

Knowledge enhanced : phenomenon of sleep solved / by Luther Stockton Fish.

Contributors

Fish, Luther Stockton, 1843-

Publication/Creation

Cleveland : Published by the author : Distributed by C.Hauser, [1920], ©1920.

Persistent URL

<https://wellcomecollection.org/works/mm9c6ekj>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>




C II m
70

1944
50



22101415214

Med
K34283



Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

<https://archive.org/details/b31353319>

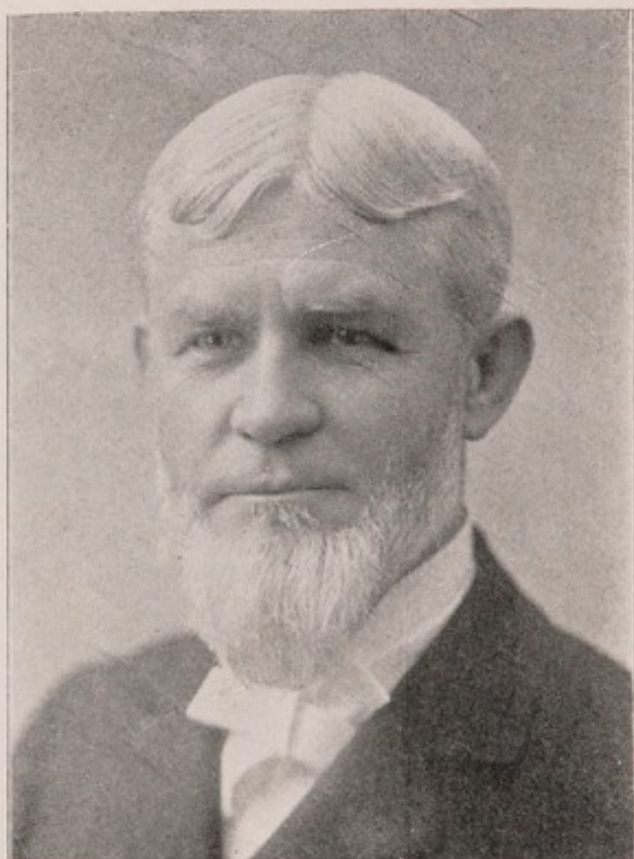
DEDICATORIAL

THIS BOOK is reverently dedicated to the memory of Benjamin Rose, an honored citizen of Cleveland, Ohio, U. S. A.; whose "Humanities Welfare" he so nobly espoused as exemplified in his will bequeathing the income from his large estate mainly to the Benjamin Rose Institute, Cleveland, Ohio for the relief of Aged Men and Women.

Said Institute to be forever supervised by a Board of Lady Trustees.

Through the assistance given me by said institute so generously and magnificently founded by him, the giving to the world "Knowledge Enhanced" was made possible.

The Author.



Born Dec. 3rd, 1843

KNOWLEDGE ENHANCED

PHENOMENON *of* SLEEP

SOLVED

ILLUSTRATED

By

LUTHER STOCKTON FISH



Published by the Author

DISTRIBUTING AGENT

C. HAUSER

1903 Woodland Avenue :: Cleveland, Ohio, U. S. A.

2897104 6759

Copyrighted 1920

By

Luther Stockton Fish.

WELLCOME INSTITUTE LIBRARY	
Coll.	weIMOmec
Call	
No.	WL

KNOWLEDGE ENHANCED

(Note contents)

Phenomenon of Sleep

Solved

A work wherein is presented MAN, the REAL, in manner and words more comprehensive to human understanding than has ever heretofore been presented, the author avers.

A book most highly instructive and interesting.

Illustrated

By

Luther Stockton Fish

Cleveland, Ohio

ILLUSTRATIONS

	Frontispiece	PAGE	
Fig. 1.	Relation of Bone to Bulk	41	Trall
2.	The Oblangata	56	Trall
3.	Brain and Spinal Cord	60	Trall
4.	Purifying System of the Blood	65	Trall
5.	Arterial System	67	Trall
6.	The Venous System	68	Trall
7.	The Nervous System	70	Trall
8.	Eyeball and Optic Nerve	147	Trall
9.	Mammillaries, Peduncles, Optic Nerve	149	Whitehead
10.	Muscles of the Eyeball	166	Trall
11.	Three Points of Vision	170	Author
12.	"The Thinker"	176	Rodin

CONTENTS

	PAGE
Preface -----	1
Life -----	5
Death -----	7
Human Intelligence -----	8
Sleep -----	9
Man the Real -----	13
Man's Creation -----	15
Spiritual Man -----	30
The Human Electrical Power Plant -----	33-72
The Foundation -----	41
The Furnace -----	43
The Draft System, the Lungs -----	46
The Boiler -----	48
The Engine—Heart -----	48
The Nervous (Nerve-Wiring) System -----	49
The Nutritive Nervous System -----	53
The Motory Nervous System -----	53
The Sentient Nervous System -----	53
The Mental Nervous System -----	53
The Reflex Nervous System -----	55
The Spinal Cord -----	55
The Medulla Oblongata -----	56
The Five Special Electrical Mechanisms -----	58
The Brain -----	59
The Human Electrical Generator -----	62
The Purifying of the Blood -----	64
The Arterial System -----	66
The Venous System -----	68
The Field or Fixed Magnets -----	72
The Armature or Magnet in Motion -----	72
Discovery of Electricity -----	77
Animal Heat -----	79

Contents

	PAGE
The Spiritual Operator	81-101
The Book for Reference	94
The Alarm	98
The Functions of Life	101
Mind	116
The Sleep-Effectuating Mechanism	142-184
Part Number One	143
" " Two	144
" " Three	146
" " Four	149
" " Five	150
Summary	154
Blood in the Brain	157
The Button at the Door	163-184
Instructions in the Operation of the Sleep- Effectuating Mechanism	185-190
The Author's Eyes	190
The Mysteries of Sleep	192
Why We Must Sleep	198
Why We Awake and Remain Awake	204
Sleep Before Midnight	209
Volume of Electrical Energy	210
Aiding Nature	212
Dreams	217
Care of the Bodily Plant	231
Quality of the Food	231
Necessary Quantity of Water	234
Care of the Teeth-Grinding Apparatus	237
To Insure Perfect Circulation of the Blood	238
The Ash-Pan or Colon	241
The Lungs or Bellows	248
Directions for Massaging the Human Body	266
Finale	269
Appendix—Scalp and Hair Hygiene, Cause and Prevention of Baldness	271-299

PREFACE

All truths at some time have been “ridiculous nonsense,”
laughed at and ignored. —A PUBLIC WRITER.

The primary object in publishing Knowledge Enhanced, is for the purpose of proclaiming to the world,

First—My discovery of what I claim to be is the mechanism by which sleep, so-called, is effectuated, as relates to the Human, giving its location, pointing out and explaining its several parts and the function performed by each, thus making it possible to solve this most wonderful performance of nature, physiologically, scientifically and comprehensively, including that of dreaming.

Fully comprehending the magnitude of this my first claim, cognizance is taken of the physiological fact that “sleep” is the result of some part or parts of our material organism performing their natural functions; that that being true, said parts, collectively, form what I term the “Sleep-Effectuating Mechanism,” and, being material, therefore, is not immune against discovery, and,

Second—My discovery of what I claim is the generating apparatus within the human body and by which is generated the major volume of the *dynamic* electrical energy with which our material organism is possessed.

The possession of the knowledge that the discoverers of certain of nature's physical processes not previously understood, notably that of the true circulation of the blood, by William Harvey, were assailed as perverters of truth, has not deterred me in my purpose, that of proclaiming these said discoveries, firmly averring that profound research will irrevocably establish them as physiological truths.

As stated herein no mention is made by any of our authorities in human anatomy of the existence of a material mechanism by which sleep is effectuated, hence the absence by them of all rational explanation of sleep, they agreeing, however, that nature employs some physical process in effectuating it but that it is of such occult nature as to render it incomprehensible to human understanding.

Such deduction is out of harmony with the age in which we now are, taking into account the great advancements that have been made and the acuteness of intellect of the men and women who make up the present great army in human anatomy research.

Said sleep-effectuating mechanism, like unto all the organs and mechanisms within and belonging to our material organism, is material and it is in a masterful degree, as has been disclosed, normally under the immediate control of our spiritual selves.

Since material cannot sleep and since our spiritual selves cannot sleep, it becomes necessary to determine fully what the real meaning of the word sleep is, to arrive at which comprehensively, it becomes imperative that a clear understanding be had as to what constitutes the real man and what is his relation to his material body in which he here abides; to also become sufficiently informed as to its construction; the equipment and

devices therein installed to the end that we may ascertain by what means he, spiritual man, is enabled to cause said equipment and devices to perform their respective functions to said end and by what means he is enabled to control and dominate his material abode to the extent that he is, normally, able so to do.

It has been my aim to herein present Man the Real, in a manner and in words more comprehensive to human understanding than has ever heretofore been presented, so much so, that the veil of mystery that has encompassed spiritual man during all the ages past is, it is averred, more nearly removed.

I have scrupulously avoided antagonizing any one's religious beliefs. I have, however, defended the doctrine of man's creation by God, classified the doctrine of the Evolution of Man as being one of chance, which it is, and assailed some of the doctrines that abrogate spiritual man's supremacy in certain spheres.

It has also been my aim to make this book highly instructive to all my readers, both from a spiritual and physiological standpoint, especially as relates to their bodily organism (plant), explaining some of the material things for them to do and what not to do in its behalf, especially that of tuberculosis, in order that it may the longer be kept in such perfect working order that the dynamic electrical energy created within it may the longer continue to be generated in the necessary volume and thus insure the continued abiding therein of its spiritual habitant, it, said electrical energy, being the ONE and only one means by which it is enabled to make itself manifest or present therein, the magnitude and importance of knowing and doing which is revealed in the fact that its departure from out of its material body can only be prevented by said energy being constantly

generated therein, since said departure takes place the instant it ceases to be sufficiently supplied it, which departure, as stated in the opening pages herein, is termed DEATH.

Recourse has been had to the writings of several authors and writers in the preparation of this work, all of whom are given due credit as progress is made.

BALDNESS PREVENTABLE

By reason of the very beneficial knowledge imparted in my book entitled,

SCALP AND HAIR HYGIENE,

in which is related my common-sense treatment and care of the scalp and hair, by which, after a personal test covering the period since the year 1888 (being now—1919—seventy-six years of age), I have, without one cent of cost, preserved my beautiful head of hair, and that, too, without any special tiresome treatment or the use of any drugs or hair tonics, and, believing that I have learned the real, physiological CAUSE of men losing their hair—becoming bald—also the cause of *falling hair* and formation of *dandruff*, I have deemed it but fair to the readers of Knowledge Enhanced, to cause a full imprint of said Book to be added as an Appendix thereto.

Preparation of manuscript for this book was commenced in the early part of the year 1911.

THE AUTHOR.

God, the Creator of all things, created two forms of life and caused them to exist upon the earth—the Animal and Vegetable. The Animal life He created *Spiritual*. The vegetable life He created Non-spiritual. Hence all animal life, *however classified*, is SPIRITUAL.

He decreed that one of his spiritually created beings should, alone, be endowed with intellectuality—Spiritual Man; that he should have dominion over all other beings by Him created. He thereupon created and gave to Spiritual Man a distinctive and specifically constructed material body for his permanent abode, installing within it a certain material mechanism, organ or instrument termed the Human Brain, whereby, he, Spiritual Man, is enabled to think and reason in greater degree supreme above all other animal life by Him created, the material bodies of which dwell upon the earth.

Motion or energy is not life, its presence however unerringly proving its presence. Motion of whatsoever nature is itself dependent on motion. Thus a specific motion specifically generated within it, gives to each so-called living material animal organism its motive power, energy or force ONLY, they being of and within themselves lifeless, powerless, motionless. Said motive power or energy generated within said material organisms is electrical, mechanisms for generating which are installed within each. Said energy is *spiritually controlled* and directed, proof of which lies in the fact that the energy present in no living animal creature is self-controlled.

That generated within the human material organism is under the immediate control of its intellectual Spirit-

ual Being, who resides within and dominates it, in the absence of or without which it is lifeless, USELESS, just as the great railway locomotives on the land and the steamship leviathans which ply the oceans are USELESS without their spiritual human directors or controllers of *their* motive power—STEAM.

The electrical energy generated within the human material organism (as in all other material animal organisms) does not constitute, nor is it the *life* of said organism. It is not endowed with intellectuality, neither is it a component part of the material organism, but wholly independent of it, just as the electrical energy used in the sending of intelligent thoughts over the telegraph is not a component part of the material wire composing it.

The spiritual life or being having the direction and control of the electrical energy generated within its material body, it elects when said energy shall be brought into use, where and in what volume it shall be applied.

The Creator installed a special material mechanism within each human material organism, normally under the control of the spiritual being abiding therein, the purpose or design of which being to effectuate two distinctly different periods within the daily life of the person analogous to the day and night of our terrestrial world, termed the waking and sleeping period.

The waking period constitutes the positive side or pole, and the sleeping period the negative side or pole of our earthly daily sojourn, said period, that term being asleep, being however, a misnomer, since our material body cannot sleep, and WE, our spiritual selves, do not sleep.

There abides within every material animated animal organism, howsoever classified, a Spiritual Entity—a Real Being—during its material life so termed.

There is installed within each of said animal organisms an apparatus, the function of which is the generating therein of electrical energy, which energy is utilized by said spiritual Entity for propelling its material body; operating all of its auxiliary parts, and in the human for giving off of intelligent thoughts conceived by its spiritual entity, by and through the media of a specifically constructed instrument therein installed, termed the Brain.

Said energy is normally under the direct and immediate control of the spiritual entity therein abiding, directing and applying it when, where and in such volume as is required within the body.

Said Spiritual Entity is the LIFE of its material body and is not a component part thereof, being wholly independent of it.

Said Entity is wholly dependent upon the electrical energy generated within its material body, and it only, there being no other way for making itself manifest therein, and, in the human, for the further purpose above stated.

The *permanent stoppage*, from any cause, of the apparatus for generating said energy therein, renders the spiritual entity therein abiding, *permanently powerless* to again operate its material body; also renders it permanently powerless to make its presence made manifest. Thus rendered forever powerless, it thereupon takes its permanent departure therefrom.

Briefly stated—Death, as relates to the Animal Kingdom, is that state of the material body in which it has been forever rendered inoperative by the permanent stoppage of the apparatus for generating the electrical energy installed within it, thereby rendering the spiritual entity therein abiding and which directed and controlled said energy, forever powerless to make itself manifest, whereupon it takes its permanent flight therefrom. Said departure is termed—DEATH.

HUMAN INTELLIGENCE

Human intelligence is real, actual, not fictitious, not imaginary. It is not material.

It is made manifest, however, wholly through materialistic agencies or mechanisms installed by the Creator within the human material organism—the brain, organs of sense and organs of speech, so termed, instruments utilized by spiritual man; first, in the creation and production of intelligent thoughts; second, for receiving messages of intelligence from the outside world and third, for giving intelligent and audible expression thereto, said mechanisms being operated electrically.

Nothing exists but what had, primarily, a source from whence it came or emanated. Human intellectuality had its primary source. It did not emanate from nothing.

Human intelligence is an attribute, a special gift to spiritual man. From whence could said attribute emanate or by whom said special gift be made except from and by the Creator of man, He, the sole Fountain Head of Intellectuality—God.

That intellectual spiritual man should not be lost to the world, God, his Creator, caused the “seed” of

His material human creation to forever give off of its kind, fructifying it with *Spiritual Life* and Intellectuality.

Thus has material and intellectual spiritual man continued to replenish the earth with his kind, replacing those who are from day to day passing away, the material returning to the dust from whence it was taken, and the Spiritual to God who gave it.

The "seed" of none other of God's created living material animal creatures was caused by Him to be thus so superiorly fructified with intellectuality.

Hence the superiority of human intelligence over that of all other animal creatures living upon the earth.

SLEEP

Sleep, as stated in the opening of this book, constitutes the "negative side" or pole of our earthly daily sojourn. To be asleep is to be off duty. The terms used by all profound writers in their definitions of sleep are of the same general tenor.

Webster says: "Sleep is a natural and healthy but temporary and periodical suspension of the functions of the organs of sense as well as those of the voluntary and rational soul; that state of the animal in which there is a lessened acuteness of sensory perception, a confusion of ideas and a loss of mental control followed by a more or less unconscious state. Sleep is attended by a relaxation of the muscles and the absence of voluntary activity for any rational object or purpose. The pulse is slower, the respiratory movements fewer in number, but more profound, and there is less blood in the cerebral vessels. It is susceptible of greater or less intensity or completeness in the control of the powers.

Sleep, therefore, affords the interval during which nervous energy expended during the waking hours is renewed. Direct experimental inquiry has led to the conclusion *that the condition of the brain is one of considerable bloodlessness.* There seems to be both a *diminished quantity of blood circulation through the brain* and the speed of its movements much lessened." (Italics those of the Author's.)

Dr. R. T. Trall, in his Hydropathic Encyclopedia, says: "Sleep may be defined the periodical suspension of all external relations. Profound or quiet sleep is the complete cessation of the functions of the cerebral hemisphere and the sensory ganglia, and is attended with entire unconsciousness."

In the definitions by these noted authorities it is observed that no mention is made of even a possible material mechanism within the human brain by which sleep, so-called, is effectuated. Hence the absence by them of all rational explanation of sleep. However, all physiologists agree that nature has some physical process for effectuating sleep, but that it is of such occult nature as to render it incomprehensible to human understanding. As stated in the preface hereto, such understanding is out of harmony with the age in which we live, taking into account the great advancements in present-day research and the acuteness of intellect of the men and women who make up the present great student army in human Anatomy.

The human body is possessed of many organs or mechanisms, all of which are well defined and the functions of each clearly understood. These are material. The organ or mechanism, the function of which is the effectuating of sleep, is also material, bringing it, as

heretofore stated, within the zone of materiality, not immune, therefore, against discovery.

The Author makes claim to the discovery of this sleep-effectuating mechanism; that it is located principally within the brain; that it is well defined, and that he clearly understands the manner in which each of its parts performs its function.

In order to clearly comprehend this sleep-effectuating mechanism, it is necessary that a minute understanding be had of the basic construction of what is termed our Material Being, and clearly understanding that our Spiritual Being dominates the material.

Our sleep-effectuating mechanism will the more readily be understood and intelligently comprehended by taking into account that this is the Electrical Age. Many of the phenomena (?) of the past are no longer such, simply made clear in the better understanding of the "mysteries" of electricity. It was a long period between Dr. Franklin's Kite and Key and the electrical generator of the present.

It is now known that every impulse transmitted over the metallic wire is effected by electrical energy. It is also known that electrical energy is not possessed of intelligence.

The world will, however, forever be indebted to Samuel Finley Breese Morse, an American by birth, who, in 1835, A. D., gave to it his invention, the little instrument for the breaking and closing, alternately, of the electrical energy passing over the metallic wire circuit and giving to the wire, or more properly speaking, to the electrical energy what may be termed, "Electrical Intelligence," by the creation and its adoption by Spiritual Man, of his series of dots and dashes, by and through which "code" is made possible transmission

of intelligent thought over the metallic wire circuit any distance limited only by the length of the wire forming the circuit.

The world will forever be indebted to Alexander Graham Bell, a Scotchman by birth, who, in 1875, A. D., gave to it his little instrument for "catching" all manner of sounds, including those of the human voice, and sending them by electrical energy over a metallic wire circuit—his Telephone instrument, thus widening the sphere in useful transmission of intelligent thought by electrical energy.

Still again will the world forever be indebted to Guglielmo Marconi, an Italian by birth, who, in 1896, A. D., exhibited his first transmitter for transmitting intelligent thought by his system of Wireless Telegraphy, a system that uses as its basic principles the Morse Code and electrical energy, the former as is now known being transmissible through the ether which is omnipresent in the Ethereal Ocean in which the earth is submerged.

The Morse code of dots and dashes first was recorded upon a moving ribbon of white paper by means of a fine point in the instrument at the "receiving" station, or end of the circuit, the message being transmitted to the operator receiving it, by and through the instrumentality of the sense of seeing—the Eyes.

Later came the evolution in the manner of "reading" the messages as they were being "ticked" off by the receiving instrument, by and through the instrumentality of the sense of hearing—the ears.

But, antedating these great inventions by man and their exploitations in the field of electrical science, stands out always the Great Creator of the Universe and Man, Whose knowledge in electrical science is most won-

drously emphasized in His creations—the five material mechanisms installed in each normal human organism (the human, being the subject herein), namely, for seeing, hearing, tasting, smelling, and feeling, those of seeing and hearing first receiving their messages by the Wireless System, and then being sent—as are those messages by the other three mechanisms—those of tasting, smelling and feeling—to the Spiritual Being abiding therein, over the Nerve-Wiring System installed for such specific purposes, the energy used in sending them over said system being electrical, as will be hereinafter explained.

MAN THE REAL

Before proceeding further upon the subject of sleep, the Author deems it necessary to first arrive at a correct understanding as to who constitutes the REAL man or living human being, to arrive at which he submits the following:

Congregated at the bier upon which lies the dead inanimate material human form, friends listen to the eulogies pronounced, telling of the nobleness of character and great achievements of the DEPARTED one.

So universal is the belief in the existence of spiritual man, that it would almost seem the act of an imbecile to undertake a defense of that belief.

How futile to deny such existence when throughout all the ages in *not a single instance* has material man been enabled to perform or execute the slightest prerogative of his spiritual self AFTER IT HAS TAKEN FLIGHT.

Material man is of the Earth—Earthen. Material of whatsoever kind, be it common clay or the most pre-

cious metal or stone, is void of spiritual life or animation, consequently void of intelligence.

The human material body of and within itself therefore cannot be possessed of neither life, animation or intelligence, yet man's material body "in life" is full of animation from out of which there emanates most wonderful intellectuality. As it cannot be the material being which displays such wonderful intelligence, there MUST therefore be present, and IS, within every animated human material organism a Being who is a permanent habitant thereof, one who is possessed of or endowed with this most wonderful attribute—Intellectuality. THAT BEING IS THE SPIRITUAL, THE REAL MAN.

This truth was most forcibly presented by Longfellow, who, upon hearing of the "death" of Bayard Taylor, said:

"Let the lifeless body rest,
He is gone who was its guest."

How correctly George Washington understood that his Spiritual Being, his *real* self, was but a tenant of his material body, is made manifest in his declaration made a few hours before his death, as history tells us; he said to his physicians, "I feel MYSELF going; let ME go off quietly."

Voltaire, upon being refused the privilege of returning to Paris, his old home, by the King of France after his final episode with the King of Prussia, wrote to one of the French Ministers, February 20th, 1754, "As I do not know what he (the King) wishes, I flatter myself that it will be permitted ME to carry my dying body where I please."

Sir Oliver Lodge, the noted English Scientist, says: "We are not matter, yet We utilize it. Through the

brain We are able to influence the material world. We are in it but not of it. The body is OUR instrument, OUR machine, vehicle of manifestation, and through it We achieve results in the material world."

This noted Scientist, we observe, uses the personal pronoun when he refers to our spiritual Being. So likewise is it used when reference is had to sleep. WE are said to be "awake," or we are said to be asleep; WE have our hours of wakefulness and WE have our hours of sleep.

It is ERROR to say, WE, our *spiritual* self, sleeps, and it is equally ERROR to say, WE, our *material* body sleeps, and in order to prove that it is error to so state in *both instances*, the Author has imposed upon himself the task to show proof that it is error. He cannot disabuse any of such error, however, except the proof herein offered be carefully read and weighed, so as to be fully and intelligently understood.

MAN'S CREATION

Notwithstanding the many theories promulgated by students in Human Biology and the Science of Metaphysics during all the past as to when and in what manner came Man and Woman, the first pair, male and female, into the world, their creation by God, after His designs or forecasts, remains, as the Author avers, must ever remain, NOT DISPROVED.

The watch proves the watch-maker, was Voltaire's constant argument during his entire life when defending his belief in God as the Creator of all things.

There has not been, if indeed there ever will be or can be one who will be able to satisfactorily disprove Voltaire's conclusions arrived at by him and stated in

his Treatise upon Metaphysics, wherein he avers, "The universe is governed by laws which nothing can change—laws as invariable as those of mathematics."

Now therefore, as the laws of nature are such that man, the male, neither woman, the female, can, alone, conceive and bring into the world a single living human being, neither male or female, then there was, per se, One who "passed," made or created the law which governs and rules the natural unchangeable laws of procreation of the human race, wherefore, male and female created He them, thus *establishing the law*.

It is the belief of many that the biblical account as to the manner of Man and Woman's creation is a record of one of the many theories advanced as to their creation, and that it is the one acquiesced in and promulgated by those writers whose opinions or beliefs dominated the Ecclesiastical Council and which edited the so-called old Biblical Books.

It is not necessary to theorize upon so manifest a truth. That the advent of the first man and woman into the world was the result of their having been *created*, is, by itself, a "closed book of proof." Again, despite all the theories as to the time and manner, their creation, originally, cannot be abrogated.

Throughout all time man has been an enigma unto himself respecting his own creation. In his finite capacity man cannot create the tiniest spear of grass, yet he seeks to solve his own original creation scientifically notwithstanding, setting up the doctrine of Evolution, denying that original man and woman were created by God, the Creator, in the form by which they have ever been known and distinguished from all other living creatures since first recorded time.

Evolution means the changing from a lower to a higher, nothing created in the perfect final form. Thus the doctrine of evolution is the doctrine of the abridgment of God's conceptive, designing and creative powers.

Hence Evolutionists seek to rob God of His most sublime creation, perfected human creatures, declaring that they, man and woman, the sublime, are the result of evolution, more immediately from that of the Apes, the apes from a lower, and those from a still lower, continuing in the descending scale until ORIGINAL man and woman are finally reached and found to have been of the lowest types of protoplasmistic life, this, too, notwithstanding the fact that outside of the flint formations found in the drift sands and gravel of the later strata of the earth's crust, which some profound students in geology believe, but more disbelieve to have been of man's formation, there exists no proof that the antiquity of man is as great as Evolutionists would have us believe.

In the fossil world human bones and those of extinct animals are found together in place, proving them to have been contemporaneous in geologic annals, and it is most significant that, as disproving Man's almost inconceivable anitquity as claimed by Evolutionists, in not a single instance have any other types been found in the fossil world, up to the present time, than those of the modern type of man and woman.

Upon one point all geologists seem to agree, which is, that none of the flint formations, or thought to be, implements of man's formation found in the floating sands and gravel of the many strata forming the earth's crust, are the hand (?) work of the Ape, man's so claimed immediate predecessor.

However, some present-day Biologists have become skeptical as to the correctness of Darwin's theory as relates, not only to the origin of the human species, but to all the animal species.

The French Scientist, Professor Gaston Bonnier, in his new work entitled, "For and against Darwinism," recently published, says:

"Candid individuals must admit that the tests in which the Darwinian theory is nowadays being subjected have produced a degree of well-founded skepticism.

