

[page 219]

**CHAPTER 12**  
***The Laboratory Epic***

*The common objects and events which are the words of that incomparably greatest of all epic poems—The Cosmic Process.*

—ELMER GATES

Although the researches of Elmer Gates would hardly be considered commonplace, he studied through them the most common of objects and events—and the most wonderful to him: conscious states and processes. Perhaps no better sample of events could be selected than his Chevy Chase years to give an appreciation of his dual tasks of making not only his researches but the money for them.

Very few, he found, understood that the mind is the real creature, and that mind would not be but for Consciousness. The mind must be in its own nature similar to that cosmic condition out of which it came, and cannot be in fundamental antagonism or contradiction to it. To know Consciousness is to know directly the most interesting, mysterious, potent, and perhaps most all-pervading force in the universe. It is to know in one's own consciousness as Consciousness the power that rules life and is Life. To the extent that Consciousness is known, so will the universe be known ontologically.

[page 220]

To the Mind Art, science and art are mental experiences and processes. Science is definitely ascertained and systematic knowledge gained by exact observation and correct thinking. Art is scientific knowledge systematically applied to some desired end, including technical skill. Not only may there be to every science a corresponding art, but every science contributes to a number of different arts. Science consists in mental states and their arrangements by mental processes according to the nature of Consciousness and the laws of mental activity. Art is the application of knowledge according to tested and rational rules to the doing of anything that can be purposively done; it is always a mental doing. Art thus has a wider meaning than usual, including all the results of human efforts that are not science. All facts are known only as and by conscious states, and all knowledge is discovered and known only by mental processes. Therefore in its broadest sense psychology is properly the science of which all others are subdivisions. Likewise all arts are mental processes, all technical work is done by and consists in mental activities, and all

skill is mental capacity and efficiency; therefore the art of mind-using is the one art of which all others are subdivisions.

Just as there is an art of working with metals or metallurgy, so there is an art of working with the mind, or psychurgy, which was the name Elmer Gates finally adopted for the Mind Art, or mentative art. Psychology is from the Greek *psyche*, "soul," or "mind," and *logy*, meaning science; thus mind-science. Psychurgy is from *urgy*, meaning working (*ergon*, "work," *ergo*, "to do work"); thus mind-working or mind-art. Although he used this term for one division of an early classification of his work, and apparently in a lecture late in 1895, Gates did not generally apply it in his writings until after he had established in 1896 his Chevy Chase laboratories, which soon became "The Elmer Gates Laboratories of Psychology and Psychurgy: an Institution devoted to the science of mind and its practical applications." (In 1905 it became "The Elmer Gates Laboratories: an Institution with educational aims devoted to the study of the sciences and arts.")

[page 221]

After having formulated the principles of psychurgy, practiced and improved it, Gates began to organize plans and methods into a practical system as a first step toward making it available to others. This had been definitely begun at Germantown, where all his discoveries and methods were synthetically and carefully summarized, new lines of research projected, and plans laid for a careful practical test.

The purpose of the Chevy Chase laboratories was briefly described in his report circulated in 1899 and 1900 among those interested: Bulletin No. 1: A Brief Synopsis of the Work, Part and Prospective, at the Elmer Gates Laboratories." It pointed out the only three factors to be varied in psychologic experimentation: environment, bodily structure, and mental activity. These led to six branches of research (as described in Chapter 9): three biopsychologic branches of psychology of which his general conclusion was that every change in environment and bodily structure produces a quantitative and qualitative modification in each mental faculty; and three psychobiologic branches of biology, the reverse of the preceding, in which his general conclusion was that every change in mental activity produces a change in the bodily structure and environment of the creature. He considered that the scope of psychology was larger than might appear because the study of mind must include the contents of minds and products of mental activity; contents include every science and art, and products include everything ever done. Sciences are best studied as kinds of mental content and products and modes of mental activity.

The application of such discoveries is psychurgy, the bulletin continued. Its first step, Intellect Building, applies the art of mind-embodiment or brain-building to the getting of more intellect. To leave any area of the brain fallow of the structural and chemical changes of memories from any one science is to produce a one-sided mind. The brain will not be an anatomical whole, the intellect will be neither a psychologic nor a biologic unit, and that department of nature about which knowledge is lacking will not be functionally active in that mind.

[page 222]

The second step is Emotion Building, or the embodiment of all the normal feelings and emotions, for wrong ones will mislead the investigator as surely as wrong intellectual data. A perfect intellectual growth is impossible without normal emotional, affectional, and esthetical development.

The third step, Volition Building, leads to getting all the normal capacities and functions of volition and willing, to the voluntary dirigative control of the intellections, feelings, and bodily functions.

Besides these three steps of mind-building, there are the three steps relating to the art of *mind-using*. the fourth step, Cognitive Mentation, is the art of using the mind creatively or originatively for the most efficient regulation and use of the intellectual processes for discovering truth. It includes regulation of the environmental and bodily conditions; and the art of training the functions of sensating, imaging, conceptuating, ideating, thinking, reasoning, and introspecting. One of its several steps gives the pupil by new methods every sensation, image, concept, idea, and thought that direct taxonomic study can give, omitting none. Then the pupil learns to use each of these intellectual functions separately; that is, to image, conceptuate, ideate, or think. Next he learns the two kinds of conceptual, ideative, and thinking reasoning; and then the art of introspecting. From a synopsis of the verified mentative data, or psychologic classified knowledge of that science, under proper bodily and environmental conditions, the pupil then applies each of these intellectual functions to each datum of that synopsis. Before a permanent record of new concepts, ideas, or thoughts is made, they must be inductively verified by observation and experiment. Invention and discovery can be thus made a daily business and new ideas obtained with systematic regularity. It necessitates the entire abandonment of speculative hypothesis and theory.

Before pupils can be given this step, there must be finished a work involving the enormous labor of collecting and verifying the mentative data of some one science and getting together a

[page 223]

museum-laboratory where all the typical objects and phenomena of that science can be shown in taxonomic order.

