. In such cases it is frequently found that after a lapse of time, the obscurity and confusion clear away by themselves; the facts settle themselves in their right places, without apparent aid from yourself. Your subconscious mind, working independently, progresses toward the solution.

So you see, there are but three things to be done. First, concentrate your conscious attention upon the task until your mind is saturated with it. Second, form the mental picture of transferring the general thought from the conscious level down to the subconscious. Third, give the subconscious the positive, clear, definite command or direction concerning what you wish it to do for you in the matter.

It might even be said that the conscious performance of

creative thinking is limited to the first stage in which the germ of the creative process is carefully considered in consciousness, and the initial impulse is imparted to it. After this it is placed in the subconscious field for incubation. From there it may be returned from time to time in the course of its development for supervision or examination. Adjustments, suggestions or improvements may then be added, after which the incomplete process is again returned to the subconscious for continued work. When it has been completed, it is returned to the levels of consciousness for a final inspection and for any necessary finishing touches.

Most of the creative process, you see, is performed subconsciously.

XVI

Intuition

Intuition has been somewhat discredited ever since Hitler trusted to his and failed. People have assumed that Hitler did use intuition; that he trusted to it rather than to his reason; that he knew how to do it; and that one notable failure condemns the system as a whole. All of these assumptions are without proof.

There is no need to choose up sides and elect to work either by intuition or by reason. Both should be used at the same time. They supplement each other. The conscious and the subconscious mind are as two sides of the same coin.

Many things are called intuition that are not intuition. In fact the word is loosely used to cover numerous varieties of unreasoned thinking, neither logical, instinctive, intuitional, nor of any other acceptable order.

Intuition comes from within. In many ways it is merely a trained and well stored memory, perhaps a race memory dating far back in actual experience. What many call intuition is impressionism. They make decisions, for judgments or beliefs upon which they act, by a general impression which they may have derived anywhere.

Some people dream ideas, as did the young Belgian in the late 1400's who was first to devise the process for polishing diamonds. Other jewels could be readily polished by

using the next harder jewel to do it with, but since the diamond was the hardest of all, there was nothing harder one could use. In a dream he received full instructions. He was told to find another diamond, one of unimpressive quality, crush it with a hammer, and utilize the powder as a polishing agent. This he did, and the dream was happily realized.

But modern industry prefers more reliable methods than waiting for the occasional dream.

The intelligence that guides the bee in its building plans, that leads the birds in their unerring flight over uncharted miles to an exact destination, that keeps the sun steadfast in its course, is part of that cosmic mind from which sprang the miraculous fitness of all creation. A fragment of the same intelligence sparkles in each human mind. Sometimes, conscious of our powers, we can summon it. Sometimes the powers are dormant and only by prolonged effort do they rise to the surface to enlighten us. Great thinkers have faith in this inner force, and use it. Edison said: "As I analyze my reactions to thoughts and ideas which appear in my mind, I feel that the fact that I have an idea is proof that the same Source that gave me the idea will also show me how to work it out."

The lower levels of the subconscious contain that which has been placed there by heredity, by the suggestions of others, and by our own conscious experience. From what we learn from dream and trance states we know that this subconscious territory has access to knowledge by other than by conscious means. It is this kind of knowledge which, when it makes its way into consciousness, we sometimes recognize by its emotional power and unexpectedness, and call it intuition.

In some cases intuition is a kind of superconsciousness,

drawing upon the subtle electrical forces of the universe and converting them into instantaneous use. From this region comes that which is not contrary to reason but which is beyond ordinary reason. This is the source of enlightenment, genius and inspiration.

Intuition cannot be invoked, like the will to think. Rather it requires a very passive and receptive state of suspended mental and physical activity which in itself is hard to attain.

The true intuitive report will never run contrary to reason properly exercised and interpreted, though it may transcend the possible reports of the ordinary reasoning processes. Do not accept this report as correct if it runs contrary to your highest reason or if it is opposed to your common sense. Intuition is higher reason—reason plus; it is never anti-reason. It is always accompanied by a flash of rightness, not of doubt or wrong.