"Darwinism is the victim of two classes: its sincere critics and its extravagant (mark the word) disciples. It is another case of the Jehovah of Genesis being submitted to the test of modernism and evangelism."

Surely none should be criticized for not believing in the infallibility of Mr. Darwin's judgment as to the origin of the human species if his "guess" in matters geological is to be taken as a criterion of his infallibility.

G. Frederick Wright, Professor in Oberlin College Theological Seminary; Assistant on the United States Geological Survey; Author of the Ice Age in North America; Logic of Christian Evidence, and Man and the Glacial Period, says in his summary in the latter:

"In briefly summarizing our conclusions concerning the question of man's antiquity as affected by his relations to the Glacial Period, it is important, first, to remark upon the changes of opinion which have taken place with respect to geological time within the past generation. Under the sway of Sir Charles Lyell's uniformitarian ideas, geologists felt themselves at liberty to regard geological time as practically unlimited, and did not hesitate to refer to the origin of life upon the globe back to a period of 500,000,000 years. In the first

edition of his *Origin of Species*, Charles Darwin estimated that the time required for the erosion of the Wealden deposits in England was 306,662,400 years, in which he spoke of as "a mere trifle" of that at command for establishing his theory of the origin of species through natural selection. In his second edition, however, he confesses that his original statement concerning the length of geological time was rash; while in his later edition he quietly omitted it."

Dr. William Hanna Thomson in his work, "What Is Physical Life?" discussing Evolution, says:

"But it should be noted here that biology, or the science of life, is no simple thing by no means. Instead its domain is so vast and varied that by an unavoidable necessity its cultivation can be carried on only by great numbers of hard-working specialists, such as zoologists, naturalists, botanists, entomologists, paleontologists, anatomists, physiologists, pathologists, physicians, etc., every one of whom has something important to say about the development and laws of life. On any other highly complex subject, expert opinion is most sensibly asked, but in biology only such opinion is worth anything. And it is but the simple truth to say that at present the opinion of such experts in all the different fields of biological research is preponderately adverse to the claims of the Darwinian theory, and is steadily growing more so."

Again, Professor Von Hartman, the Doctor, wrote: "That in the first decade of the twentieth century it becomes apparent that the days of Darwinism are numbered."

The Author can comprehend that in the matter of the degree of intellectuality attained by man that it was the result of *Educational* evolution, but that Spiritual

Man is the result of *spiritual* evolution from a non-intellectual Spiritual Being he cannot comprehend or believe.

When we contemplate the radical differences in the male and female human material organism (we are discussing the *human* only in this work), the marvelous achievements in conception of DESIGN and perfection of construction in detail; the Frame Work of bones with its wondrous fitness for strength and joint movements; the fleshly tissues built upon and around it so fittingly, together with the intricately constructed system for the supplying of new tissues and the removal of the waste; the muscular system for controlling the movements of the body and the many of its parts; the stomach, its chemical laboratory for dispensing food, with its tributary intestinal canal; the Heart with its marvelous tributary "canals" for the accommodation of passage of the blood to the remotest parts of the body, carrying sustenance to all of them; the Lungs with their marvelous system of air ducts and cells for supplying the body with air to keep the "fire" burning; the marvelous system of nerves for the conveying or transmission of messages to the Spiritual Being within through the five organs of Sense, and the transmitting of intelligent messages from the Spiritual Being to the outside world through the organs of speech; all these, coupled with the marvelous system for procreation of human kind, it would seem impossible of belief that there should be any of the belief that all these are the result of evolution and not that of DESIGN or FORECAST.

Strange indeed it is how every intelligent human being, including the galaxy of eminent Scientists, upon beholding a great building of wondrous design and

architecture, intricate machine, work of art, or textile design, are prone to immediately inquire as to who was the forecaster or designer of each, and then when those Arch Scientists are asked as to who is the Forecaster or Designer of Original Man practically say: There was none—"just growed," in the language of Topsy.

Among the most remarkable statements coming from the pen of Evolutionists are those in the words of Fiske, Drummond and Huxley. The former said: "On the earth there will never be a higher creature (intellectually he evidently meant) than Man." This statement is acquiesced in by Drummond who said: "It is a daring prophecy, but every probability of science attests the likelihood of its fulfillment. The goal looked forward to from the beginning of time has been attained. Nature has succeeded in making a man; she can go no further; organic Evolution has done its work. With whatever materials Evolution still may work, it will never produce any material thing more perfect." (Query, Who looked forward to from the beginning of time?)

Huxley says: "But the most certain of all these terminal points in the evolution of creation is the body of Man. Anatomy places Man at the head of all other animals that were ever made (he should have said, Evoluted, to be consistent, not *made*), but what is infinitely more instructive, with him, as we have just seen, the series comes to an end. Man is not only the highest branch, but the highest possible branch."

By what process of reasoning and upon what hypothesis did these learned men presume to assume that Evolution has done her perfect work in Man-making? We have been led to understand that the processes of Evolution are, like time, never ending.

Evolutionists have at last been driven to the wall and, unconsciously though it be, have been compelled to admit that the Forecaster and Designer of Man—God—fixed the boundaries beyond which Man cannot go.

But when we contemplate the Spiritual, we stand appalled at the suggestion that Spiritual Man is the result of Evolution.

The Designer, Forecaster and Creator of material and spiritual man has power infinitive. There is but ONE having infinite power—GOD. To deny that He designed, forecasted and created material and Spiritual Man and Woman, endowing the spiritual with intellectuality, is to set up the doctrine that these were the result of CHANCE, which Evolution IS, a proposition occupying such an exalted position within the realms of impossibilities that finite man can but exclaim, IT CAN-NOT BE.

A wave of Materialism has swept over the intellects of many of the world's profound students in human biology within the past century. Material Man, in their process of reasoning, has displaced the Spiritual Man. To such sleep must be the most profound of all profound mysteries. To them the perusal of this book will be of more than special interest.

Evolutionists have selected the monkey, more especially the Ape species, as the immediate predecessor of the human, for the reason that their bodily construction is more nearly that of the human; also being, as are all monkeys, possessed particularly with the so nearly human hands. The possession so nearly of the marvelous human appendages—the hands, entitles the monkey to rank next to man in the descending scale to an infinitely greater degree for that reason than by reason of its depth of intellectuality. But for the posses-

sion of the hands, man's work, notwithstanding his amazing intellectuality, would be practically nil in the constructive world. Had man been created handless the world would be void of the myriad structures and objects now existing upon the earth, made and constructed by him. The hands are the ever ready servants of man's intellectuality, performing the work assigned them. Were the Author asked to nominate an object to be engraven upon an imperishable material that it might endure throughout all time as representing Man's most perfect physical appurtenance for use in the constructive world, he would be compelled to name, a pair of human hands.

Although being possessed so nearly of the human hands, the highest human-like types of the monkey species are absolutely void of constructive instinct, also of foresight and inventive genius. They build no place for shelter, sleeping usually in a crotch of a tree, or perched upon a limb, except the Gorilla, which sometimes forms a hammock-like sleeping place; provide no food for the future; the highest nor lowest types knowing NO to-morrow. They have not the inventive genius or constructive instinct of the Birds which construct their nests, many of ingenious design; of the Beaver which "cuts" the tree so as to cause it to fall in the direction planned for use in the construction of its designed dam; of the Honey Bees which construct their many-celled comb of wax with marvelous geometrical precision, filling them with honey extracted from sweet-scented flowers which they find largely great distances from the hive, storing it for future use as food; of the Ants which "build" their under-ground "cities," laying them out in avenues and streets all of tunnel or under-ground construction, bringing the detached earth

to the surface, putting it upon the dump (all of which proves them capable of "running lines"), with the necessary "stations" for ingress and egress in and from out the "city"; of the Spiders which spin their silken web into most symmetrical forms for the express purpose of entrapping their winged prey, or even of the Snails and other shell life, which construct their beautiful shell habitations, many of wondrous designs, lining all with Mother of Pearl.

"See what a lovely shell,
Small and pure as pearl
Lying close to my foot,
Frail, but a work divine,
Made so fairly well
With delicate spire and whorl,
How exquisitely minute,
A miracle of design!"

—TENNYSON.

Notwithstanding the generally accepted belief that the monkey is, intellectually, next to Man in the descending scale, the Author frankly admits of his disbelief as to the truth of that statement by reason of the utter lack of foresight, inventive genius and constructive instinct as heretofore outlined and stated; also lack of speech and song. Compare into what intellectual realms we are led by human speech and into what ecstasies the human voice carries us in hymn and song, with the chatter and grunts of the lower and higher types of the monkeys. The song birds are a thousand times more agreeably companionable to man than all the tribes of monkeys upon the earth.

Human intellect or intellectuality marks the "dead

line" between the human and all other animal creations. This "dead line" is clearly and plainly marked in the constructive world. On the human side of this line we behold the countless marvels of construction in the "fathomless ocean of man's endeavors," every one bearing the "imprint" of man's conception, foresight, inventive genius and constructive instinct, and not ONE of which bears the imprint of the monkey; so that, Evolutionists, aye, the whole world, cannot produce a single implement or device or point to a single structure, the simplest in conception or ease of construction, the brain and hand (?) work of an ape or combination of apes on the other side of said line; for all of which reasons it is unfortunate for the Evolutionists that they have selected the monkey as Man's immediate predecessor in the evolutive scale.

Being so deficient in intellectuality; absolutely void of foresight, inventive genius and constructive instinct, let us suppose that by a masterful stroke the LAST SPARK of human life upon the earth were to be extinguished—put out, and that by a like masterful stroke, every human being thus displaced were to be replaced with the highest present known type of Ape life—the Chimpanzee—growth for growth, how ling, think you, dear reader, it would be before all the beautiful homes and palaces designed and erected by man for his habitation; all the great and stately buildings designed and constructed for use by him for religious and educational purposes; all the massive and innumerable buildings designed and erected by and for use by him in industrial endeavor, and all the magnificent passenger and other steamships plying the great oceans would be taken possession of by the owls and bats and festooned through-

out by the spider's web? and how long, think you, it would be before all the marvelous machines, implements, tools and works of Art invented, designed and constructed by Man, the human; also the myriad books, written and printed by him, would enter into a state of rust and decay? Think you, all these, after having crumbled and decayed, even the simplest of them, would ever again appear upon the earth? Finally, think you, that in ten thousand cycles of time, each of ten thousand years' duration, there would, in that long, long period, be Evoluted from among or out of the countless numbers of this, the highest order of Ape life, that would be born into the world covering that period, ONE PAIR, male and female, of material and Spiritual Human Beings—the spiritual intellectually endowed? Answering for himself, the Author says: NEVER FOREVER.

Evolutionists of the highest authority, in defense of their doctrine that man is a progressive development from the Ape, have to, and DO make the following acknowledgment: "But the mental endowments of Man oblige us to remove him F-A-R A-B-O-V-E the highest four-handed animal species—the Ape." Mental Endowments—gifts: By whom?

The Great Book states the fact clearly, concisely, truthfully: "All flesh is not the same flesh; but there is one kind of flesh of men, another flesh of beasts, another of fishes and another of birds."

In the preceding verse it reads: "But God giveth it a body as it hath pleased him, and to every seed his own body."

But have not all living creatures material bodies? And are they not all directed by this same influence which you term Spiritual? Some may ask. Yes. Not

by the intellectual human spiritual, however. Of all of God's created living animal creatures, He saw fit to put the intellectual spiritual being in charge of *but one kind of flesh*: that of the Human.

The God-given difference between the human and all other of His created living creatures, therefore, lies in this: The faculty of Reason was given only to the Human, and the human has given off of its kind through its "seed" during all the succeeding generations the living Intellectual Spiritual Beings. The germs of the seed of none other of God's created living creatures possesses this mysterious, by Him given, inherent attribute—Intellectuality, and, as a token through and by which to voice their thanks for this special gift, Human Beings the world over, embracing the highest and lowest types, possess, inherently, a belief in God, and so worship Him, which worship is called their religion, the form and manner being peculiar to each: the basic foundation upon which all beliefs rest, remaining, however, forever, unchangeable—God. The human is the only living creature, so far as it is possible to know, that worships God.

The faculty of reason in the human may and sometimes does lie dormant until placed in "intellectual soil" when it immediately begins to flourish and grow in intellectuality: the truth of which statement is forcibly corroborated by Henry Drummond under the caption, "The Dawn of Mind." From some of the Tropical Islands where only nature is found and no signs of modern industrial progress exists among the human inhabitants thereof: he jumps to the Solomon Islands situated in the Pacific Ocean about one thousand miles north-east of Australia, where, he says, "carving and

painting may be seen in an early infancy." Continuing he says: "There can be no question at this stage that the Mind of Man has begun its upward path, and what now begins to impress one, is *not the poverty of the early Mind, but the enormous potentialities that lie within*, and the exceeding swiftness of its ascent towards higher things." (Italics the Author's.) When the Sandwich Islands, situated some two thousand miles west of lower California, in the Pacific Ocean, are reached, the contrast appears in its full significance. Here, he says: "A century ago (only an atom of time, Author) Captain Cook, through whom the first knowledge of their existence reached the outer world, was killed and eaten. Today the children of his murderers have taken their place among the civilized nations of the world, and their kings and queens demand acknowledgment at modern Courts."

This same Author says: "The enormous distance traveled by the mind of Man beyond the utmost limits of intelligence reached by any animal is a puzzling circumstance, a circumstance only equaled in strangeness by another—the suddenness with which that rise took place. Both facts are without a parallel in nature. Why, of the countless of species of animal, each with some shadowy rudiment of a Mind, all should have remained comparatively at the *same dead level*, while Man, alone, shot past and developed powers of a quality and a speed unknown in the world's history, is a question which it is impossible not to raise." The answer to this stupendous question is plain—NONE SPRANG FROM THE HUMAN SEED.

The gradual transition from one animal species to another has never been proven.

So that, in contradistinction to the Human, place the highest known type of "Animal Life" in the richest of "intellectual soil" possible, it ever remains the non-intellectual, a phenomenon that has prevailed upon the earth throughout all the ages past.

Mr. Drummond's argumentative conclusions are most woefully at fault and monstrously out of place. He hypothetically sets the date of the visits to the several islands of which he speaks, back thousands of years, when Man, as claimed, was in the state of physical Evolution (?), whereas the time of the visits thereto, as stated by him, were of comparatively recent date. Man's inventive genius and development in constructive knowledge antedates the time of those visits thousands of years as the vast number of structures and devices of ancient construction still existing testifies, all of which fact leads to this thought: What a desolate, desolate world this would be without its Human Habitants, and it does not require that we guess, speculate or theorize as to the state and conditions that would prevail upon it everywhere had said habitants never have peopled it, for we have but to go to those parts of it where animal life, even of the highest types, abundantly abound, to behold, without a single exception, all remaining as they were primevally.

A newspaper writer says: "Rude sculpture dating back, scientific authorities believe, at least 200,000 years, show that primitive man made representations of other creatures at a stage of human development when the conditions of existence were little in advance of those prevailing among the higher mammals of that period. But no other denizens of the earth manifested the slightest desire or ability to make images of anything."

Materialists maintain that the Spiritual Being said to possess Material Man is mythical. Is it?

A man and his wife, after spending several consecutive years in travel, visiting every known region of the earth possible for them to reach, the wife says: Come, let us go home.

It could not have been by *chance* through some mysterious, non-intellectual influence that their material bodies were cared for and directed while journeying to so many and far distant regions during so long a period to then be *directed* safely back to the *identical* place from which they started.

WHO SPOKE THOSE WORDS, "Come, let us go home"? It could not have been the Material wife, since the material being has not intelligence so vividly portrayed in Edwin Arnold's Poem entitled, "He and She," wherein the bereaved Bridegroom so imploringly beseeches his Material Bride to speak to him once more but without avail, her Spiritual Being having taken flight.

The Author has taken the liberty to here insert his impressive words since no imprint of its having been copyrighted appears in Mr. Arnold's book, "The Light of Asia."

POEM

"HE AND SHE"

BY EDWIN ARNOLD

"She is dead," they said to him; "come away:
Kiss her and leave her, thy love is clay."

They smoothed her tresses of dark brown hair;
On her forehead of stone they laid it fair;

Over her eyes that gazed too much
They drew the lids with a gentle touch;

With a tender touch they closed up well
The thin sweet lips that had secrets to tell;
About her brows and beautiful face
They tied her veil and her marriage lace,
And drew on her white feet her white silk shoes—
Which were the whitest no eye could choose—
And over her bosom they crossed her hands.
“Come away,” they said; “God understands.”
And there was silence, and nothing there
But silence, and scents of eglantere,
And jasmine, and roses, and rosemary;
And they said, “As a lady should lie, lies she.”
And they held their breath till they left the room,
With a shudder, to glance at its stillness and gloom.
But he who loved her too well to dread
The sweet, the stately, the beautiful dead,
He lit his lamp and took the key
And turned it—alone again—he and she.
He and she; but she would not speak,
Though he kissed, in the old place, the quiet cheek.
He and she; yet she would not smile,
Though he called her the name she loved erewhile.
He and she; still she did not move
To any one passionate whisper of love.
Then he said: “Cold lips and breasts without breath,
Is there no voice, no language in death?
“Dumb to the ear and still to the sense,
But to heart and to soul distinct, intense.
“See now; I will listen with soul, not ear:
What was the secret of dying, dear?
“Was it the infinite wonder of all
That you ever could let life’s flower fall?
“Or was it a greater marvel to feel
The perfect calm over the agony steal?

“Was the miracle greater to find how deep
Beyond all dreams sank downward that sleep?

“Did life roll back its record, dear,
And show, as they say it does, past things clear?

“And was it the innermost heart of the bliss
To find out so, what a wisdom love is?

“O perfect dead! O dead most dear,
I hold the breath of my soul to hear;

“I listen as deep as to horrible hell,
As high as to heaven, and you do not tell.

“There must be pleasure in dying, sweet,
To make you so placid from head to feet!

“I would tell you, darling, if I were dead,
And it were your hot tears on my brow shed—

“I would say, though the Angel of Death had laid—
His sword on my lips to keep it unsaid.

“You should not ask vainly, with streaming eyes,
Which of all deaths was the chiefest surprise,

“The very strangest and suddenest thing
Of all the surprises that dying must bring.”

Ah, foolish world! O most kind dead!
Though she told me, who will believe it was said?

Who will believe that he heard her say,
With the sweet, soft voice, in the dear old way:

“The utmost wonder is this—I hear
And see you, and love you, and kiss you, dear;

“And am your Angel, who was your bride,
And know that, though dead, I have never died.”

The stilled lips which were wont to speak to him
ne'er spoke again forever.

Spiritual Man a myth! Nay, nay.

All living Material Animal organisms, howsoever classified, are possessed of a power or energy generated within each respectively, and by which all of their bodily movements are effected, the nature of which and how generated being to date not fully satisfactorily established.

It is fully determined, however, that there are but two known methods or processes by which is generated the energy present within all living animal material organisms—the chemical and mechanical or frictional.

Said energy being present at all times within said living organisms, it is manifest that it is *kinetic* in its nature, always in motion, never at rest. There is, therefore, but one classification to which it can be assigned—the electrical.

The aggregate volume of such energy present in each of said organisms is out of all proportion to that which can possibly be generated chemically from the elements contained in the quantity of food supplied and maintained within each, thus causing a large deficiency of energy, and since it is known that those best skilled in the science of chemistry have thus far failed to discover a *chemical* process by which can be generated energy chemically, from the known quantities of the many kinds of food that are partaken of by the animal kingdom generally, a volume of energy equal to that which enables them to maintain the maximum of energy each is enabled to exert, as far instance the elephant (with a record of six thousand pounds carried), rhinoceros, hippopotamus, horse, ox and camel, all of which subsist upon a purely vegetable diet; also the larger of the cat species, the lion, tiger and leopard which subsist upon a strictly

flesh diet; and, further, Man and the gorilla; it, therefore, becomes apparent that such deficiency of energy therein *must be supplied or made up by the mechanical or frictional process.*

The doctrine that the force or energy present within the living organism is chemically produced is assailed by Garrett P. Serviss, the learned writer. He says: "The basis of all matter, of everything with which our senses can deal, is electricity. The atom can no longer be regarded as the smallest possible particle of matter, for we now know that atoms are composed of far more minute entities, called electrons, and electrons are nothing but charges of negative electricity circulating around a nucleus of positive electricity. Such a system of elementary electric units constitutes an atom.

"Chemical action has to do with combinations of atoms, but these combinations depend upon the electrical properties of the atoms concerned. The bodies of living organisms are built up of atoms and the changes that go on in the living body are chemical changes. But chemistry does not touch the forces inside the atoms. Chemistry is unable to reproduce life. There is evidently something behind chemical action that supplies the life principle, or the element of vitality. Since the only thing behind chemistry that we know is electricity, acting inside the atoms, we are driven to the conclusion that life is electric in its nature."

Since all animal *life* is spiritual, this writer is in undoubted error wherein in his concluding words he tells us that *life* is electrical in its nature, for in the same paragraph he says: "But chemistry does not touch the forces (energy—Author) inside the atoms."

He, therefore, should have said in his concluding words, harmonizing his previous statement, "We are driven to the conclusion that the *force* or *energy* present in the material body is electrical in its nature."

If the energy possessing the material body is generated only by or through the chemical process, there can be no such thing as stabilization of energy by reason of the fact that hardly no two foods fed the economic system are similarly alike as to their chemical properties or in their nature or volume of potential energy, some of them are so wholly antagonistic to nature's chemical laboratory that they are rejected, not allowed to enter into any of the composite parts of the body, being summarily voided by and at the stomach—the gate-way to the "Inner works," while some substances act like an explosive shell upon their entry into the stomach and destroys or "kills" nature's whole laboratory system, the destruction of the body itself, such as the known deadly poisonous drugs.

That the electrical energy generated by the frictional process within the animal body acts directly upon the muscular tissue within the body through and by the system of nerves within the body—both being in contact one with the other—is positively established by reason of the fact that when a current of electricity generated by apparatus, *foreign to the material natural animal body*, is applied, in not too great volume, as, for instance, to the nerves of the hands, in volume greater than that generated by the apparatus within the body, the muscles which control their movements are caused to contract—shorten—so much more superiorly as to be beyond the power of the operator abiding within the body and whose duty it is to direct and control like energy, that the

hands are made to grasp the electrodes so tightly as to render their relaxation or protraction by the operator impossible sufficiently to release them from the grasp of the hands so long as said excess foreign energy is applied—simply a case of nature being overpowered, yet establishing the fact beyond dispute that electrical energy acts directly upon the muscles of the body as applied to them through those nerves, the function of which is their control; and, further, as establishing the fact, that electrical energy acts directly upon the entire muscular system, causing every muscle embraced within the system to contract when applied, thereby effecting all the movements of the many parts of the body. Again, a certain volume, in not too great excess above that supplied by the natural apparatus within the body for generating the electrical energy, being applied to it, causes every muscle within the body to contract so superiorly as to cause the entire body to be rigidly drawn, rendering it, or any of its parts, powerless to move, and if the volume of energy be applied in too great excess the same effect is produced upon the nervous system of the animal body as that which ensues where a like too great excess volume is applied to the mechanical devices for carrying electrical current—*burned out*, destroyed, made useless, which in the animal world causes what is termed *death*—electrocuted.

Therefore, as the electrical energy supplied the human body, as in all material animal organisms, through the chemical process within it is so excessively deficient in the volume required to operate it successfully, and all of its many parts, little notice will be taken of it in the course of this work, only the major apparatus which exists within the body and which generates mechanically

or by the frictional process, the excess volume of electrical energy therein over that generated by the chemical process, will be recognized or discussed.

THE HUMAN ELECTRICAL POWER PLANT.

Hence by reason of the fact that the energy generated within the material human body, by both of said processes is electrical, therefore, the normal Human Material Organism is a most perfect and complete Electrical Power "Plant": portable, self-propelling. God is its original Creator, Designer and Builder. He created a Spiritual Being, endowing it with intellectuality, said Spiritual Being being the Real living Man, He directing and causing him to take up his abode within the human material "plant."

Man, the real, thus became the sole occupant and Spiritual "Operator" of this material human electrical "Plant."

SPECIAL NOTICE

It being the purpose of the Author to present herein both Material and Spiritual Man in language so simple and easily understood that even the least learned of his readers may have no difficulty in fully comprehending the meaning thereof, N O T I C E is hereby given, that in this book,

Spiritual Man. will be, generally, designated

The Abiding place of the Spiritual operator,

The Five Senses, seeing, hearing, feeling, tasting, and smelling,

Material Man—the body,

The entire Plant or body, also,

The Food,

The Operator.

The Central Station.

The Five Outposts.

The Plant.

The Boiler.

The Fuel.

The Stomach, which includes the entire
digestive apparatus and Intestinal
Canal,

The Lungs,

The Lungs, ALSO,

The Heart,

The Blood,

The Nerves or Nervous System,

The Colon or large Intestine,

The Feces or bowel refuse,

The Furnace.

The Draft System.

The Bellows.

The Engine.

The Electrical Generator.

The Nerve-wires.

The Ash-pan.

The Ash.

The human electrical power Plant is also a "talking machine," talking being the medium by and through which all spiritual Operators thereof hold converse with each other orally, and also to impart knowledge, orally, each to each, utilizing the material apparatus installed within the plant for such specific purpose—the vocal organs, so termed, which embraces the tongue, palate and lips, in conjunction with that part of the apparatus which produces the sound—the Reed.

The ability to talk constitutes one of the highest attributes, given by God, which gives to the human its rank above all other animal creatures.

Moreover, the human electrical plant is also a "Lifting Machine," having two arms, at the extremities of each there being a grappling device—the Hands, for taking hold of the objects to be raised. It is computed that a Longshoreman can lift 500,000 pounds one foot, or 250 tons in a working day, deonstrating the volume of electrical energy possible to be generated within the human electrical power plant. (The grappling devices—the hands, and their uses, are more fully dwelt upon on pages 23, 84 and 109.

As stated in the opening of this book, the electrical energy is applied, when, where and in the needed vol-

ume, by direction of the spiritual Operator. This, of course, provided no physical derangement exists in any part or member, such as Webster relates in his definition of Locomotor Ataxia. He says: "It is a peculiar disease of the nervous system, deriving its name from the fact that the SUFFERER from it, *cannot order* the movements of his limbs for definite purposes."

The original material human electrical power plant, having been designed and brought into existence by its Creator and put in possession of its Spiritual Operator, all subsequent material human electrical plants have been conceived through the human "seed," constructed and put in possession of a Spiritual Operator in the manner and process purposely designed by the Creator, designated nature's way: one of careful construction; work upon which does not cease from the moment of its conception until it reaches infantile maturity, when it is born into the world, previous to which time it was auxiliary to its Mother Builder, the one and only one earthly Being who can construct and give to the world the human material bodily plant so aptly stated by the noted writer and lecturer, Mrs. Henry H. Martindale, of Hamburg, Germany, who says: "Let men make houses, ships, aeroplanes, pyramids and gardens, or any of the wonders of the world, it takes a woman to make a man. For nine months, minute by minute, she continues her work, consciously or unconsciously, by day and by night. The making of a Human Being strong, healthy, perfect outwardly and inwardly, physically and morally, is hers alone and cannot be deputed to man."