The fifth step is the art of Emotive Mentation. Normal emotions are the basis of normal tastes, likes, and dislikes. Emotion is the basis of interest and the energy of spontaneous attention. Through metabolism it creates or destroys the energy of mentation. Emotion is the medium for regulating the subconscious functionings from which the conscious processes arise. The greatest original insights and foresights of man have most largely been achieved through the subconscious functioning; and it is always a deduction either of individual experience or of that larger sum of phylogenetically inherited subconscious tendencies and capacities and ontogenetically acquired conscious and subconscious experiences. The researches and experiments that such a deduction suggests should be made and any inductively discovered facts verified.

The sixth step is Conative Mentation, based on a training in the actual doing of those things that constitute the sciences, arts, trades, professions, and all the normal acts of life. We must first apprehend or cognize the new idea or truth, then feel its beauty or utility, then realize or make available for human use what we know and feel, which requires the doing, the invention, the performance, of something that completes the mental process. In its lower stages this art involves training of the volition and the will, so far as they may be induced to act by the feelings and emotions and personal interests. In the second stage, educative auturgy, the intellectual, emotive, and volitional nature is governed by a process of correct mind-embodiment; that is, by eliminating the wrong and embodying the true elements of interest, so that motives may be the out-come of correct content. The third stage, dirigative auturgy, is a training in the power to will that which is true and just without regard to personal ends.

These six lines of psychurgic training comprise every known way in which the mind of man can be used in any known activity. It is strange that throughout the course of history mind

[page 224]

has been the subject least studied. All the possibilities of the universe are open to mind and to nothing else. Psychurgy offers incomparable inducements to the study of the fine and industrial arts as well as trades and professions.

The using of mind involves the whole question of life's conduct and includes moral and ethical training, which in turn involves choice of and preparation for vocation and trade, and

includes individual character and personality. The art of using the mind covers the whole scope of man's relation to other men and other forms of life, to the Cosmic Whole out of which man has been differentiated. Right conduct is an adaptation of acts to ends according to the truth of the things to which man is connected or related. It requires correct knowledge of the things upon which he acts, in the presence of which he acts, and of the thing (the mind) that acts. Such a knowledge of things and their relations is scientific knowledge, and science acquires ethical value and religious meaning. Moral training consists in acquiring correct intellections, emotions, and volitions. Ethical training involves the relation of man to his fellows, and religious training includes that modification and regulation of conduct which results from a true or supposed knowledge of our relation to the Cosmic Whole as an event in time and space. Moral training is as important for scientific research as is intellectual training. Underlying a perfect intellectual growth must ever be a true moral, ethical, and religious foundation.

Out of these six branches of psychology and six of psychurgy has arisen the work to study the entire range of mental phenomena in all creatures; the collection of mentative data or the psychologic classification of verified facts of the sciences and arts; the diffusion of such demonstrable knowledge among all peoples without attacking any belief or system; the training of teachers and investigators along the new lines; the establishment of a series of departments to present every fact and phenomenon of every science and every method of every industrial or fine art; and the organization of an educational department where the whole

[page 225]

subject of psychology and psychurgy can be taught by students trained in the mentative arts.

To carry out these plans there were to be six psychologic laboratories—one building for each of the six branches of research; the endowment of them with sufficient means for research or to make them self-supporting; and the organization of the six psychurgic laboratories in which the psychologic discoveries would first be applied. In 1899, the bulletin stated, buildings for four of these laboratories were in existence. Laboratory No. 1, rated one of the largest and best-equipped private laboratories in the country, contained a well-equipped machine shop for making scientific instruments and inventions. Laboratory No. 2 (the "Music Hall") had just been erected to house the department of acoustics and music. No. 3 was partly erected, to house temporarily the departments of chemistry and metallurgy; and No.

4, just purchased, was for the department of painting and pictorial representation and temporarily the department of electricity.

In No. 1 were many departments that would soon need separate buildings. The six psychurgic laboratories existed only in embryo form as represented by the character of the work being done: they would be used to test experimentally and apply discoveries. The six psychologic laboratories were to be devoted to pure science, the other six to applied science; in addition, there would be two administration buildings, making fourteen buildings in all. Another set of buildings would be required for educational purposes. If this plan were carried out, there would be three institutions: the psychologic laboratories for discoveries in psychology and each of the other sciences; the psychurgic laboratories for tests of best methods of applying the discoveries, and where the art of mentation would be continuously perfected and extended; the educational department, where the sciences and useful and fine arts would be taught according to the discoveries made and applied in the other institutions, and teachers trained. Cooperative researches would be carried on by

[page 226]

investigators in different parts of the world, requiring a correspondence department.

As soon as all these aims were sufficiently realized to admit the placing of the departments under the supervision of competent, trained assistants, Gates planned to devote himself to organization of other lines of research. This movement would be guided, not by any man or group but by the total organic body of verified and classified scientific knowledge; and its method would be the art of using mind. He also intended to publish some account of his work in twelve volumes, one for each line of research.

This was the plan outlined in that Bulletin No. 1—of epic proportions! Impossibly large? That is the way it had to be: taxonomically complete.

Interest in Gates' work and plan was worldwide. Many people offered their services free to help in collecting data as soon as facilities were available. John E. Searles, organizer of large business enterprises, including the sugar trust, wrote: "Some one asked me whether I thought you would succeed in the practical application of your ideas, to which I replied that in view of what you had already accomplished, I should be loath to place any limit upon the possibilities of your work."

But Gates' art of mentation, his psychurgic methods, kept bringing new discoveries, widening horizons. Truly was the mind a continuous growth. His great plan for his laboratories was never realized. Actually only one more building was added, a small

annex with a room for kindergarten instruction and a basement containing the storage-battery plant. But he never gave up working and planning for the institutional World Work to which psychurgy naturally led. If he could not accomplish the task, future students of psychurgy would.

