PELMANISM

Lesson IX

THE
PELMAN INSTITUTE OF AMERICA
New York City

London Paris Melbourne Delhi
Durban

Copyright, 1919, 1926 *and* 1929
By The Pelman Institute of America
PRINTED IN U.S.A.

LESSON IX

IMAGINATION AND ORIGINALITY

CONTENTS

	PAGE
FOREWORD	5
I—THE TRANSFIGURING POWER Right and Wrong Vision. Everybody Has Some Imagination.	6
II—IMAGES AND IMAGERY Images Described. Images: An Elementary Difficulty. Imagery and Mental Efficiency.	9
III—THE IMAGINATIVE PROCESS Day-Dreaming—Building of "Castles in the Air." The Magnetism of Vital Ideas. Have You a Magnetic Aim?	15
IV—THE CONSTRUCTIVE IMAGINATION Poetic Imagination. New Facts *vs.* New Feelings.	20
V—METHOD IN IMAGINATION Imagination in the World of Affairs. Detailed Analysis.	24
VI—IMAGINATION AND DISCOVERY The Creative Value of Theory. The Use of Analogy.	31
VII—ORIGINALITY Some of Its Conditions. Self-Reliance. "Excellence" *vs.* "Profit."	35
VIII—TRAINING THE IMAGINATION Mental Attitudes. The Synthetic Principle Again. The Priority of Feeling. Application.	39
IX-X—DON'TS AND THIS DO	47-48
XI—MENTAL EXERCISES	49
XII—HEALTH EXERCISES	57

LESSON IX
IMAGINATION AND ORIGINALITY

FOREWORD

The importance of imagination even in our practical world is immeasurable. Napoleon said: "Imagination rules the world." So it does; and, in the same way, *your* imagination rules your life.

To induce you to see yourself as you wish to be is the business of the moralist. He knows that men ultimately become like those whom they admire.

The psychologist uses the same art in his methods. We have been using it ourselves in all the previous lessons, especially the third and fifth. In this lesson, however, we want you to use your imagination about things in general, not your particular self. Be interested in life, not for personal profit only, but also for the common benefit. There is a thrill in the world for you somewhere. It is your duty and your privilege to find it.

I—THE TRANSFIGURING POWER

Imagination begins in infancy, grows in the schoolroom and the playground, develops rapidly in the period of youth, enlarges itself in young manhood, attains sobriety in middle-age, and never ceases its activity as long as mind endures.

It is necessary to make this emphatic statement, because at the outset we wish to convince you that you have in your mental nature a power that can transform your life, first in thought and then in deed.

Do You Realize It?—The scope of imagination is practically without limits, and even the psychologist himself sometimes forgets the magnitude of the power that lies within him. He forgets for the same reason that we all forget: *Circumstance lays a heavy hand on hope and enterprise, so that we gradually adapt ourselves to accepting life as it comes, instead of attempting to better it.*

The Need of "Vision"—He was indeed a wise man who said: "Where there is no vision, the people perish;" and what is true for the multitude is true also for the individual. Unless we constantly hold before us a picture of the future, there is a subtle tendency to acquiesce in the status quo; we accept things as they are. If we indulge in flights of imagination, we persuade ourselves that we are merely playing with van-

ity, and our desires return unfulfilled to the Never Never Land—that dreary province of consciousness where the word *Impossible* is supreme.

RIGHT AND WRONG VISION

But, remember, the vision must be right; and one can easily turn it to good account. John Howard visioned an improved prison system, and he allowed nothing to stand in the way of its realization. Hence the reforms which followed the publication of his *State of Prisons* in England and Wales, and which arose out of his personal visits to penal establishments. Powerful trusts have conceived the idea of accumulating vast profits by cornering the food supply of the world. For a time, this monstrous scheme approached a preliminary realization; but it eventually broke down.

In like manner you can imagine a great financial, or political, or artistic, or literary future for yourself, and begin to work for that alone, if the amassing of great wealth is your ambition; or you can visualize a life which progresses steadily toward a certain goal; but vision you must have, if you would reap the fullest harvest of your powers. This subject has been dealt with in the third lesson. To form a purpose and to devise a plan for carrying it into action, is to use the imagination in constructing a picture of the future. That future should be a blend of

the real and the ideal, and should unite the responsibilities of financial security and true citizenship with those of the higher culture.

EVERYBODY HAS SOME IMAGINATION

The object of this lesson is to reveal the chief facts about imagination: how it works; how it is trained; and how you may use the gift of imagination for your own good, and for the service of others. First, let us prove that imagination is inherent in every mind, though not in the same degree.

In a certain American nursery, we see Freddy crawling on the floor in the attitude and with the motions of a fish. In the cradle, (baby is being bathed) is Dolly, his sister, trying to look scared; for the cradle is supposed to be a "ship," and Freddy is swimming toward it. "What are you now?" asks Freddy's mother, knowing that only a moment before he had been "a monstrous turtle." He answers, "I'm a 'normous shark," and he moves himself along toward the "ship," while Dolly drops the "bait" into the water, said bait being a cotton bobbin. Freddy turns over on his back, shark-like, to swallow the bait, but in so doing begins to cough. As the shark approaches, Dolly screams, as indeed she ought; but she cannot resist making the criticism that "sharks don't cough." Freddy declares this is a mean remark, considering how breathless and dirty the shark business has made him, and he

walks out of the room with the declaration that he won't play any more.

This scene represents some of the imaginative activities of the child. One could follow these children throughout the years of their life, and observe all the gradual changes in their life of imagination. In infancy and youth this imagination exercises itself in romance; in the serious years it turns toward reality, and it is these graver concerns which are about to occupy our attention in these pages.

II—IMAGES AND IMAGERY

The root of the word *imagination* is *image*. We have already discussed mental imagery, but shall now go into the matter a little more fully. An image is often thought of as a concrete object, like the white plaster images carried by Italian vendors, or religious images of saints and holy persons we see in places of worship. The images of which we write are, of course, purely mental. For instance, when we ask you if you have been to the Zoo, there arises instantly in your mind a picture of the cages, and of certain of the animals that impressed you most. But if you have never been to the Zoo, you have no conception of it; or, if you know the place only by photographs of it, your imagining power is restricted. We can reproduce, faintly or vividly, only that which in some way we have known by means of the senses.

IMAGES DESCRIBED

An image is a picture of a past experience; and imagination is the process whereby the mind reconstructs this experience. Others define imagination as the consciousness of objects not present to the various senses. These objects which are imaged, or imagined, fall into various classes.

(a) *Visual Images.*
They are mental reproductions of things *seen.* If we say: "Can you see, mentally, the place where you were born?" you instantly visualize your birthplace and all its surroundings. You have an inward vision of it, not so clear or vivid as though you were looking at it with your eyes, but still clear enough to be recognized.

(b) *Auditory Images.*
The recollection of sounds is accomplished by means of images. This class will be explained in greater detail.

(c) *Motor Images.*
The word motor refers to *movement.* Visual images are not necessarily purely visual. You may have a lively recollection of a play, such as Ibsen's *An Enemy of the People.* You can actually *see* the figure of poor Stockmann (Walter Hampden) on the stage, but his *movements* may be reproduced also in muscular feelings in the

corresponding parts of your own body. This means that in some instances the motor images may be stronger than either visual or auditory images.

(d) *Tactile* or *Touch Images.*
A good judge of the quality of a piece of paper, or of cloth, needs a trained sense of touch. In passing his fingers over the cloth, and in feeling its weight, he is (without being fully conscious of the fact) relying upon the images of previous touches and pressures; and these, working in conjunction with sight, enable him to estimate the quality of the article before him.

(e) *Gustatory* or *Taste Images.*
King Edward VII was said to be a connoisseur of wines; he was able, blindfolded, to identify many closely related kinds of clarets, burgundies and champagnes. He was able to distinguish between these varieties because of the vivid taste images associated with each wine, the images being reproduced through memory. The skill of the tea-taster is based upon similarly associated taste images.