When the plant is born into the world, the "fire" is burning in the furnace; steam is up; the engine and electrical generator are "running" and electrical energy

is being generated in sufficient volume to successfully operate the diminutive plant.

The plant having been put into operation, its spiritual operator remains and abides therein so long as the apparatus installed for the generating of electrical energy therein continues its running and yielding said energy even in the faintest degree as to volume. Upon said apparatus ceasing to "run"—stop, the spiritual operator immediately takes its flight therefrom, the material structure returning to and again mingling with the materials from whence they were taken.

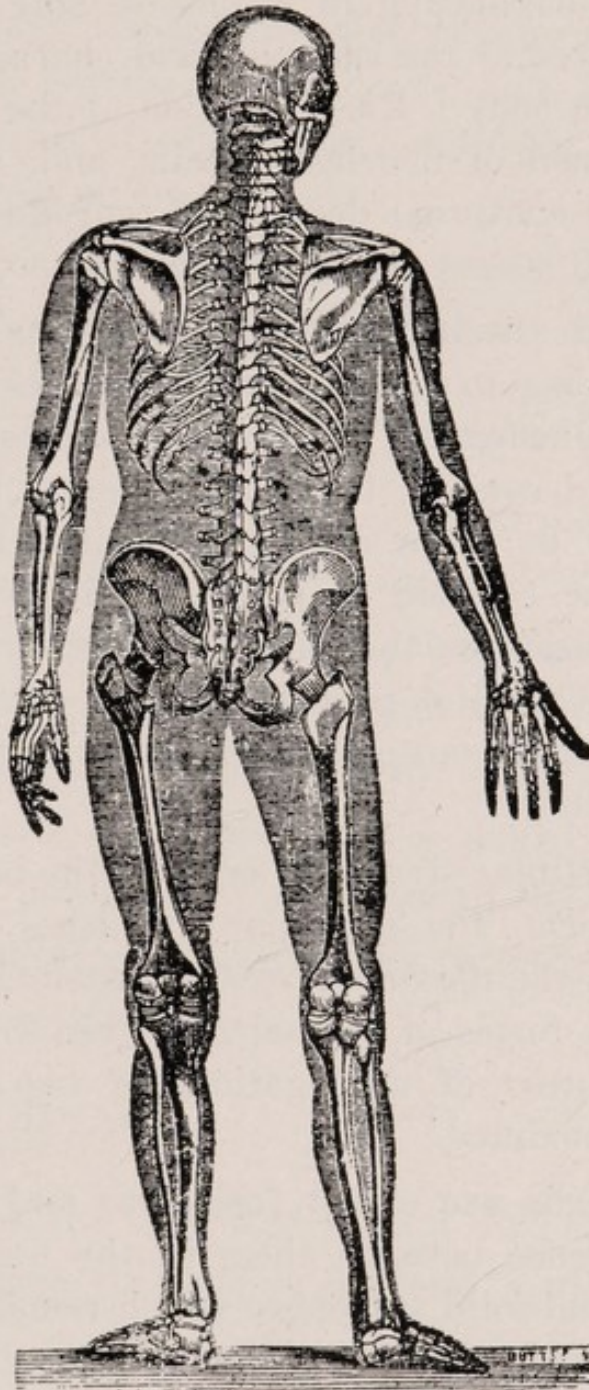
The apparatus for generating electrical energy, and the electrical mechanisms installed within the human electrical plant are most complete, complex and wonderful in their operation.

Before the reader can intelligently comprehend and understand the material human electrical power plant; understand fully which of its mechanisms are more immediately employed in the generating of the electrical energy within it; the materials used and how distributed for conveying the electrical energy to all parts of the plant; what mechanisms are employed in receiving messages from the outside world for transmission to the spiritual operator operating the plant and the special mechanism by which the plant is put into active intelligent operation, and likewise made to cease operating intelligently, the periods known as those of "wakefulness" and of "sleep," it will be necessary to carefully and patiently follow the Author in his description of it and them and their varying phases.

The FOUNDATION of the human material electrical plant is composed of bone, a skeleton or frame of its outer form, there being two hundred and forty-six pieces

or parts embraced in it. It is upon and around this frame that the superstructure—the material plant—is built, as is vividly shown in the following figure by Dr. Trall.

Fig. 1.



RELATION OF BONES TO BULK.

The substance composing the material entering into the superstructure is termed—tissue.

Dr. Trall, in defining the bodily structure, says: “Each distinctive solid structure is called a *tissue*. All tissues, howsoever diversified in form, are produced from cells originating in a mass of soft liquid matter, and they present the same general characteristics in all parts of the body. Every portion of the animal organism is formed of nucleated cells, and, as the body is undergoing continual decay and reproduction, they are found in all stages of development.

“Though the bodily structure admits of many divisions according to form, color, constituency and arrangement, the phenomena of life (the phenomena of *bodily motions* and *control*, the Doctor should have said, Author) may be more clearly presented by considering them in the relation of primary and secondary. The *primary* tissues are the cellular or areolar, muscular and nervous. The vital property of the cellular substance, elasticity; of the muscular contractility, and of the nervous, sensibility.

“The cellular structure supplies the body with materials of form, the muscular furnishes the agents of action, and the nervous provides instruments of feeling. The varied forms of animal and even vegetable tissues are constituted of aggregations of two kinds of cells variously modified.

“The cells are called formative and secreting; the only difference between them is, the former secretes a solid, or semi-solid substance which remains in the body with the debris of the cells for an appreciable time, and the latter secretes a fluid which escapes from the body with the remains of the cells which produce it. *Each*

of these little cell bodies has been compared to a laboratory which receives from the surrounding matter the elements which it requires, and combines them so as to accomplish a desired result. (Italics those of the Author.)

“The secondary tissues are membranous ligaments, cartilages, and a portion of the bones, hair and nails, being various forms of cellular or gelatinous substance in different degrees of density.

“All the actions or motion of the various parts and organs are produced by the contraction or shortening of the muscular fibres, or rather their alternate contraction and expansion.”

Let us assume that this human electrical power plant is now complete so far as the structure, or “building,” is concerned, and take up the subject of those instruments and mechanisms installed therein with which it is necessary to deal in the subjects under discussion.

It must be understood that every so-called “living” human electrical power plant embraces all the essentials for the generating of electrical energy that the commercial electrical plant embraces.

First, The FURNACE.

This embraces the STOMACH and INTESTINAL CANAL into which the fuel is fed and made to pass through.

The Author deems it appropriate and opportune to here insert an extract from

FARMERS' BULLETIN No. 142

Published by the U. S. Agricultural Department, Washington, D. C.

PRINCIPLES OF NUTRITION AND NUTRITIVE
VALUE OF FOOD

(Corrected to April 20, 1910)

By

W. O. ATWATER, PH. D.

Special Agent in Charge of Nutrition Investigations,
Office of Experiment Stations.

PREPARED UNDER THE SUPERVISION OF THE OFFICE
OF EXPERIMENT STATIONS

A. C. TRUE, DIRECTOR

— Page 8 —

(Caps and italics, following in every case, the Author's)

“Blood and muscle, bone and tendon, brain and nerve—all the organs and tissues of the body—are built from the nutritive ingredients of food. With every motion of the body and with the exercise of feeling and thought as well, material is *consumed* and must be re-supplied by food. In a sense, *the body is a superior machine*. Like other machines, it requires material to build up its several parts, to repair them as they are worn out, and to serve as *fuel*. In some ways it uses

this material like a machine; in others it does not. The steam engine gets its power from *fuel*; *the body does the same*. In the one case coal or wood, in the other *food*, is the *fuel*. In both cases the energy which is latent in the fuel—the potential energy, as it is called in scientific language—is transformed into power and heat. * * *

“One important difference between the *human machine* and the steam engine is that the former is self-building, self-repairing, and self-regulating. Another is that the material of which the engine is built is very different from what which it uses for fuel, but part of the material which serves the body as a source of energy also builds it up and keeps it in repair. Furthermore, the body can use its own substance for this purpose. This the steam engine cannot do. The steam engine and the body are alike in that both convert the fuel into MECHANICAL power and heat. They differ in that the body uses the same material for fuel as for building and also consumes its own material for fuel. In the uses of its source of power the body is much more economical than any engine.

“But the body is more than a machine. It has not simply organs to build, and keep in repair, and *supply with energy*; it has a nervous organization; it has sensibilities; and there are the higher intellectual and spiritual faculties. The right exercise of these depends upon the right nutrition of the body.

“The chief uses of food, then, are two: (1) To form the material of the body and repair its wastes, and (2) to furnish muscular and other *power* for the *work the body has to do* and yield heat to keep the body warm, in forming the TISSUES and the fluids of the body the food serves for building and repair.

“If more food is eaten than is needed, more or less of the surplus may be and sometimes is stored in the body, chiefly in the form of fat. The fat in the body forms a sort of reserve supply of *fuel and is utilized* in the place of *fuel*. When the work is hard or the *fuel* supply is low the body draws upon this store of fat and grows lean.”

As the quality of fuel for generating steam in the boiler of the commercial plant has much to do with the production of the necessary volume of heat, so likewise has the quality of the food fed into the stomach much to do in producing the required volume of heat, and the chemically generated electrical energy (not the dynamic), sufficient to operate the engine in the human plant successfully. Careful estimates, it is stated, gives the average amount of food required annually for the average man as sixteen hundred (1600) pounds; that of a woman twelve hundred (1200) and that of a child nine hundred (900) pounds. (See pages 241 and 242.)

Second, The DRAFT SYSTEM. The Lungs.

This is the Bellows and supplies the furnace with air—oxygen—one of the chief factors in the production of heat in the material bodily plant, and which nature supplies in increased amount precisely at the right time when it is required by sending a largely increased quantity of blood—the conveyor of the air—into it immediately the new fuel supply is fed into it, and which supply is again reduced after the fuel has passed from out of it. The surface area of the walls of the subdivisions embraced in the bellows in the ordinary adult human plant approximates, it is estimated, fifteen hun-

dred (1500) square feet, comprised of a film so thin, and composed of such fineness of fibre as to be beyond human comprehension. This thin film accommodates the vesicles or small sacs which feed, through it, to the ever passing blood the oxygenated air, their number approximating, it is estimated, five hundred millions (500,000,000).

The function performed by the air thus forced into these myriad tiny sacs or cells is one of give and take; *giving to* the blood the purifying, bodily sustaining, oxygen, and taking *from* it the poisonous carbon dioxide, or non-sustainer, of the bodily plant. (See, Care of the Bellows, page —.)

The human plant is not supplied the required quantity of oxygen by and through the bellows; several million glands or ducts, called the *pores* of the skin, admitting of from one-seventh to one-sixth of as much oxygen into the plant as is supplied it by the bellows, the skin being in a healthy condition. Through these millions of pores considerable of the refuse poisonous and other elements which is cast out or rejected is expunged or forced out of the plant by the blood pressure. Thus the necessity of keeping the surface of the external plant clean and free from any substance which tends to clog up the pores.

Under normal conditions in the mature human plant, about eighteen impulses of the bellows suffices to supply the amount of oxygen required. The stoppage of the bellows for so long a time as five minutes has the effect of "putting out the fire."

The following news item appeared in one of the newspapers of Cleveland, Ohio: "St. Joseph, Mo., February 19th, 1910.—Bert Swan broke the world's record for remaining under water last night by lying at the

bottom of a tank of water for three minutes and thirty-eight seconds. The previous record was two minutes and thirty-eight seconds, held by A. Enid, made in a Philadelphia swimming pool."

Third, The BOILER. Or Entire Body.

The boiler of the human electrical plant is a most complex one, being none other than the entire body, water being present in every part, even in the bones. The Arterial, Capillary and Venous System constitutes the "flues" in which circulate the blood—containing air, and which conveys the air or oxygen—heat generator—to the remotest parts of the boiler, the blood itself being composed of 78.37 per cent of water.

Dr. Trall says: "The whole quantity of blood is estimated at about one-fifth of the entire weight of the body, which is thirty (30) pounds in a person weighing one hundred and fifty pounds, twenty-three and a half pounds of which is water."

The temperature of the water and blood in the human body is kept, normally, at 98.1 degrees, Farh. (See Animal Heat, page —.)

Water must be maintained in the human boiler just as it is in the steam boiler. Webster says: "Without water all the processes of animal and vegetable life would come to a stand."

Fourth, The ENGINE.

This is the HEART. It never ceases to run during the "life" of the plant. Its function is to propel the blood from out of and back to itself continuously through the three systems of ducts provided for its passage.

The electrical energy that runs the engine is generated by what is known in electrical science as the Galvanic, generated chemically.

It is a well-established doctrine that the food fed into the human furnace is chemically disposed.

The engine in the commercial plant is installed for propulsory purposes. For the same purpose the Creator and Designer of the human electrical plant installed the heart for the specific purpose of propelling or "running" the generator, the producer of the DYNAMIC electrical energy by which the other electrical apparatus within the plant is operated.

Fifth, The NERVOUS SYSTEM. (Nerve-Wiring.)

Dr. Trall says: "The first distinct structure developed in the human body is that of the nerves of organic life."

The nerve-wiring system of the human electrical plant embraces all the nerves of the human body and is, therefore, marvelously complex. That the Reader may the more fully comprehend this complex system, the Author deems it necessary to enter into a somewhat extended description, in detail, of the human Nerve-Wiring system, including the material entering into the nerves. It is most important that a correct understanding of this Nerve-Wiring system be had, as we are now discussing the human body from an *electrical standpoint*.

Dr. Trall says: "The nervous is the highest order of organic matter. White nerve fibres compose most of the brain, spinal cord and cerebro-spinal nerves, and enter into the structure of the organic system. They terminate in various internal organs, at the surface of the body and in the substance of the cerebro-spinal axis

by forming loops. In size they vary from $1/2000$ to $1/14000$ of an inch in diameter and less transparent.

“The nerves constitute the principal part of the organic system, and are present in cerebro-spinal nerves, most abundantly in those of sensation.

“The nervous system may be divided into two sub-systems, the cerebro-spinal and organic. The former comprises the brain, spinal marrow, the nerves of sensation and the nerves of motion; the latter embraces the nerves and ganglions which preside over the development and functional changes of the body.

“The *nerve cells* vary from $1/300$ to $1/1250$ of an inch in diameter. They are composed of a capsular sheath, containing a reddish-gray granular substance and one or more nuclei and nucleoli, the nucleus being attached to the sheath. Nerve Cells are found in the gray substance of the brain, and the spinal cord, in the ganglions of the cerebro-spinal nerves, and in the organic nerves and ganglia. From the circumference of the nerve cells arise one or more delicate thread-like processes from $1/1000$ to $1/10000$ of an inch in diameter which are the *origins* of the gray nerve fibres.

“The nerve-granules exist in the forms of minute homogeneous particles, aggregated particles and nucleated corpuscles, varying between $1/5000$ to $1/15000$ of an inch. They serve as a band of connection between the fibres and cells of the brain and spinal cord, and enter into the various ganglia.

“A nerve is a collection of nerve-fibres into small bundles, or fascia, each fasciculus being invested by a distinct neurilemma. Several of these fascicula are again collected into larger bundles which are also enclosed in a separate neurilemma; then again the larger fasciculi are collected into a grand bundle which is

enclosed in a general neurilemma, or sheath of white fibrous tissue.

“The brain is the mass of nervous substances contained within the cranium—skull.

“Though sensibility, or feeling, is its only property we can call vital, ITS IMMEDIATE RELATION TO THE MIND CAUSES IT MANIFEST VARIED AND WONDERFUL POWERS. THE NERVOUS SUBSTANCE IS THE MEDIUM THROUGH WHICH ALL IMPRESSIONS ARE RECEIVED FROM THE EXTERNAL WORLD, AND THROUGH WHICH THE MIND (Why did not the Doctor say Spirit?) CONVEYS ITS MANDATES TO THE VOLUNTARY MUSCLES. (Caps the Author's.) All motions, changes or functional actions which are performed by the muscles, depend on the power, energy or influence transmitted to the muscular tissues from the nerves.

“The nervous structure is composed of a white or fibrous matter which in the nervous trunk is tubular, with a secondary deposit within the cavity of the tube, and a gray vesicular substance found in the ganglions. Whenever these two kinds of nervous matters are united together, they constitute a nervous center.

“Physiologists are not agreed respecting the complete regeneration of nervous tissue after it has been once destroyed. Of its partial restoration there can be no doubt.

“The nerve-fibres which originate in the brain and are distributed to the muscles have no proper termination, but form loops which either return to themselves, or join others formed by the ultimate ramifications of the main trunk.

“The vesicular matter, wherever found, is regarded as a generator of nervous influence, and the white or

tubular as a *carrier* of that influence to the various parts of the system. (A MOST SIGNIFICANT STATEMENT. Author.) The former portion—the vesicular—is supplied with much the largest proportion of blood.

“The general Nervous system is susceptible of a division into five subordinate systems: 1. The Nutritive System, or nerves of organic life; 2. The Motory, or nerves of voluntary motion; 3. The Sentient Nervous System, or nerve of sensation; 4. The mental Nervous System, or brain; 5. The Reflex Nervous System.”

The Doctor then takes up the subject of each of these five nervous systems in detail. In part he says:

1st. “THE NUTRITIVE NERVOUS SYSTEM includes all the organs, or involuntary nerves. In the order of development it precedes the others as it relates to, and, in fact, presides over all the processes of organic, or vegetable life. (Just as the process of fuel combustion takes precedence over all other of the systems entering into the generating of electrical energy in the commercial power plant. Author.)

“All the functions belonging to the growth, development, and transformation of the bodily structure are controlled by these nerves. They have no sensibility of which the brain takes cognizance; yet they have an impressibility, or a feeling of their own. To illustrate: The brain does not feel food in the stomach, nor blood in the heart, nor air in the lungs, nor bile in the liver, yet their presence is recognized or felt by the organic nerves.

“These nerves, too, have their little brains or special centers which seem to supply the nero-electric influence

to particular parts and organs, and connect the whole together in close sympathetic functional relations."

The Nutritive Nervous System, therefore, embraces the nerves of the Stomach or entire digestive apparatus. The stomach is the receptacle for receiving the fuel supply of the human plant. In it are contained the gastric juices (chemicals), the active principle of which, Dr. Trall tells us, is called pepsin; that its action is analogous to that of ferment, which has the power of exciting chemical changes in the particles of other substances without undergoing decomposition itself.

2nd. THE MOTORY NERVOUS SYSTEM. "All the nerves of voluntary motion originate from the brain and spinal marrow. In a perfectly healthy state of the whole organism, THEY ARE COMPLETELY UNDER CONTROL OF THE WILL. * * * All voluntary action is the motion produced by the contraction of the muscular fibres (NOW GIVE HEED), *in obedience to the volition or decision of the MIND conveyed to the muscles by the Motory System of Nerves.*" (Italics and caps the Author's.)

3rd. THE SENTIENT NERVOUS SYSTEM. "The nerves of sensation, like those of voluntary motion, are said to originate from the brain and spinal marrow. They are the *instruments of communication from the external world to the brain*, being the *media* of the external senses—*seeing, hearing, tasting, smelling and feeling.* (Italics the Author's.) Thus the optic nerve conveys to the brain impressions of light; the auditory, of sounds; the gustatory of savors; the olfactory, of odors, and the nerves of touch, distributed to all parts of the body which are endowed with sensibility, convey

impressions of the chemical, or mechanical properties of bodies, as heat, cold, form, size, density, pressure, etc.

“Each nerve of a special sense is endowed with a modification of general sense of feeling peculiar to and inherent in itself; for under no circumstances can the ear feel the impressions of light; the eye of sound, or the skin of odors.” (Which is to say, there are no inductive electrical interferences among the nerve-wires within the *normal* brain. Certainly a marvelous and most perfect system of “wiring.” Author.)

4th. THE MENTAL NERVOUS SYSTEM. (The Reader cannot exercise too great care or give too close attention to the reading of the Doctor’s explanations and definitions of the Mental Nervous System.)

He continues: “The surface of the brain is arranged in various convolutions, which constitute the phrenological organs of the prevailing system (1851) of mental philosophy. * * * The object of these convolutions is to afford an extensive surface for the gray, or vesicular matter which *generates the nervous power* (make special note for future notice to the *last seven* words, for you recall that the Doctor tells us that the vesicular matter is supplied with much the largest proportion of Blood), and a more free communication between the blood vessels on one side which supplies the materials of nervous influence, and the numerous fibres on the other side which propagate their influence to the muscles.

“The brain and spinal cord are divided by a mesial line into equal right and left halves or hemispheres; hence all the mental organs are double, as are also the sentient and motor nerves, which convey impression to and from them.”

5th. THE REFLEX NERVOUS SYSTEM. "The spinal cord is regarded as a conveyor of nervous influence to and from the brain, and also as an originator of nervous influence (an erroneous statement, for the reader now understands that the nerves are the CARRIERS of nervous influence, energy and power *only* and that in no sense can they be said to be the *generator* of nervous influence or power—Author). * * * It is divided into two lateral halves and each of these into an interior, middle, and posterior column, corresponding probably to the sensory, motor, and organic nerves. The anterior root of the spinal nerves is the motor or efferent root which conveys impressions *from* the brain; the posterior is the sensory, or afferent root, which conveys impressions *to* the brain. A part of the fibres of both roots are unconnected with the brain, having their origin in the gray matter of the spinal cord. These fibres are supposed to form a distinct nervous circle, and they constitute the system to which those actions are due, called *reflex*. All spasmodic or convulsive movements of the body are considered extreme examples of reflex action. * * *

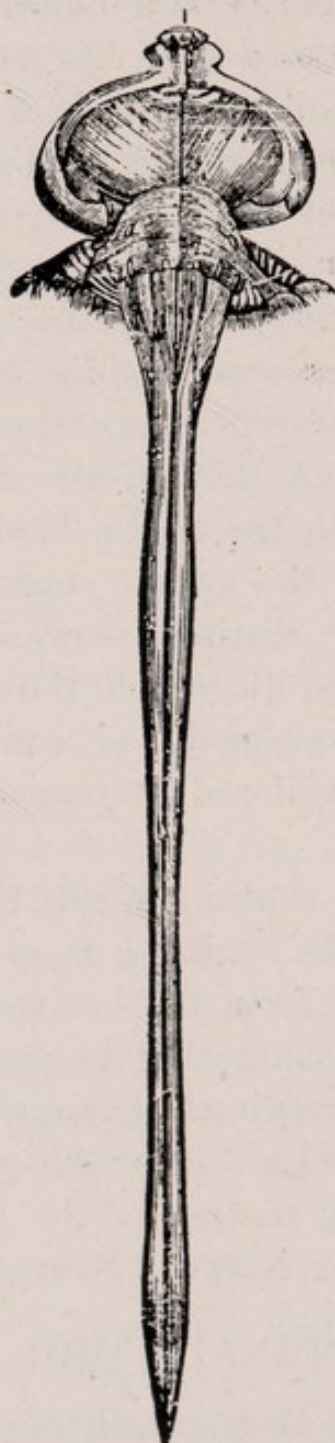
"A spinal nerve contains a bundle of sensory fibres passing upward to the brain; a motor set conveying the influence of volition *from* the brain; an excitor set, or centripetal fibres, terminating in the true spinal cord, or ganglion, and conveying the motor influence reflected *from* it to the muscles. The last two named sets of fibres, with the gray matter in the center of the cord, constitutes the Reflex Nervous System."

SPINAL CORD.

The Spinal Cord thus constitutes the great "nerve-cable" which extends through the entire length of the

back bone, a passage for which is provided through the neural arch of each of the twenty-four vertebræ composing it, the cord having a most remarkable termination of nervous tissue, termed the Medulla Oblongata, at its uppermost end.

Fig. 2.



OBLONGATA.

Dr. Trall, in describing it, says in part:

“The medulla oblongata is the enlarged part of the spinal cord about an inch in length, conical in shape, extending from the pons varolii to the atlas. (Atlas—the first ‘upper’ vertebra of the neck.) It is separated anteriorly and posteriorly (front and back) by vertical fissures into two symmetrical lateral, cords or columns, each column being subdivided by small grooves into three smaller cords.

“The fibres composing the column of the medulla oblongata have a peculiar arrangement on its upper part; those of the corpora pyramidalia and olivaria enter the pons varolii, and are prolonged through the crura cerebra, thalami optic and corpora striata to the hemispheres of the cerebrum; while those of the corpora restiforma are reflected backwards into the cerebellum and form its inferior peduncles. These fibres were termed, by Gall, the diverging fibres.” (What Dr. Trall terms the *Crura Cerebri*, Dr. R. H. Whitehead, in his work, “The Anatomy of the Brain,” terms Peduncles of Cerebrum—peduncle meaning a *stem*.)

It is upon this grand spinal column, with its great number of nerves, is built the cerebrum, or great brain, and the cerebellum, or small brain, with their covering of bone—the skull—the four hemispheres being each supported, we have learned, by a peduncle or stem, the point of divergence of the “stems” being at the uppermost limb of the medulla oblongata. These “stems” and their respective hemispheres coalesce as the flower and *its* stem coalesce—at the point where the stem ends and the flower begins.

6th. THE FIVE SPECIAL ELECTRICAL MECHANISMS.

The human electrical power plant includes many functional organs necessary to its perfect physical working which need not be discussed in this work. Included in its wiring system are FIVE SPECIAL MECHANISMS, the uses of which constitute the primary object for which the Creator brought his human creation into the world, which like mechanisms have been transmitted to every normal human being through the "seed" of human kind since man's creation.

Said mechanisms are marvelously designed, most perfectly constructed and perform their functions with wonderful accuracy.

Four of these are located in that part of the human plant designated the head. These are the mechanisms for *seeing, hearing, tasting, and smelling*, known as the eyes, ears, tongue, and nose. The fifth, that of feeling, is practically co-existent with every part of the plant. All of these are connected with a Central Station by a specific nerve-wire, each acting independent of the other. Their function is to "catch," "take up," and transmit to this central station all messages coming to each. They are the "receiving stations" for receiving all messages from the outside world respectively, that of hearing receiving the messages by the "wireless" process. They are the FIVE OUT-POSTS of the human electrical plant for observation and reporting to the spiritual operator. BUT FOR THESE FIVE SPECIAL MECHANISMS, THE HUMAN MATERIAL ORGANISM WOULD BE BUT A "BLUBBER" OF ANIMATED MATTER.

Webster's American Encyclopedia (1910) says: "The brain is the center of the nervous system, and the seat of consciousness and volition in man and the higher animals. It is a soft substance, partly gray and partly whitish, situated in the skull, penetrated by numerous blood vessels and invested by three membranes or meninges. The outermost, called the *dura mater*, covers the whole surface of the brain, and is full of blood vessels.