His first lectures of 1894, that had made Gates famous, and his course given the next year in Philadelphia, were followed by lectures on rearing children to the National Mothers' Congress, on sense training for the deaf and blind to the National

[page 227]

Educational Association, and on psychurgy applied to education. In 1897 he noted that he had attracted attention but not the substantial success he craved and that the work needed. He felt awake and ready for something new and revolutionary in his researches, that seemed to offer evidence of an activity in the mind that modified mentation to produce results that could not arise through the senses alone.

In 1898 two articles by Gates appeared in *Popular Science News*: "Acclimatization of Plants," and "Chemical Selection in Plants." Interesting news reports appeared: "Dirigation," "New Light from Invisible Rays," "Forecasting Disease," "The Science and Art of Child Rearing," "Diagnosis by Psychophysical Measurement." In 1899 when he found that his work was arousing extensive public interest—almost like a popular movement—and before he was ready to organize and utilize that interest, he cancelled all engagements. Alice Fitts, the able and farsighted trainer of kindergarten teachers at Pratt Institute, who had often visited his laboratories and become enthusiastic about his psychologic work, had arranged for him to lecture during December and wrote: "Do you mean that you cannot come to us when you say you have cancelled all lecture engagements? Please do not include us because yours is not a lecture here, it is a visit, and if I have to come to Washington and bring you I shall do so." She had written before: "We have a number of lecturers, for instance, Dr. Stanley Hall next Thursday. . . . I hope very much that you will come, not only for the good of the Institute but that you may materialize; a good many people do not think you exist, that you are only a myth.

No myth, Gates stopped all further lectures and other public utterances except for a few articles and interviews mostly on side-issues and inventions, as indicated by the following titles: *Electric Meteorology*; *New Instruments for Producing Emotional Music*; *The Psychology of Acoustics*; *Pure Gold and Iron from Sand*; *This Machine May Largely Increase the World's Gold*

[page 228]

Output; Kinship of Man with Cell; Fruit and Vegetables Ripened in a Few Hours by Concentrated Light Rays; Psychological Aspects of Emotion.

In 1900 two articles by Gates appeared in *Success* magazine "Can the Will Power Be Trained?" and "We Can Increase Our Mental Power." In 1903: "Science the First World Movement," and the next year, "Life a Property of Matter," both in *Suggestion* magazine. "The Relations and Development of the Mind and Brain," an unauthorized republication of an interview under Gates' name was distributed by the Theosophical Society in 1904—"selling on sight," wrote the editor.

Psychology was a new science and a public curiosity in those days; the Mind Art and brain-building were considered strange, even bizarre. Queer articles appeared in the press. Many writers of the day supposed that psychology meant to "psychologize," in the sense of hypnotize, and not seldom did Gates receive letters asking for a test of his powers at treatment or occult demonstration. "Do not fear misrepresentation and misunderstanding; whatever is genuine and true will succeed in being accepted. In the first presentation of a great series of truths there, are innumerable (and inexorable) difficulties of exposition," Gates wrote. "This must especially be true of any attempt to expound mind that Dark Continent of science, as one friend calls it. Shrouded in speculation and mystery, psychology has but lately emerged into the full light of experimental investigation, and is but beginning to win for itself recognition. What must then be expected of a writer who claims for it sole supremacy and points out a domain of inductive metaphysic and an art of mentation? People have not been accustomed to study their own subjective states experimentally, and thus the very language that must be used in describing them is unfamiliar."

The new term psychurgy also came in for its share of misinterpretation: as mental healing and what not. By contrast, those who took the trouble to visit the laboratories were rewarded with increased understanding and appreciation. One

[page 229]

such visitor, a well-known psychologist, Dr. Herman T. Lukens, professor of education and teacher training at Pennsylvania's Southwest State Normal School, wrote a report of his visit for Dr. Stanley Hall, who published it in his *American Journal of Psychology*, in November 1898. It read in part as follows:

Elmer Gates covers the whole range of sciences. He employs a force of assistants, machinists, and others. . . . He

proposes to put up a building in which will be museum, laboratory and all apparatus needed to demonstrate every known fact about some one science; then he will take a class through that science by his method of work, which goes by regular stages: 1, Sensations; 2, Images; 3, Concepts; 4, Ideas; 5, Thoughts 1st Order; 6, Thoughts 2d Order, etc. He has records for twenty years of his own activity and environment: thermic, barometric, electrical potential and other atmospheric changes. He has readers working for him in the gigantic task of sifting facts out of scientific books. He is working to get all the alleged facts collected, then test these and weed out the theories and mere "accepts," thus reducing the great mass of rubbish to a small compass of accessible facts. "A scientific Bible," as he says, "for what is more sacred than truth, or more satanic than falsehood?" He showed me a great mass of manuscript material. . . . He has a great mass of notes that have been collecting for twenty years, and which he proposes to edit in a series of books which will bring out his ideas better than anything else he has thus far done. These will include the best regimen for work, scientific rearing of children, method of invention, encyclopedic Bible of Science, etc. . . . Gates is affable and cordial, gave me unstintingly of his time and attention, and spoke freely of everything. He seems to me to have made a mistake in not publishing sooner. He is sincere, has the scientific spirit, and is a man of original ideas who will be more and more known as the years go by.

[page 230]

These early articles and interviews were full of mistakes and careless reporting and do not accurately represent Gates' later views. Most of his articles were written at short notice; many were accounts of interviews that were seldom proofread or corrected. His friends, Professor McGee and Major Powell, as well as others, said that by not publishing as he went along he was cheated of the help of his contemporaries.

Why not? Gates was not trying to establish a reputation. He said: "I have sufficiently experimented over the whole domain of psychology and psychurgy to satisfy myself as to the nature and scope of my future work. I was not willing to publish my discoveries and methods, or to organize the work arising from them, until I had finished all the various lines of experimental investigation that might have important bearings upon my general methods and plans, and give me a unitary view of the whole."