Ideas are ever waiting at the threshold of our minds. If you give them entrance and welcome, they will draw other ideas unto themselves. In most cases intuition is an essential factor. Intuition is the source process of all thinking. You cannot even decide to think, or decide what to think, or decide which method of thinking you will use, without intuition.

Ideas are produced, basically, in two ways—either entirely by intuition, or by intuition plus conscious reasoning. For some problems, intuition alone suffices, such as cases of emergencies in which there is no time to go into a careful logical analysis. Similarly, if the consequences of a decision are not serious, don't bother—just solve it with intuition. Again, if most of the required information on which to base a reasoned judgment is not at hand, use intuition.

On the contrary, if the available information is plentiful,

if the consequences of your decision are serious, and if you have time to use logical analysis, do not rely wholly on intuition, but add the benefit of your reasoning processes.

Intuitive powers will not reach their greatest force in you if the conscious part of your mind is actively concerned with the realistic matters of daily life all the time. Super ideas are beyond the reach and range of the conscious mind. Many hours of meditation, with no fixed, specific object engaging the conscious attention, are absolutely imperative to cultivation of intuitive skill.

Many persons, in their eagerness to make decisions, solve problems and capture new ideas, overwork their conscious mind. It becomes, then, fatigued from over exertion. Confusion follows weariness, and positive thought becomes impossible. It is true, we must concentrate on any problem or decision; but when mentally tired, do not force the conscious mind. Rest it, dismiss the problem at hand and turn the work over to the inner mind. New productive ideas and directions will unfold from its vast treasure house of memory, experience, knowledge and wisdom.

Problems may be given over to the inner mind in the form of definite assignments. The best time to do this is just before going to sleep.

This will be elaborated in the following chapter.

XVII

Relaxation

We have seen by now that in addition to the ideas you may get from the outside, there are those you get from the inside. There are certain ways of getting these, as they are based on information which you already have on hand or in your mind. What we do not always realize is how much we really know. This is why we stress all through this book the importance of asking ourselves questions that will bring out of us what is within.

In a manner of speaking, the subconscious mind is just as conscious, just as capable of perceiving and thinking, as the objective mind is. People who are engaged in creative work can direct their subconscious to give them ideas and inspiration. This is something everyone should know how to do.

We have discussed at length the preliminary ingredients you must gather, classify and prepare. In addition to the material you provide to the subjective mind, the latter also draws upon its own large fund of associated and related material which it has stored on the subconscious levels but which you have seemingly forgotten. It may even go so far as to draw upon the material of the racial memory, if it becomes sufficiently interested in the task and if it is ade-

quately aroused by your strong desire and your confidence in its ability.

Interest is the force which holds the attention and directs the mind to creative achievement. It is aroused by fanning the flame of feeling. You must surround the subject with as much positive emotional power as possible. Constructive imagination will not work without it, so build up your interest from as many angles as you can.

The source from which powerful ideas come may also be thought of as deep within us. The greatest ideas arise from a profound level of wonder and awe, a level available to all humanity, but a level so deep that we are aware of it only rarely if at all. Even experienced writers, artists, and other creative thinkers feel a certain form of frustration, an intense loneliness, a sense of impossibility of achievement when they sit down to their work. This deep level is the place where they often get the exciting plot twist, the appealing character or the genuine surprise ending that marks fine and original writing.

Not only are your subconscious mental activities of immense power, but they are extremely sensitive at all times to suggestions from your moods. Think of what happens to someone with stage fright, or one who is so in love that he has no appetite. Right in your own experience you can see how interdependent these functions are with your emotions.

Naturally the creative process differs to a degree for everyone. In some cases there is more control and less inspiration. In other cases there is less control and more inspiration. But unless both factors are present, there cannot be a very distinguished result. Just to turn out to the world as a completed product anything that "comes to you" from within, would lead to an immense amount of plain non-

sense, for the material must be worked over by the conscious mind and adapted to realistic conditions. Pure fantasy has little practical use. On the other hand, mere control without some inspirational fire is cold and wooden.