"The brain consists of two principal parts, connected by bands of fibres. The one called the *cerebrum* occupies, in man, the upper part of the head and is seven times larger than the other, the *cerebellum*, lying behind and below it. The surface of the brain exhibits the appearance of a series of ridges and furrows forming what are called the convolutions.

"The *cerebrum* is divided into two portions, the right and left hemispheres, by the longitudinal fissure, the hemispheres being at the same time transversely connected by a band of nervous matter called the *corpus callosum*. The external or grayish substance of the brain is softer than the internal white substance. The *cerebellum*, the smaller portion of the brain, lies below the *cerebrum* in a peculiar cavity of the skull. It is divided into a right and left hemisphere connected by a bridge of nervous matter called the *pons varolii*, under which is the *medulla oblongata*, or continuation of the spinal marrow. Like the *cerebrum*, it is gray on the outside and white within. At the base of the brain are several masses of nervous matter, or ganglia, known as the *striata*, (2) *optic thalami* (2) and *corpora quadrigemina* (4), and there are in it certain cavities or ven-

tricles. Every part of the brain is exactly symmetrical with the part opposite. Twelve pairs of nerves proceed from the base of the brain."

The following illustration, by Dr. Trall, gives a very

Fig. 3.



BRAIN AND SPINAL CORD.

comprehensive exhibit of the relation between the brain and the spinal cord.

The spinal cord, as has been stated, is a cable composed of many nerves. Telegraph and telephone companies employ cables for conducting many wires to a certain point from whence each individual wire is run to its specific field. So it is with the human "spinal cable." Much the larger number of nerves embraced in it are conducted to a specific point from whence they are continued, separately, each going to its specific field. The point of divergence for many of these nerves is at the junction of the "cable" with the brain at its base, running from the medulla oblongata, the extreme uttermost end of the "cable."

The ramifications of the few large and the innumera- bly infinitesimally small nerves within the cerebrum and cerebellum—large and small brain—are most complex. They are most dexterously interwoven. No architect save God could plan the distribution of this labyrinth of nerve-wires, massed as they are in the human brain in so small a compass and have such harmony of action prevail and the function of each so perfectly executed. Well may we marvel at the few disordered brains as against the many *not* disordered.

There has now been presented only the Human Electrical Power Plant so far as concerns the "building"; also the furnace, draft system, boiler, engine, wiring system and including the five special mechanisms or outposts. Thus far the plant is without electrical energy or power necessary to run or operate it. Next in order is the subject of the electrical generator.

7th. THE HUMAN ELECTRICAL GENERATOR.

This, we have learned, is in operation when the material human electrical plant is ushered into the world. We have then but to describe it.

This human electrical generator mechanism for generating the Mechanical or DYNAMIC electrical energy with which the human electrical plant is operated, is the BLOOD, the nerves being the fixed magnets; also the distributors of the energy.

It may seem unmechanical to apply the term *machine* to the blood, but since it performs so important a function—that of generating the Mechanical or DYNAMIC electrical energy, by which the electrical apparatus of all kinds installed within the human electrical plant is operated by reason of its MOTION, the term is not only admissible but proper.

Director A. C. True, in his Governmental Bulletin No. 142, (page 45) says, in the second paragraph thereof, that “the steam engine and the (human) body are alike in that both convert the fuel into *mechanical* power and heat.”

As all the energy and heat possessed by the human body is, universally, claimed to be generated by the *chemical* process only, what does Director True mean, then, when he asserts that the body converts the fuel into *mechanical* power and heat, both of which it is not possible to generate except and, only, by the *frictional* process.

Dr. Trall entertained this belief, that the blood is the generator of what he termed the nervous “*influence*.”

Discussing respiration, he says: "The lungs as auxiliary nutritive organs digest the inspired air and separate or rather form from it a principle converted into the substance of the blood. Doubtless, too, they receive and transmit to the *nervous system through the medium of the blood* (italics the Author's) a constant replenishing stream of that electric, magnetic, or other vital property on which the nervous influence depends."

The blood in the human electrical plant possesses the four systems—the cavities of the engine, the arteries, capillaries and veins. It is kept running or passing through these continuously by the great engine, since it runs continuously.

This continuous running of the blood generates mechanically the *dynamic* electrical energy for operating that part of the plant so operated, through the speed at which it runs. The actual speed at which it runs, measured in feet, can only be conjectured, estimates placing it at about 600 feet per minute; 36,000 per hour; 315,576,000 feet or 59.76 miles per year.

Dr. Trall, we recall, tells us that the blood constitutes one-fifth of the weight of the human body, thirty pounds in a person weighing one hundred and fifty pounds; that the cavities of the heart hold about two ounces; three-fourths of which is discharged at each contraction, and, counting seventy pulsations to each minute, a little more than six pounds of blood passes through it in this time, or nearly *ten thousand* pounds in twenty-four hours, the whole quantity of blood probably passing through it in four or five minutes. That means 3,650,000 pounds in one year and 365,369,000 pounds in one hundred years, the person weighing one

hundred and fifty pounds. Mention is made of this in order to call the attention of the reader to the enormous work performed by the heart, emphasizing the great danger of overtaxing it.

The blood performs two other required functions: first, it absorbs or receives from all sections of the alimentary canal, the alimentary substance contained in the fuel, and distributes it broadcast into the fleshly "soil" where, Dr. Trall tells us, are forever forming and growing a supply of new tissue cells to replace those continuously wasting and decaying; and, second, it receives the fresh oxygenated air through the air cell system in the bellows or draft system, and carries or conveys it plentifully to the furnace, thereby keeping the "fire" therein burning continuously. All these, observe, are effected by or through *motion*.

The stopping of the generator in the commercial electrical plant instantly renders it electrically dead.

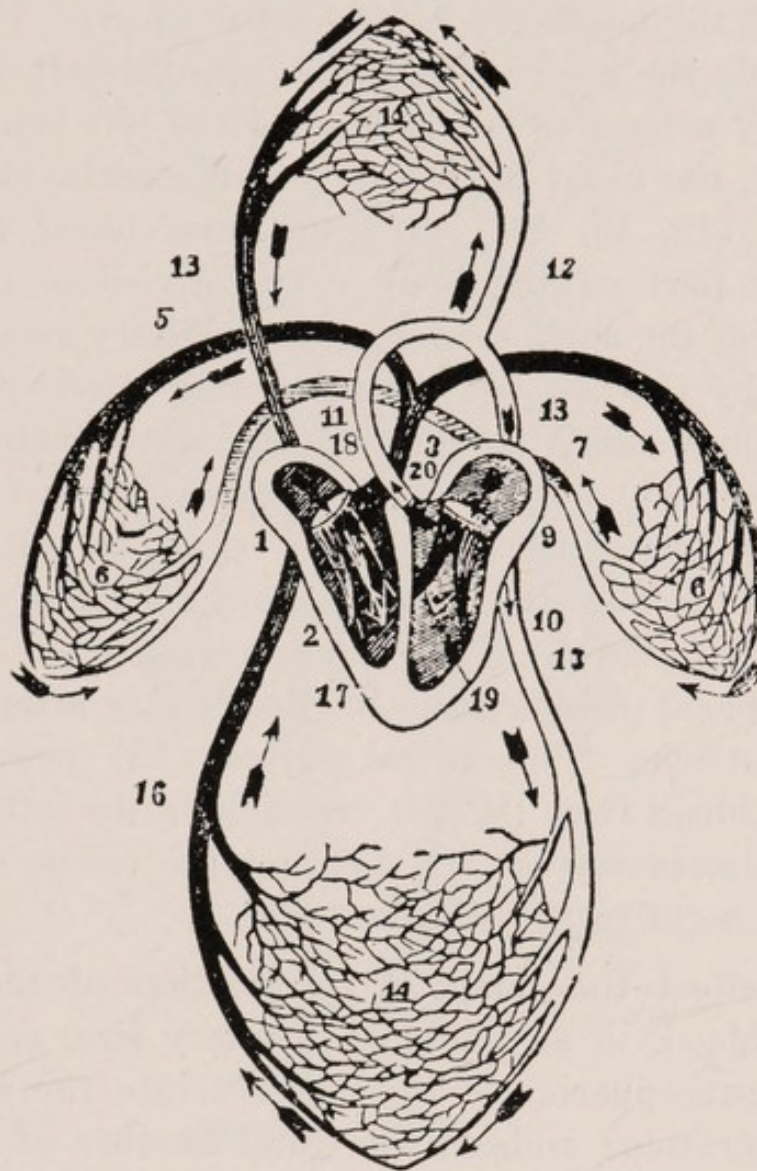
Likewise the stopping of the generator in the human electrical plant instantly renders it electrically *dead*, hence the saying, "He or She is DEAD."

The four systems occupied by the blood, again naming them: the cavities of the heart, arteries, capillaries and veins, are quite comprehensively represented in the following illustrations from Dr. Trall's work, with the exception of the capillaries.

PURIFYING OF THE BLOOD.

The purifying of the blood is of such vital importance to the successful running of the human plant, and the knowledge of the manner in which it is accomplished being of such importance to every human spiritual operator, the full description of the process as explained by Dr. Trall is herewith given.

Fig. 4.



PURIFYING SYSTEM OF THE BLOOD.

The figure is an ideal view of the circulation in the lungs and entire bodily system.

Dr. Trall, in his explanation, says: "From the right ventricle of the heart (2), the dark, impure blood is forced into the pulmonary artery (3), and its branches

(4, 5), carry the blood to the left and right lung. In the capillary vessels (6, 6) of the lungs, the blood becomes pure, or of a red color, and is returned to the left auricle of the heart (9) by the veins (7, 8). From the left auricle the pure blood passes into the left ventricle (10). By a forcible contraction of the left ventricle of the heart, the blood is thrown into the aorta (11). Its branches (12, 13, 13) carry the pure blood to every organ or part of the body. The divisions and subdivisions of the aorta terminate in capillary vessels, represented by (14-14). In these hair-like vessels the blood becomes dark colored, and is returned to the right auricle of the heart (1) by the vena cava descendens (15) and vena cava ascendens (16). The tricuspid valves (17) prevent the reflow of the blood from the right ventricle to the right auricle. The semilunar valves (18) prevent the blood passing from the pulmonary artery to the right ventricle. The mitral valves (19) prevent the reflow of blood from the left ventricle to the left auricle. The semilunar valves (20) prevent the reflow of blood from the aorta to the left ventricle.

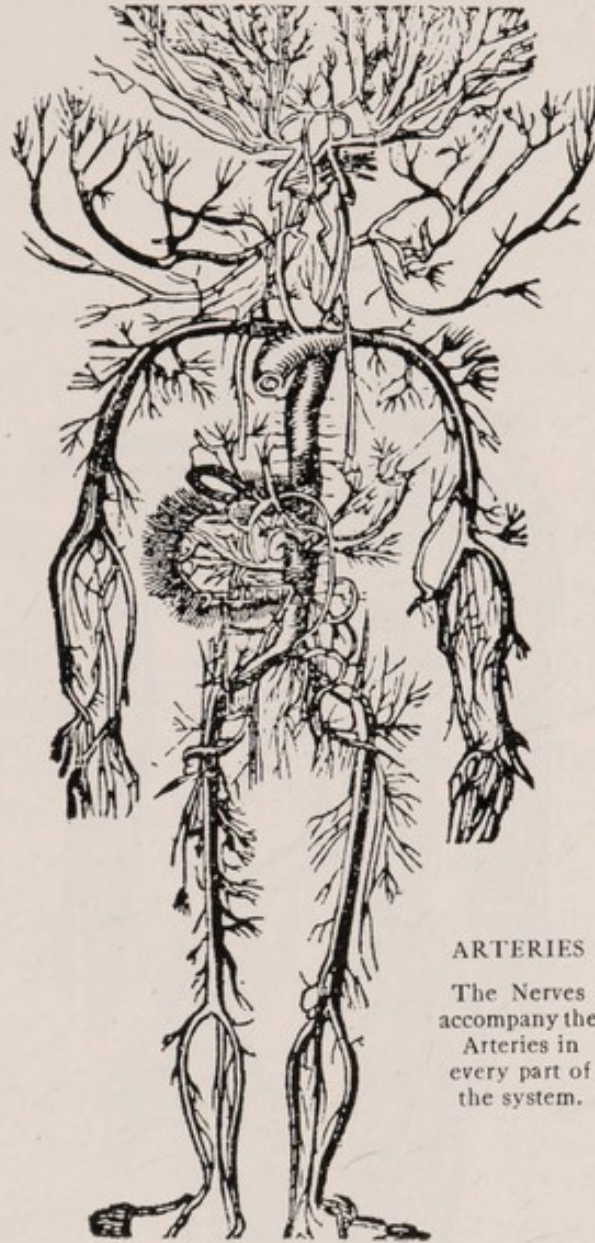
“To effect the complete purification of the whole mass of blood, in an adult of ordinary size, requires a pint of atmospheric air to be taken into the lungs at each inspiration; and, as the usual number of inspirations is about eighteen per minute, the daily supply amounts to three thousand two hundred and forty gallons, or one hundred and thirty-five gallons per hour.”

THE ARTERIAL SYSTEM is shown in the following illustration, by Dr. Trall.

The nerves accompany the arteries in every part of the system, observe, the Doctor says.

The capillary system the Doctor does not illustrate, for the reason that those ducts, or connecting tubes, are

Fig. 5.



ARTERIES

The Nerves
accompany the
Arteries in
every part of
the system.

ARTERIAL SYSTEM.

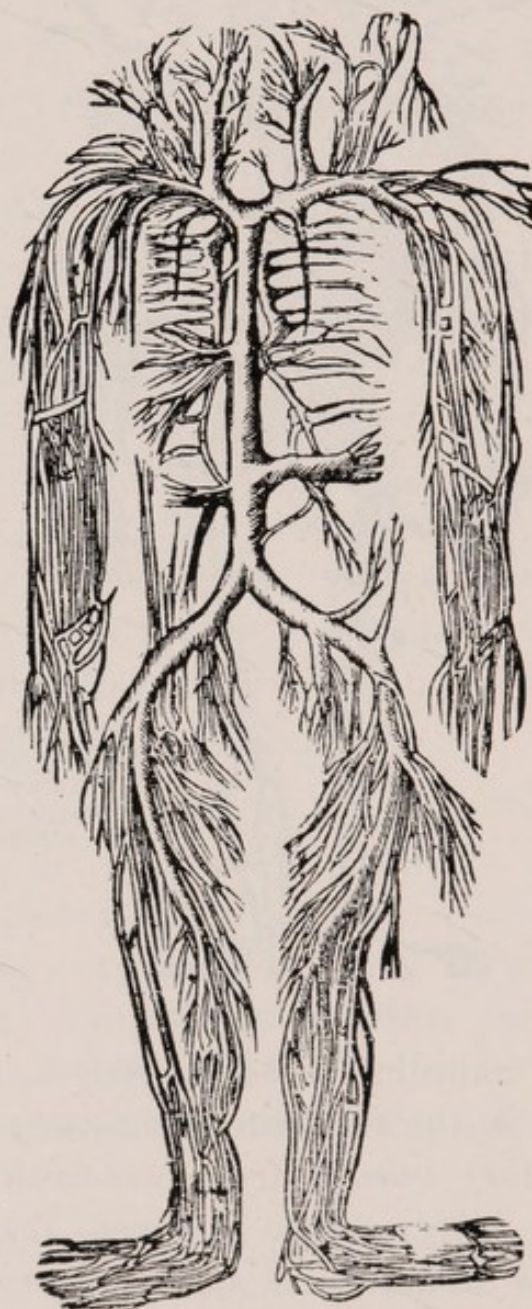
too small and complicated to be shown. He describes them, however, in the following language:

“The capillary *vessels* are a net-work of extremely minute vessels intermediate between the arteries and the veins. This structure exists in all organic textures. The size of the capillaries is proportionate to that of the

red particles of the blood, their diameter varying from $1/1000$ to $1/5000$ of an inch. They are not a distinct system terminating in open mouths, but merely fine tubes by which the arteries are connected into the veins."

The Venous System the Doctor shows in the following illustration.

Fig. 6.



THE VENOUS SYSTEM.

Of the Venous System the Doctor says:

“The veins are the vessels which return the blood to the heart after it has been circulated through the various structures of the body by the arteries.

“Veins originate by minute radicles in all the textures of the body and converge to larger trunks, the sum of the radicles being larger than that of the main trunk, hence the blood in returning to the heart passes from a larger to a smaller channel, which increases its rapidity of motion.”

Of the veins of the cerebrum and cerebellum the large and small brain, not shown, the Doctor says in explanation:

“The superficial cerebral veins are situated on the surface of the hemispheres, lying in grooves formed by the convexities of their convolutions. The superior terminate in the superior longitudinal sinus. The deep, commence with the lateral ventricles, and unite to form the *venæ galeni*, which, while escaping through an opening, called the fissure of Bichat, terminates in the straight sinus.

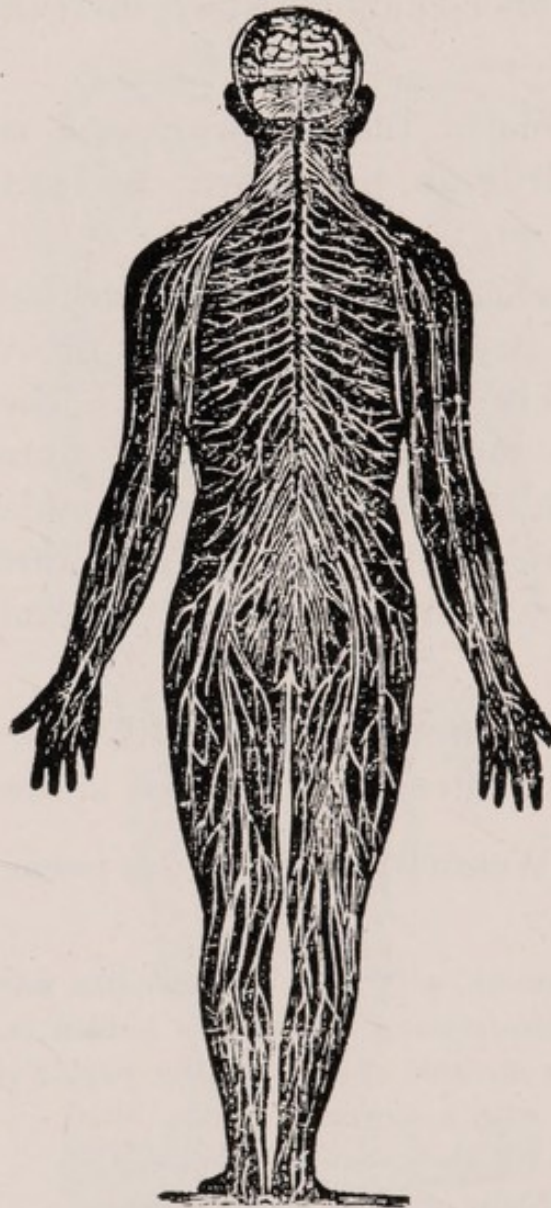
“The Cerebellar are disposed like the cerebral, and terminate in the lateral and petrosal sinuses.”

Dr. Oliver Wendel Holmes, in his poem, “The Living Temple,” says:

“The smooth, soft air with pulse-like waves
Flow murmuring through its hidden caves,
Whose streams of brightening purple rush
Fired with a new and livelier blush,
While all their burden of decay
The ebbing current steals away,
And red with nature's flame they start
From the warm fountains of the heart.

“No rest that throbbing slave may ask,
Forever quivering o'er his task,
While far and wide a crimson jet
Leaps forth to fill the woven net
Which in unnumbered crossing tides
The flood of burning life divides,
Then kindling each decaying part,
Creeps back to find the throbbing heart.”

Fig. 7.



NERVOUS SYSTEM.

That the reader may the more intelligently understand WHY and HOW the blood generates the mechanical or DYNAMIC electrical energy within the human electrical plant, the Nervous System is herewith shown, (necessarily very inferiorly), as illustrated by Dr. Trall. It illustrates more intelligently HOW said electrical energy is generated by the *frictional* process better than can be told in words, when we recall, first, what Dr. Trall says: "The nerves accompany the arteries in every part of the system." (It would be stating it equally as truthfully to say: "The veins accompany the *nerves* in every part of the system"), and, second, what he previously says respecting the venous system which returns the blood to the heart after it has been circulated through the various structures of the body by the system of arteries. "Veins," he says—to repeat the quotation—"originate by minute radicles in all the textures of the body and converge to larger trunks, *the sum of the radicles being larger than that of the main trunk*, hence the blood, in returning to the heart, passes from a *larger* to a *smaller* channel which *increases its rapidity of motion*" (italics the author's).

There is, therefore, a more intensified friction upon that portion of the nervous system embraced within the zone of the myriad veins possessing the plant, than that produced by the slower motion of the blood stream passing along the arterial nerve track, thereby enlarging very materially the extent of the field magnets (see page 70) and thus causing a proportionate increase in the volume of energy generated.

The reader is now able to easily perceive, especially if he or she be an Electrician, that the *nervous system* constitutes the "field" or *fixed* magnets, and that the *blood* constitutes the ARMATURE or magnet in motion of the human electrical generator, the Creator and Designer of the human electrical plant having placed and distributed the "field" or fixed magnets—the nerves, in such manner as to bring them into so near contact throughout the plant, with that of the armature—the magnet in motion, that there is created a FRICTION between them of such magnitude as to cause the nerves—the "field" or fixed magnets, to "*feel*" the force of that friction, which friction creates the energy within the human plant, *designated frictional* or mechanically generated electrical energy, and, the "field" magnets, being "carriers" of that energy, it is carried into every part of the plant.

One of the prime sources of the electrical energy generated within the human electrical plant, is at the *nerve cells*, composing, as they do, the countless fountain heads of the "electrical stream," as they may be properly called. Their smallness, varying from $1/300$ to $1/1250$ of an inch in diameter (again quoting Dr. Trall), causes them to be sensitive to friction to an intense degree. The human body contains many trillions of such cells, scientists tell us. In fact it is one compact group of cells.

They are so distributed as to be present in all parts of the plant, having their origin in the vesicular matter, which matter, we recall, is copiously supplied with blood. Their number and diminutive size, all immersed in the vesicular matter, *where the blood attains its greatest speed or motion*, there is, therefore, generated through

the *nerve cell mass* a goodly proportion of the *dynamic* electrical energy with which the Human Electrical Plant is supplied.

These cells can, therefore, be termed the "Incandescents" of our bodily electrical plant, for, being located at the extreme "fountain head" of all tissue formations, and being there "drawn" to such infinitesimal diameters as to cause them to be the very extreme of susceptibility to frictional action resulting in the dual production, that of dynamic electrical energy and heat.

Moreover, these cells having their origin in the vesicular matter, as stated, said matter can be said to be the "Hot House" of our bodily plant, heated by those incandescents, and in which all living animal matter germinations are formed and there allowed their initial entry into the economic structure from whence they constantly replenish the "zinc" in our bodily chemical battery that is constantly being disintergrated and cast away.

The replenishment of these cells being effected through the wonderful "food-carrying, irrigating stream," that is sent into every part of the economic structure—the blood, therefore, when the "food-digestive-assimilating apparatus" becomes so impaired as to cut off the fertilization of the blood with the cell-forming materials, the replacement of the disintegrated cells ceases and the dynamic electrical energy within our material body becomes more and more reduced in volume, so that when the disintegration of the cells passes beyond certain limits, all replacements having ceased, the "bodily battery" becomes DEAD, and all dynamic electrical energy ceases, whereupon the spiritual entity immediately takes its flight from out its material body. This is true of every so-called living animal organism, howsoever classified.

These facts did not escape the notice of Dr. Trall, although so far back as Eighteen Hundred and Fifty-one. You recall that he says: "The vesicular matter, wherever found, is regarded as a *generator of nervous influence*," a term then thought proper.

Messrs. Fowler and Wells, publishers, New York, informs the Author that it was prior to 1851 that Dr. Trall prepared his manuscript for his work, from which quotations are being made. Electricity was little understood at that time. It is interesting to read, therefore, what the Doctor tells us with reference to the "nervous influence." He says: "The essential nature of that power, principle, or influence which endows the nervous tissues with its peculiar properties, has always been a theme of interesting speculation. The most ancient doctrine was that of the circulation of a fluid through the tubes of the nervous fibres; but at length the tubes were found to be not hollow.

"The next theory was that of vibration; it was supposed that the nerves conveyed impressions from one extreme end to the other by vibratory motion analogous to a stringed instrument; but this doctrine was abandoned on discovering that the nerves, instead of being attached firmly at their extremities, are diffused in a soft, pulpy mass. (Now give heed.)

"The prevailing opinion now (1851) is, that the source of nervous power is SOME MODIFICATION OF ELECTRICITY." (Caps the Author's.)

Slowly but surely the world was evolving towards the period in which we now are—the Electrical Age.

The nerves are now known to be "carriers" or conveyors *only* of the electrical energy. Therefore, as has been stated and described, the nerves constitute, though

complex, yet most perfect, the NERVE-WIRING SYSTEM OF THE HUMAN ELECTRICAL POWER PLANT.

Dr. Trall, in a few instances in his work, speaks of the nervous influence *generated by the nerves*. How could he more clearly have stated an error? Webster interates the same false doctrine. He says: "The first essential idea of any nervous system involves the necessary presence of a nerve center or centers which *generate the nervous force or impulse*. The muscles are able to do their work by contractions, which contractions are stimulated, or given their force by nervous action. The function of the nervous system is to convey impulses resulting in motion, sensations, secretion, etc." In this he is correct. (The muscles also are declared to be energy-producers by some, Author.)

The "*wire*" the *generator* of electrical energy? Dr. Trall knew better; he had a clear understanding upon what life depends. In speaking of the necessity of exercise, he says, poetically:

"Nature thus lives by toil, beasts, birds, air, fire, the heavens and
rolling worlds,
All live by action, nothing lies at rest,
But death and ruin."

Aye! the rolling worlds do not lie at rest. Our earth, besides turning upon its axis once every twenty-four hours, travels, we know, around the sun once yearly, a distance of approximately six hundred millions of miles, and, it being a mighty magnet and conductor of electrical energy as well, presents to us the *reason* WHY there exists so much electrical energy in and upon it and being supplied it unceasingly by reason of this astounding motion or *action*, as the Doctor stated it.

No more conclusive proof can be offered affirming that the blood is, by its motion, the generator of the mechanical or dynamic electrical energy within the human plant than to state the fact, the INSTANT the blood ceases to "run," its MOTION stopped, that instant the plant becomes, electrically, DEAD, the engine which propelled it having ceased ITS "running."

If this were not true, but, instead, it were true that this energy is generated wholly by the *chemical* process within the body, why, then, is its generation made to so instantly cease upon a leaden bullet or other instrument being made to pierce the heart, there having been *absolutely* no change effected in the chemical combinations within the body.