And later: "This purpose to make a prolonged test of the Mind-art required as much courage as I could summon because two decades had already elapsed since I discovered the first step and

now I found it necessary or advisable to devote another decade before offering it. I foresaw that these years would be more expensive and require all the self-sacrifice of which I was capable to withhold publication until ready, because I would be deprived of the advantages which a true and full account would bring, and be exposed, as I found out to my sorrow, to all the disadvantages entailed by false and incomplete accounts of my work and to all kinds of misrepresentation and misunderstanding. But it is doubtful if I would have changed my purpose not to publish until ready even if I could have foreseen the severe financial struggle or the much prestige lost by not establishing priority in print, for my conviction as to the prudence of my policy was very strong. Now writing at last, despite all losses and disadvantages, I do not regret the delay because I feel that so complex and important a subject could not have been fully matured at an earlier period in my life. Certain it is that much has been eliminated that would have been prematurely published under the keen enthusiasm of an earlier age, and much has

[page 231]

been added. Besides, the tentative art has now been practically tested by over ten years' application. My only regret is that I have not the time to give this presentation a literary garb."

And an advantage of foresight in hindsight that many would appreciate: "Also I have had that further and delightful freedom of expression which is due to my not having to defend statements published earlier in my life."

After he had built the small laboratory at Chevy Chase, it soon became apparent to Gates that unless he could have more ample facilities and find some arrangement to spend less time in making money (as consulting inventor), he would not be able to complete his planned series of researches soon enough to devote the best remaining years, while at maximum vigor and originality, to the practical application of his discoveries and the further researches for which all previous work had been but the introduction and general preparation. By overwhelming conviction, as well as by the nature and scope of these researches, he considered it necessary to accomplish certain lines of investigation before publishing a systematic exposition, or to organize the first steps of an institution to make them available to others. From the vantage of accomplishment in 1905 he was able to survey the results from a higher point of view and was glad he had been wise and courageous enough under great difficulties to carry out his conviction.

Accordingly, acting under what was then his best judgment, he borrowed money for adequate buildings, additional equipment and

land, and researches, giving these properties and a certain list of inventions as security. For certain other lines of research he borrowed more money by giving as security liens against whatever inventions might result. All these in September 1905, with accrued interest, amounted to about \$400,000, a debt that, he wrote, seriously oppressed and for several years hampered his effort. "I am nevertheless rejoiced," he wrote, "that I was thereby enabled to complete my researches. I was irrevocably determined, no matter what else might happen, to get a synthetic view of my several lines of research even if I

[page 232]

had to lose everything except honor, health, and mental ability. In no other way known or available to me could I have made all the scientific, inventive, and educational researches before 1917 or 1920, and kept these various patented inventions intact so by payment of this debt they become my property to be used to support the institution." He considered that any other procedure possible to his abilities and limitations would have prematurely involved him in a series of mercantile or industrial enterprises for which he was unprepared, requiring more time and attention than his researches could permit. But this outcome was not all the result of his planning. Circumstances and events forced him into this seemingly unfortunate situation, and incidentally gave time and opportunity to complete those further researches that were fundamentally important to his plans.

What were some of these events? Gates desired a machine shop at his laboratories to make instruments and apparatus, and to equip one of his buildings for teaching. Francis H. Leggett, a wealthy wholesale grocer of New York City, in December 1897, offered to lend \$50,000 for a one-half interest in this shop and some thirty listed inventions, and would surrender all interests if by December, 1899, the loan was repaid with 6 percent interest. If not repaid, practical inventions were to be exploited commercially. In mid-November, 1899, unable to repay, Gates called a meeting of directors of the E. G. Company (which had been formed) to request an extension, which seemed reasonable, as expected patents had not yet been granted. But Mr. Leggett, who was old and busy, had transferred his stock to a young relative who was not rich and was anxious to exploit the inventions.

Gates would rather have lost all these inventions than be tied up in development for at least four years. In his interview with the directors he decided, contrary to usual business judgment, to keep all commercial interests and motives in the background and stress only the purely scientific and philanthropic aspects of his work with which partnership obligations would interfere. "For the first

three hours," he noted, "it seemed as if I would not be able to hold my *conscience-guidance* regarding

[page 233]

dissolution of the Company. After due effort a partial promise was secured to extend the option two weeks to raise \$55,000, but certain conditions were stipulated which made it doubtful. Not knowing the precise business meaning of one of the exacted conditions, I phoned Mr. Theodore J. Mayer, a friend of wide business experience, for advice. 'Better come out and hear Mr. Leggett state his terms,' I said. He came and in 30 minutes my friend and I made a different deal by which for certain securities of the E. G. Co. Mayer gave his check for \$27,000 and I gave my unsecured notes for \$27,000 due in 6, 9, and 12 months. Mr. Leggett turned over his entire interest, and took the 4 o'clock Congressional Limited to New York. True to his philanthropic spirit, Mayer did not do this for financial gain but because he believed for the world's sake this institution's work ought not to be stopped." (Mayer was the man who subsidized the writing of those early volumes.)

In March 1900, Gates noted in his diary that he was finally ready, "except for certain business impediments," to prepare his book. "May I be able to write without distraction, quickly; then I can stop to make money to carry out what it teaches. Let it be centered upon the concrete things it is expected to accomplish; namely, collection of mentative data; taxonomic museum-laboratory; training of cooperative investigators; making the institution self-supporting; ascertainment of truth as philanthropic mission. Secondly: understanding of the art of mentation; conception of Omnism and Immanency of Mind; ultimate guidance of truth; and so on."