The creative thinker need not feel tense or frustrated in undertaking a new task if he knows how to give specific and direct instructions to the subconscious. It is much better to do this in a certain way, than to grope along hit or miss, and let it happen or not, either because of a slip in getting the message down, or for failure to establish contact for getting the answer up after the subconscious has it ready.

Bernard Baruch is one of the many who place strong reliance on the subconscious. He *sees* it as the author of those hunches which in a long and active life he has learned to trust. But Baruch does not adopt a passive attitude of waiting for ideas to be served up from within. He feeds his subconscious mind in order that it may supply his conscious mind. The right condition for a good hunch, he says, is to get the facts together and put your intelligence to work on them at full speed. Then, all at once, you see the solution. Your subconscious has come up with it. But teamwork had to be employed.

You should formulate in your conscious mind a clear idea of the mental task to be performed, and should reason out why such and such a course appears to be desirable. You should perceive it in general outline and also should form a clearly defined notion of just what task you wish to have accomplished—just what kind of work you want to be performed for you. Then bathe it in the emotion of strong desire, which is the driving force of the subconscious.

For reasons already given, it is wise to write down the

plan you have devised, as well as each of the steps which must be carried out to bring it to completion. When this has been decided, definite tasks should be assigned to the subconscious to carry out for the forwarding of the plan. With this done, you will want to know the best method for turning these tasks over to your subconscious mind.

There is one rule that always holds true. You must give your problem to the subconscious in the form of definite assignments, and as we have seen, this can only be done successfully after you have assembled all the facts, figures, arguments and other information essential to the problem. The subconscious "cooking" process begins by first focusing the mind on this information long enough and intently enough to get it thoroughly "heated" with the best thinking we can give it consciously.

When this has been done, you should form a mental picture of the thought material being lowered to the subconscious levels of your mind, just as though it were being dropped through a trap door. You then deliberately, positively and earnestly, give the command to the subconscious to work out unknown factors. Tell it, directly and specifically, for instance, "Please, Subconscious, analyze, organize, and clarify this material. Add your special inspiration and send it back as soon as possible."

The subconscious works best when the conscious mind is not functioning. The best time to implant suggestions into the subconscious is therefore during sleep. Nothing is better than sleeping over a problem. That is when the subconscious does its best work.

You will probably remember occasions when you went to bed with some perplexing problem and awoke the next morning to have the answers "flash" into your mind. This is

such a common occurrence that everyone often says, "Let me sleep on it first" when he is faced with making an important decision.

When we are awake we depend almost entirely upon our thinking, conscious mind. Impressions are continually coming to us from without, via the senses. The conscious mind is in charge of voluntary actions, and most of our thinking is taken up in registering and interpreting the impressions that enter the mind from without. We are so engrossed with this "passing show" that it is almost impossible sufficiently to quiet the mind so that the subconscious can be consciously directed with any great degree of success.

Sleep, if correctly used, can be a great means of solving problems through the natural workings of psychic forces. This is a fact that has been recognized by wise men for thousands of years. In Ancient Egypt, "Sleep Temples" were built where adepts could sleep unmolested and use their psychic powers.

In more recent times we still find sleep associated with inspiration and the development of psychic or creative forces. Many great writers, composers and inventors have received their ideas while asleep.

The late Edgar Cayce, one of the world's greatest psychics, was able to diagnose disease by going to sleep, even when the patient was thousands of miles away. When he was awake he knew practically nothing about medicine or anatomy, but when asleep he talked in such technical terms that sometimes the doctors had to resort to a medical dictionary to learn what he was talking about. Cayce could do this only when he was asleep.

Creative thinkers, famous scientists and artists have often solved difficult, intricate problems while asleep—problems

that their waking intelligence was unable to disentangle. Mozart composed his opera *The Magic Flute* while asleep. Stevenson thought out *Dr. Jekyll and Mr. Hyde* in much the same way. Your mind, too, will do some of its best work while you are asleep, but only if you give careful attention to having the right prerequisite conditions.