(f) *Images of Smell.*
In the parlor game of "Odors," condiments like pepper, nutmeg and other spices possessing a definite smell are hung up in little bags for identification. The winner, the

one who can identify most of the condiments, usually has a good "nose-memory," which means that he or she has good odor imagination.

IMAGES: AN ELEMENTARY DIFFICULTY

To speak of an image of *sound* may at first suggest a contradiction in terms; but if you ask an old man whether he ever heard Jennie Lind or Adelina Patti sing, he will probably say he has had the good fortune and he will add: "I can always hear her when I think of the Auditorium." This means that he listens again, in memory, and is able to reconstruct a past experience which is so clear that for the moment he seems to be living it over again. He can recall the songs that were sung; the bell-like notes and their wonderful range; and the enthusiasm of the audience.

You will notice, however, in this recalling of the past, the music lover not only conjures up auditory images, but visual images, for he has a memory of the great audience, at first tense and then ecstatic in its applause. He also gets motor images, for he observes the singer's constantly changing attitudes as well as the movements of the ushers and the audience. He may chance to have an image smell, if he recalls the lady who sat next to him and who reeked of Jockey Club, a scent he abhors. Thus, one act of memory followed out in detail may require the use of four

out of the six imagery functions we have mentioned. Such use is called the Reproductive Imagination. An act of reproductive imagination occurs when the mind simply images any event or fact as it was perceived. This is an exact reproduction of past experience; the image is an exact duplicate of the original experience. It becomes apparent, therefore, that there can be no memory without imagination, for the memory is the retentive power, whereas the imagination is the image-producing power: the one supplies the materials, the other paints the picture. This phase of memory was considered in Lesson VII.

Dominant Images—There are often strongly marked individual differences respecting the kinds of images that are dominant. If you play chess exceedingly well, it is probable that your dominant image power is visual. If you are an extremely sensitive musician, auditory images are probably stronger than any of the others. But the practical issue is the thing that concerns us most. If you are weak in auditory images and have to learn to speak a foreign language in order to pass an examination, or for commercial purposes, it is important that you should develop your auditory power. To some extent the exercises contained in the past lessons have given you this opportunity. Whenever you can, practice enriching your memory for sounds.

On the other hand, if your auditory imagina-

tion is good, but your visual imagination weak, and you have to play some music without the score, you should amplify the sight training exercises already provided by inventing others suited to your personal needs, and should also develop your movement imagery. As a rule, visual images are stronger in most of us than auditory images, but in order that the mind may work synthetically and evenly, it is highly desirable that two groups of images, or even three and four, should work together.

IMAGERY AND MENTAL EFFICIENCY

It follows, then, that the ability to use the sense images of our past experience is of real importance. Lesson IV showed how Perception lays the foundation of a fruitful mentality by fostering a full and complete sense life, thereby gathering a rich harvest of images of all kinds; and we have now to show how the ability to reproduce these images and the habit of expressing them, aid in the development of mental efficiency.

Let us suppose a novelist wishes to suggest to his readers, by means of a phrase, the picture of a man who is very careful and economical in small things. He might express himself in this way: "John Jones put down his pen, turned down the gas, and walked quickly down Oxford Street." The sentence is bald and bare; no vivid image can possibly be conjured up. By way of

contrast notice how Arnold Bennett expresses the idea in one of his novels:

"He dropped his pen, reduced the gas to a speck of blue, and in half a minute was hurrying along Oxford Street."

The difference is at once discernible. The picture of turning down the gas is not a particularly defined one; but the picture of reducing it to a speck of blue makes us *see* the thing realistically. One of the primary qualifications of a novelist is this power of reproductive imagination; he must have lived the life of observation so fully that when he writes about people and things he can see them, hear them, and "sense" them in every possible way. He must also make his readers "sense" them. That is one reason why some of Dickens' characters, for instance, are as real as if they had actually lived; indeed, Mr. Micawber and Mark Tapley appear to be more real, to many people, than a distant relative could ever be.

III—THE IMAGINATIVE PROCESS

But what is the method of imagination itself? How does it function? What is the *internal* process? What causes images to combine, thus producing new conceptions? These are not simple questions to answer, but they are so intensely interesting that we shall attempt to answer them only partially.

Let us take the last question first; for by so

doing we may answer some of the others. There can be no doubt that the most fruitful cause of the combining of images is what Bain called "the fetch of similarity," the analogy arising out of suggestions consequent upon association. We can illustrate it in this way. You have a something in your life, a calling, a hobby, a scheme, about which you are enthusiastic, have you not? Very well. Now this feeling of deep interest in your cherished purpose, whatever it is, acts like a magnet; you thrust it continually into your stored experience, called memory, and it draws to itself anything that is analogous, at the same time marking out the other things that are in vivid contrast. You also bring the new experiences of your everyday life within the magnet's range, and the same results follow. You may not do this consciously; as often as not the process is unconscious.

DAY-DREAMING—THE BUILDING OF "CASTLES IN THE AIR"

Day-dreaming involves the use of imagination. To draw a sharp line between day-dreaming and imagination is difficult. As pointed out in the present discussion, imagination is built upon the experience of the actual, the desirable, and the probable. Day-dreaming consists of building "castles in the air;" it is the mental picturing of the impossible and the undesirable. Imagination of the right sort leads to strong

will and a world of reality because it causes one to devise ways and means of realizing the desires and things imaged. Day-dreaming, if engaged in excessively, leads to weak will.

There are two types of day-dreamers. The recollective types represented by the individual who is continually living over past events, such as loss of a relative or a business reverse. This individual becomes morose and pessimistic and life in general assumes a dreary aspect. The second type is the compensatory day-dreamer, the individual who compensates himself in his reverie with something that life has denied him or promises himself something which no human can possess. If a weakling, he sees himself the victor in some athletic contest; if dull, he visions himself as a great university scholar; if a minor clerk, he pictures himself as the president of a huge business concern.

Day-dreaming of the compensatory type enables the individual to escape from reality and causes him, frequently, to withdraw from active social life. Thus, if by chance his day-dream borders upon true imagination and probability, he kills all chances of its realization. Take the man who soothes himself to sleep nightly by picturing himself the owner of a large mansion. In time, his day-dreams become so real to him that he becomes blind to the fact that in his small bank account, supplemented by a building loan, lie the possibility of a beautiful but hum-

ble home. With the proper use of imagination and the discouragement of aimless day-dreaming this humble home might really have become a reality. Take the individual who pictures himself as participant of some immoral act. When the circumstances of life arise that make possible the commission of this act, such a person is very likely to give way to temptation. Many thefts and promiscuous sex acts can be explained on this basis.

Avoid excessive day-dreaming of the kind just described because it defeats reality; use imagination wisely because it makes for reality.

THE MAGNETISM OF VITAL IDEAS

While you are taking a country walk, or reading a novel, or conversing with a friend, you suddenly get a new idea about some matter to which previously you had given close but unsuccessful attention; strange as it may seem, this new idea has no apparent connection with what you were doing or talking about at the moment it occurred. You are pleased with the new idea, but mystified as to how and why it came. The explanation, however, is simple: *the magnet did it.* If you could analyze your thoughts closely enough, just before the new idea came, seemingly from nowhere, you would find that the things you saw, or the people you conversed with, caused an image to arise in your mind; and since this image was analogous to others concern-

ing which you had a real enthusiasm, it was immediately attracted by the magnet.

The attraction was not a slow affair; indeed, it was so rapid and forcible that the images cohered and your new idea resulted. It is quite permissible to speak of an idea as *flashing* into the mind. The word expresses with sufficient accuracy what happens when two images collide and (as we may say) electrically combine into a new image.