One of these "business impediments," though, his gold-separation inventions, he considered the possible means of financial support for his institution and its endowment—"the vast means needed, without getting it out of overworked and underpaid toil." These valuable and remarkable inventions, on which his patent attorney remarked that more method patents were granted than ever before to one inventor, were to prove both an asset and a liability, but a powerful factor in his career. In June 1899, Gates was invited to cruise down the Potomac in a government boat

[page 234]

by Secretary Mecklejohn, with Floyd B. Wilson of New York. During the trip gold-separation processes were discussed, and Gates was asked if he could devise a method of magnetically separating gold from sand. Remembering that he had

diamagnetically separated non-magnetic substances in experiments made in Germantown, he at once made a study of the subject, and the next month, on July 4, he accomplished the diamagnetic separation of gold from sand. By December he had filed patent applications on methods of electrostatic, magnetic, and diamagnetic separation. In eleven months, besides his other work, these inventions were increased to one hundred devices resulting in eleven method patents (plus five more allowed but not brought to issue), fifteen apparatus patents and an art patent. His attorney said, "Elmer Gates is the most original man in America. His discoveries are fundamental and his patents are basic."

Early in the work his neighbor, U.S. Secretary of Treasury Lyman Gage, pointed out the advantage of working with wet materials, and the next day Gates invented and tested a method.

In his magneto-static gold separator, particles of gold falling through lines of force of a magnetic field were charged electrostatically and then attracted to a collector of opposite charge. Gold particles could be seen to jump eight or more inches; flour, float, fine and rusty gold, were instantly and violently attracted. That gold could be thus attracted was entirely new and opposed to preconceived theories, and was disputed by all who had not seen the unquestionable demonstration. The fundamental method patents were granted as originally written, without change, citation, or references against them. Native copper was separated from crushed ore and tailings; and most if not all mechanically mixed free metals could be separated.

These electrical separation methods were particularly applicable to taking free gold, or gold-bearing minerals, from soils, sands, gravels, wet or dry, the electrical cost being less than one cent per cubic yard of material handled. According to U.S. Geological Survey reports, there were available thousands of square miles of desert too dry to work or placers too low in

[page 235]

values to be worked by existing methods. The dry placers offered the most commercial opportunity because these new methods were the only means without water, and opened up many new and little-studied areas, several in North America. As a result of extensive publicity, over three thousand samples of gold-bearing materials were sent in from all over the continent. They were carefully examined. More samples were obtained from the most interesting, and then assistants were sent to investigate the most promising, from which at least half a dozen valuable areas were selected.

Many visitors saw the demonstration of these separation methods; many mining experts reported favorably. Ever receptive to the ancient lure of free gold, the press gave widespread

coverage; such as illustrated full-page spreads in metropolitan Sunday newspapers and illustrated articles in magazines like *Pearson's*. Professor J. W. Spencer, former chief, Canadian Geological Survey, was employed to investigate magnetic sands in Canada. Professor Peter Fireman (U.S.D.A. chemist) went to Paris, Sweden, and England and looked up mining matters for Gates. Governor Brady of Alaska discussed gold mining with him. Many others were interested: Floyd Wilson; Z. B. Babbitt; and J. W. Seligman & Co. of New York who ordered samples from Montana and guaranteed expenses. And significantly, Mayer became much interested in the business prospects.

Gold, the precious metal, bringer of grace and greed, master of conscience of man and state since antiquity! How would it affect the psychurgic work of Elmer Gates?

By mid 1900, \$161,000 was due on the debt to Mayer. An extension was secured by finally granting one-half interest in magnetic iron-making and agglomerating inventions, instead of the one-third in all inventions, as Mayer had insisted. But in October, to pay his note to Leggett, Gates made another deal with Mayer to give one-half of all profits, stocks, and interest in inventions on the list, all rights to be surrendered upon repayment. "I cannot come to believe there is danger in advice," Gates noted, "yet if I had acted alone and not sought business assistance

[page 236]

of friends I would have accomplished more in my mining matters. I now know this to be true. Mayer thinks there will be no success unless my matters are all in his hands. I know there will be none unless they are all in my hands, so I may without interference apply to commerce the laws of mentation. For a man pretending to have no interest in my affairs save one of philanthropy he has made a very significant effort that is not so in attempting to get control of my inventions. Yet I am not surprised."

One of the most interesting phenomena of an introspective study of his mind, Gates then observed, was that as soon as anyone acquired a financial interest in one of his inventions, he no longer had any interest in either its mechanical improvement or its commercial development. This attitude he could not reason out of his mind; he could force himself to act, but spontaneous interest was gone.

Many and varied efforts were made for deals on the mining methods—near deals and disappointments, attempts to organize companies. A sample telegram expressing the self-interested optimism of promoters that led to failure was: "Congratulations. Organization of 1,000,000 company 250,000 paid in. Send me 100 at once." There was another promoter who telegraphed so often

that the money would be raised “in another ten days” that this phrase became a household slogan for procrastination.

“The long siege of worry and sickness has weakened me,” Gates wrote dejectedly in his diary. “The financial worries have been serious and persistent. My head machinist betrayed my confidence and revealed to opponents my business plans. Have been threatened with lawsuits for debts—a severe trial. . . I am getting too critical to write my book with that complete confidence and enthusiasm I once possessed. I no longer feel like refuting a whole philosophical theory in one sentence. I am no longer so eager for elegant rhetoric. I wonder if I am getting tired only and if my zeal will return. What is the object of all this effort to found an institution? Is it to live comfortably? No, for it has involved me in constant worry. To benefit the world?”

[page 237]

Yes—but rather secondary to the innate urging to find out truth and fully express myself. I must utter myself as the poet does when in his frenzy.”

In a letter to a friend in December 1900, he wrote that his laboratories were costing \$2,000 a month, which could be reduced to \$467 to enable him to do experimental work in connection with preparation of the book and to show inventions and experiments. The main reason to run the laboratory was to write his book and to keep on making the various psychologic records at which he had been engaged for so long and the interruption of which, now so nearly complete, would be a calamity.