When we go to sleep, it is really only our conscious mind that "retires" or suspends operations; and the subconscious then "wakes up," so to speak. Each of these two minds comes into prominence in direct proportion to the degree of passivity of the other. Sometimes, in the wakeful state, the subconscious temporarily takes over the reins, as in the case of an emergency, where the life of the body is imperiled. It can think much faster, does not have to follow the laborious steps of a reasoning process to know what to do, and is better adapted to direct the body when quick action is necessary. In such cases we often find that we are imbued with superhuman strength and endurance and accomplish feats that we never dreamed were possible. Afterwards, we often remark that we didn't seem to be thinking at all—we just did the right thing automatically.

Ordinarily, however, the subconscious does not take over the driver's seat until the conscious mind relinquishes it. The only time the conscious mind completely relinquishes control is when it goes to sleep. Thus in sleep the subconscious is able to act on its own without interference, and sleep becomes the ideal physical and mental state for subconscious mentation.

However, since the suggestions are implanted by the conscious mind, and the conscious mind is not active during sleep, the problem arises as to how suggestions can then be given. This is not as tricky as it seems. The conscious thoughts act as suggestions to the subconscious. The last

thought held by the conscious mind before going to sleep will be the last suggestion received by the subconscious. Therefore before you go to bed you should have your suggestion worded in simple language and memorized, so that it will require no effort to repeat it. The conscious faculties will tend to remain awake if too much effort is required.

To get ideas while asleep, prepare your mind well for them. The mental bath is more necessary than the physical one. Cleanse away the rasping fears and worries and the discordant, discouraging influences that may have been at work during the day, and substitute for them, pleasant, cheerful, serene thoughts. Never take your worries to bed with you. Stay up with them as long as necessary. Pace the floor with them, take them out for a walk, go to the movies with them. Give them your companionship as long as you wish. But don't take them to bed. There are special techniques for worrying effectively, but they positively do not include worrying in bed.

If you want to make the most of your sleeping hours, go to bed in a state of emotional serenity. Then calmly review the problem to be solved. To solve a problem, you have to organize all possible information about it. Then digest this information. This is a subconscious process, like digesting your food. You give your body the food and it does the rest. Similarly, give your mind the food and it does the work. Oddly enough, if you don't give your mind a specific job to do, it will work anyway, but without purpose; and the result is a confusion of senseless dreams.

This process of employing the subconscious mind during sleep does not in any way impair the value of the sleep. In fact if you are calm and in a hopeful frame of mind, your sleep will be benefited by this subconscious activity. As you lie in bed, assume a relaxed position. Remove your

conscious will from your muscles and let go of everything. There is always a kind of dreamy, half awake, half asleep state which is the transition between wakefulness and sleep, during which the subconscious is taking over the controls from the conscious mind.

While everyone should take advantage of the creative possibilities of sleep every night, it is obvious that it is not always possible to go to sleep every time there is an idea ready for subconscious activity. At the same time, relaxation is important, and whether you really go to sleep or not, relaxation of the conscious mind is the only way that contact can be established with the subconscious.

It is typical of America that our people are so busy doing things that they do not pause to take stock of themselves, their thoughts, their goals. By not taking any time to be quiet, to meditate about their affairs and objectives, there is no opportunity for inner growth. And as a consequence, we cheat ourselves of many hours of recreation which in themselves add to the effectiveness of our thinking. For relaxation is the key to the door of the subconscious mind. The subconscious mind works best when we are doing what we like best to do.

Inner growth, or soul growth, depends upon quiet, silence and peaceful contemplation. It then becomes possible to become aware of essentials and to see otherwise hidden values in passing scenes and situations.

We are far too prone to be "in a hurry** all the time. Of course we do not wish to be laggards, and continual alertness is necessary merely to keep up with ourselves. But there should be time made for lifting the pressure, the speedup, and taking time to survey calmly the whole horizon. A few moments of tranquility make up for much haste and hurry.