Hamilton's Quaternions—The classical instance of this type of fusion is one connected with the mathematical discovery made by Sir W. R. Hamilton.

"Tomorrow will be the fifteenth birthday of the Quaternions. They started into life, or light, full-grown, on the 16th of October, 1843, as I was walking with Lady Hamilton to Dublin, and came up to Brougham Bridge. That is to say, I then and there felt the galvanic circuit of thought *closed*, and the sparks which fell from it were the *fundamental equations* between I. J. K.; *exactly* such as I have used them ever since. I pulled out, on the spot, a pocket book, which still exists, and made an entry, on which, *at the very moment*, I felt that it might be worth my while to expend the labor of at least ten (or it might be fifteen) years to come. But then it is fair to say that this was because I felt a *problem* to have been at the moment solved, an intellectual want, relieved, which had haunted me for at least *fifteen years before*."[1]

[1] Gore's *Art of Discovery*, p. 365-6.

HAVE YOU A MAGNETIC AIM?

It is not necessary that the subject should be mathematics or that the incubation period be fifteen years. The subject may be your profession, your trade, your hobby; and the period of previous reflection may be only fifteen hours instead of fifteen years.

The subject and the time are not important. What is important is *the quality of the magnet.* A man who cannot obtain more than a few ideas that are relatively new should find out why. He should at once examine the nature and power of the interest which moves him to action. Is it losing intensity or clearness of purpose? Is it being superseded by *another* aim which is growing stealthily in the subconscious? To change magnets is not a crime; the mischief arises when you have none to exchange, or when you allow magnetic energy to decline, which means the loss of its power of attraction. Once again you are called upon to realize the great importance of Lessons III, V and VI.

IV—THE CONSTRUCTIVE IMAGINATION

When our images are reproduced and then combined so as to form new ideas, we use the Imagination in a constructive sense. Let us take two illustrations. In the year 1859 an American business man, of reflective disposition, Mr.

E. T. Freedly, was thinking about penmanship, and this naturally caused him to think of ink and pens. Suddenly, he knew not how, the query arose in his mind: "Why dip? Would it not be possible to have ink and pen together in one instrument?" Here we see the combination of two images; that of a pen and of an inkwell. It is the first traceable origin of the idea of the fountain pen; and the author of it, as we see, was not simply reproducing two mental images, but joining them together to make a totally new conception. That is how the imagination is used in the production of all inventions; indeed, all originalities are combinations of past notions or experiences whether the originalities belong to the world of real things, like business or politics, or the world of ideal things, like poetry or any one of the fine arts.

The study of the history of inventions, from their psychological point of view, is not only highly interesting but educative. Such study affords innumerable examples of the value of Pelman principles in the use of observation, visualization, and imagination in conjunction with the power of expressing thought both in words and action.

The Loss of 2000 Years—The failure to fuse two images together, and thus create a new unity, may greatly hinder the progress of knowledge and the development of civilization. Tarde has reminded us that in Babylon bricks were marked

with the names of their maker by means of movable characters or stamps; at the same time authors were at work composing books, or what were equivalent to books. But the thought of combining these two processes and composing books by means of movable characters, did not occur to them, although it was a very simple matter, and one that would have precipitated the coming of printing two thousand years sooner.

POETIC IMAGINATION

The second example of the formation of new ideas through combination is from poetry. Imagination was once regarded as belonging solely to the poet but today this view is no longer held, although it is admitted that the work of the poet has an ideal value peculiar to itself. *It is usually considered a greater thing to combine certain images into fine poetry than to combine other images into some prosaic invention, however useful it may be.* Shelley defines the spirit of Spring as:

"Driving sweet buds like flocks to feed in air."

Here there are two chief images: the new buds of Spring and the flocks driven to pasture. A new combination is made by the poet: the spirit of Spring is the shepherd, the buds are the sheep, and the pasture is the air. Analyzed in this manner, the line loses much of its beauty for poetry is primarily addressed not to the intellect but to the feelings. Still, even a poem has its

mechanism and technique, and analysis shows us the method of combining images into new unities.

A Rossetti Illustration—One of the most beautiful examples is found in Rossetti's "Blessed Damozel." He says that

> "Her eyes were deeper than the depth
> Of waters stilled at even."

Here he has combined two images: (a) a woman's eyes, and, (b) still waters, as at eventide. The new conception is not, of course, an objective reality, like the union of a pen and inkwell; it is a subjective reality, and yet the poet's fusing of the two concepts, the woman's eyes and the stilled waters, into a spiritual conception, is virtually the same process as that by which the inventor of the fountain pen arrived at his conclusion; the chief difference is that the poet moves on a higher plane.

NEW FACTS VS. NEW FEELINGS

It will be observed that this difference between imagination as used by an inventor and a poet, is one reason why the poet has been accustomed to claim imagination as his own particular gift. In a sense he is right; but in another sense he is wrong. The main difference lies in the subject matter with which imagination may be concerned. In the one case it deals with concrete realities, like ink, machinery and rubber which are utilized in such a way as to produce

new combinations. In the other case it may deal with any kind of reality, a concrete fact or a pure feeling, but the aim is a combination of images, the value of which is chiefly intellectual, that is emotional or moral. Perhaps it might be said that imaginative writers stick at nothing so long as they can produce a state of interest in the minds of their readers. Wonder stories have a charm all their own, mainly because they so frequently and designedly violate the reality with which we are familiar.

V—METHOD IN IMAGINATION

At first sight it would appear quite wrong to speak of a methodical imagination, or even of method as being in any way characteristic of imaginative activity; but on reflection it will be evident that, although no analysis can define the *limits* of imagination, it can reveal some of the various ways in which this power usually works.

In the effort to combine images in a startling fashion, and with a view to causing a deep impression on the mind of the reader or hearer, the imaginative writer has recourse to an extravagant treatment of reality, chiefly by postulating some impossibility or improbability of relationship. These exaggerations have been classified, and they are set out as follows:

(a) *Impossible Degree.*
Illustration: Jupiter in Greece has eyes that see what is taking place in Italy.

(b) *Action that is unnaturally slow or fast.*
Illustration: Aladdin's Magic Lamp.
(c) *Size is made infinitely small or large.*
Illustration: Swift's Lilliputians and Brobdingnagians.
(d) *Creatures are gifted with capacities they could not possess.*
Illustration: The dialogues between animals in Æsop's Fables.
(e) *Effects and Causes are disarranged.*
Illustration: The Story of Rip Van Winkle.
(f) *The Union of Impossible Components.*
Illustration: The Sphinx as a composite of several forms of life. (Cook's *Psychology.*)

IMAGINATION IN THE WORLD OF AFFAIRS

But there is a type of imagination in ordinary life which does not violate reality. Here is an illustration.

A man is visiting a seaside resort, a new one which is still undergoing construction. There are two hotels, filled beyond capacity, despite the fact they are inefficiently managed. There are no golf links, but there is sufficient ground quite near which can be used, most of it within sight of the sea. The new visitor sets his imagination to work. How would a new and efficient hotel be received? How many more inhabitants would S—— have in five or ten years' time?

Are the present attractions of the place likely to last, and are there new ones? Would not the possession of the only golf course be a great asset to a proposed new hotel? He considers these and other items carefully and reports favorably to his syndicate. The hotel is built and success is achieved.

This is a case where imagination deals with the *might be* element in life;[1] reality is violated, not by supposing the impossible and improbable, but by suggesting a scheme that is both possible and desirable.

The same thing happens in every sphere. It happens to the publisher who believes there is room for a new book on Botany, a new arrangement of Logarithm tables, or a revised statement of the Futurist creed. It happens to any man who contemplates present conditions with a desire to improve them, no matter what his calling. Plato's *Republic*, Harrington's *Oceana*, Campanella's *City of the Sun*, Bellamy's *Looking Backward*, and H. G. Wells' *Men Like Gods*, are all Utopias constructed by the efforts of great imaginations.