“For a long time I have made no record in this Diary (since March 5),” Gates recorded July 19, 1901. “Beginning with last January my main creditor undertook to take advantage of his position as holder of my properties and inventions as securities and set to work to own them outright—the incentive being the value of my mining inventions, and having been incited by my head machinist. At first a deal by which I could have paid him the \$196,000 was upset by him. Several subsequent deals have met the same fate because of his claims to ownership of a half interest and of his attitude toward any deal which would leave me any considerable share. I had a written release from him by which if repayment was made by July 12, everything would be reassigned to me. This he curtailed by a technical process to April 12. My New York friends claimed to have secured an extension by payment of money which I raised with difficulty, but they only secured a personal option for themselves! Recently a Philadelphia friend secured a written agreement to assign these securities to me for repayment of money due and 1/7<sup>th</sup> the stock of a mining

company to be formed, and on this we have option until October 15.”

In September 1902, on a short vacation, he noted that his business affairs threatened to interfere with freedom of action by disturbing his mentative dominancy. His feeling was that he should cheerfully let that business situation drift and settle itself: neither aid nor hinder it, but commence his ideal of World

[page 238]

Work, be busy with it and let everything else take care of itself. This was not a new course for him. It was well described later in this diary note of 1904:

“Would it be safe for me to experimentally determine the value of giving the reins to Tao? [The Way of Lao-Tse, the course of events.] One hesitates to experiment with life’s events and yet I have always been doing it; many times I have risked my whole financial and social future in an *experiment with my own affairs*. I have time and again hazarded my total business chances in an experiment with Tao. I have given up off-hand the opportunity for which I worked for years. I have thrown valuable advantages and rights aside as readily as most would dally with a desire to go to a lecture. I have given up at least two reputations. I have given up in an hour emoluments for which many would work a lifetime. Fearing I would obstruct a process of inward growth I dropped a matter that would have brought me millions, and I can do it again. I am destined to experiment with and upon life. I am desperately in search of some great truth concealed in Consciousness and its relation to purposes and Cosmic events. In human life there is a constant panorama of successive events which life does not plan or will—a cosmic becoming is taking place.

“I am quite sure, as a matter of belief, that life is not only worth living but is the one greatest prize, an ineffable boon! It is impossible for me to get the slightest feeling or wish not to be.” But late in his career he wrote that he had perhaps learned to trust somewhat too much in the course of events. We will see.

One experiment with his life: In early 1902 Gates circulated among friends and others interested “A Preliminary Announcement of the Organization of a Board of Trustees to Receive and Administer a Fund for Establishing a Department for Teaching one of the Sciences at the E. G. Laboratories.” From many responses with signed acceptances, a board was selected. Gates wrote: “Beyond comparison my best and weightiest testimonials are from those who having accepted, thereby entered into the non-public part of my work and their names cannot be used.”

[page 239]

One practical-minded friend declined because there was no fund to administer, and that seemed the sad fact. Another wrote: "You are engaged in a great, grand, and much needed work. Your plans are broad, comprehensive, and worthy of the spirit you have always emphasized in your investigations." A copy of this ten-page announcement is included in the diary, signed in acceptance by his friend former Governor Hoyt, but further details are lacking.

Gates terminated his arrangement with Leggett because of what he called a conscience-guidance. He wrote of it: "First results of subconscious mentation is that my conscience tries to normalize my motives. Do the best I know and it will lead to good consequences; it is the greatest guidance. I have shrunk from trusting myself totally to what conscience seemed to demand; it was an indistinct insight that I was not always trusting truth but only what I *believed* to be truth; another step in my career.

"The conscience-event comes into consciousness with an overpowering awe that leaves the mind totally submissive and profoundly reposeful. They are moments when one's career is shaped; generally not many in a lifetime; some never have them. The particular practice I am now engaged in demonstrates that by proper kind of effort one may continue to have them. Introspective dirigation and awareness of it coupled with a profound desire for better and higher usefulness, kept up for some days, leads to conscience crises and career events. For one can enter a higher moral career many times. No matter how high, there is always one step higher; or how useful, another way to be more useful; or how much knowledge, always just as much more to know. If one definitely seeks the higher steps in moral growth and social career he can get them *ad infinitum*.

"I have not reasoned out the conscience-events described; each decision formed itself as an inexorable and important command of my whole nature. In the normal course of life such events are rare. I have by quiescence, volitional dirigation, introspective dirigation, and Awareness-dominancy, systematically

[page 240]

promoted that kind of functioning and secured many such events. Insofar as their decisions have been applied they have invariably proved successful; for instance, the unexpectedly satisfactory termination of the E. G. Co. difficulty."

He further had this to say: "The mind is sum of its conscious states; its predilections and facilities determine its future. We become what we are by the motives we adopt; we can occupy whatever states (motives) we choose ever more and more rightly by approval and re-functioning of the approvals. Disapprovals

disconnect us from Cosmic approvals; approvals connect us with the All, rectifying conscience. Awareness approvals recreate conscience, associatively integrate our minds with 'That-which-is,' with what has succeeded in the world. We try only to the extent we have interest in things, hence effort arises out of esthesias; emotive mentation will rule the world. Make an inventory of plans and purposes and motives and submit them one by one to the Awareness.

"Do not mistake conscience for Awareness-approvals; you test your conscience to see if it is right. Try it. There is that which is aware of your conscience and judges it according to knowledge and feeling and doing, and that higher tribunal is the Awareness. Get that on your side by adopting its approvals, and not merely the majority but the Totality is with you."

This particular part of his "Introspective Diary" did not reveal his whole inner life nor all his plans and convictions, but only such as came as conscience-events during the periods of this special seeking for guidance. He submitted his whole life and plans irrevocably to this guidance and expected to succeed in his immediate work if he did his part.

"It seems to me that only by means of an honest introspective diary can one study correctly the motives and events which guide one's life," Gates wrote. "Always there is a daily dominant motive and environment (physical and social) condition. My motive today is to meet a financial obligation and thus take advantage of a great opportunity pressed upon me by circumstances; but there is a deeper motive to devote all my time to my book, and

[page 241]

organize the scientific-religious features of my work. An introspective diary should exhibit real motives and environmental influences. People want my book first and my inventions second. There is some prejudice against my work. There is a great demand for my thought. These are environmental factors. I am eager to help humanity by some great discovery about the mind; eager to write my book; to make experiments; to educate my children and live with and be near them all my life."