Therefore if the time is not opportune for going to sleep, do anything else that relaxes you. When Stevenson didn't want to go to sleep to contact his "Brownies," he played the flute. Einstein played the violin. United States presidents and judges often read detective stories. Business men play golf. Others go fishing, play bridge, and so on. Listen to music; read a book; go to a movie; it doesn't matter what, so long as your mind *is* at rest or at least inactive as far as the particular problem or idea is concerned. You may play chess with a friend, which will surely tax your mind, but in another field of activity. You may work out the solution of a mystery. You may do any kind of an intricate or complicated job, as long as it has nothing to do with your problem. Preferably it should be something pleasing to you, in which you do not feel hurried or tense in any way. Some idea searchers have the habit of dropping into an easy chair in their office for twenty or thirty minutes each day, picking up a book and forgetting all about business. One of these says, "I have never sat in that chair with any thought of developing an idea, but the minute my mind relaxes, ideas begin to develop of themselves."

We don't give ourselves half a chance. I know of at least one employer who fired a creative person for looking out of the window in a relaxed mood. He was one of the millions who did not understand the idea-getting process. There is, then, a real necessity, of letting go when it comes to creative work. This letting go is a sort of surrender to the subconscious, allowing the subtle inner forces to take over.

When all these simple requirements have been met, as promised in the formula, something intangible will become tangible. There will be an increasing sense of victory, and your idea will positively come to you.

XVIII

The Correct Use of Idea Energy

There is an interesting fact about an idea, and that is the way it can grow. Haven't you ever watched your own ideas grow? Doubtless you can remember having an idea, and then, a little later, having another that added something to the first and seemed to fit right in with it. Often in the course of time this little idea that began as a tiny bit of an embryonic thought developed into a full-sized grown-up plan.

It is one of Nature's wonders that whenever you are possessed by an idea which reinforces a previous idea, an additional spurt of energy is released with it to help in its development.

It is advisable to act on your ideas as soon as they are ready, for if idea energy is kept in storage, as it were, it loses its freshness and might be said to dry up into nothingness. You start doubting if it is really as good as you first thought it was. You begin to wonder if you have enough experience to work it out, if someone else isn't better qualified. Once an idea begins to get this kind of treatment only a miracle can keep it alive.

To be sure, prompt action is not always feasible. Excellent ideas have been delayed for years. Should yours be one

like this, put it away if you must, but don't forget to bring it out frequently to keep interest alive. Keep it aerated, moist and fresh.

As an example of delayed action on ideas, take the case of E. M. Statler, the great hotel man. More new hotel ideas came from him than hotels had ever heard of in all their history. And these ideas, many of them, came to him as a young boy long before there was anything he could do about them. As a youth, he had a job as a bellboy and one of his more tiresome duties was running up and down stairs with ice water for guests. So he had the idea of piping ice water into every room. The brightness of this was not only having the idea, but also having the wisdom not to tell anyone about it. He did not confide in the other bellboys. He did not tell his boss. He kept it strictly to himself. So it was sensational when years later he piped ice water into the rooms of his own hotel. Other ideas he carried around for years were a private bath with every room; face-cloth and free paper shoe bags in every room; typewriter loaned to guests on request; bedhead reading lamps, and many other new ideas.

Your ideas can prove to be equally valuable so don't throw them carelessly around and give them away right and left. When you get an idea that fills you with enthusiastic energy, bottle it up. Don't tell a soul. Think about it and work on it, but keep quiet vocally. If you must have information that necessitates talking to someone, talk, but don't tell him why you need the information.

Why should we be so insistent on this point? There are good reasons. It is because, for one thing, talking is action. If you have an exciting idea which fills you with energy, then you go into action via words, you use up the idea

energy for nothing. It's all gone by the time you stop talking about it. To do real work on the idea after that, you have to draw on your ordinary quota and this turns what should be fun into work.

But that isn't all. We generally do the talking to a friend. He praises us, pats us on the back, and gives us our reward before we have done anything. What happens? We have spent the idea energy and have apparently obtained the reward. So why bother to work out the idea anyway? At least that is how both your physical self and your subconscious self view the thing, so they lose interest in it and you get no co-operation.

As if that weren't enough, the danger of telling everyone about your idea does not stop with lessening your fitness for action. Sometimes the people you tell will throw cold water on your idea. Merge discouragement with inactivity and you can see where your idea ends, right in the middle of the discard.