DETAILED ANALYSIS

Before the imagination can fuse two or more images into a new conception, it is necessary that all the facts immediately concerned should be understood and valued. The more clear and

[1] Imagination is defined in the Oxford Dictionary as "the mental consideration of actions or events not yet in existence."

vivid your present conceptions are, the more readily do they coalesce into new ideas. Have you ever seriously analyzed anything on the basis of the Pelman Principles of Mental Connections? If not, study the following as examples of what is possible.

ANALYSIS NO. 1 CO-ORDINATION SUBJECT: A BOOK

Synonymy:

Volume	Tome
Liber	Livre
Buch	Libro, etc.

General and Particular:

Bible	Price List	Exercise Book
Missal	Play Book	Bank Book
Music Book	Picture Book	Sketch Book
Handbook	Novelette	Letter Book
Notebook	Code Book	Washing Book
Journal	Magazine	Prize Book
Account Book	Cookery Book	Table Book
Album	Encyclopedia	History Book
Scrapbook	Prayer Book	Arithmetic Book
Passbook	Hymn Book	Lesson Book
Receipt Book	Manuscript Book	Toy Book
Address Book	Pocket Book	Blotting Book
Salesman's Book	Diary	Signal Book
Birthday Book	Ledger	Score Book
Illustrated Book	Story Book	Atlas
Grammar	Wages Book	Year Book
Spelling Book	Autograph Book	Psalter

Chant Book	Geography Book	Parliamentary
Manual	Catalogue	Report
Guide Book	Poetry Book	Doomsday Book
Day Book	Child's Book	Yellow Book
Cash Book	Novel	Fly Book
Memorandum B'k	Stamp Book	Law Book
Copy Book	Library Book	Log Book
Check Book	Game Book	"Oliver Twist"
Order Book	Gazetteer	Directory
Drawing Book	Blue Book	Road Book
Visitors' Book	Red Book	Statute Book
Housekeep'g Book	Garden Book	Horn Book
Gift Book	Route Book	"Vanity Fair"
Dictionary		Etc.

Such an analysis cannot be worked out in a moment; it requires time and labor. But consider the great advantage to a man who is seeking new ideas, if he has before him a complete analysis of his product on these lines. He would be a dull man indeed who could not discover some aspect that had hitherto escaped his attention. Here is another analysis, dealt with in less detail.

ANALYSIS NO. II ANALYZE BY QUESTIONS—SUBJECT: A FOUNTAIN PEN

Questions arranged regardless of importance.

1. What *is* a fountain pen?
2. How many parts has it?
3. How many kinds of fountain pens are there?

4. What are their relative merits?
5. What are the necessary materials for making a fountain pen?
6. Where are the materials found?
7. Are they costly?
8. Is manufacture an expensive process?
9. Who first thought of making a fountain pen?
10. To whom are sales most frequently made?
11. Does production necessitate highly skilled labor?
12. To what extent do fountain pen-producers profit on their investment?
13. What does experience prove to be the best way of selling fountain pens?
14. Is there a growing prejudice against the use of these pens?
15. Or a feeling in favor of them?
16. Is design an important factor in selling? Is size?
17. With what part of the pen do people find most trouble?
18. What is the effect of the sale of cheap pens on better and higher priced pens?
19. Is there a time in the year when sales are better than at other times?
20. What are the chief difficulties of the business?
21. What steps are being taken to overcome them?

22. How much advertising is necessary?
23. What is the probable future of the fountain pen?

It must be evident to every reader that this detailed analysis of known facts is valuable in several ways. (a) It classifies ideas already in the mind. (b) It leads to the discovery of facts, hitherto hidden; e.g., chemical analysis brought us radium, just as detailed study of the older forms of bookkeeping resulted in the science of cost-accounts. (c) It enables the mind to form hitherto unperceived analogies, for essential similarities are often curiously disguised. (d) It paves the way for a true synthesis; indeed, all analyses carefully carried out almost always involve the drawing of inferences.

"How does all this concern me?" a reader will ask who may be practicing law. Our reply is, "*It concerns everybody who has any thinking to do.*" Take the case of the lawyer. Has he not to deal with complex cases, involving a study of motives, of actions, and of counter-actions in relation to the law? How is he to succeed in bringing order out of chaos, or in arriving at the probable truth of a mass of contradictions? The answer is, by analysis and synthesis; and synthesis means a considerable use of the imagination. But the primary duty is to get to know the *facts*. This duty applies to *you* also, whatever be the nature of your calling.

VI—IMAGINATION AND DISCOVERY

We now come to the use of the imagination in the work of discovery, discovery of every possible kind; and we propose to supply illustrations of this procedure from several different sources. We shall begin with one or two from the world of business, especially as a considerable number of Pelmanists are engaged in trade operations of various kinds and may have doubts as to whether the power of imagination is capable of rendering them any service.

A certain tea merchant was very much astonished to find that in some districts his tea was highly appreciated and in other districts people positively refused to drink it. There was no doubt whatever about the *fact;* the accounts proved it, the firm's salesmen proved it, and everybody could have attested to the truth of the statement by visiting the two districts. Now what was wrong? Was it the tea? or the way it was made? or the quality of water in that particular neighborhood? or the price? or poor salesmanship? Expressed in general terms, an analysis of the cause must be found in:

1. The tea, or
2. The quality, or
3. The water, or
4. The price, or
5. The salesmanship.

The tea is probably the same; the price can be regulated to suit the situation. These items are therefore ruled out. The best salesmen are employed; nevertheless, they do not increase the orders. The company's investigators discover that, in that particular community, the tea has a peculiar taste. The mystery is solved: the fault lies with the water. Samples of water from all districts are obtained and analyzed with the result that a new tea is evolved which will blend satisfactorily with the local water conditions. Tea drinking has its topography, like many other things.

THE CREATIVE VALUE OF THEORY

Always form a theory when you are inquiring into a business or professional problem; indeed it may be advisable to form several theories and test them all. That is the best way to get at the truth. It is the method employed in all scientific research.

Readers of Darwin's "Life and Letters" will remember that it was his habit to form a theory on every subject. On such evidence as observation and experiment had provided, he formed his theory and proceeded to work in the light of it. A sigh of relief is embodied in his declaration: "Here, then, I at last got a theory by which to work." *Be a theorist* is just as good a rule for a business or professional man as it is for a man of science.

Suppose your profits are decreasing, and, after a general inspection of the business, you cannot discover the cause. What are you to do next? Begin another inspection, but this time with a definite theory, or assumption, such as: "the advertising is inadequate," or "the goods are poor in quality," and test the whole ground from this standpoint. The advantage of having something by way of a criterion is that it acts like a foot-rule: you do not grope about stumblingly, and find yourself no wiser at the end of the inspection; you advance confidently, for you hold a gauge in your hand, and, although you may find that the advertising is adequately managed, the chances are that sooner or later you will come across the very thing which has caused a decline in profits.

THE USE OF ANALOGY

Every reader of science is struck by the importance attached to analogy in the work of discovery. This place is not bestowed arbitrarily: analogy stands where it does as an aid in research simply because the universe is based upon a definite order; it has a rational plan, and reveals its plan to us by means of a method that can be apprehended by Reason. Into this subject we are not called upon to enter. Our purpose is to illustrate the principle itself, and to show its value as a means of intellectual advancement.

We shall begin by showing how a miner used his imagination and sense of analogy.

Hargreaves, a miner who had been in the California gold rush, was struck by the similarity of certain surface formations in Australia to those he had seen in the Far West. He thought a while; then he concluded that gold was buried in the hills, and he proceeded to put his belief to the test of experiment. He found gold at once, and precipitated the great gold "boom" of the island continent. This is a good instance of reasoning by analogy; like conditions promise like results.