Of his home life he wrote: "I could not preserve my health without love for those I love. Celibacy is unnatural, and only in parentage do the greater virtues find sustenance. I have purposely kept this side of my life out of this study because I am seeking intellectual and not emotive dominancy. It has however been an hourly present factor. Many times during the day I must seek my loved ones, even for a moment, and in the evening when the day's serious effort is done, I do not know how I could continue to work if it were not for the domestic and social relations in my own

happy home with wife, children, relatives, and friends. These are the hours when a brooding influx of happy emotions rests me and prepares for an undisturbed, happy, restful sleep. I nearly always retire at 8 P.m. and awake at 6 A.M. Sleep is disturbed by dreams only once or twice a year. My children have been a most exalting and beneficent influence. To love them and be loved by them is a benediction, a blessing immediately and remotely. I do not believe in a philosophy or religion which does not favor parentage. I never go to the theatre or opera no matter how well I enjoy it but I regret to lose the peaceful, restful, loveful evening at home. I do not believe a normal intellectual life can exist apart from a normal emotive life, nor apart from a normal conative life of useful activity.”

In September he started a series of experiments in “spontaneous mentation,” his first systematic attempt to discover a method of applying the Mind Art to business, to discover the psychologic and psychurgic principles of industry, commerce, and institutional work. Heretofore he had planned his main mentative

[page 242]

effort by intellective functions mostly; now he would follow an untried form of the Mind Art and let his whole mind take its own way and work out its tendencies, unhampered by prejudices of habits and plans. He would more definitely study the emotive tendencies and functions, giving them full sway. Of course, he had been doing this all his life, but never had it been his main work. Over twenty years of work might have landed him in ruts. There might be predilections, reflexes of cosmic tendencies, emotive urgencies, immanent undercurrents, superconscious influences, natural capacities, that had not been sufficiently functioned. For a year or more he would allow his mind all its spontaneous activities, hoping to learn something new about business and consciousness.

His idea of a great institution had expanded into a plan for cooperatively organizing the world's scientific investigators, inventors, and teachers according to psychurgic methods. To carry out this plan some business method was needed in keeping with the principles of psychurgy, and it must be discovered and applied before he could hope to get sufficient money to start. He had always felt that he would make sufficient inventions that if properly handled would start the institutional work and possibly endow it; and that inventions of his and of pupils would support it. He would make enough in some way then unknown, he was sure, and inventions should be handled as part of the institutional organization. To organize the world's leading minds cooperatively, with science for their Bible and psychurgy for their

method, required that commerce and industry be an integral and functional part. How, remained for him to discover.

In applying the art of mentation to a science he would first collect and psychologically classify its intellectual data into sensations, images, concepts, ideas, and thoughts, then proceed by the rules. But when he tried to apply this art to business, there was no corresponding science whose data could be thus classified. Some new form had to be found; psychurgy had to discover how to apply itself to business mentation. His systematic approach

[page 243]

included all possible expedients and accessories, even an assistant, or "mentor."

"An effort like this one," Gates pointed out, "requires maintenance of intense desires and yearning for the knowledge sought or guidance-feeling, and intense longing to accomplish the ends. It is a constant prayer—an esthetic prayer that sets up those functionings in the mind which will lead to its answer. At present I need an overmastering *feeling* that shall be decisive in its urgency and make me feel *this is what I must do and only this*. That is, I seek emotive mentation that shall drive me to do the right thing, just as artistic feeling impels the painter, the musical feeling leads the composer, and the poetic feeling leads the orator, to follow out his genius, to realize the destiny of his character. This emotive guidance must come out of my inmost nature and be based on normal emotion, and express my truest and best meaning; and also the deeper guidance of *entheasm*—for a dirigation to me from the larger world-life of which I am a part.

"I feel all the foregoing accomplishment and pain is but a preliminary to a grander opportunity. Science and the Mind-art have a religious import. The world needs them now more than anything else, but if any one religious or political belief were to espouse the movement others would hold off. . . . Yet the modern spirit of science is fermenting in all vocations and religions, and out of it is rising a *world movement* with which I should identify myself rather than any one; become part of it, lead it; or rather not I but science and scientific method will lead. How? That is the supreme question for me.

"I seek emotive guidance: first, to view my work from one step higher than that I am to teach to see the trend and decide the mode, policy and method of organizing the institutional work as *part of the world-movement*; second, relating to business management of my affairs, otherwise I might so shape them to interfere with my higher ideals. Later I want to make that great discovery relating to Consciousness which I have long

[page 244]

expected someone to make. Proper management of my affairs will lead to that culture and experimental work that will make this discovery possible; always I feel if my consciousness were a little more vivid and if I knew a little better how to do it I would discover a whole new world of facts that would revolutionize human conditions.

“Get all religious beliefs to cooperate along lines not requiring agreement on these beliefs, but based on their mutual interest in industrial, scientific, esthetic, and social problems demanding concerted action. All classes should contribute their best minds to carry on the work by psychurgic methods, focusing their combined action upon problems of equal utility. Then interest in and knowledge of science would become immediate and vital. The next step towards recognition of the religious import of science and its characteristic revelation would follow. All systems of belief and nationalities and communities are equally interested in the actual knowledge of science (not its theories), and its application to human affairs.

“The world finds immediate need of the separation of the sum of actual knowledge from its accompaniment of hypothesis and falsehood, of means of experimentally determining the actual data of a science and properly teaching it; for a body of trained mentators with facilities for devoting their time to the ascertainment of truth for its own sake as well as application. This requires the cooperation of *all peoples* because no one race or class possesses all human knowledge. Minds must be excerpted as well as books, and it involves a great amount of labor, observation, and experiment—too great for any one country or class. The immediate application of science will vary according to people and community.