In one of his talks to his guests at the "Breakfast Table," Dr. Holmes said:

"Our brains are seventy-year clocks. The Angel of Life winds them up once for all, then closes the case and gives the key into the hands of the Angel of the Resurrection.

"Tic-toc! tic-toc! go the wheels of thought, our will cannot stop them; they cannot stop themselves; sleep cannot stop them; madness only makes them go faster; death alone can break into the case, and, seizing the ever-swinging pendulum, which we call the heart, silence at last the clicking of the terrible escapement we have carried so long beneath our wrinkled foreheads."

The saying that the blood is the LIFE of the body, states a *most egregious* error. It can, however, be correctly defined as being the *electrical* life of the body, its other chief functions being the supplying of air to the furnace and the distribution of the food materials to the bodily tissues.

Mr. Charles R. Gibson says: "The usual definition of energy is: Capacity for doing work." He says, further: "The form of energy which is most conspicuous is the energy of Moving Matter. We might call it the *Energy of Motion*. This form of energy has a more distinctive name given to it—Kinetic Energy, the word kinetic being derived from the Greek verb—I move."

The Author hopes he has presented the process by which all animal organisms are possessed their Mechanical Electrical energy or power, more especially the human, in language so plain as to be readily and easily comprehended by his every reader.

DISCOVERY OF ELECTRICITY

The Author cannot forbear to here embrace the opportunity to give a few facts relative to the discovery of electricity, as the narrative distinctly corroborates his discovery of the generating of the dynamic electrical energy within the human body by the *friction* occasioned by the rapid motion of the blood so near to and along the entire nerve tract, facts both interesting and instructive.

The earliest accounts attribute the discovery of this subtle force, or energy, to one, Thales, of Miletus, six hundred years B. C., and it is remarkable that the first mental conclusion as relates to the *cause* of this subtle energy should be the correct one, viz.: FRICTION.

But it was not until the latter part of the Sixteenth Century, A. D., that it was known by the name of electricity.

The word is derived from the Greek word MEKT-POV, meaning Amber. The term was invented by Wil-

William Gilbert—1540-1603, A. D., the most distinguished man of science in his time in England, who used it with reference to the attractions and repulsions excited by friction in certain bodies of which amber may be taken as a type. To the cause of these forces was given the name, Electricity.

Luigi Galvani—1737-1797, A. D., an eminent Italian physiologist, made the discovery of what he termed, Animal Electricity. Having skinned some frogs preparatory to cooking them for his sick wife, one of them came in contact with two pieces of magnetized metal and immediately the frogs showed signs of motion. He later set up the claim that the nerves of the frog were the "Generators" of the electrical force which gave to the muscular system of the frog its motion." (A like erroneous conclusion as that arrived at by Dr. Trall and Mr. Webster.)

To this doctrine of Galvani's, that the *nerves* of the frog generated the electrical energy, Alessandro Volta, 1745-1827, A. D., an Italian Natural Philosopher took exceptions, holding to the doctrine that the nerves of the frog were simply the *conductors* of that energy. (Another remarkable conclusion for that period by reason of its absolute correctness.)

But Volta was himself led into an error. He believed he could generate electricity without the use of friction or motion. Procuring a delicate apparatus he tried to discover signs of electricity during the process of evaporation and ebullition and during changes of temperature. After repeated failures he at last believed himself to have succeeded in obtaining electrical effect during the evaporation of water.

Commenting on this so-called discovery of Volta's, an eminent authority says: "We know now that evapora-

tion by itself does not cause a difference in electrical potential, and that Volta's effect was due to *friction* of the vapor generated against the sides of the vessel; but this has only been established quite recently."

So that, read as carefully as we may all the records in existence of electrical research, beginning with those of Thales, down to the present, in *not a single instance can we read where DYNAMIC electrical energy has been generated except through the intervention of motion*, or friction. Also, that in no single instance have the conductors—wires—been the "*generators*" of the electricity which was being conducted through or over them.

Thus we observe that in matters physical it is not possible to create friction in any degree or volume without a resultant. That resultant is Electrical or Kinetic Energy in a corresponding degree or volume.

ANIMAL HEAT

Heat is one of the natural requirements of the human body equally with that of the electrical energy, and how created therein and how maintained is one of the mysteries which obtains respecting the material animal organism.

The primary cause of heat in the human, as also in all warm-blooded animal organisms, is through the chemical process of food, or fuel combustion, aided by the oxygen given it by the blood. The combustion thus chemically produced gives to the body only its galvanic or chemically generated electrical energy, we have learned, which energy "runs" the "Engine"—the heart.

Friction, it is now known, is the basic source of all

dynamic electrical energy; also that friction is created by and through motion, which, in turn, produces heat.

The commercial dynamic electrically heated "reducing" plants are among those most intensely efficient now known. So efficient is friction in the production of heat, that two pieces of ice can be melted by rubbing them violently together, that, too, while in an ice-cold atmosphere, as was demonstrated by Sir Humphrey Davy, the noted English Chemist, and who concluded that the immediate *cause* of all heat is MOTION, as related by Webster.

Therefore, the major part of the heat existing in the human, as well, also, that in all warm-blooded animal organisms, is created by the friction which ensues between the fixed or stationary magnets of the material bodies—the nerves, and the "Armature" or magnet in motion—the blood, which generates the dynamic electrical energy by which largely the plant is heated and its electrical equipment is operated.

The heat thus generated by the dynamic electrical energy within the body supplies it with immeasurably the major amount of its heat, just as the heat given off by the electrical generator in the commercial plant, immeasurably surpasses in intensity that produced from the combustion of the fuel burned in the furnace of the plant.

Therefore, all the heat with which the body is supplied is not produced by the "burning" of the fuel in the furnace, for if the body be denied food of all kinds a sufficient length of time until it is reduced to a mere skeleton, it retains almost its normal degree of heat until the *last heart-beat*, when, immediately, the heart and blood having stopped their "running," all heat production ceases and the body speedily becomes cold.

There has been presented the reader the *material*, human electrical power plant, including a part of the electrical equipment installed therein, which latter includes the mechanism for generating the mechanical electrical energy with which the plant is operated.

However complete its description may be in every detail, it ever remains, like unto the commercial electrical plant, wholly useless and worthless for the purpose or purposes for which it was designed without someone skilled in its operation to operate it; to *direct* and *control* the electrical energy generated therein and apply it *where, when*, and in such *volume* as occasion demands in its successful operation, as has been stated.

Such operator, we have learned, the Creator provided both the male and female material human organisms with His Creation of them, creating them SPIRITUAL and causing them to take up their abode in the respective material organism so created for each, *permanently*, whereupon they became the LIFE of their respective material abodes, and, that these, His spiritual human creations, should not be lost to the world, He caused the "seed" of their material bodies, jointly, to be fructified with human spiritual LIFE, which life He specifically endowed with intellectuality.

Thus have all human material electrical power plants that have been born into the world subsequent to his Creation of them, been provided a spiritual operator by and through the process evolved by Him, known as "Nature's Way," whereby human kind, male and female, have ever been given to the world throughout all the intervening ages, replacing those who have, from day to day, passed to the beyond.

There was, we have learned, installed within the material human electrical plant by the Creator, an instrument or organ unlike that installed within any of His created material animal organisms—the Human Brain, locating it within the Cranium or skull, and it is the general belief that it is the abiding place of the spiritual operator of the material plant. Dr. Trall says: “All physiologists agree that the cerebrum is the ‘seat’—he terms it—of intelligence.”

Why this hesitancy on the part of physiologists and biologists to call a spade a spade when speaking of spiritual man who exists, an entity, as truly as does Material Man? Spiritual man cannot, *correctly*, be designated by the word “Intelligence,” as Dr. Trall chose to use the term. Physiologists know that Intelligence is not a Being, but is instead an *attribute* of or gift *to* a being. They know also that *material* is neither life nor intelligence, therefore the Doctor should unhesitatingly have declared the brain to be the seat or abode of the intellectual Spiritual Being and *thus* have stated a truth in its simplest form.

Dr. Charles W. Eliot, in his lecture delivered at the Eleventh Session of the Harvard Summer School of Theology, July 22, 1909, said:

“Men have always attributed to man a spirit distinct from his body, though immanent (remaining) in it. No one of us is willing to identify himself with his body; but, on the contrary, every one now believes, and all men have believed, that there is in a man (in man’s *material* body, would have been a better expression, Author) an animating, ruling, characteristic essence or spirit (the spirit or essence, Doctor?) *which is himself*. This spirit, dull or bright, petty or grand, pure or foul,

looks out of the eyes, sounds in the voice, and appears in the bearing and manners of each individual. It is something *just as real as the body, and more characteristic*. To every influential person it gives far the greater part of his power. It is what we call the personality. This spirit, or soul, is the *most effective part* of every human being, and is recognized as such and always has been." (Italics the Author's.)

While spiritual man cannot see spiritual man while each has for his habitation his material body, nevertheless, when each, looking through the orifice known as the pupils of their eyes, and the range of vision of each comes into conjunction, there is an instant recognition of each by each when we are said to be "looking at each other" and there is *instantly* set in motion an electrical current through the ether—pervading the space separating eye from eye, and through which both receives the signal, one from the other, saying: "Yes! I see and recognize you," constituting a message as plainly "read" and understood by each as if it were a message being passed between each through that other method of wireless telegraphy—the outpost for *hearing*, of which each maintains as a "receiving station" termed the organ of hearing—the ears, and during the entire time that such conjunction of vision exists or is maintained between the two pairs of eyes, just so long does the etherial electrical line remain "closed," and if allowed to remain "closed" for but a brief period, especially when those "looking at each other" are young and of opposite sex, most peculiar results follow, notably the rushing of blood to the face cuticle of one or both, bringing on a condition termed "blushing."

With the organs of vision destroyed the spiritual man recognizes spiritual man through that other wireless

system which is maintained, connecting outpost for hearing with outpost for hearing—the ears of each, after which, both the outposts for seeing and hearing being put out of commission, there remains one other method whereby each man is enabled to recognize the presence of the other through the outpost or sense of feeling, the feeling of their material bodies, the remaining two outposts, those for tasting and smelling being useless for purposes of human recognition.

Spiritual Man has ever been denied his rightful place in this the present world, notwithstanding the fact that the combined wisdom and reasoning of all humanity cannot successfully disprove man's present spiritual existence here on earth; cannot successfully disprove that this is the "spirit world" in which we now dwell. Material man has ever been declared to be, or considered to be, the *Ego*. I—THE MAN. It is material man that the world seeks to honor; it is material man that receives recognition and is recognized and known as "The Man" the world over, all because Man, the real—the spiritual—is not visible to the mortal eye, wholly ignoring the proof of his existence and presence in this world which is so unerringly proven and made manifest in the presence of the myriad objects existing upon the earth, all designed by spiritual man, he having made and constructed them by the utilization of that most marvelous mechanism given him by the Creator—his material body—and their existence only then made possible by the utilization of those of its auxiliary parts, those instruments of instruments, the acmé of all "tools," the human HANDS.

It is, therefore, a monstrous fallacy—the disbelief that this is the spirit world in which we now dwell. True, material man also now exists in this world, not,

however, as an intelligent being, but simply as an abode in which dwells HUMAN LIFE, the real, intelligent, knowing, reasoning, thinking, being — SPIRITUAL MAN. It is patent that we now dwell in this world spiritually, therefore in the spirit world, for is it not fact that we cannot, in our intercourse one with the other, converse *only spiritually*? It becomes more patent still since our material bodies are, within themselves, senseless, speechless, as is so forcibly portrayed in Edwin Arnold's poem, "He and She," which appears in the early pages of this book, the mental survey of which prompts the question which it is not possible NOT to raise, viz.:

As spiritual man is positively known to exist in this world, being enabled to make his presence known or made manifest while a tenant of his earthly material abode only by utilizing the marvelous material mechanism installed within it, by which he is enabled both to communicate WITH and to receive communications FROM the outside world, all of which mechanisms are operated by the electrical energy generated therein and under his spiritual direction and control. Now, therefore, is it possible for him, spiritual man, ever thereafter to make himself manifest or his presence known, in any manner whatsoever after having departed his material abode, so marvelously mechanically equipped and provided the electrical energy with which to operate them?

The Author avers, *he is* NOT, simply IMPOSSIBLE.

The brain, being the permanent abode of the spiritual operator of the human material plant, the Author has given it the name, "Central Station," because of the fact that the Creator, in the distribution of the nerve-wires, which he caused to be installed within it, were each made to either "run" to and enter this Central

Station, or to be put in direct electrical connection therewith, enabling the operator thereby to instantly receive all messages sent in by the five outposts, and, in response thereto, instantly direct, apply and control the necessary volume of the electrical energy to any part or parts in the plant requiring its application during such time or times when it is on active duty.

It is interesting to read what William Hanna Thomson, M. D., LL. D., has to say upon this subject in his work, "What Is Physical Life?" under his last caption, "As to Ourselves," commencing on page 155;

"Unhappily we are not like scientific beings from another world, visiting this plant to visit its vital phenomena, but we are ourselves part and parcel of that which we are investigating. To say the least, this fact is curious, and naturally suggests the question whether, after all, we are really of this earth, or only by some chance on it. Certainly this earth has no other self-examining species.

"But before attempting any great ascent, much preliminary work is necessary, and so here, following, as we should, along the lines of the physical conditions entering into the life of man, we begin with his bodily senses. It is by them, (through them would be the better word, Author,) that he comes into relation with his physical world, because they afford the only means by which, at first, he can do so. He is an *inner centric self with the whole world outside of him*, and so that world would remain *but for these special sense organs*, which, it should be particularly noted, are on one side so wholly physical, that we can examine them with scalpel and microscope, BUT THEY CONNECT AT THE OTHER END WITH WHAT IS ANYTHING BUT PHYSI-

CAL, being, instead, wholly PSYCHICAL. (Spiritual—Author.) It is not the physical eye, but only the *man himself which sees*, though without the eye he could not see at all. Here, then, just where each bodily sense reaches his consciousness, IS THE MAN HIMSELF. This is WHERE HE IS AT HOME, and if we can only make his acquaintance in those private quarters, we will learn more about him than anywhere else.” (Caps and italics the Author’s.)

We have learned that the spiritual operator is present and in permanent possession of its material abode when it is ushered into the world, and that, though endowed with intellectuality, it is, however, wholly deficient in knowledge and understanding. Continuing in growth with its material body,—no fatalities having befallen it,—the body,—it in time arrives at the stage of understanding when its education and “storing” of knowledge begins, or, otherwise expressed: it’s time—for “planting” has now arrived; the *number* and *quality* of the “seeds”—subjects planted—taught it, determines the *volume* and *quality* of the “fruit” garnered, and with which it becomes possessed at the end of the “harvest.” Just as the earth soil brings forth from the respective seeds planted, both the life-sustaining and life-destroying fruits, so does the “mental soil” bring forth fruits both sustaining and destructive of the moral life of the child from the respective “seeds” planted,—subjects taught it, which is to say, the higher the intellectual teachings, and the purer the moral environment throughout the life of the operator, the higher will be the standard of its intellectuality and morality, and, *vice-versa*.

However, every human spiritual operator is born

into the world possessed of certain hereditary endowments, gifts of its "Queen Mother," as Mrs. Martindale so beautifully expresses it. These said gifts end at the expiration of the child construction period, as Emerson truly says: "When Man comes forth from his mother's womb, the gate of gifts closes behind him." These mother gifts assert themselves in the early life of the child operator; they may be good and beneficial gifts, and they may, in part, at least, be bad and vicious gifts. If the former, the Giver of the gifts should be accorded all praise. If the latter—the vicious, the spiritual child, should not, neither can it be justly censured, but, instead, every means possible should be employed and exerted to remold such child mentally and, if possible, given a "new moral birth" through righteous training and precept.

The ability of the human operator to acquire knowledge, we have learned, is due to the installation within its material plant, by the Creator, in His original creation of man, of the specifically designed and constructed instrument or organ—the human brain, which, we recall, is possessed and largely composed of a network of Nerve-wires, innumerable in number, and infinitesimally small in calibre, each being in direct electrical connection with the central station—the ever-abiding place of the operator—each of which Nerve-wires constitutes a special organ, instrument or tool, designed for a certain specific purpose, to-wit: its utilization by the operator in the production or creation of thought, thereby enabling it to achieve success in the many specific fields of human endeavor in proportion as the organ, instrument or tool involved is developed and perfected.

Under the caption, "The Highest Conservation,"

the Cleveland Leader, of date Sunday, April 30th, 1911, says, Editorially, "An age which talks much of the conservation of forests, water power and the soil, ought to bow in reverence before that higher and finer conservation which guards human life. * * *

"The question whether a baby shall live or die may be the issue between peace or war for great nations. On that young life may depend some far-reaching discovery in science, freighted with the healing of the sick, the lightening of human toil, the widening of human knowledge."

To which the Author would add, "What momentous reflections overtake us when we reflect upon the possibilities that might have resulted adversely to human welfare had all the great men possessing those unique brains which gave to the world its manifold "uplifts", each in his specific sphere, have died when babes."

Included in the said wiring-system, we recall, are the five special mechanisms, those for seeing, hearing, feeling, tasting and smelling, the five outposts, as they have been termed, each of which is also connected electrically by a direct special nerve-wire with the central station, the function of each being to "catch," take up and transmit to the operator, in the form of messages, all information coming to each upon the receipt of which, the operator takes such action thereupon, immediately or otherwise, as the nature of the message demands.

These five outposts, you recall, Dr. Trall explains, are the instruments of communication *from the outside world* to the brain. (The *sole* instruments, he should have declared.) They can be said to be the "gateways" through which knowledge enters on its way to the operator. Every thesis, therefore, upon whatsoever subject

presented the child operator and throughout its earthly sojourn, *must be presented it* through one or more of the five outposts.

These are *receiving* instruments *only*, as they are wholly useless in communicating or transmitting messages or knowledge *from* the spiritual operator *to* the outside world, all messages or knowledge communicated *to* the outside world *from* the spiritual operator being by and through the media of speech, writing or the sign languages. Moreover, the five outposts do not belong to, neither do they form composite parts of the operator's spiritual being, for, during a period when the eyes are closed—nothing seen—and there is complete absence of all sounds, odors, savors and feelings or sensations, spiritual man can be and is most active in constructing mental thoughts, which thoughts can be, and often are, upon many subjects, embracing oratory, composition, reminiscence, invention, planning, etc., etc., all proving that the spiritual operator dwells within its material plant during such periods, and does not compose any of its constituent parts, but is wholly distinct from it, he or she simply making use of those instruments installed within it for receiving communications and knowledge from the outside world, and then communicating messages and knowledge from him or herself *to* the outside world through and by the instruments provided and installed within their material plant for such usage—the vocal apparatus, which embraces the vocal cords, tongue, palate and lips, the hands being utilized in conveying knowledge by writing, also the sign language. Without these members or adjuncts of its material abode, the ability of the spiritual operator to transmit messages and impart knowledge from him or herself

to the outside world intelligently is reduced to the minimum.

As each nerve-wire embraced within the brain is an organ, instrument or tool, designed for a specific purpose,—the production or giving off of a *specific thought*, and also, in the use of which the operator is enabled to, manifestly, achieve success in specific fields of endeavor in proportion as the organ, instrument or tool involved, is developed and perfected, as has been stated, it devolves upon parents to begin early in the child life to carefully study the natural bent of the boy or girl, and, as soon as it is clearly manifest that they have “natural talent” in any particular field useful in its nature, every encouragement should be rendered the child in acquiring the necessary knowledge and proficiency to make him or her proficient in that specific field.

A learned gentleman, in reply to the following question (they were discussing the subject of the needs of vocational schools) :

“Do you think any boy can do what he wants to do if *his will is only strong enough?*” replied :

“I am not sure about that, but I do know he can do best that which he is *naturally* best fitted for, and that is the thing he ought to do. These qualities ought to be discussed early in life, and trained and adjusted for the life’s task.”

The Author has heard it related that the first power LOOM, with its cams for throwing or changing the heddles alternately in place of the foot-pedals of the hand loom, was set up in the attic of the young inventor’s home; that upon the father discovering it, he

kicked it to pieces and upbraided the boy for idling his time in that useless manner. But, the cams which throw the heddles in every power loom now in existence attests the value of the boy's invention—the immediate result of *natural* inventive talent.

Thousands upon thousands, men especially, are driven into following vocations for which they have no natural talent in the execution of their work, the result being that they go through life earning the daily bread for themselves and those dependent upon them, greatly handicapped, all because the organ, instrument or tool which is required to be used, is so inadequately developed within their brain. Dr. Herman Cohen says truthfully, "An uncongenial, he terms it, occupation warps the body and withers the soul."

Carlyle said: "Blessed is he who has found his work; let him ask no other blessedness."

The inordinate talent possessed by great Musicians, Mathematicians, Sculptors, Poets, etc., all have the organ, instrument or tool designed for use in their specific or particular field of endeavor developed and perfected in an unusual degree within their brain.

Contrary-wise, there are those whose like specific organs, instruments or tools are so imperfectly or inadequately developed, thus so lacking in usefulness, as to cause the Spiritual operator to fail utterly when attempting to perform such specific endeavor, just as all human endeavor in the constructive world fails when the person, or persons, are lacking in or denied the use of the specific instrument or tools required or made necessary in the execution of the specific work. For the foregoing reasons the Author is, as he believes, a consistent believer in phrenology. Whether the phrenological

charts prepared by specialists purporting to correctly locate the many specific organs represented therein, he is neither competent nor prepared to say.

The brain of the eminently intellectual Voltaire was lacking in many particulars. At the age of ten years, 1704, he was sent by his father to the college, Louis le Grande, Paris, for a seven years' course. His Jesuit instructors believed in the *natural equality* of minds. (Brains would have been a more correct word, Author.) Parton, in his Life of Voltaire, says that in a letter of 1767, in repudiating the doctrine of the natural equality of minds (?) he adduces his own incapacities:

“As early as my twelfth year I was aware of the prodigious number of things for which I had no talent. I knew that my organism (brain, he meant,) was not formed to go very far in mathematics; I have proved that I have no capacity for music. God has said to each man: Thus far shalt thou go, and no farther. I had some natural power to acquire modern languages; none for the Oriental. We cannot all do all things.”

Notwithstanding his adverse opinion as to his greatness of intellect, he was possessed of a most marvelous brain.

Parton says further, that Goethe once wrote:

“Depth, genius, imagination, taste, reason, sensibility, philosophy, elvation, originality, nature, intellect, fancy, rectitude, facility, flexibility, precision, art, abundance, variety, fertility, warmth, magic, charm, grace, force, an eagle's sweep of vision, vast understanding, rich instruction, excellent tone, urbanity, vivacity, deli-

cacy, correctness, purity, cleanliness, elegance, harmony, brilliancy, rapidity, gayety, pathos, sublimity, universality, perfection, indeed—behold Voltaire.

“Voltaire will always be regarded as the greatest man in literature of modern times, perhaps of all times; as the most astonishing creation of the Author of Nature, a creation in which He pleased himself to assemble, once, in the frail and perishable organization of a man, all the varieties of talent, all the glories of genius, all the powers of thought.”

It is only when we contemplate upon the myriad thoughts expressed in the writings of all the manuscripts and books; all those represented in the creation of the numberless structures, mechanical devices; and all those necessary in the creation and perfecting of all the works of Art of every description extant in the world,—together with all those necessary to be evolved in the daily routine of our lives, that we are enabled to, in a measure, comprehend the marvelous mental scope of the material instrument installed within the human material electrical plant through and by which its spiritual operator is enabled to make manifest his or her wondrous intellectuality—the Human Brain.

“BOOK FOR REFERENCE”

Intelligence of whatsoever nature coming from the outside world, we have learned, is received by the spiritual operator at the Central Station in the form of messages by and through the instrumentality of the five outposts. There is here kept a Record in which is “recorded” those intelligently sent and received all during the time or times said operator is on active duty.

It becomes, as it were, the Great "Book for Reference," and is sometimes referred to poetically as "Memories Tablet." All messages so received are "recorded" in the language or languages in which the operator has been tutored. Let us consider for a few moments this Record. It is most wondrously illustrated; in it is not only "seen" the faces and images of father, mother, sisters and brothers, but thousands, perhaps, of dear friends; also innumerable scenes and objects, especially if one has traveled extensively, all messages sent in for "record" from the outpost, seeing, since Memories dawn. The messages sent in for "record" from this outpost—"seeing station," constitutes by far the most interesting part of the "Book for Reference," and being illustrated, photo-engraved, as it were.

It is interesting to read what Samuel L. Clemens, Mark Twain, in one of his last writings said what he saw in his book for reference, messages sent in during his barefoot days in Missouri:

"I can see the farm yet with perfect clearness; I can see all its belongings, all its details—the family room of the house, with a trundle-bed in one corner, and a spinning wheel in another—a wheel whose rising and falling wail, heard from a distance, was the mournfulest of all sounds to me, and made me homesick and low-spirited, and filled my atmosphere with the wandering spirits of the dead—the vast fireplace piled high on wintery nights with flaming hickory logs from whose ends a sugary sap bubbled out but did not go to waste, for we scraped it off and ate it; the lazy cat spread out on the rough hearthstone; the drowsy dog braced against the jambs, and blinking; my aunt in one chimney corner knitting, my uncle in the other smoking his cob pipe;

the slick and carpetless floor faintly mirroring the dancing flame tongues and freckled with black indentations where fire coals had popped out and died a leisurely death; half a dozen children romping in the background twilight; split-bottomed chairs here and there, some with rockers; a cradle out of service, but waiting with confidence; in the early cold mornings, a snuggle of children, in shirts and chemise, occupying the hearthstone and procrastinating—they could not bear to leave that comfortable place and go out in the wind-swept floor space between the house and kitchen, where the general tin basin was—and wash.”

The poet Longfellow was presented a chair made of wood taken from the “Village Blacksmith’s Chestnut Tree” by the children of Cambridge on his seventy-second birthday anniversary. At that ripe age read what he said he “saw” and “heard,” (?) in his “book for reference”:

“Well I remember it in all its prime,
When, in the summer time,
The affluent foliage of its branches made
A cavern of cool shade. * * *

“The Danish King could not in all his pride
Repel the ocean’s tide,
But, seated in this chair, I can in rhyme
Roll back the tide of time.

“I see again, as one in vision sees,
The blossoms and the bees.
And hear the children’s voices shout and call
And the brown chestnuts fall.

“I see the smithy with its fires aglow,
I hear the bellows blow,
And the shrill hammers beat
The iron white with heat:

“And thus, dear children, have you made for me
This day of jubilee,
And to my more than three-score years and ten
Brought back my youth again.

“The heart hath its own memories like the mind (?)
And in it are enshrined*
The precious keepsakes, into which is wrought
The giver's loving thought.”

*Recorded.

There is recorded in each individual “book for reference” innumerable messages sent in by the other three outposts—*tasting*, *smelling*, and *feeling*, whereby the “recorder” is enabled to instantly recognize familiar odors, savors and sensations as like messages are again from time to time presented or repeated.