Of course, the law is open to misconstruction, just as others are. You cannot safely argue that because an article sells well in London it is sure to sell well in New York, or *vice versa.* Many a man has lost his money by embarking on propositions of this kind, based on a superficial, as distinct from a real, analogy. This failure he attributes to bad luck or to the stupidity of the public. It is due neither to one nor to the other but to inaccurate thinking.

The ability to think in the right way is therefore of the utmost importance, as we have so often stated; the trouble lies in persuading men and women to regard thinking as an art that needs to be cultivated.

The Genius of James Watt—In the evolution of the steam engine, tribute is due James Watt for his ingenuity in devising "governor balls."

The problem was to open and close a valve in connection with an increase or decrease of speed in the revolution of a wheel. It was a new problem in mechanism. Watt solved it by using his imagination and drawing an analogy. Where in Nature, he asked, was there a situation at all *like*, if not identical with, that before him? He found the answer in centrifugal force, an activity in which two revolving bodies separate or come together according as the rate of revolution is accelerated or retarded. Speaking of this achievement from the psychological point of view, Bain says: "I am not aware of any stroke of remote identification in the history of mechanical invention, surpassing this in intellectual reach; if such a power of bringing together the like out of the unlike were of usual occurrence the progress of discovery would be incalculably more rapid."[1]

VII—ORIGINALITY

SOME OF ITS CONDITIONS

The mental processes which eventuate in new ideas are not as yet understood in all their bearings, but a considerable number are clear enough to be followed intelligently, and to be used effectively. For instance, if you cannot reach a desired solution after careful and persistent investigation, turn to some other work, or to some form of recreation, and you will find that in most

[1] *The Senses and the Intellect, p.* 525.

cases the desired solution will "come." Often, after a night's rest, one rises to find the ready solution of a problem which on the previous day defied solution.

Again, there are times when you feel mentally exalted, the mood for ideas comes upon you, and you can do anything. At other times you are apathetic and dull. These are your rhythms, and you ought to study them, so that as far as possible you will know when and where your intellect is most keen in its insight and most fruitful in its conceptive power.

Chance, too, is a factor you must not ignore. Many a man working in the direction of something we will call B has been attracted to another something we will call A; and, following up the new lead, has made a brilliant discovery. But if he had not chanced to be interested in B the possibilities of A would probably have escaped his attention altogether.

SELF-RELIANCE

The final rule of all creative thinking is, *Think for yourself;* that is, don't rely on books, on the newspapers, on reports, or on the advice of friends entirely. Get all the facts, study them, ascertain their meaning and form your own conclusions. It requires a little courage and self-confidence to make as radical a change of method as this, for most people rely more on another person's judgments than on their own;

they find it difficult to blaze their own trail. Yet it is truly educative to take this step. It brings out hidden abilities. It gives new energy to the inward urge, the one thing in life in which you are interested and towards which all your thoughts converge.

But perhaps the greatest gain lies in the growth of self-confidence. You get a sense of *certainty* when you have studied a thing for yourself. To engage in a personal investigation of a matter is more likely to result in the finding of a truth that gives the investigator a better acquaintance with the situation, a deep sense of satisfaction and a feeling of confidence and certainty. Some subjects may be closely scrutinized because necessity demands; but the greater advantage accrues to the person who undertakes the investigation of a matter purely for the love of it.

Here, for instance, are two men. One is engaged in trade chemistry experiments; the other in chemical research, a branch of experimentation in which he is interested and the pursuit of which will yield him no financial profit at all. Which of the two is the more likely to be inspired with new ideas and make brilliant discoveries? The latter, undoubtedly. In chemistry, physics, and science generally, men have won the greatest distinction who have been actuated by thirst for knowledge for its own sake.

Thus science in the hands of the Greeks grew

more rapidly in one or two brief centuries than elsewhere in Europe in the previous five thousand years, a period in which the spirit of utility in various forms had reigned supreme. We see the same thing in the causes which produced Greek culture. The Greeks, it has been well said, had none of our modern art sentiment; they did not say "Let us now create a statuary that by reason of our skill, shall be the wonder of all time." Such an attitude was quite foreign to their nature. Beauty was to the Greeks a natural expression of the religious sentiment; and it was out of their love of beauty which amounted to almost adoration that all their art was born. They regarded their statuary as a symbol of their devotion to the gods, not as a contribution to the art-galleries.

"EXCELLENCE" vs. "PROFIT"

Lest this principle should be thought of as applying to one department of life only, let us try to find an analogy elsewhere. In business, in the majority of cases the man who makes the greatest profit does not *aim* at profit-making first and foremost; he *aims* at *excellence*. It is this excellence, arising out of the sheer delight which he takes in his business for its own sake, that puts him ahead of his competitors, because he is thereby enabled to offer the public a superior product and better service. Thousands of employees, legitimately anxious to increase their income,

make the mistake of thinking more about the financial side than about any other. They should first *develop their ability* because increased ability is sure to mean increased emoluments. In "big business" today it is recognized that "How much can we give?" has greater investment value than the crudely self-seeking question, "How much can we get?"

If you want External Power you must first get Internal Power; the Excellence *without* must primarily be an Excellence *within*. That is one reason why in Lesson III we devoted so much space to Interest and why we have repeatedly drawn attention to it in the intervening lessons. Get your mind and heart filled with feeling-thoughts about some one thing, *for its own sake*, and not merely for the profit that will result. You may then reasonably expect ideas to crowd in upon you; some of them old, but still original in the sense of being your own discoveries; and some of them new, even to the world that is receiving them.

VIII—TRAINING THE IMAGINATION

What is meant by training the imagination? We mean, first of all, the deliverance of the mind from its domination by the actual. For instance, those people who follow strictly a prosaic routine, day in, day out, from year in to year out, with scarcely ever a sustained thought

outside it, need to be roused from this unimaginative life; and in most cases this rousing can be done by showing them where they are neglecting their opportunities. "I thought imagination belonged only to poets," writes a Pelman student, "but I have now made the very pleasant discovery that I have an imagination of my own. Of course I knew it before, in a vague way; but now I *realize* it."

Further, training the imagination means the practice of exercises that will at once incite more interest in such activity, and give greater facility in the use of the power as applied to the needs of the individual.

"Can this be done?" It can; it has been done already. Admittedly, the training is more difficult than that of other mental powers, partly because imagination itself is one of the most complex of functions. But the complexity is not a burdensome matter to the individual himself; he is not conscious of the intricacy of the imaginative process; once the student is awakened to his opportunities material will become exceedingly plentiful. The real difficulty is in providing exercises for every type of mind; but even this obstacle has been overcome.

Apart from training by means of exercises, however, there is observable in the life of men and women of imaginative ability a certain reliance on feeling and on environment as sources of inspiration. Naturally, these inspirations de-

pend on knowledge, and knowledge depends on the activity of the senses. The student who has thoroughly mastered Lesson IV and practiced the exercises, extending them as opportunity permits, will already have a rich fund of mental images. No opportunity should be lost, especially during walks in the country, of enlarging the boundaries of knowledge by providing the material of sights, sounds, tastes, odors and the like for the imagination.

MENTAL ATTITUDES

This brings us to a question: what attitudes of mind, more particularly, what processes, feelings, moods or surroundings, are favorable to imagination? As a matter of fact, every student who has carefully followed the lessons up to the present has been fostering, perhaps unconsciously, the states of consciousness that are advantageous to imagination. Refer to the previous Lessons and Exercises. Can you not now see how the total effect of these lessons and exercises is in favor of increasing *sensibility* by which you obtain the material on which imagination works? Is it not clear that to get the best and highest results the mind's functions must act synthetically?