“It will take more labor and money than the Suez and Panama Canals but will be far more important; it will cost less than the great wars and will not require the sacrifice of lives, and results will be a victory for peace and progress that will do more for civilization than any former achievement. Science makes for righteousness and its extension and application

[page 245]

by the superior methods of psychurgy is the supreme opportunity and duty of the age.

“The growth of science has been created by minds from every people and belief. All other movements have in comparison been local affairs. There has been no world religion. There is no exception to science being the only world movement, and science is the character of a growing revelation. . . . Insofar as it is

knowledge it is truth, and truth alone should be the basis of religion. This world movement of religious science and scientific religion is arising. It is not yet recognized but it is more profoundly religious than all tradition, myths, and beliefs not founded on inductive knowledge; it is based on the growing body of demonstrated science. Its miracles of invention and discovery are ever before us and are the splendors of modern life. What is needed is the recognition that science is religious—is revelation, that its content constitutes the 'ought' of mankind, the outline of its duty and opportunity, the chart of its progress, the program of the future.

“How to take advantage of the current of this world movement, direct its flow, incorporate the work of the Mind-art and do it naturally to aid and not hinder is *the* problem. The task of psychurgic organization is getting the best minds of each class and community engaged in solving their special as well as general problems. It happens that the local interests are inextricably tied up with the best interests of all neighboring communities and peoples and the welfare of the world at large.

“One step in my larger insight: write my book in constant reference to the concrete results of organizing a world movement in science by applying psychurgy to group centers of each race, nation, class, cult, belief, community. Induce the best minds of each class to learn the Mind-art; a world organization of the best minds. Readers will see the object of the work rising out of it—*not as an arbitrary plan* of mine but as *part of the world movement* based on the natural tendency of mental growth—and will at once commence to help.” This became the theme and purpose of *The Book—The Twelve Volumes*.

[page 246]

This insight was an event important in shaping his plans. A some-what similar description formed the last part of his article “Immortality from New Standpoints” in R. J. Thompson’s *Proof of Life After Death*, published in 1902. This article attracted considerable and enthusiastic attention. “From it the magazines quoted widely what I said about Science as the First World Movement,” Gates noted. “Prof. Larkin of Lowes Observatory in a recent article is enthusiastic about my remarks on Consciousness cosmologically considered. I gave no pains to this article, just dictated and dashed off in careless language a few remarks about subjects I have thought of all my life. People want to be shown the moral and religious import of science.”

Gates had expected to discover the business method of the institutional work, but so far there was not even a mentor to aid in his attempt at emotive mentation to discover it, no one whose

dirigative effect on his conscious and subconscious functions produced business ideas. He had to judge by emotive approvals because a business idea could not at once be experimentally tested in the laboratory. Not an ordinary business method; that was not ethical. He could not determine the practical value by intellective methods but only by intuition or emotive approval, frequently repeated under all kinds of personal and subconscious premonition. Two kinds of mental effort must be carried on, dirigative and introspective receptivity simultaneously by two minds sufficiently en rapport to mutually influence each other. The mentor, or helper, must maintain an active dirigation while he maintained a passive introspection. As one feels a presence, or a rising mood, so Gates said he felt an approval or disapproval when he held an idea long before both minds. A companion, helper, associate, co-worker, influences one's mental functioning by every gesture, tone, look, suggestion, opinion, approval or disapproval, argument, and mood. Minds interact consciously and subconsciously especially during quiescence, dirigation, introspection, and awareness; by their congeniality, presence and other ways.

He described the helper as one who by taste, predilection,

[page 247]

and occupation must be an altruist and a helper of people; must be congenial, healthful, moral, ethical, and religious by feeling, and capable of quickly causing and maintaining a long dirigation, of unselfishly working for human good; must long for knowledge, and be capable of giving sufficient time to enable him to get up a dominancy (about three weeks under favorable conditions) and then maintain it long enough for results (about ten days for each group of ideas).

On May 6, 1902, his forty-third birthday, such a helper was found, and after a few weeks' preliminary instruction the first attempt was started July 7. Gates began to get into dominancy by July 21, when the helper had to leave. He tried again on September 21 but failed—had begun to get results by September 30, when the helper had to go home. No attempt was possible during the winter; plans were made for the next summer, but the helper went to Europe. But at last, on September 19, 1903, they tried again, and dominancy was attained by September 29, and by October 7 the "what" of the institutional business method was achieved, when the helper was forced to leave, and no further attempts were ever possible.

The first definite result was the necessity of a socio-statistical study and inventory of actual business wants and productions of every community, occupation, people, country; tables of wants and needs; what the arts and sciences can supply; what people can

make or pay for; and which first. Inventors should first study actual needs. Today a business survey is almost routine, although probably not so complete as here intended, but in 1903 it was an innovation. A detailed study also was indicated of business founded on patents.

The “what” taught Gates that his inventions must be part of the business of the institutional work and World Work, that the business must be ethical. The previous summer he had learned it must be sociurgic and by group mentation; this summer he learned in what way it must be ethical, how it must be based on the quantitative study of needs and desires and the world’s possible total supplies, giving inventor, producer, and consumer

[page 248]

pro rata interests in profits. It must select the best minds of each class and train them in solving problems of that art. Thus it must organize people and that industry sociurgically, and that department of the institution was to be functionally a part of that kind of world activity. This he described as the “what.”

But the “how” and “when”? If he had devoted the summer to it, August to October, he was sure he would have gotten all of it. However, he was face to face with the main problem of his “very difficult career”: how to handle his inventions, and those of prospective pupils, as an integral part of the work and at the same time of the world movement; how to support them upon an ethical business plan with equal gain to all; and subsidiary to these, how to get out of debt. Unless he were able to take the next step, he believed he would not get money on any plan. He wanted six weeks of uninterrupted effort to make a dominancy on business; for two years he had tried unsuccessfully to get the time.