All the messages upon the countless subjects received, sent in by the five outposts during the life of the person, *correctly* and *clearly* “recorded,” go to make up the volume of knowledge “stored.”

Many of the messages “recorded” at the time of their receipt are so faintly “written” that they become undecipherable. Others, again, are deciphered—remembered, after great effort, hence the expression, “Let me think.” How often do we hear such expressions as the following: “Oh, I remember!” “Oh, yes! that reminds me,” and “I can never forget,” simple references to the “book for reference.”

By and through the instrumentality of the five outposts the spiritual operator is quick to detect harmful agencies when they encroach upon the material plant. For instance: the outpost or organ of feeling embraces a very important auxiliary—the cuticle or skin which envelops the entire plant externally, with the exception of the nails at the outer extremities of the hands and feet—the fingers and toes. It is also termed the organ of touch. So perfectly does this outpost perform its function, that of sending an alarm to the operator at the Central Station, that upon the point of the finest needle being thrust into the skin on any part, the “hurt” is instantly detected, definitely located, the message having been instantly transmitted thereto. The tread of a fly upon the skin is instantly detected, and its place of alighting definitely located. A two-year-old child at play in the home of the Author was seen to be in trouble. Upon investigation the mother discovered a stiff, sharp bristle an inch in length in its nether garment at the *exact spot* as indicated by the child’s actions. But for this provision of definitely locating any intrusive object, or local derangement within the plant, great harm would often follow because of such defect.

Again, the outpost of seeing detects the approaching run-away horse, or fast approaching railway train, when instantly messages are flashed to the operator who sees to it that the plant is moved out of harm’s way, if possible. The outpost of *tasting* is quick to detect many of the poisonous or harmful substances presented the spiritual operator for its acceptance as food and drink as sustenance for the plant; that of *smelling* is ever on the alert for the detection of any harmful or dangerous

odors endangering the plant, while that of *hearing* is quick to detect all manner of sounds coming within the zone of its marvelous sound-receiving mechanism, announcing impending danger to the plant, thus enabling the operator to remove the plant, when possible, out of harm's way, similarly as in the case of the messages received from the outpost of seeing.

It is asserted in Science and Health, by the late Mary Baker Eddy, that the remote (first) CAUSE of sickness is found in the *mental* realm.

Said statement is absolutely NOT TRUE. Not until the alarm is first given, for instance, by the outpost of *feeling* through the message sent by it to the central station, announcing a certain derangement, causing a pain to exist in the physical plant, the specific location being pointed out, peradventure in the nerve of a certain tooth; in an ear, in or upon a certain toe, in a particular part of the bowels, a foreign substance thrust into the cuticle somewhere, or the increase of the temperature of the body over that of normal, etc., etc., *is the spiritual operator cognizant of any derangement existing within the material plant.*

Upon the receipt of any such message or messages, the operator proceeds to have the physical derangement corrected, if an adult, summoning an expert or experts to his or her assistance, if found necessary, that harmony may be restored throughout the plant, if possible. The more severe the derangement, the more acute the pain, the more urgent becomes the message for relief. The general term used to designate any derangement within the physical plant is called PAIN, which is the immediate result of a stricture or obstruction being formed in the circulatory avenue of the blood at a specific place. Thus is the seat of pain clearly located. So

long as messages continue to be received giving the information that one or more derangements within certain parts of the material plant still exist, just so long does the operator continue to exert his or her efforts to have it or them corrected, upon which being accomplished, *all messages of alarm cease*, and harmony again prevails throughout the plant. Dr. Eliot said, quoting him further from said lecture:

“Pain was generally regarded as a punishment for sin. * * * Twentieth Century beliefs regard human pain as an evil to be relieved and prevented by the promptest means possible.”

Therefore, the remote (first) CAUSE of sickness is not to be found in the *mental* realm, as stated by Mrs. Eddy, but, instead, the first CAUSE of sickness is found to be in the *physical* realm, the result of one or more derangements occurring in some part of the physical plant.

The spiritual operator in the true sense does not suffer pain. Pain is to the spiritual operator of the material human electrical plant what the ringing of the fire gong is to the fireman: an *alarm*, a *call to duty*. Dr. W. A. Evans puts it thus:

“Pain is most serviceable, it tells us something is wrong.”

The “pain” of hunger is one of the particularly urgent calls to duty, involving, as it does, the very existence of the bodily plant.

The expression, “He, or she, is holding on to life by the merest thread,” is often used. How incorrectly stated—life holding on to life!

The expression correctly interpreted means, that the energy with which their material bodies were wont to be

possessed normally, has now become so greatly reduced in volume that but a "thread of that energy" remains; that they are now just able to make themselves manifest as still being present in the body—not yet having taken their supreme flight therefrom.

There are those who, from the expressions used by them, would lead us into the belief that they considered life to be as something like unto a piece of ice capable of being "melted away," so that but the merest particle remains, such condition occurring, presumably, at the time when "life is holding on to life" by the merest thread.

The fallacy of such belief is shown when it is known that that "piece of ice" can be restored to its full "normal size" and condition, and that with the restoration of the full normal volume of electrical energy generated within its material plant occurring, life again becomes the same efficient operator that it was before the failure or loss of energy therein took place, all of which teaches us that life at no time is affected; becomes less efficient or proficient, by reason of anything that befalls its material habitation, it being immune in perpetuity against sickness, injury and death, always, however, remaining within its material plant, not taking its flight therefrom until the "last spark" of electrical energy ceases to be generated therein.

FUNCTIONS OF LIFE

As stated in the opening of this book, God, the Creator of all things, created two forms of life, and caused them to exist upon the earth—the animal and vegetable. The animal life He created spiritual; the vegetable life He created non-spiritual; hence every individual *animal*

life is an Entity, a spiritual Being, and is provided a material organism for its sole habitation, the number of such organisms being synonymous with the number and kind existing, and that has ever existed upon the earth.

As stated, each of these material animal organisms are possessed of a power, force or energy, by which their every bodily movement and parts thereof is effected, said energy being *electrical*. We have learned *that said energy is not self-generated*, and that there is a mechanism installed within every such animal material organism, specifically designed for generating said energy.

Some may say that it is not possible to even conceive, much less to believe, that there exists within the myriad minute material animal organisms known to exist upon the earth a real mechanism for generating electrical energy. To dispel such belief in behalf of such of his readers who so hold, the Author submits the following information in proof that it is possible, physiologically, for such to exist.

Scientists have learned by the aid of the microscope and the other wonderful instruments devised and constructed for use in physiological research that the smallest particle of matter is the Electron, so termed; that the smallest particle of water which can exist as water, is made up of two atoms of hydrogen, combined with one atom of oxygen. This little combination of atoms—three in number—is called a *molecule* of water.

As to the relative size of these two, the electron of matter and the molecule of water, Charles R. Gibson, the noted Scientist, in chapter three of his second edition of his work, "Scientific Ideas of To-day," London, 1909, says:

“It is, of course, quite impossible to form a mental picture of the actual size of an electron. To say that it has about a thousand times less mass than a hydrogen atom does not help us much, for we have no mental picture of the size of a hydrogen atom. To say that it would require a regiment of one hundred thousand electrons placed in a row to make up the diameter of a molecule of water, would only indicate the relative size of these two ultra-microscopic objects.”

Sir Oliver Lodge has suggested the following analogy to help us to realize the relative size of these electrons to the atom in *which they exist*.

“Imagine,” he says, “a church 160 feet long, 80 feet broad and 40 feet high. The space contained in this building is to represent *an atom of matter*. Looking at this enormously magnified atom, we would have great difficulty in seeing the electrons contained in it. Each electron would be no larger than the dot or full stop at the end of this sentence, and yet we shall see that these electrons are the stuff that atoms are made of.”

Hence it is revealed to us how it was possible for the Creator to create, install and have operated a mechanism for generating electrical energy within even the smallest of His created material animal organisms and by which energy they are made to move and be operated. Moreover, we must not lose sight of the fact that many of the smallest of these tiny organisms are possessed with an amazing volume of energy proportionate to their physical bulk, to generate which it is as readily conceivable that its generation is more easily and readily effected by the *mechanical* process than by the chemical. Again, we must also not lose sight of the fact that most

of these tiny organisms are possessed of the organs of vision—eyes.

The energy generated within every material animal organism is, *without a single exception*, NOT SELF-CONTROLLED. It, therefore, follows that its control is the function of a being residing within the material organism, since the energy generated within each is, normally, under control. That being is LIFE, the spiritual operator in and dominating each.

The duties devolving upon Life consists of a series of functions, prime of which is giving sustenance to the material organism within which it abides, since upon the performance of said function depends the continuous generation of the electrical energy therein, and upon which also, depends its remaining within said abode, it being compelled to take flight therefrom immediately said energy ceases to be generated, for which reason, Life, within every new-born material animal organism, almost immediately takes up the task—the performance of the functions of giving its material abode the necessary amount of sustenance—food and water—required and exacted by nature.

The secondary function is the direction, application and control of said energy.

The third function is the caring for its material abode and protecting it from all harm when and where possible.

The fourth function is the performance of the duties attendant upon it in the procreation of its kind and the preservation of the offspring.

The fifth function is the receiving of all messages sent to it by those outposts, or organs of sense, of which its material organism may be possessed, and action taken

thereon as the nature of the message received requires or demands. The foregoing are functions performed by life common to all animal life, the human included.

In addition to the foregoing, the function of *Human* Life is the acquisition of knowledge imposed upon it by reason of its being endowed with intellectuality and given that organ or instrument unlike that given any other material animal organism created by the Creator—the human brain; and the application thereto of said energy by which application all thoughts evolved by the spiritual operator are given off.

Sir Oliver Lodge, the noted English Scientist, in his Becquere lecture in London, October 18th, 1912, is reported to have said:

“Life demands energy for its peculiar manifestations.”

That statement is absolutely true because of the fact that without energy all animal life—which is spiritual—is powerless to make itself manifest, as witness its sudden departure from *any material abode in which it abides*, upon its being so seriously injured or rended as to cause the apparatus within it which generates the electrical energy and by which it is operated, to be either destroyed or so injured as to put said apparatus out of commission, the generating of said energy thereby being made to cease.

He is reported to have said, further: “Energy is like gunpowder; life is like the trigger puller that makes the gunpowder work.”

A most unfortunate comparison. The energy generated within every material animal organism in which life abides and by which the organism is operated, is electrical and is generated *continuously*, kinetic in its

nature, the mechanisms for generating which are ever in motion, never at rest, while gunpowder possesses *potential* energy only; that is, it is composed of materials containing chemicals, which, upon being set on fire, cause an explosion, which, for the *instant*, produces kinetic energy, which is as instantly expended. If such analogy were correct and that were the *modus operandi* by which the energy present in all animal organisms is generated, then it would be a process somewhat akin to that chemically produced inside the commercial gas engine, by a series of explosions within it, not continuous, and not *mechanically*, as is that produced within all animal organisms.

Life, Sir Lodge is reported to have also declared, "is 'probably' something altogether at control, not a force, but something that directs force and, incidentally, controls matter." If he will eliminate the word "probably" and say, "Life IS something at control, not a force," then he will annunciate a fact. "Something (?) a most singular appellation, Sir Lodge, to bestow upon Life, since the word includes *human* life. That particular function of life, the control of matter, is not the control of it *incidentally*, but one imperatively demanded of it, normal conditions within the material plant prevailing.

In his definition of what the function of life consists he is reported to have said:

"What life has to do is to control the spontaneous disintegration of protoplasmic cells; to regulate the ganglia of the brain, and to *suspend the disintegration of organic matter until an appointed time and direct it along a determined channel.* (Italics the Author's.) He is evidently speaking of *human* life.

“To control the spontaneous disintegration of protoplasmic cells!” *Spontaneous*, another entangling word. If it is true that said cells are spontaneously disintegrated, they cannot, therefore, be said to be subject to or under control, the word meaning: “Being of one’s free will; voluntary; acting by its own impulse, energy or natural law.” Had he simply said, “To control the disintegration of protoplasmic cells, and to regulate the ganglia of the brain, he would have stated a physiological truth—so far as relates to human life—it being true that human life—the spiritual operator of its material body, *does* control the disintegration of the protoplasmic cells therein; does regulate the activities of the ganglia of the brain, by controlling and regulating the *mental* activities of the brain, as, for instance: During the time given to study and concentration of thought, deeply or otherwise, *both wholly within the control of human life*, the disintegration of said cells is being very greatly augmented, while, during the time of the suspension of both study and concentration of thought, *by decree of human life*, the disintegration of said cells is in a very marked degree lessened as the science of electricity proves. But when he declares that one of the functions of life is to *suspend* the disintegration of the protoplasmic cells *entirely*, (assuming that as being his meaning,) he is treading upon dangerous ground. We recall that Dr. Trall says:

“Every portion of the animal organism is formed of nucleated cells which are constantly maturing and, as the body is undergoing CONTINUOUS decay (disintegration) and reproduction, they are always found in various stages of development.”

Therefore, even one so high in authority, the Dicta-

tor of the human material organism—Life, its spiritual operator, cannot suspend the disintegration of the organic cells, *entirely*, for the reason that upon such disintegration ceasing altogether, the generation of electrical energy within the body *must* also cease, followed by the immediate departure of life, to which statement critics may demur, affirming that often, as in the case of persons who have been partially asphyxiated, remained under water for some short period, or who have received a severe electrical shock, all dead to all appearances, are resuscitated and brought back to life—or, more properly stated—life brought back. *Dead to all appearances*, but NOT dead, which is to say, the spiritual being has not taken flight. This is made manifest by reason of the fact, that if it has taken flight, then those who cause such “dead” persons to be resuscitated perform the miracle of causing the departed spiritual being to return to and again take up its abode within its material body. In all such cases life has *not* taken its departure therefrom. Those who resuscitate such persons simply succeed in causing the apparatus within the body which generates the electrical energy therein (which *almost* ceased its running) to again perform its full normal function—that of supplying the body the volume of said energy normally required.

Let us not longer use language which speaks an untruth when we wish to announce the departure of our spiritual loved ones and friends from their material bodies; let us not declare them *dead*, but as simply having taken their departure therefrom, not dead, but living still—somewhere.

When Sir Lodge said, “Life is probably something altogether at control, not a force, but something that directs forces,” he used the word in its broadest sense,

by implication at least, since he did not interpose any qualifying words. If he intended to be so understood that ALL animal life directs and controls forces (that generated within the respective material organism of each) he elucidated a physiological truth, for there does not exist upon the earth a single material animal organism, in which life abides, whether it be classified as human, animal, fowl, fish, reptile or insect, but whose bodily movements are effected by electrical energy, and it generated within the material organism of each, *directed, applied and controlled by the life* dwelling therein, its sole habitant, by reason of the fact, we recall, that material of whatsoever kind is of and within itself, lifeless, powerless, motionless; and by reason of the further fact that there is not generated upon the earth an energy which is self-directed, applied or controlled.

But when he "guesses" that the *only* function which life performs is that of the control of force or energy, he is greatly in error, as has been shown in the early part of this subject, wherein the principal functions, common to all life, are stated, and that specially performed by human life—the acquisition of knowledge.

The marvelous control, by life, of the energy generated within some of the animal material organisms in which it abides, is a most interesting subject for reflection, that controlled by human life constituting by far the most marvelous, this by reason of its intellectual endowment and having been given that organ or instrument unlike that given any other "life"—the human brain, and also the gift of those two wonderful little adjuncts given its material body, one each at the extremities of the jointed member—the arms—the human hands, in the uses of which, both of brain and hands, it is enabled to direct, apply and control the energy gener-

ated within its material body in ways altogether different in manner or form than that of any other life inhabiting material organisms. Every human thought is the direct result of its control when applied to the human brain. Its control, when applied to the human hands, is both perfect and amazing, applying it in such varying volume as to produce the vise-like grip and the meekest "whisper" of engaging energy. To these, the gift of intellectuality, the human brain and the human hands, the world is indebted for every structure, device, work of art, book written or printed that has ever been given to the world, all of which, however, could never have existed without the gift to human life of the human hands, notwithstanding its two special gifts—intellectuality and the human brain. It, therefore, transpires that the world is indebted to these two little adjuncts to the human material body wholly for the existence of all things above enumerated.

Again, we are seized with wonder and amazement at the masterful control of energy as directed and applied by the expert piano performers in such constant varied volume to their fingers and thumbs in the execution of the difficult and varied combinations of keys upon the keyboard which is required to produce music as arranged by the composer. Likewise of the masterful control of the fingers by the typewriter operator in transposing thoughts into words upon the paper by manipulating the keys of the writer machine.

The control of human life, particularly of the energy required to operate the vocal cords and other vocal apparatus, constitutes one of its many marvels. The trained musical *voice* in the production of sounds demonstrates the extent of that control.

Webster says: "The vocal cords consist of two elastic folds of membrane so attached to the cartilages of the larynx and to muscles, that they may be stretched or relaxed, and otherwise *altered* as to modify sounds produced by their vibrations, the higher the tension the higher the sound, and the lower the tension the lower the sound."

These increases and decreases of tension upon said cords and apparatus is effected by the application thereto of an increase or decrease of the volume of energy, as likewise are the changes as relates to the tongue, lips, lower jaw, and to the lungs or bellows which supply the air in the production of speech and song, all of which changes in volume of energy applied, are made by life—the spiritual operator in control of the material plant.

Go into the great and populous cities of the world! Behold the human masses, afoot, going hither and thither, their steps directed towards the goal which they have set out to attain.

Behold also the vast number of electrically and steam-propelled vehicles being guided all in a tangle, winding their way in the narrow streets, all made possible, and only possible, by reason of the ability of their human operators to direct, control and apply in specific volume, the power or energy by which they are operated and made to be propelled, as circumstances require.

All the material animal organisms classified as monkeys are gifted with near-human hands, yet all monkey life occupies a position almost at the foot of the scale in constructive instinct and constructive ability, as has been stated, this by reason of the lack of the gifts—intellectuality and the human brain. The ability of the

monkey life to direct energy to its bodily tail, and apply it in such volume as to sustain the weight of its body, is one of the peculiar examples of control of energy by life.

The manner in which the elephant life controls the energy directed to its trunk, is a case somewhat similar to that applied by the monkey to its tail. Its trunk, however, terminates differently, terminating in what is a veritable thumbless and fingerless hand, by which, nevertheless, it is enabled to grasp and collect its food into mouthfuls, when it is conveyed or carried by the trunk to its mouth, just as food is carried by the human hand and arm to the mouth. By directing and applying the energy so as to create or produce a suction, water is made to be drawn up into it and so held until the "hand" is inserted well up into the mouth, into which the water is then forced by the application of energy in sufficient volume to discharge it therefrom. The volume of energy which the elephant life is enabled to apply, is Herculean. Ponderous as is its body both in size and weight, it is able to apply the energy to its two fore or two hind legs in sufficient volume to sustain its entire weight upon either of the two, and can no doubt apply it to *one* leg only and poise its great body upon it.

The life of the kangaroo has remarkable control of the energy generated within its material body. Applied to its 'tail,' it acting in the dual capacity of leg and tail, to which energy can be applied in such volume as to cause its body to be carried, in leaps and bounds, several feet over the ground. Likewise insect life, in many cases, as the grasshopper, cricket, flea, etc., are enabled to apply their energy to certain of their legs in such volume and with such rapidity as to cause their bodies to be sent through the air considerable distances; that of

the flea exceeding the others as to distance traveled in proportion to the size of its body.

Webster says of the flea, "Its oval appendages are modified into piercing stilets, and a suctorial proboscis." It is necessary to apply energy to these in their operation.

Snake life exhibits peculiar and sensational examples of ability to direct, apply and control the energy generated within their bodies, both as respects their movements and the volume necessary to be applied thereto by the larger species, in order to produce the constriction of the bodies of their prey sufficiently to enable it to be swallowed.

Bird life exhibits one of the most remarkable examples of ability to direct, apply and control the energy generated within their bodies, the tiny ones equally with the larger. The "Birdman," as the human navigator of the air has been termed, is compelled to change the set of the planes of the rudders of his airship whenever he desires to change its course, to the right or left, up or down, first seeing to it that there is being generated by the engine a sufficient volume of energy to drive the "ship" ahead rapidly. When he desires to stop, he must cease to apply the energy which drives the "ship" forward, which, in his case, means the stopping of his engine and glide gently to earth.

The "machine" in which the bird life in navigating the air, is an electrical device, the energy by which it is propelled being generated therein; it being only necessary to simply "cut" or "turn off" the current which operates its wings, and apply the "brake," which is done by changing the plane of its tail feathers so as to cause the greatest resistance to its forward movements, when it is enabled to alight gently and at the very place

to which its course had been directed. So that, whenever any "bird life" desires to change the course of its body in any direction during flight it must also change or shift the planes of its wings, proving complete control.

One of the most remarkable illustrations of the completeness of direction, application and control of energy by bird life is that of the tiny, beautifully crested humming bird. Remember what it has to do and how *promptly it has to act* in order to change the volume of energy, direction and movement of its little body. With the planes of its wings and "rudder"—tail—set properly, its body is sent through the air at marvelous speed, and, upon either seeing or scenting the flowers growing upon the bush, they dash at one, come to a full *stop*, remain poised in the air at the flower, body motionless, the wings vibrating rapidly all the time, while it feeds upon the food contained in the flower, and, if frightened during the act, instantly dashes away and at such speed that its little body cannot be seen when flying across the path of vision.

The chimney swallow appears to have the most complete control of the energy generated within its body, as witness the rapidity of its miraculously rapid changes in its course during rapid flight, the frigate, holding the record among the bird aviators as to rapidity, it reaching a speed of 200 miles an hour, it is stated.

Insect life is not without its special cases of remarkable examples of control of energy. All the "stinging" species so control the energy generated within their bodies and apply it in such manner and in such volume as to cause its "stiletto" to dart and pierce through the cuticle of its adversary and instantly force through and out of it the poisonous virus, depositing it in the flesh of its victim's body.

All winged insects are required to change the planes of their wings as are the birds, in order to change the course of their bodies, all made possible by reason of their ability to direct and apply the energy within their bodies, when and where required, and in such volume as is necessary to execute the movements directed.

The lowly angle worm life has such complete control of the energy with which its material body is possessed that it is enabled to instantly reverse the motive mechanism from the *forward* to the *backward* movements.

All "fish life" controls the energy generated within their bodies in almost similar form as does that of bird life, the navigators of the air, the fishes being the "birds of the water," beating their fins (wings) and tail against the water as do the birds theirs against the air, and, like them, are obliged to change the planes of their fins and tail so as to change the course of their bodies. Although the specific gravity or density of water is many times greater than that of the air, yet the "birds of the water" are not able to navigate it without a counter-balancing device somewhat akin to the counter-blancing weights of the elevators in our buildings—the air bag or bladder containing air. This counter-balance of air is made necessary by reason of the smallness of their "wings," and for the further reason that the "water birds" are compelled to regulate the quantity of the air in their air receptacles so as to cause the weight of their bodies to conform to the ever-changing volume of gravity or sustaining qualities of the water according to its depth where they happen to be—they being practically always "on the wing." A like ability to regulate the quantity of "ballast" at will and at all times, as is enjoyed by the fishes, is the goal for which our balloonists are ever striving.

The function of each individual Life, howsoever classified, is, summarized, the performance of all and singular, the duties devolving upon each relating to its material organism while abiding therein.

MIND

There is but one Being classified as Man—meaning and representing, collectively, the human race, male and female. That being is EGO—the man. He has no substitute. He is the Spiritual Being, the Entity who abides within the human material body provided for him. He it is who creates thoughts and ideas and who thinks, reasons, wills—determines—acts. He is the subject in all sentences in which reference to him is made by the use of the personal pronoun, whether in the first, second or third person, singular or in the possessive case.

Intuitional philosophy, says the Standard Dictionary, teaches “That the Ego is a being to be distinguished from the conscious movements and from the powers and attributes of the spirit—in short—that it is the self-conscious spirit itself.” The Author has eliminated the words “or mind,” included in the Standard’s definition, which reads, “Is the self-conscious spirit or mind itself,” for the reason that the word *mind* is here used as a substitute for Ego—the man, for man is man and nothing more, ever.

How misleading and erroneously we can use a substitute word for man is shown in the many definitions of *mind* given in the various dictionaries. Webster says: “Mind, noun. That which thinks, feels and wills,” whereas it is *Man* who thinks, reasons and wills (references to the senses not belonging in the discussion here).

We have but to consult said dictionary and read

what it says as to the words used as synonyms for that of *mind*. (The meaning of synonym, it says, is, alike, correspondent, corresponding, equivalent, identical, interchangeable, like, same, similar, synonymic.) To learn how many substitutes are used for both Man and Mind, the first inexcusable, while the latter is excusable, for the reason that the word *Man* is definable, while *Mind* is mythical, does not exist, as is hereinafter stated, and its synonyms can, therefore, be used with the greatest liberality. In fact, *mind*, according to Webster, means so many things and has such a multitude of definitions and synonyms as to be irritably bewildering. The word seems to be one of the many "pots" into which is dropped the *dross* from the "pure metal of thought."

Mind is a word coined by someone in an attempt to qualify what was supposed to be an attribute of Spiritual Man—THE MAN. How signally its use has failed to advance mental science is shown in the fact that our most learned students in mental philosophy have failed utterly to define it rationally, as Webster's American Encyclopedia says: "Mind, is a word that admits of no exhaustive definition."

We do not have to search long nor deeply to ascertain the cause of such failure to define it—*there exists no such thing, organically, as mind*. It is a word simply and is used in a mythical sense only, and should not, therefore, be used in our deliberation. Being mythical, its use tends towards mystification and conveys to US—not our *minds*—a false doctrine.

So overwrought are our lexicographers in their endeavors to find words with which to make plain (?) to man's understanding and correctly the meaning of certain words, that they not only fail to make plain the

meaning of the word being defined, but, instead, make it more and more less comprehensive by the dearth of words used. Take, for example, the word IDEA! First, however, take their definition of the word Thought. The Standard Dictionary defines it to be—IDEA. Idea, then, is thought. Now Idea, it says, “Is that which is *seen by the Mind’s Eye.*” (Italics the Author’s.) No creation is hinted at. Could anything be made less comprehensive, even to the most learned, let alone those possessing the ordinary amount of intelligence, than the statement that a *mythical thing* has eyes, and they of such wonderful power of vision as to be enabled to see thought? Mind’s eye! Simply another meaningless, mythical, poetical expression.