Therefore, work out your idea completely before you talk. Know every detail. Be prepared to answer every possible criticism. Fortify yourself with every argument you may need to defend it. All this means that an idea must be pretty far advanced before its originator can take the risk of having it hammered at, torn about, or ridiculed.

Keep in mind the ready dissipation of idea energy, and when your idea is finally ready for action, use only such action as is helpful to its promotion. If your idea is a story plot, don't tell it. Write it down, otherwise you waste your idea to no avail.

One final caution—don't hold on to the idea too long. That's as bad as not holding on long enough. The factor of timeliness is also important.

The right thing can be done at the wrong time and thereby destroy most of its value, while a mediocre idea properly timed may have a better chance of effectiveness, Time is an invisible but powerful ingredient. A heroic rescue may be attempted into a burning house, but if the occupants are already cleared—or destroyed—the heroism is in vain. An undramatic rescue on time is far better. A good idea can be over-investigated, over-studied, and some shrewd competitor will get there ahead of you. There is an old saying, to the effect that while the wise old scholar meditates and studies and analyzes, the village fool can hit the nail on the head in one good guess. The truth is somewhere between the two extremes.

The steady procession of new things may soon make an invention obsolete. One young man who created a promising household gadget refused a $25,000 offer for it. Then another article came out that did the job better, and the value of his invention skidded to zero.

Important as are ideas, in themselves they are not enough. That idea for getting more business, for simplifying work procedures, or for the great American novel is of value only when it is acted upon. Every day thousands of people bury good ideas because they do not act upon them. No matter how good the idea, you gain nothing unless you do something with it. You must act upon it to give it value. A good idea if not acted upon is psychologically demoralizing, but if acted upon produces immense satisfaction.

Creative thinkers all through the ages reveal the satisfaction of producing ideas. Many of them, in fact, have gone through refined torment for the privilege. People who produce ideas, great or small, are reasonably happy. Their minds have a certain contentment, and their idea energy keeps pace with their production. Those who do not pro-

duce have a restlessness and sense of non-fulfilment. They are dissatisfied and often frustrated. It is therefore well worth the effort to know how to get ideas by such methods as are available and dependable, and thereby enhance one's personal satisfactions, and one's contribution to life.

XIX

Verification

Solving a problem or producing an idea may be entirely different from putting your solution across. It reminds me of the effort of a certain student who had to work out a mathematical problem which his professor had given him. Handing in the work, he complained about the difficulty of the example. He'd gone over it six times, he said, to be sure he was right. "That's fine, my boy," the professor said, much pleased at this diligence. "That's the way to do it when you want to be sure." The boy replied, "Yes, Professor, here are the six different results."

The idea which the subconscious sends you may seem to be ever so logical, ever so perfect for the purpose, and still not fit the world of reality. Again, you must always take the precaution to check it for other reasons. For example, as previously stated, if you sent down incomplete or inaccurate information, your idea result may need revising. You should not submit your idea to your boss or anyone else until you have made any corrections or changes that seem desirable. You should certainly not go all out with it until you have submitted it to critical scrutiny. You may have thought wrongly, closed the wrong circuit, set the wrong switch. Problems are always being solved wrongly, and the solution taken out to do a job in the world. This can be seen

with especially tragic results in the field of international governments and statesmanship. The sorry state of Planet Earth is proof enough. Someone scribbled in the subway, "Peace by 1970—with or without people."

New ideas can be good or bad, just the same as old ones. The age or youth of an idea has little to do with its value. Some of the greatest ideas are old ones; some of the most foolish are new. The opposite is also true.

In the field of idea production, many fine ideas have been given out that did not bring material success to their originators. After you have solved the immediate problem, the next step may be to convince others to support your idea. When you have reached what seems a satisfactory idea, you then have to detach yourself from it. Pretend to be a disinterested stranger and view it without the emotional excitement of the originator.