If you did not train your senses and classify your knowledge (Refer to Lessons IV and VII), you would be deficient in the data with which imagination works: you would be poor in images, where you ought to be rich. Does not the power

of interest, as explained in Lesson III, impart a peculiar liking for some line of action, a liking which soon passes into sympathy and insight? A work which you love is one around which imagination and fancy are in constant play, and out of this activity new ideas come forth.

THE SYNTHETIC PRINCIPLE AGAIN

Training the imagination is something more than practicing approved exercises: it depends primarily on the previous training of other mental functions, and it is equally dependent on the proper use of the feelings, and the proper mental attitudes. As this matter is important, let us look into it more closely.

By *Sympathy*, we do not mean the *feeling* for others in distress; rather do we refer to the capacity for *feeling* with others in circumstances of any kind whatever. We can *feel with* people who are dancing, just as truly as *for* people suffering from disease. Sympathy implies the identification of a person with an object. We get out of ourselves, and function through other people's feelings for a time; and it is this act which enables us to understand what is otherwise a closed book. This "getting out of ourselves" is the work of imagination, but the motive power is that of sympathy. The two function together, however, but it is difficult to trace their respective contributions to the formation of a new idea.

THE PRIORITY OF FEELING

Feeling comes first, and feeling is the secret of genius and talent of every kind. How does a poet come to write sonnets or lyrics? By logic? By reasoning the thing out? No. Feeling comes first, and it takes the form of Sympathy. Nature, Beauty, Human Life, Suffering, Sorrow, Death —various aspects of these are impressed on a highly sensitive intelligence. Instead of showing a spirit of indifference or antagonism, the poet *enters into*, sympathizes with each situation with such abandon of mind and heart that he is able to realize the truth more fully than he could in any other way.

Sympathy in Law and Business—Now the professional man and the man of business have the same need of sympathy as the poet, the only difference being that they use it in a different way for different purposes. A judge engaged in sorting the evidence of a complicated criminal case employs sympathy in order to be able to place himself into the mind and heart of the accused, the better to understand the motives of the witnesses on both sides. To decide the issue by merely *weighing* the evidence, as if by the *avoirdupois* scale, might result in a miscarriage of justice.

The business man uses sympathy, too. A purely intellectual estimate of the selling chances of a newly invented lawn mower (one that will cut

the grass efficiently and noiselessly) may easily be fallacious; but sympathetic insight will enable the prospective purchaser of the manufacturing rights to look at the proposition from every point of view:

1. The efficiency of the machine.
2. The cost of production.
3. The margin and advertising appropriation.
4. The selling price.
5. Its probable appeal to (a) the distributor
   (b) the user.

By sympathy and imagination he puts himself in the place of the middleman and the purchaser and is able to visualize the situation as they would see it.

The Emotional Quality—In this manner, both the judge and the man of business obtain new ideas for the solution of immediate problems. But, as a matter of fact, every man who wishes to have what is called a creative mind, must be a man of sympathy first; he must have the power to feel *with* something or someone. Accompanying this feeling is imagination—the two are inseparable. You see, therefore, how the training of imagination is primarily not a matter of practicing exercises, but of obtaining the right mental and emotional qualities.

You ask now: "How am I to develop this power of sympathy?" You have it already for *one* thing,—through your chief aim, purpose,

or interest. Anything about which you are enthusiastic is bound to be a subject with which you have real sympathy; and if you have trained your senses, you will have aroused new feelings for Nature in all its moods and for Humanity in its multitudinous aspects. Dullness, insipidity, cynicism, antagonism, ennui—these will have gone, and in their place you will substitute ideals and attitudes that will make life worth living.

APPLICATION

The best way to obtain the full benefit of this lesson is not only to *know* it, but to *apply* it. Go through it and test yourself, item by item. For instance, you can easily decide which kind of images is dominant; a few interesting experiments will settle that question. Then you can review the effect of mastering Lesson III especially that part which deals with the manner in which the enthusiastic Aim affects imaginative effort. You will notice a great increase in this form of activity. There will be a tendency to combine thoughts into new wholes; that is, the inventive ability will manifest itself, not perhaps in inventions, as such, but in all sorts of initiative. You will, further, take pains to collect and classify all the facts of your calling, or of some details of it; and you will then be hot on the trail of some discovery, the while using your imagination to get at the truth. With Imagination you enroll the aid of your powers of Sym-

pathy, thus increasing the power of *insight*, which is so important in arriving at personal and original views. As with the previous lessons, so with this: *Live it.* Living something means more than knowing it.

IX—DON'TS

1. Don't be cynical, and say that a new idea is utterly impossible. Brand-new ideas are born every hour of the day.
2. Don't *try* to be original. Just aim at finding the facts of the case under discussion and do your own thinking about them.
3. Don't be impatient if, at first, new ideas are slow in coming. The mind needs training for new developments.
4. Don't be influenced by superficial analogies. Get right down to exact conditions when comparing two situations.
5. Don't be afraid of inventing a theory. If it is a wrong one, experiment will discredit it and you will be a stage nearer the truth.
6. Don't say that you are not suited for original thinking until you have first put yourself to the test.

X—THIS DO

1. Every man has his best moments, times when his mind is most responsive to ideas. It is his duty to know, if he can, the physical, social, and mental associations of such moments.
2. Embrace every opportunity to study analogies. "What is it like?" is a good question to ask, not only for the sake of clearness of thought, but in order to develop new ideas.
3. Another question that is worthy of repeated use is: "What might be?" The things which *are*, you know well. How can they be changed into something better?
4. See that your visual and auditory images are clear and strong experiences. To be satisfied with faint impressions is to weaken the chances of obtaining original ideas. The mind works synthetically, and you cannot expect poor images to coalesce into clearly defined conceptions.
5. Be human. Enter into common pleasures with spirit, not merely to show your friendliness to others, but in order to keep your emotional centers active. Originality depends a good deal on the life of feeling.
6. Develop the habit of what we may call mental expectancy; that is, you believe that the ideas you need will "come." *Tell yourself they will.*

XI—MENTAL EXERCISES

It will be remembered that most of our knowledge comes through the senses of sight and hearing; consequently the recollection of the knowledge thus obtained depends to a large extent on the vividness of the images involved. In any case, *it is wise occasionally to recall those images which we wish to retain permanently.* By frequent and periodic recall, we increase the number and quality of our mental treasures—the raw material, so to speak, out of which new ideas are made.

EXERCISE XXIX

Below are given some verses in which the images are italicized. Study these quotations carefully, and try to reconstruct the images they suggest. Select other passages and treat them in the same way. You will not only learn the beauties of English poetry, but will develop your power of imagery.

"The *gray sea* and the *long black land;*
And the *yellow half-moon, large and low;*
And the *startled little waves* that leap
In *fiery ringlets* from their sleep,
As I gain the *cove* with *pushing prow,*
And *quench its speed* in the *slushy sand.*

"Then a mile of *warm, sea-scented beach;*
Three fields to cross *till a farm appears;*
A tap at the pane, the quick, sharp scratch
And blue spurt of a lighted match,
And *a voice* less loud, through its joys and fears,
Than the two hearts beating each to each."

—*Browning.*

"I watched the *mowers, as they go*
Through the *tall grass, a white-sleeved row.*
With even strokes *their scythes they swing,*
In tune their merry *whetstones ring.*
Behind, the *nimble youngsters run,*
And *toss the thick swaths* in the sun.
The *cattle graze,* while, warm and still.

—*Trowbridge.*

Here again you must apply this knowledge to your vocation. If, for instance, the result of this exercise shows you that your auditory images of voices are very poor (and your daily work entails much interviewing), it behooves you to improve the quality of these images by training.

EXERCISE XXX

Imagine you are standing on a station platform. What sounds would you hear, assuming no train were in motion? Suppose, finally, a train is signalled to start? What additional sounds assail your ears? When it is out of sight, and another draws near, ultimately coming to a standstill in the station, what sounds does its

arrival bring? There is a practical aspect of such an exercise as this, which should be kept in mind.