William Hanna Thomson, M. D., LL. D., again quoting him, in his work, “What Is Physical Life, Its Origin and Nature?” after a very able and interesting treatise, in which he touches upon the Darwinian and other theories about physical life; Reproduction and Heredity; The Uni-cellular Micro-organisms; The Metazoa or Multi-cellular forms of life; The Great Food Question; Adaptation, and, lastly, as TO OURSELVES, comes to, under the latter, what would seem to be a *fixed* conclusion as to what constitutes MAN, quoting one of Artemus Ward’s saying, “That the highest part of a mountain is its top”; also Huxley, who likens man to be, “The Andes of life,” that is, the very highest finite life pinnacle; nothing above it, in order to lead his readers to a comprehensive understanding of his said conclusion, and then, curiously, with emphasis, declares that man is *not* the “highest part of the mountain”; not the “Andes of Life,” but that, instead, Man’s *Mind* is higher than he, forgetting to enlighten his readers how it is, that if man himself cannot think,

reason, will and create thoughts and ideas, how his so-called *mind* can, and to do which it must be endowed with attributes superior to those with which the Creator endowed he—Man—himself.

However, when it comes to responsibility for beliefs and actions the Doctor says, using italics: “*Things are not responsible, but persons are.*” Why, then, place responsibility upon the “under superior” instead of the superior, as he says: “Every person, however insignificant he may seem to be, entails responsibilities in one way or another,” for note, the Doctor does not say that every *mind* entails responsibilities.

“Some persons,” the Doctor says, “regard any allusion to mind as out of place in a scientific discussion because science is concerned only with sensible phenomena, and mind can neither be tasted, smelt, seen nor heard; it cannot be weighed, analyzed, resolved, precipitated, measured, or spectroscoped. But in this enumeration the tremendous testimony of the greatest of senses is left out. Mind can be *felt* so vividly that, compared with it, all mere phenomena are what the word originally meant, only appearances.”

What the Doctor evidently intended to say was, that our conscious self is made to *comprehend*, not *feel*, the terror of death, for instance, upon seeing the fast moving train bearing down upon us; or hearing the sudden screeching of its engine’s whistle; upon *smelling* the suffocating smoke or other deadly vapors enveloping us; upon tasting of the deadly drugs of which we have partaken too freely, or grasp the terror of death which strikes us upon our *feeling* the intense heat of the devouring flame which encompasses us.

But in broaching the doctrine that mind can be *felt*, the Doctor introduces still another false “note” in our “mental scale,” as he descends from the spiritual realm to the physical. Man’s sense of feeling only comes into play or action when some material thing is encountered by his material body through the sense or outpost for feeling, and, since mind is not matter, as the Doctor informs us, then man cannot feel it or it be felt. If it can be, and that so vividly, why did the Doctor fail to cite one or more cases wherein it can be so easily and vividly felt, and thus have informed his readers in a clear and comprehensive manner as to how that psychic intelligence is imparted to our conscious selves, through the one, and only one, of our senses—that of *feeling*.

And, further, why did he fail to inform us, that, since spiritual man is unable to think, reason or create thoughts and ideas without the aid of a *mind*, that mind so far transcends him—spiritual man—in the scale of life as to be able to think, reason and create thoughts and ideas without the aid of a *secondary* mind?

The weakness lies in this. Man’s imaginations seem to carry him into the realms of mysteries. He hypothesizes too much and too freely, bringing into existence (?) too many things which *do not really* exist. Soul and mind are two of such. There is a natural body and there is a spiritual body, says the Great Book, no qualifying words, observe. Man is not content to occupy the highest place in the realms of finite life, but seems to want to relegate himself to a place a little lower; not content to be the “Top of the Mountain”; not content to be the “Andes of Life”; not content at crediting *himself* as being THE thinking, reasoning one, neither THE creator of thoughts and ideas, but, instead, as does the Doctor, give all credit and praise to

his better (?) and more "lofty companion" as their conceptor and creator, thus rejecting God's supreme gift to himself by passing it to his hypothesized superior—*Mind*.

Happily the Doctor sets all doubts at rest as to his own individual understanding as to what *mind* is.

On page 184 of his said work he says:

"But the despotism of incredulity is most strikingly shown by the attitude of multitudes on the subject of the existence of *mind*. If only they could see *mind*, then they would be sure of its real existence. Every other evidence of mind, from an imposing cathedral to the equipment of a great university, leaves them still in doubt as to what mind is, including what their own minds are. May it not be simply an attribute of matter which we can see and touch, such, for example, as brain matter?

"But medical science has deprived them of this last visible and tangible stuff, as it proves that the brain no more itself thinks than the hand does, but, like the hand, is nothing else *than the instrument of the INVISIBLE THINKER.*" (Italics and caps the Author's.)

Who, Doctor, is the Invisible Thinker? Spiritual Man it must be, since you admit that the matter of which the brain is composed no more thinks than does that of which the hand is composed.

"We have already shown," the Doctor continues, "how the *person*—man—just because he is so, fills this world with his wonderful creations, none of which would

exist *but* for *his* PREVIOUSLY DEVISING them.”
(Italics and caps the Author’s.)

The Doctor here makes a fatal slip, both of thought and pen, for, according to his teachings, he should have said, in closing, “But for his (man’s) *mind* having previously devised them.”

It thus becomes plainly apparent that the Doctor uses the word mind simply as a substitute word for spiritual man, he so meaning it all the time.

If mind were the Creator and source of all human thoughts and ideas, it should not be robbed of its rightful place—at the fountain head of the Intellectual Stream, when we would say that the *Minds* of Longfellow, Tennyson, Byron, Whittier and Poe, for instance, were among the world’s greatest poets.

Dr. Trall, under the caption, “Philosophy of Mind,” gives the most philosophical definition of mind that has come under the observation of the Author. In his opening paragraph he says:

“The brain is the presiding center of sensation, voluntary motion, the intellectual faculties, and the passions or propensities. THE MIND IS THE AGGREGATE OF ALL THE FUNCTIONS OF THE BRAIN,” his ending paragraph, however, proclaiming the remarkable exhortation to his readers, to-wit: “The *mind*, however, must not be confounded with the *soul*,” adding, “*Mind* may be defined as the manifestation of the soul or *spirit through the material organism*.”
(Caps and italics the Author’s.)

The Doctor thus made clear to us his understanding as to where spiritual man resides, viz.: At the “pre-

siding center," as he termed it, from whence he presides over all the faculties—organs—of the brain and making manifest his existence and God-given attribute—intellectuality, therewith. Mind can, therefore, be concisely defined as "The product of the brain."

Man, when on active duty, thinks and reasons, going over the *old* thoughts and ever exploring new fields in the mental realm in search for *new* ones; also new Ideas. The brain is the "womb" in which is conceived every human thought.

The human brain is an instrument to be played upon like unto a musical instrument and made to operate by means of a specific power or energy directed and applied to it by the person operating it, the design being the giving off of specific thought or thoughts, just as the pipe organ is constructed for a specific purpose and made to operate by a specific power and to give off, *not create*, specific sound or sounds, the brain being subservient to the will of the spiritual operator exactly in like mysterious manner as are other members of the material body which respond to its dictates, as, for instance, the vocal organs, tongue, lower jaw, lips, eyelids, arms, legs, hands and the fingers thereof, etc.

Says a noted French Scientist, "The weight of the average human brain is forty-seven ounces. Brain weight seems to have very little connection with mental power. It is the *texture* of the brain that matters."

That is to say, it is the nerve-wires—reeds—that count in the matter of mentality.

The European Writer who, speaking upon the subject of America's School System, spoke truthfully when he said: "The most precious possession of any state lies in the brains of its children."

Mr. Harold Begbie, a writer for the London *Chronicle*, upon the declaration, by England, in the terrible war of 1914, among his numerous reflections upon the "Tomorrow of Europe," following that war, wrote:

"Remember this, too. Among the young conscript soldiers of Europe who will die in thousands, and, perhaps, millions, are the very flower of civilization; we shall destroy brains which might have discovered for us, in ten or twenty years, easements for the worst of human pains and solutions for the worst of social dangers."

This writer should have paraphrased more correctly. He should have said: "We shall destroy brains which might have been utilized by their spiritual owners in the discovery for use, in ten or twenty years, easements for the worst of human pains and solutions for the worst of social dangers."

Unlike the pipe organ, which is limited in its variety in sound production to the number of specific reeds it contains, each reed and its sound being represented by a key upon the keyboard, the human brain or instrument designed for the giving off of thoughts in response to its spiritual performer, has, in addition to those which have been brought into use, numerous other nerve-wires—"reeds," within its many recesses, each likewise designed to give off a specific thought when said energy is directed and applied to it and brought into attunement with the thought created by its spiritual performer. Being without said attunement, no thought can be made forthcoming, even though the "nerve-reed" exists, and just as if no such "reed" existed, it simply remaining dormant, ready, at all times, however, to re-

respond to its spiritual performer the instant he or she applies the required volume of energy and brings it into attunement with the thought to which it is attuned. *Thoughts* can, therefore, be said to be the "fruit" of the human brain. Moreover, the "brain organ," like the pipe organ, can be made to attain to a state of complete quiescence or inertia by its operator at any time, by simply ceasing to direct and apply the necessary volume of electrical dynamic energy thereto or through it, such complete inertia prevailing when we are in that non-mental state, termed staring, being wide awake the while.

It has long been demonstrated that the destruction of any nerve or number of nerves belonging to or being members of the "brain nerve family" by their removal or upon their being made to cease to perform their function from any cause, renders the spiritual operator powerless to cause the accustomed thoughts to be given off that were wont to emanate from those nerves.

A case in point. On November 24th, 1913, Joseph Forgac, twenty-years of age, residing at 1271 East 59th Street, Cleveland, Ohio, received a blow upon his head by a 200-pound weight falling upon him, which knocked out a portion of his brain. Physicians declared that, should he live, all memory stored in those brain cells destroyed would be missing, and that should he recover, he would go through life with a portion of his past an absolute blank.

Never again, therefore, could there be given off any more thoughts or ideas from the immediate region of that man's brain from whence those nerves and brain cells were torn away and removed, all of which proves that each brain cell, as well as each brain nerve, is in

direct electrical connection with the central station, whereat abides the spiritual operator.

As the single or original production of sounds by the pipe organ's reed does not destroy the reed, rendering it useless for reproducing like sound, but which, on the contrary, is constructed so as to repeat the specific sound so often as the performer applies the energy—necessary current of air—by directing the finger to and pressing upon the specific key, so is the specific nerve within the human brain made to repeat and *give off* the specific thought for which it is attuned as often as the spiritual operator directs and applies the electrical energy generated within his or her material plant, to it. The extended durability of the nerve-wires within the human brain, and which give off said thoughts, reproducing them over and over again, is proven by their long continuing in service, as witness the many who live a hundred or more years without mental impairment.

The ability of the spiritual operator of the human material plant to produce and reproduce, at will, the many specific sounds by and through the one adjustable sound-producing “reed,” termed the vocal organ, composed of the two parallel vocal cords, by directing and applying the electrical energy in ever-changing volume to the muscles which control the contractions and protractions of those two cords; and also directing and applying said energy to those muscles which control the contractions and protractions of the diaphragm which acts upon and produces the oscillating motions by which the lungs are allowed to inspire and expire the quantity of air involved in the act of breathing; and by which the ever-changing volume of air is made to pass through the “vocal reed,” which is thereby made to instantly produce, and with UNERRING PRECISION,

any note or sound desired, so is the spiritual operator enabled to produce the specific thought or thoughts desired with like unerring precision by directing and applying the electrical energy to the "reeds" or nerves within his or her brain, and which give off the specific thoughts and made comprehensible to others through the media of speech, writing or the sign "language," all made possible by reason of that most wonderful prerogative of Life—Memory—a gift not given to all alike in degree, which difference marks the difference in intellectuality among men and women and caused by their brain having been developed mentally in degree greater or lesser.

Mind, is not a prerogative or attribute of human life; neither is it an Entity or real being. Therefore, it cannot think, reason or create thoughts, the function to do which belongs, in the superlative degree, solely to the *real* Ego—spiritual man.

As heretofore stated, the word *mind* is mythical in its application. It is a most convenient word to use when giving expression to our thoughts, mythical though it be, and advancing false doctrine, as it does. Its use has become universal and will, no doubt, continue to be used. But its erroneous use is constantly being extended. Governments, Legislative Bodies and an Assemblage, according to some writers, having a *mind*.

There exists no excuse absolutely for using the word *mind*, as it is possible in every case to better and more correctly convey one's meaning without its use. We have but to remember always, that it is WE, our spiritual selves, who is meant in every case where the word *mind* is wont to be used.

The following examples, chosen at random, will suf-

fice to prove its erroneous, needless and senseless use, the word mind being *italicized* in every case by the Author.

John Tillotson, in his "Gems of Great Authors," or "The Philosophy of Reading and Thinking," makes six hundred short and concise selections from the writings of the many Authors by him chosen.

In his first one, "The Passion for the Universal," Buliver, its Author, says:

"The *mind* in its utmost perfection, should not be ignorant of any species of human knowledge or accomplishment within its reach."

The word *mind* is here clearly substituted for that of *Man*. How much more clearly and correctly expressed to have written: "Man, in his utmost perfection, should not be ignorant of any species of human knowledge or accomplishment within his reach."

Mr. D. R. Lowrie contributes an article to the Cleveland Leader, issue of September 30th, 1913, entitled, "The Soul," the reading of which marks Mr. Lowrie a profound thinker. In his closing paragraph he says:

"The mind of man may not know the entity of the infinite, but the souls of the present living mortals may, by interpreting God's laws, as shown by all they may behold in nature, come so truly into the knowledge and communion that they know the meaning of His purpose, He wills they may comprehend. The *mind* so taught does not scoff at any form or manner of com-

munion or communication with the spirit but knows that only truth is righteous."

"The mind OF man." Of, is a preposition and denotes *possession*, hence it is the thing possessed—not man himself—"that may not know the entity of the infinite."

Again, "But the souls OF the present living mortals may, by interpreting God's laws, etc." Here is a second possession of man, a soul. He, God wills *they* may comprehend. Here he correctly states what he means, but to be himself consistent he should have said: "He wills that their *Minds* may comprehend."

Corrections: "Men or we of the present may not know the entity of the Infinite, but may, by interpreting God's laws, as shown by all they may behold in nature, come so truly into the knowledge that they or we will understand the measure of His purpose.

"The person or one so taught does not scoff at any form of communion or communication, etc."

"Vex not thou the poet's *Mind*,
For thou canst not fathom it."

—TENNYSON.

Corrected:

"Vex not thou the poet,
For thou canst not fathom his thoughts."

"Now," said the Editor of the Cleveland Leader, "comes the familiar announcement that the public schools are soon to be opened. To youthful *minds* the

statement may bring mixed emotions of pleasure and regret. To the *mind* of a man or woman in middle age, however, it brings neither."

Corrected: "To the children the statement may bring, etc." "To the men and women in middle life it brings neither."

A newspaper correspondent wrote: "The Government has about made up its *mind* to intervene in Mexico." Corrected: "The Administration at Washington has about decided to intervene in Mexico."

By a writer, "To the German *Mind*, for instance, it has seemed an utter impossibility until recently."

The German Nation was here meant and is an instance where a government is given a *Mind*. Corrected: "To the people of the German Nation, for instance, etc."

A magazine writer said: "The country has made up its *mind* about conservation—the right utilization of our resources." Corrected: "The people of the United States have arrived at a final decision, or understanding, as to conservation of its resources."

"As to the acceptance or rejection of that proposition, the Commission's *Mind* is open to conviction." Corrected: "As to the acceptance or rejection of that proposition, the men composing the committee are open to conviction."

Collier's, October 11th, 1913, said editorially, upon the subject of the successful completion of the Panama

Canal: "The Tory *Mind* is thoroughly committed to the idea, etc."

The writer having meant all the Tories, he should have said: "The Tories are thoroughly committed to the idea, etc."

Said an able jurist: "Books introduce us into the best of society; they bring us into the presence of the greatest *minds* that have ever lived."

That he meant the greatest of *Men* is proven in a subsequent paragraph: "To live with such men in their biographies and to be inspired by their example, is to live with the best of men and mix in the best of company."

A writer on religious topics said: "Religion is the most powerful and usually the first motive for the development of the human Mind." Corrected: "For the development of the human race."

In *World's Work*, for September, 1913, under the caption, "Kentucky's Moonlight Schools," occurs this sentence, "Reading, writing and arithmetic are simple subjects when mature *minds* are concentrated upon them. A child of ordinary *mind* can be taught to read and write in three or four weeks."

Corrected: "When men and women of mature years are permitted to concentrate their thoughts upon them. A child possessing ordinary intelligence can be taught to read and write in three or four weeks."

Romans, 14th Chapter, 5th verse: "One man esteemeth one day above another: Another esteemeth every day alike. Let every man be fully persuaded in his own *Mind*."

Corrected: "Let every man decide fully as to his own belief."

From Collier's: "Hospitality, is enjoying with others that which is our own, and dividing with them the bread for the body and sharing with them the experiences and fancies of the *Mind*."

Corrected: "And sharing with them our experiences and fancies of thought."

This also from Collier's: In its discussion as to the relative harm in using tobacco and coffee as against that entailed by the use of liquor, puts this question: "Does the good outweigh the harm or *vice versa*?" Adding: "In the case of liquor and drugs there can be no room for doubt in our *Mind*."

Corrected in closing: "There can be no room for doubt," it being wholly superfluous to add the words—"in our *mind*."

A noted writer, in telling how she is enabled to write so many different stories, says:

"I know now that plots will come; that the more I write the more I will be able to write; the more inventive will become my *mind*."

Certainly an inexcusable error, as "she," being the writer, *she* it is who becomes mentally more proficient, not her *mind*.

But how incongruous are the words she uses in her next paragraph:

"The ingenuity of the *mind* is like any muscle of the body—the more it is used the more it develops."

How illy expressed, both from a physiological and psychological standpoint! From the physiological, because ingenuity cannot be said to be a muscle—like any muscle being synonymous with saying—any other muscle. From the psychological, because *mind* exists neither physically nor spiritually, therefore, has no existence, being without which it cannot be developed.

Corrected: "I know now that I can easily formulate other or new plots; that the more I write the more I will be able to write; the more inventive mentally will I become.

"As the muscles of the body are developed by constant usage, so is human thought developed by constant thinking."

In one of the leading American Magazines, another writer, having for her subject, "A Master-Mistress of Education," uses the following language:

"President ---- of ---- College, would probably be the last person on earth to admit the truth of this commendation. Her *mind* is so busy accomplishing feats that it has no time to admire itself." And further along

in same article she says: "Only a *mind* of big initiative and daring would have risked the thing which Miss ---- (the president) risked twenty-seven years ago. But it was just that sort of *mind*."

Criticism: Here is a most careless selection of words. "*Mind* has no time left to admire itself." "Only a *mind* of big initiative and daring would have risked doing the things Miss ---- risked." We are left in the dark as to who risked doing the thing referred to—Miss ----'s *mind* or she *herself*, except, that it would appear that it was her *mind* that did the risking, as the writer qualifies Miss ----'s personage by terming her as IT, as she says, "But IT was just such a *mind*."

Corrected: President ----, would probably be the last to admit the truth of this commendation. *She* is so busy accomplishing mental feats that *she* has no time left to admire *herself*. Only one of big initiative and daring would have risked doing the thing which Miss ---- risked. But *she* was just that sort of woman (or person).

Sir Oliver Lodge, in his address on, Continuity, at one of the sessions of the British Association, held in September, 1913, wherein he declared his belief in a future life, said:

"The evidence to my *mind* goes to prove that disembodied intelligence, under certain conditions, may interact with us on the material side, thus coming within our scientific ken."

Corrected: The evidence, to *me*, goes to prove, etc.,

as Andrew Carnegie said in his Article upon Surplus Wealth, in Collier's for October, 1913:

“The highest use of great fortunes seems to *me*, is in generous free-handed co-operation in good public works and service to mankind.”

Upon the subject of the building of the Hudson River Tunnel, by Mr. McAdoo, Mr. Burton J. Hendricks said:

“From the day he first conceived the idea, his was the *mind* that directed all the company's activities.”

Criticism: If Mr. McAdoo, *himself*, was capable of first conceiving the idea of building that tunnel, why should *he* not be credited with having directed all the company's activities, instead of it being his *mind* that directed them, as incorrectly stated.

Again, Mr. Hendricks, in his Article on President Hadley, of Yale, in World's Work, June, 1914, telling of his mannerisms when addressing his classes, said:

“This unparalleled awkwardness struck some people as extreme nervous weakness; in reality it was nervous force. The man lived so absolutely in the *mind* that he had not the slightest consciousness of what his body was doing.”

Here is a most peculiar—shall we say—wanton, use of the word *mind*. How infinitely more correct; also comprehensive, to have said: “At such times the man

was so absolutely engrossed in his mental work, that he was not conscious in the slightest degree as to his bodily movements."

Mr. Hendricks uses the following phrase in the introductory of this his Article on President Hadley:

"An Extraordinary Brilliant *Mind* Housed In A Slight Frame of Intense Nervous Activity."

Again there is no mistaking that *Mind* was here substituted for *Man*. An extraordinary brilliant man—spiritual man—housed in a slight frame of intense nervous activity.

Scene, Criminal Court Room, Cleveland, Ohio. The prisoner at the bar had been found guilty of murder in the second degree. The News reporter said:

"It was several seconds before the full force of the words spoken by the jury penetrated the convicted man's mind."

Here is one of the many definitions given the word *mind*, a something that can be entered or penetrated. Corrected: It was several seconds before the convicted comprehended or realized the full force of the verdict.

A writer on Books said: "The literature of the outdoor world has also its vital relations to life only as it recalls to our *mind* the forest, the brook, the bird song, the sunset, does it become alive."

Corrected: "Only as it recalls to US the forest, etc."

The writer of the following wholly ignores *Man*, the spiritual operator of the human material body, and the one who dominates it.

The body, he says: "Has always been the slave of the *mind*; it stands ready to do the behests of the *mind*. The *mind* sways its scepter over every fibre of the body, dictating like an imperial Monarch the activities of each moment of experience."

Corrected: The body has always been the slave of its spiritual master; it stands ready to do his behests; the spiritual master sways his scepter over every fibre of his material body, dictating like an imperial monarch the activities of each moment of experience.

A news item: "The purpose of the endowment to the Andrews Institute for girls at Willoughby, Ohio, as declared by the will of the testator, was to render the girls self-supporting. Their *minds* as well as their hands are being trained to fill this object."

Corrected: The girls are being given both mental and manual training to fill this object.

Booker T. Washington, in his article, "What I Am Trying To Do" (for his people), in *World's Work*, November, 1913, makes this statement:

"I discovered at the outset that it would first be necessary to get out of the Negro's *mind* the idea that

education unfitted a man for any kind of labor, whether of the hand or the head."

Corrected: That it would first be necessary to disabuse the Negroes of the idea that education unfits a man for any kind of labor, etc.

Mark Sullivan, in his "Comments on Congress," in Collier's for November, 1913, said:

"There is no corruption in congress. There is no undue subserviency to power interests. To be sure, a few individual standpatters linger, but as a rule they are standpatters because their *minds* are built that way. They are honest in their beliefs."

Corrected: Because they have been so schooled, and they are honest in those beliefs.

The Superintendent of Schools of one of our largest cities, in advocating the maintaining of a school for the segregating of defective children, said:

"Only through such schools can the *minds* of those children be trained for useful work." Query: Who does the work, the *mind* of the child or the child itself? Corrected: Only through such schools can such children be trained for useful work.

"President Wilson's mind is now devoted to the problem connected with the invasion of Mexico," said a news reporter. Corrected: President Wilson is now devoted to the problem, etc.

What is on your *mind*? You are so quiet. Corrected: What are you thinking about? You are so quiet.

I am almost distracted in my *mind*. Corrected: I am almost distracted. (It is we, our conscious self, who alone can be distracted.)

“Yours is a dull *mind*.” Corrected: Yours is a sluggish brain making you dull of comprehension.

“It is plain to every reasoning *mind* that dirt is dangerous in the street.” Corrected: It is plain to every reasoning *person*, etc.

The welfare of my children is uppermost in my *mind*. Corrected: Uppermost in my thoughts.

“Such people have not *mind* enough to grasp the situation.” Corrected: Such people have not had sufficient experience to grasp the situation, or have not sufficient brain capacity to grasp the situation.

“Have you no *mind* of your own?” Correction: Have you no convictions of your own?

“My *mind* is made up and I am going.” Corrected: No. I have decided and I am going.

But what a remarkable use of the word *mind*—the climax of all uses—is that made by John R. Oskison in his Article on Herman Frasch, the Chemist, in World's Work for July, 1914, page 312, on the subject of the “Shooting” of oil wells. He says:

“Mr. Frasch tackled the job from another angle; sending his *mind* down to look over the oil-bearing rock, he concluded that hydrochlorine acid, in certain sections, and in other sections sulphuric acid poured down the well, which was to be plugged immediately, would presently produce such a pressure of gases as would open numerous minute cracks in the surrounding rock and put the well in communication with new oil cavities.”

Mr. Frasch knew too well the nature of the oil-bearing rock formation to make it necessary to send his “expert” down into the well—an eight-inch bore—to make a survey and report to him conditions. This writer could better and more intelligently have said: “Mr. Frasch, knowing of the porous nature of the oil-bearing rock, concluded that hydrochloric acid, etc.”

Charles F. Cole, in his discussion of the world-wide movement towards peace among all nations, says:

“Moreover, a most definite and wonderful change is coming over the *minds* of the people of the world. They were once supposed to wish to fight and kill each other. It is certain they do not wish this any longer. (This before the great war of 1914, making Mr. Cole a poor prophet.)

Who wished to fight and kill each other, the *minds* of the people or the people themselves? The people, of course. Then, why interpolate the word *mind*, so absolutely superfluous?

In closing these citations the Author has chosen the following:

Secretary Daniels of the United States Navy, under President Woodrow Wilson, desiring to create what he termed, "An Invention Bureau of the United States Navy," the members of which should be chosen from among the countries' greatest Inventors, addressing a letter to Thomas A. Edison, inviting him to membership in said bureau, a plan which he said he had in *mind*, (*under consideration*, would have been a more comprehensive word,) said:

"I feel that our chances of getting the public interested will be enormously increased if we can have at the start some Man, *whose inventive genius* is recognized by the whole world, to assist us in consultation." (Caps and Italics, Author's.)

Secretary Daniels here hit the nail squarely on the head, using the homely phrase.

He gives the *Man*, not his *mind*, credit of being the *one* recognized by the whole world as possessing great inventive talent.

The Author has extended these citations thus numerous for the double purpose of showing to what extent and in how many various ways many men and women, both of high and low degree in intellectuality, are given to erroneously use the substitute word *mind*, generally for that of *man*, in their speech and writings, and to suggest to his readers more correct and appropriate phraseology in such cases as is cited, and thus be more in harmony with truth; more comprehensive, as for instance, how out of harmony would be the phrase, "My *Mind* can neither see, hear nor remember," instead of using the personal pronoun I.

Before progressing further the Author deems it necessary to state that he uses the term *sleep* because it is the one universally used to designate that condition of body in which all bodily movements, also all rational mental activities, are suspended—stopped, and to state further, that these conditions are brought about by reason of the lack of electrical current or energy, exactly as are all stoppages occurring within the commercial electrical plant brought about by reason of the lack of electrical current, and, also, just as the telegraph operator is rendered powerless to receive or transmit messages over the wire without electrical current, who, being driven, as it were, from active duty, is, therefore, idle.