Hastily to accept an idea and try it out and then see if it works, and to "admit it" if it fails, isn't a very sensible procedure. You can save yourself a good deal of trouble and embarrassment by some objective verification of your subjective offering. Your own idea will seem to you as the infant appears to its mother. No baby has an unprejudiced critic in its mother. Try to imagine the effect it will have on the persons whom you wish to be interested. This may be a customer, a buyer, an editor, an audience, depending on the type of idea. Consider how it will arouse their desires for it, meet their requirements, satisfy their wants.

Follow the plan of writing down your idea. State specifically what it is, what it can do, what is required to put it in operation. Take time to digest this description; reexamine it from time to time. Guard against half-baked ideas. Add, subtract, change or modify until you are sure of the soundness of what you have. Simply to imagine and

decide on a plan and then to learn, like the burnt child who dreads the fire, how it works and what its consequences are, is not to think scientifically or even adequately.

To see the thing as others will see it in order to arrive at an intelligent estimate of what you have done, you must employ past experience, reason, judgment and discrimination. Do not allow the glow of creative achievement to give you a false sense of victory. Everyone who produces an idea has a wonderful feeling, which is often far from justified. The more practical, detached, objective, impersonal, you can be at this time, the better. It is therefore well, at this point, to take a different view, a critical attitude, and look hard for everything that could be wrong, impractical, inconsistent, or otherwise poorly worked out. It is obviously much better if you can do this yourself than if you give anyone else the chance of doing it. Avoid such errors and embarrassment by being your own severest critic. Refuse to make up your mind too rapidly. Refuse to be too easily satisfied. Refuse to regard a judgment as finally and unchangeably true. At this point you may even aggressively take the view that you may be wrong. Put the conclusion to every test. You may think you have the answer but you must know that you know it by sincerely trying to prove yourself wrong.

If possible, experiment. This is the right place for experiment, after you have something; not as so many do it, before they have anything. But experiment is not always possible. If it is feasible, it is usually the most direct way to find out how a thing or an idea works. A caution may be given at this point in interpreting the experiments. It frequently occurs that the experiment proves to be a failure, and one is then too apt to believe that the idea on which

it was based must have been false. This is not necessarily the proper conclusion. Often the very opposite is true. It may very likely have been the execution of the experiment that was faulty. Should you then ascribe the failure to the idea instead of to the execution, you will proceed to the completely wasteful process of trying to find another solution which will necessarily be false.

When you verify, include these points: Check for suitability to purpose, to people involved, to time and place, and so on. Check whether it solves the problem. State the problem again clearly in this connection. Go over the suppositions or preliminary notions on which you have based your conclusion. Test rival plans for merits and demerits, considering ease of doing, practicality, desirability, breadth of application, and other advantages or disadvantages. Next, exercise your judgment to get rid of rival suppositions and tentatively select the best. Then select an idea which survives the first four steps, and test it. You are then ready to get down to a basis of action and decision. Finally, you study the consequences, consider the results, and make any modifications that appear to be required.

At any time you feel you have to get advice, get it from sensible sources. It is foolish and distracting to ask for information or advice from persons who are unqualified to give it. Yet how often this is done. They ask a banker about marrying a certain girl. They ask the doctor about changing their jobs. They ask the priest how to invest their money. They ask a lawyer how to design a house. They ask a salesman how to make up a tax form. At least if you are going to get advice, get it from someone who knows the subject involved. Even Mr. Ford gave silly advice on politics, and Mr. Edison did the some on educational affairs. It doesn't matter how fine they are, or how

capable in their own field, or how much you like them. The) cannot give information or advice unless they know the particular thing required.

To take a bird's eye view of the process of idea production, you have gathered the raw materials, both specific and general. You have worked them over in your conscious mind. You have let your subconscious mind work upon them. You have received the idea. You have shaped and developed it to a practical design for a realistic world. Your idea was so shaped and developed, not by accident, but by plan. It resulted from a simple method that took the confusion and indefiniteness out of the way and enabled you to be the master of the situation. Whenever you pursue this formula conscientiously, you will get the desired result. Yes, it has its details; it takes some work. But it is better than wringing your hands and worrying. It is better than staring at the wall and watching the clock tick precious minutes away. IT IS BETTER THAN MAGIC FOR IT IS RELIABLE.