A novelist, desiring to give what the French call *vraisemblance* to his narrative, draws upon the stock of visual, auditory, and motor images which he acquired by carefully training his powers of observation; and a man of business who desires to form an accurate judgment about the possible sales of a new article depends to a large extent on the accumulated image memories of his past experience. The better your images, the more easily you learn a new language.

EXERCISE XXXI

There are two primary objects in building a house: (a) to secure a suitable dwelling place, and (b) to appeal to one's sense of taste and beauty. Take any house you know, and analyze it in the light of this two-fold standard. Imagine improvements in the house itself and in its external and internal attractiveness. Tabulate these; and if you can draw, set them on paper. The exercise will be serviceable in educating the power of concentration as it will be in developing imagination.

EXERCISE XXXII

Study a famous picture, like Turner's "Fighting Téméraire," with the object of providing an exercise in discovery by means of the imagination: *You are to discover the symbolism of the*

picture. A painter uses natural objects like clouds, flowers, ships and mountains to convey impressions and ideas, just as a writer uses words for the same purposes. Both have one end in view, namely, *expression.* Thus, in the "Fighting Téméraire," the setting sun is a symbol of "Good-bye;" the old ship will sail the seas no more. Manifestly, to have painted the sun at the moment of rising would have been a mistake. Turner did the right thing, however obvious, in associating the retiring ship with the setting sun. But there are other symbolisms in the picture. What of the tug, the clouds, the moon? Try to imagine their meaning, how the artist used them to convey his feelings and express his ideas.

EXERCISE XXXIII

(1) Take a word like *advertising* and write down as many questions as you can about it. Do not stop to analyze your list in order to find out how far the questions overlap each other; just write down what comes to mind. When the list is completed, begin to study each question in relation to the others. Suppose your question list is as follows:

1. What is advertising?
2. When did it originate?
3. Who issued the first advertisement?
4. Was it in a newspaper?
5. Does advertising pay?

6. How much a year is spent on advertising?
7. Can one spend too much on it?
8. Is excess in advertising ever given as the cause of business failure?
9. What kind of advertising is best for a dry-goods store?
10. Why should professional men not advertise?
11. Do they not advertise indirectly?
12. Will advertising gradually disappear?

Now these questions, it will be observed, are stated in colloquial language, such as would be used when thinking interrogatively about a practical issue. Many additional questions could be asked. The next step is to analyze the list something after this fashion:

No. 1 is certainly fundamental. To define the word, to get at its essentials, is to go a long way toward answering the other questions.

Nos. 2, 3, and 4 are not so important; for, although the history of advertising may teach us a good deal, the immediate question is how to advertise successfully *now*.

Nos. 5, 6, 7, and 8 are more practical, and it will be observed that 7 and 8 are included more or less in 5.

No. 9 is a special question.

So are Nos. 10 and 11.

No. 12 is an attempt to peer into the future.

(2) Now, thus reduced, enough remains in the form of questions, to keep the average man

busy in finding answers. Consequently a second question list suggests itself:

1. What are the best books on advertising, and where shall I find them?
2. Is experience the best teacher, or should I rely on the advice of an experienced agent?
3. If my gross income in business is $20,000, how much ought I to spend in advertising?

You should continue in this way until you have written down twelve more questions. Then comes "the tug of war." You must decide; you must arrive at conclusions and act on them. There is no operation more educative in a mental sense. Responsibility, when accepted and acted upon, is a great teacher. Moreover, the Socratic method (for this is what it is) develops every function of the mind; observation, imagination, memory, analysis and synthesis.

Below, we give a few topics suitable for this kind of exercise:

(a) An increase of annual turnover. (b) The value of Poetry. (c) Chambers of Commerce. (d) Sanitation. (e) Novels. (f) Will-power. (g) Competition. (h) Personal Efficiency. (i) How much leisure should we have? (j) Civilization. (k) Greek Drama. (l) Village life. (m) The future of broadcasting and Television.

EXERCISE XXXIV

Some kind of research is advisable as a means of developing imagination. What do we mean

by research work? We mean an ordered and systematic inquiry into some matter, either out of pure interest in the subject, or because of the value of a possible discovery. For example, some of us might be interested in discovering a new glaze in pottery manufacture. A man of science would find his problem in chemistry or physics. A business man has usually an ample supply of material for his purpose. It is almost impossible to exaggerate the mental worth of such discipline. "As a mental and moral tonic," says Professor Percy Gardner, "nothing can be more effective than the search for fact. The more deeply the fact is hidden, the longer and severer the search, the more stimulating it grows; and the qualities which it inculcates, patience, distrust of mere theories, delight in what will bear the test, are of great value in life. By degrees, as one learns how to proceed, one finds keys which will unlock door after door."[1]

Are you engaged in a calling where large supplies of packing cases are an absolute necessity? Let us suppose you say "Yes." Then ought you not to make your own? Can you not produce a better article than any you can buy, and at a cheaper price? These are questions requiring careful investigation, especially the technical research which is to end in producing a better supply. But the research work is an education in itself. This applies to anything which offers

[1] *Oxford at the Cross Roads, p.* 60.

suitable problems; and the first gain is undoubtedly to the imagination.

If the desired research should be associated with your business, use the Socratic method of question and answer until you find a suitable problem. For instance, here are a few queries, some of which you may not have asked yourself for a long time; others not at all.

(a) In what way does imaginative effort further the interests of men in my vocation?
(b) How long is it since I deliberately employed the "what might be" principle in preparing estimates and deciding my policy?
(c) Have I really analyzed my calling, and do I know all its constituent elements?
(d) Have I ever considered these constituents one by one in their possible new associations, as well as in their general unity?

A first use of these questions may not at once yield advantages that are important; on the other hand they may immediately put you in possession of ideas of great value. In any event, such questions, for an occasional drill, are certain to be productive in the course of time. "Not in *mine*," says an employee whose work is cut out for him. "Yes, in yours," we must reply, respectfully but confidently. Superior ideas will out! If an employee's ideas are better than his master's, the employee will *eventually* win.

XII—HEALTH EXERCISES

NINTH LESSON

Heredity has largely decided the physical characteristics of man. His size, strength and appearance are determined for him before his birth; but he can influence them in some degree by carefully regulating his habits of diet, sleep and exercise. It is the duty of each individual to train his body to be the useful servant of his mind. Mind controls muscular movement and the sooner one organizes the connections between mind and body the more precise and natural will be the response to the calls that are constantly being made for coördinated movements. The power to determine the nature and extent of this development depends entirely upon the will and interest of the individual. The young man, confident in the reactions and recuperative powers of his youthful body, feels that there is no immediate need for conservation of energy for the future. There is time to do that later, he assures himself. The older person feels that it is too late, and he too is prone to let things slide. "Better late than never," is good advice; "now is better than ever" is still better advice.

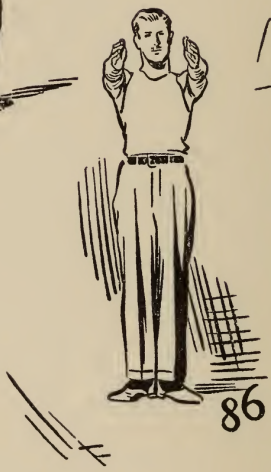

84

THE BRIDGE

You have had various exercises to strengthen the back neck muscles. There is a new one which we should like to give you, one that can be particularly helpful. The activity may be strenuous or mild, according as the method used. We will use the latter form at first; then later we will better be equipped to attempt the more difficult one. The exercise in its difficult form is used by professional wrestlers to strengthen the neck and is called a Bridge. Before you get out of bed and after you have rolled and stretched to loosen up, lie flat on your back with your hands at your sides. Now bring your feet well up under your hips; it will help some if you will spread the feet about eighteen inches apart. Now raise your hips from the bed. This will leave your weight on your shoulders and your feet. The body will be raised entirely from the bed, and the hands at the sides can be used to help push the weight up toward the shoulders. Try to go just a little further and support your body on the back of the head and the feet (Fig. 84). This will mean raising your shoulders from the bed, using hands to help you. Hold this for a second and then roll back onto the shoulders and repeat the last part, namely, rolling up with the weight on the head and feet. Repeat about ten times at first.



85



86



87

EIGHT COUNT—WARMUP

As usual when you get out of bed try the Warming exercise that you probably enjoy. However, a simple movement that will be effective even though it will require a certain co-ordination that makes mental effort necessary is a combination of arm and knee bending that should be taken rapidly and to rhythm. (1) Begin by bending the knees and bringing the hands to the side of the shoulders, fingers clenched (Fig. 85). (2) Extend the hands forward and straighten the knees (Fig. 86). (3) Bring hands back to shoulders and bend knees (Fig. 85). (4) Extend hands over head and straighten knees (Fig. 87). (5) Hands at shoulders, bend knees (Fig. 85). (6) Hands extended forward, knees straight (Fig. 86). (7)Hands at shoulders, knees bent (Fig. 85). (8) Hands extended sidewards, shoulders high, knees straight. (9) Hands at shoulders, knees bent (Fig. 85). (10) Hands forward, knees straight(Fig. 86). (11) Hands at shoulders, knees bent (Fig. 85). (12) Return to starting position, hands at sides, knees straight. This takes only about five seconds to complete once you have mastered the co-ordination. The exercise should be repeated for at least one minute.



88



89

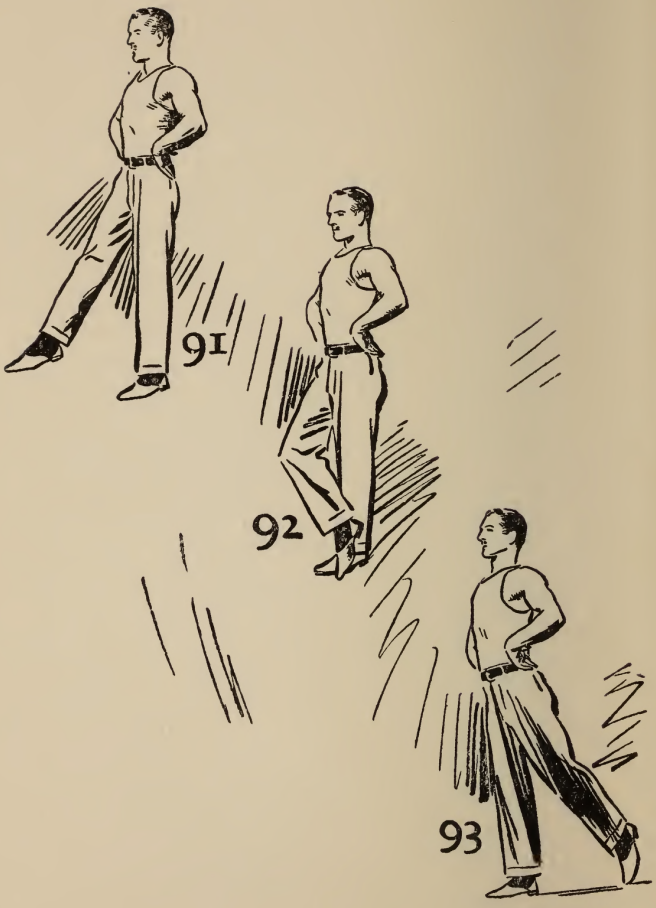
LIVER MASSAGE

The next movement is extremely simple but it is very valuable as a massage for the torpid liver and as an intestinal stimulation. The chief value of this exercise depends upon your keeping your feet in place and your legs straight. All movement is from the waist and hips. Stand with your feet about two feet part, toes facing front. Place your hands behind your neck, elbows well back and body erect. Now turn to your right as far as you can go without moving your feet (Fig. 88). Bend toward your right leg. You are actually facing your right, and bending forward (Fig. 89). Be sure to keep your left knee straight. Now raise your body; then, turning to your left repeat the bending. Go as far down as you can, the further the better. Then raise up and repeat on the right. Alternate left and right until you have completed ten on each side.


90

CANOEING

Stand with feet slightly apart, or better still, sit down in a chair with feet and knees together. Imagine you are in a canoe with a double blade paddle in your hands. Grasp the paddle in both hands which are held about eighteen inches apart. Start by sweeping the arms downward, backward and upward on the left side. The left hand is down, the right arm is uppermost. Continue the movement until the right arm is crossed on the chest and as high as the left shoulder. The left arm will be well up behind (Fig. 90). Now sweep the arms forward, downward and upward to the right and repeat the backward movement on the right; this is a natural turning of the body to the right and left as the arms are swung backward. Be sure to keep the left arm up when going to the right and the right arm up when going to the left. Hands should always remain about eighteen inches apart. About ten right and ten left will do to start with. Take about thirty per minute.


91
92
93

DANCE IRISH LILT

For the general circulation we are going to suggest the very popular dance step taken from the Irish Folk Dance. First place your hands on your hips as in the Scotch dance, and stand straight with feet together. (1) Hop on your left foot and extend the right foot forward, toe pointed down and about six inches from the floor (Fig. 91). (2) Hop again on your left foot and cross the right over in front of the left touching the toes of the right foot to the floor (Fig. 92). (3) Hop on the left foot and extend the right forward as in count (1) (Fig. 91). On the count of four swing the right foot back to the left and drop on the right foot, at the same time extending left foot backward (Fig. 93). You are now in a balance position on the right foot with the left backward and ready to swing forward to begin the movement all over again. This time on (1) hop on the right foot and extend the left forward. (2) Hop on the right and cross left over in front. (3) Hop on right and extend left forward. (4) Swing back onto the left and carry the right backward. The second eight counts are simply repetitions of the first eight. In order to learn the movement, it is better to practice on the first four counts until they become a habit. This habituation should take about five minutes of actual effort. The entire movement of thirty-two counts is the completed unit. Repeat the thirty-two counts after you have mastered the co-ordination.

SUGGESTION

There are three natural sources of bodily ailments that are directly responsible for much illness, and strange as it may seem they are the most easily controlled body organs. Foremost of these are the teeth, the most accessible organs of the body and usually the most ignored; second are the tonsils, which are usually taken care of after they have caused about as much trouble as they can; and lastly, the intestines, the one portion of our anatomy that does get the attention it should. If anything is wrong the usual line of attack is to take a physic and trust to luck that the trouble has been rectified. Make sure that the teeth, throat and then the digestive system are in good condition and you will be sure to reduce the possibilities of ill health.

Reference:

STAND STRAIGHT.
PRONE LEAN.
CHARGING.
HYGIENIC No. 1.
SCOTCH DANCE No. 2.

SPECIAL INSTRUCTIONS AS TO PROGRESS SHEETS AND TEXT BOOKS

1. Write your name and address legibly on every Progress Sheet.
2. Your number should appear on all your communications, otherwise much unnecessary labor devolves on the staff.
3. Do not think that your answer must be confined always to the space beneath the question. Use additional sheets if you wish to.
4. The Text Books should be kept by the student for future reference. Remember you will want to use these attractive and durably bound books for years to come. They will be a library of practical value for you.
5. From seven to ten days are usually sufficient for the mastery of a Text Book and the completion of the Progress Sheet, but it is possible to do these things in a briefer period. Everything depends on the student's leisure. There is no fixed time for the return of Progress Sheets.

PELMAN LESSON X

Is there an art of thinking which may be learned? Can a man train himself to become a thinker? These are the main questions dealt with in Lesson X. You will find it replete with valuable information.