It is error to say that our material body sleeps or awakes. Material cannot sleep, neither can it be said to be awake, being of and within itself lifeless, senseless.

It is also error to say that we, our spiritual selves, sleep, as we never sleep, though we are off active duty—idle. We are “awake” every moment, ready to resume active duty the instant the electrical current is provided, and all electrical connections throughout the mental nerve-wire circuit are normally restored or effected.

To be asleep means that the mental electrical current between the hemispheres of the brain is “cut” or opened at the mammillaries, and the spiritual operator is, therefore, off active duty, idle, awaiting the return of current, by the closing of the mental nerve-wire circuit at the mammillaries.

If the reader has patiently read and carefully studied all of the foregoing, he or she is now sufficiently in-

formed and able to fully understand the Sleep-Effectuating Mechanism.

That it may the more fully be comprehended, each of the five parts, of which it is composed, will be separately pointed out and clearly explained, together with the function performed by each.

Part Number One:

Is the EYELIDS. They are the "Nebula," as it were, or outermost part of the mechanism. They are the "curtain" which is lowered at the "end of the play."

Every object which the eyes see creates a mental suggestions. These serve to occupy us with continued mental activity, causing us, the operator, to remain on active duty.

Their first two important functions, the person seeking sleep, are, first, to bar out the light by closing, and, second, to cut off the seeing of all objects, the seeing of which causes those mental suggestions. These two functions performed tends at once, and greatly, towards mental quietude. Sleep is not *possible* with the eyelids open.

REST

BY GEORGE J. SPINNER

The sun is sinking in the west,
And signals ending day;
The toiler seeks his well-earned rest,
And homeward wends his way.

The night descends, and all around
The darkened mantle falls;
The whirring wheels in silence bound,
Now rest from labor's call.

The moon's pale beams fall on the earth,
The stars now twinkle bright;
The sounds of laughter and of mirth
Re-echo through the night.

The noise of revelry dies out,
Each seeks his night's repose;
And, wrapped in slumber round about
Their weary EYELIDS *close*.

The fourth function performed by the eyelids is clearly done *electrically*, and the Author frankly admits that he is unable to decipher their seeming mysterious action and will be referred to hereafter.

Part Number Two:

Is the EYEBALLS. By a series of muscles and soft flexible tissue, also the optic nerves, they are sustained in their sockets. They are caused to roll or turn in any direction by the action of their muscles. During profound sleep the muscles, by which they are made to turn upward, contract—shorten—and simultaneously those by which they are made to turn downward, protract—lengthen—thereby making their upward turning one of easy and painless motion, acting, *vice versa*, in the *downward* turn upon awakening.

Each eyeball is attached to its respective optic nerve on its inner side and at a point which is claimed by some anatomists to form a perfect fulcrum, by which is meant, that the turning of the eyeballs does not cause any tension to be put upon the optic nerves, or cause them to contract, a statement which the Author avers is error, proof of which will be shown later on.

None of the muscles of the human body are more constantly and vigorously exercised during active “waking” hours than are those which control the eyeballs.

They are capable of exerting great power, the greatest pressure possible to be put upon them without injury, being insufficient to prevent their turning easily in their sockets. Try it.

The reader will the more readily comprehend the Author's statements and the facts, by him or herself performing the different movements of the eyeballs as progress is made.

When the operator is not engaged in concentrated mental thought, and all conditions, physically, being normal, the eyeballs turn upward tightly in their sockets *simultaneously* with the *closing of the eyelids* and without any sensation of pain; neither is there required any exertion of the *will*. Again, when we are in that state of mental quietude that prompts us to exclaim, "I am so sleepy that I can hardly keep my eyes open," the eyeballs involuntarily turn upward tightly in their sockets simultaneously with the closing of the eyelids.

Now with the eyelids *open*, turn your eyeballs tightly upward, directing them as if you were trying to look at your eyebrows, and *hold them so*. (See No. 2 in illustration, page 170.) You perceive that it requires considerable effort, both of *will* and *muscular* action, to roll and hold them so turned upward; and you also perceive that pain is felt in the eyeballs and their muscles, and that dizziness ensues while they are being so held, even though it be but momentarily—with the *eyelids open*, remember.

This is the function performed by the eyelids which was referred to above as being of too mysterious a nature to be understood or explained by the Author.

The mystery lies in this. WHY does the closing of the eyelids make the rolling of the eyeballs hard

upward in their sockets possible with ease of execution without the aid of the *will* and accompanied with no pain or dizziness, with the eyelids closed, WHEN, with their remaining *open* the rolling of the eyeballs hard upward is only accomplished by the most strenuous exertion of the *will*, and muscular power, accompanied with pain and dizziness, and cannot be so held?

Clearly the upper and lower eyelids have a direct electrical connection with the eyeballs or their muscles, so that, when the eyelids are open, or apart, they act in one manner *electrically*—cause the eyeballs to turn downward, and when the eyelids are *closed*, or brought together in contact one with the other, they act electrically in a different manner—cause the eyeballs to, normally, turn upward.

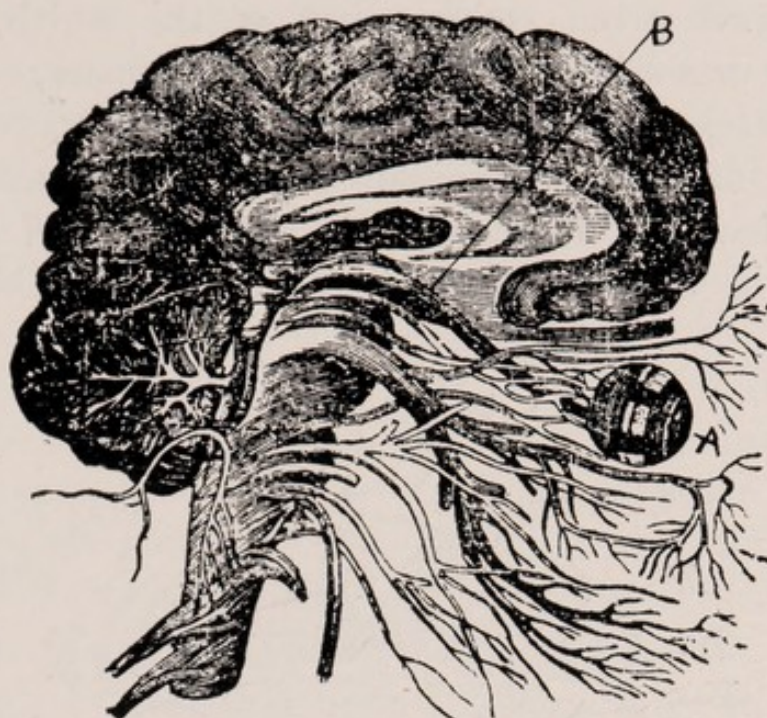
The function of the eyeballs, as a part of the sleep-effectuating mechanism, is to take off or remove tension upon the optic nerves—lengthening them—when the operator commands sleep, and to put *on* tension upon those nerves—shortening them—when the operator resumes active duty, the results of taking *off* and putting *on* tension upon those nerves being fully explained further on.

Part Number Three:

Is the OPTIC NERVES. Each optic nerve we have learned is attached to its respective eyeball at its posterior—back—part, from whence it courses back into the brain into which we must delve deeply in order to trace them to their final anchorage.

The following illustration from Dr. Trall's work shows the general position of the eyeballs and course of the optic nerves.

Fig. 8.



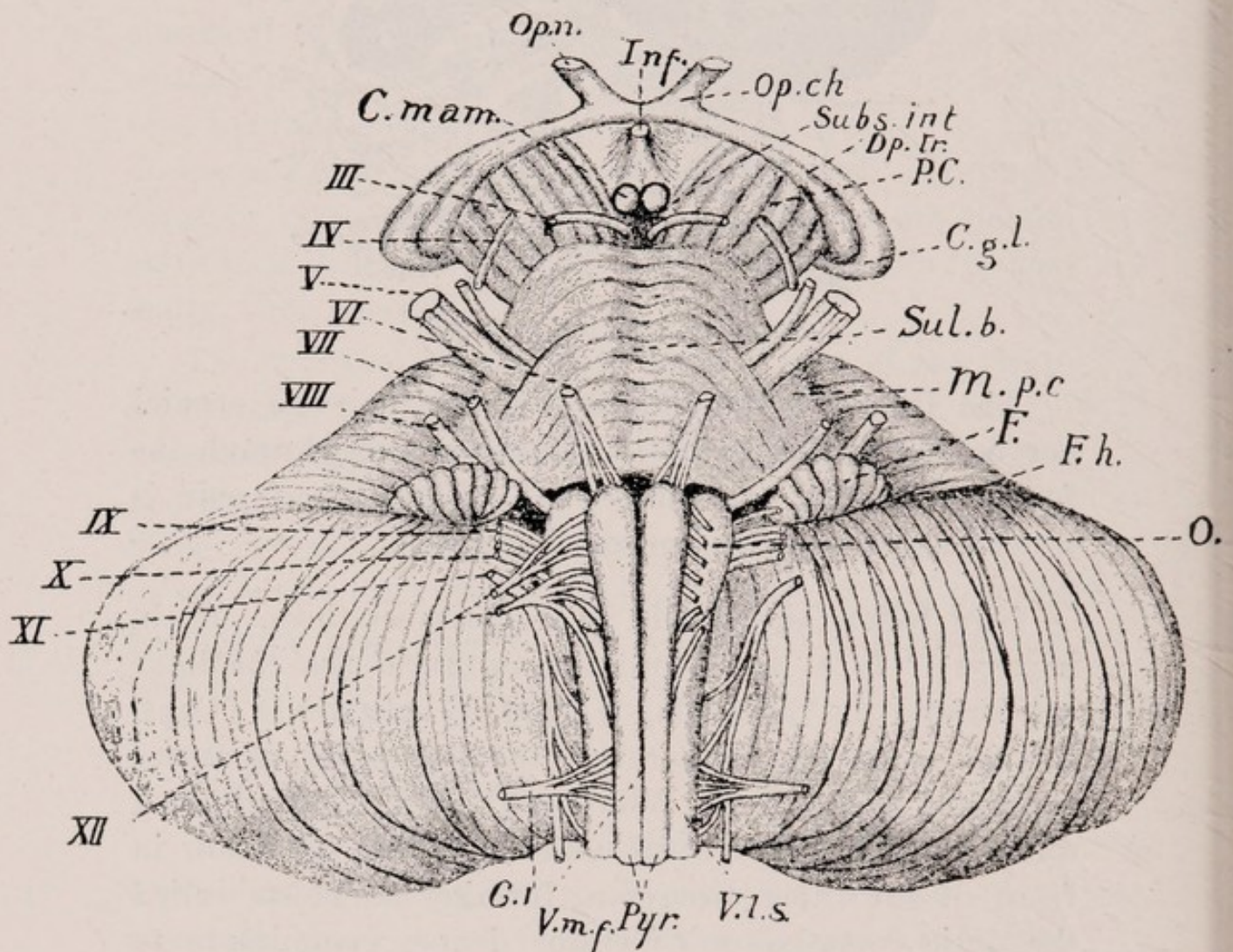
EYEBALL AND OPTIC NERVE.

The Doctor says: "There are nine pairs of cranial nerves, so-called, because of their emerging through the foramina at the cranium—skull. The second pair is termed the *optic*—the nerves of seeing."

Now follow him closely as he describes them. Each, he says: "Is a large cord arising from the *thalamus opticus* and the tubercula, WINDING AROUND (Caps, Author's) the Crura Cerebri (the peduncles, or stems, as termed by Dr. R. H. Whitehead), as a *flattened band*, under the name of *tractus opticus*, joining its fellow in front of the tuber cinereum, forming a chiasm called the optic commissure (Webster defines commissure to be a joint seam, or line, where parts join), then proceeding forward it diverges from its fellow, and passes through the optic foramen to the eyeball, pierces the sclerotic and choroid coats, and expands into the nervous membrane called the retina."

You will readily understand the Doctor in his definition just given commencing at the words, "Then winding around the *Crura Cerebri* (peduncles, or stems), as a *flattened band*, then joining its fellow, forming a chiasm, or optic commissure; thence proceeding forward, etc.," by closely observing the course of the optic nerves in the following illustration from Dr. R. H.

Fig. 9.



MAMMILLARES, PEDUNCLES AND OPTIC NERVES.

Whitehead's Anatomy of the Brain. (Used by permission.)

Here we observe the optic nerves emerging from

behind (?) the peduncles, or stems (but really from in *front* of them, as they have their beginning in front of the "stems"), and winding around back of them and passing obliquely upward where each enters the chiasm, and, leaving it upward and diagonally, to continue to the eyeball, as shown in illustration No. 8, page No. 147.

It becomes clear to the mechanical eye, upon closely observing the illustration above, *first*, that at the point where the optic nerves *wind around* the peduncles, or stems, that they—the stems—are brought closer together at that same point upon the optic cords being shortened by their contraction, or upon those cords being *pulled* at the end where they are attached to the eyeballs, and, *second*, that upon those cords or nerves being protracted—lengthened—or the *pull* upon them caused by the turning downward of the eyeballs ceasing, or taken off, that the "stems" are caused, or allowed to separate more widely one from the other.

The function of the optic nerves, as relates to the sleep-effectuating mechanism, is to govern and control the lateral movements of the peduncles, or stems, which is performed through their contractions and protractions, longitudinally.

There is, therefore, a *coming* and a *going* of the "stems" laterally, the degree of their oscillations as to distance traveled, being dependent upon the degree of contraction—shortening—and protraction—lengthening of the optic nerves.

Part Number Four:

This embraces the PEDUNCLES, or STEMS, each of which, you recall, supports its respective hemisphere of the brain.

The function of the "stems," as relates to the sleep-

effectuating mechanism, is to control the lateral movements of the *fifth* part of the mechanism by and through their own lateral movements caused by the action upon them of part number three, the optic nerves.

Part Number Five:

This embraces the MAMMILLARES. You observe in the illustration from Dr. Whitehead's work, *two small spheres* resting side by side and opposite each other laterally, in the "crotch," or "fork" formed by the divergence of the right and left peduncles, or stems, as they emerge upward from out the Medulla Oblongata, and continuing upward until they unite with their respective hemispheres of the cerebrum—brain.

You will observe that it is apparent that when those "stems" are brought nearer together, those two small spheres are also brought nearer together, and that, upon those "stems" being separated more widely that those two small spheres are also more widely separated, moving in uniformity as they do, and that when those "stems" are sufficiently separated those two small spheres are separated sufficiently to form a *space*, or break, between them.

Dr. Trall says: "These two small globular bodies are white, and about the size of a pea, and *are between* the peduncles." (The Doctor here uses the same term that Dr. Whitehead does in describing the Crura Cerebri—"stems.")

They are composed of nervous fibres and form a part of the great nerve-wiring system within the human brain.

They are located each upon one side of the fissure

existing between the right and left hemisphere of the brain, one belonging to the right side set of nerve-wires, and the other to the *left* side set, and with their “*breaking* contact” one from the other, there is caused a “break” between these right and left sets of nerve-wires.

The Author claims that the point for breaking the electrical thought circuit within the human electrical power plant *is at the mammillares*, those two small white spheres so fully above described; that when they are in close contact one with the other, thought transmission is taking place, the operator being then on active duty; and when they are *not* in contact, one with the other, a space existing between them, then thought transmission is not only *not* taking place, but is *impossible*, just as transmission of messages over the metallic wire of the electric telegraph is made impossible when the metallic wire circuit is “broken” at the instrument manipulated by the operator. With the thought circuit broken sleep must ensue, in substantiation of which statement the following news item is offered:

MAN SLEEPS FOR A YEAR

Berlin, April 20, 1912.—A remarkable case of lethargy is reported from one of the towns of South Russia. A certain Moisseyinko was put on his trial in March of last year (1911) on the charge of having committed an armed robbery, but in the midst of the proceedings he dropped to the floor in what was supposed at the time to be a fainting fit, but which afterward proved a lethargic sleep. In this condition the prisoner has lain over a year, until a few days ago. He has evidently

been all the time in complete possession of his wits, but was unable to move a limb, open his eyes or take food. When his eyelids were raised the PUPILS COULD NOT BE SEEN (Caps the Author's), and he was all the time fed by artificial means. During his sleep he has lost some weight, but has kept throughout, the external appearance of a normal and healthy man.

Note: It was a physical impossibility for this man to have been in complete possession of his wits during his sleep, as the narrator of the above item assumed, believed or guessed. The position of the eyeballs, so tightly rolled upward that the pupils could not be seen when the eyelids were forcibly raised, proved conclusively that the contact of the mammillares, one with the other, was continuously broken—*absolutely* every minute during his long sleep, a sleep so profound that he was practically DEAD in so far as concerned *voluntary* motion of his body or any of its parts and the ability of the mental nerve-wiring system for the production of thought and the five outposts to perform their functions.

There is a physiological *cause* for lethargic sleep, viz., a derangement of the sleep-effectuating mechanism. The common sense thing then to do is to remedy this defect, which can be effected in the following manner:

Procure two 2-quart rubber bags, a foot tub and two linen towels. Also make a bag from wool flannel of sufficient width and length to slip over the rubber bag containing the hot water; fold the towels each several thicknesses.

Prepare both extremely hot and cold water (ice-cold) plentifully.

Now place the patient upon a couch so as to allow the

feet to hang down at the foot. Fill the tub nearly full with water as hot as can be comfortably borne by the hand; place the feet in it, elevating tub, if necessary. Cover all with woolen blanket.

Put 3 pints of extremely hot water in a bag, pressing the air out till water appears and stopper tightly (this to make the bag pliable). Put the flannel bag over this, wetting it *thoroughly* on ONE side only with hot water, and place the bag so the base of brain and upper part of the neck will rest upon it, and allow it to remain for fifteen (15) minutes. Now prepare the other bag in like manner, using the *ice-cold* water, replacing this for the hot one, letting the bare rubber come in contact with the skin, and remain for a like period. Wring a towel from the hot water and place so as to cover the entire forehead and the eyes as well. Let this remain for ten minutes and replace with the other towel wrung from the ice-cold water, letting it remain same length of time.

ALTERNATE these application, the hot and cold, each four (4) or five (5) times, if necessary, the patient not awakening, ending each with the *hot*.

If patient continues to sleep (not at all likely, however), repeat these hot and cold applications daily or until the sleep-effectuating mechanism is brought back to normal.

All comatose conditions of brain can be overcome by the simple application of the hot and cold towel compresses to the forehead and eyes with few exceptions.

The entire sleep-effectuating mechanism installed within the human electrical power plant has now been pointed out and explained. There is nothing mysterious

about it, but, on the contrary, it is a *real, tangible* mechanism composed of the five parts.

Summarized they are:

First: The Eyelids.

Second: The Eyeballs.

Third: The Optic Nerves.

Fourth: The Peduncles, or "stems," and

Fifth: The Mammillares, those two small white spheres, the function of which appears to date, to be not known by physiologists the world over. That the Designer and Creator installed them for a specific purpose is manifestly certain.

By and through this same mechanism the mental nerve-wiring system of the human electrical plant is put into electrical action, termed the "wakeful" periods, occasioned by the mammillares again coming into contact one with the other.

It is the purpose of the Author to herein offer such a preponderance of proof in substantiation of his claim, *i. e.*, that the point of breaking electrical contact between the hemispheres of the human brain is at the mammillares, and that the mechanism for controlling it is, normally, under the control of the spiritual operator, that there shall remain no room for reasonable doubt as to the correctness of his claim.

It will be vigorously maintained by some physiologists that the breaking of the electrical circuit at the mammillares is not possible by reason of the fact, they will declare, that the mammillares protrude out and from the peduncles, or "stems," into a cavity completely filled with serum; that this serum would engulf the

mammillares immediately, were they separated, rushing into the opening formed by their breaking contact one from the other, and thus *instantly* there would be established a new means of contact between them, or a closing of the electrical circuit by reason of the conductivity of electrical energy possessing the serum.

Upon first thought this would appear a formidable obstacle, one that would seem to refute completely the declaration that the electrical circuit is broken at the mammillares. All *metals* do not possess conductivity of electrical energy. What is possible in the *metallic* world can likewise be possible in the aqueous—chemically *treated*.

That the nerve-wires of the human electrical plant can be transformed into non-conductors of that electrical energy, *natural to them*, by chemical process, is clearly proven in the administering of chloroform or ether, a sufficient quantity of either being administered, rendering the entire nerve-wiring system electrically DEAD, as, also, inducing profound sleep, involuntarily. Again,

The application of cocaine to a nuclei of nerves—locally, causes those involved to be demagnetized chemically, thus effecting a “cutting,” electrically, of said wires leading therefrom to the central station, and the hurt, if any, is not felt, no message having been transmitted thereto, and, therefore, not received by the spiritual operator. The cutting out, electrically, of a nuclei of nerve-wires is, also, locally effected chemically by the application to any part of the human plant of a sufficient quantity of ether in the form of a spray.

Thus the serum present in the cavity into which the mammillares protrude is evidently *not* possessed of electrical conductivity, and it is in the bounds of rational thought so to believe for the following reasons:

1st. While the nerve-wires of the human electrical plant are analogous to the metallic wires of the electric telegraph in many respects, the chemical elements entering into each are very materially different. The electrical energy is, therefore, transmitted by natural electrical influences *peculiar to each*. It is clear that man has not yet discovered, much less understands, all the phenomena embraced in the electrical world.

2nd. One is fortified in so believing by reason of the fact that the *entire nerve-wiring system*, including the electrically operated mechanisms within the human plant, is submerged in a mass of fleshly *aqueous* tissue, with the result that complete harmony prevails and the operation of the plant, electrically, most perfect, while, when the metallic wires and electrical equipment of the commercial electrical plant is submerged in a body of water the entire plant is rendered electrically *dead*—instantly.

The fishes' bodily structure is completely submerged in the water without rendering their bodies dead electrically.

As further proof that the energy or force by which the human plant is operated is electrical, we have but to offer in evidence the fact that the nerve-wire circuit over which the electrical energy is transmitted is often "cut" from some cause at some point along the "line," causing a complete cutting off of the power of certain parts or members of the plant, rendering them electrically dead, resulting in complete loss of power to move such parts or members. This loss of power can now be restored in certain cases by reason of the great advancements in the surgical world. A most remarkable case is reported from San Francisco, February 5, 1914. The report says: "First Lieut. Jas. C. Gunn left today

on the transport Sherman to resume duty with the Philippine scouts after an absence of months, caused by a wound received in a man trap while in active service in the islands. The spear with which the trap was armed severed Gunn's sciatic nerve, and he became paralyzed from the waist down. At the Presidio Hospital here, the nerve was spliced. Immediately an improvement was noticed, which continued, and several days ago he was pronounced fit for duty." A simple case of nerve-wire repairing.

Reasoning thus logically and rationally, the Author maintains that the "breaking" of the electrical current between the right and left hemispheres of the human brain *is effected at the mammillares*, and the above is his answer to those holding to the opposite belief.

BLOOD IN THE BRAIN

The Great Designer of the human electrical plant decreed that through His natural laws governing the human brain, there should be a certain normal quantity of blood in it during that period, which is termed *being "awake,"* and that there should also be a certain other normal quantity of blood in it during that period which is termed *being profoundly asleep.*

It has become a matter of fixed knowledge that the quantity of blood in the brain during the period of *being "awake"* is in *excess* of that during the period of being profoundly asleep.

The reader will here understand why the author italicized those words in his quotation from Webster, page 10, defining sleep, wherein he says (barring italics), "Direct experimental inquiry has led to the conclusion *that the condition of the brain* (during sleep, he means)

is one of considerable bloodlessness. There seems to be a *diminished quantity of blood circulating through the brain* and the speed of its movements much lessened."

There is a physiological *reason* for this lessened quantity of blood in the brain during sleep, unmistakably an exaction of nature.

The conclusion reached from the direct experimental inquiries related by Webster is purely in the nature of a "guess," all wholly in the dark as to the reason WHY.

As the human being under normal conditions alternately "awakes" and sleeps, there is then an alternating of this excess quantity of blood *into* and *from out* the brain. There is, therefore, exerted *some influence* which causes the alternating of this excess quantity of blood into and from out the brain.

The exercising of the mental faculties in the act of *thinking* during the "wakeful" periods is the first or primary influence which sends the excess quantity of blood *into* the brain, and, upon all exercise of the mental faculties ceasing during the sleeping period, the brain ceasing its functions, then that influence is reversed and the excess quantity of blood is sent from or *out* of the brain.

It has become also a matter of fixed knowledge that the more intense the exercising of the mental faculties of the human brain in the giving off of thought, the greater is the quantity of blood sent into the brain, and it is, therefore, proper to now consider the subject of the circulation of the blood as pertains to the brain.

The brain is supplied with blood, Dr. Trall tells us, "through the common carotid arteries, two in number, one passing upward into the brain on the right side of the neck and the other on its left side."

There is a remarkable connection of arteries *at the base of the brain*, formed by the anterior communicating branch, anterior cerebrals and internal carotids in front, and by the posterior communicating posterior cerebrals and basilar behind called the *Circle of Willis*, the Doctor informs us.

The circle, he says, "receives the blood which flows through the ascending vertebral arteries termed the subclavian. It is through these three great arteries, the right and left carotid and vertebral, that the brain is supplied with blood."

These, from various causes, send an amount of blood into the brain of varying degree in quantity, occasioned by the varying conditions of the physical organism, the quantity constantly changing as mental activities change.

While this excess quantity of blood is present at the base of the brain, a distending of the arteries thereat ensues, causing a fullness, or *pressure*, also upon the surrounding tissues and nerve-wire tract.

Dr. Oliver Wendell Holmes, in one of his "Breakfast Talks," said to his guests, "You remember what they tell of William Pickney, the great pleader; how in his eloquent paroxysms the veins of his neck would swell and his face flush and his eyes glitter until he seemed on the verge of apoplexy." The Doctor then remarks that "the hydraulic arrangements for supplying the brain with blood are only second in importance to its own organization." He says, further, "It is a good sign to have one's feet grow cold when he is writing. A great writer and speaker once told me that he often wrote with his feet in hot water; but for this, all his

blood would have run into his head as the mercury sometimes withdraws into the ball of a thermometer."

That increased mental activity or increased concentration of thought causes an increased quantity of blood to be sent into the brain is most emphatically proven by the test made during the early months of 1903 by Dr. Wm. G. Anderson, director of the Yale Museum, by means of what he termed his "Muscle-bed," a contrivance so delicately poised upon a sharp edge that when the blood is directed from other parts of the body of the subject placed upon it when the brain is exercised unduly, causes the head to lower and the feet to rise.

One of Dr. Anderson's most interesting experiments was as follows (quoting from a special communication to the Cleveland Plain Dealer from New Haven, Conn., Feb. 22, 1903) :

"He would tell the man on the bed to spell *dog*. The balance would remain stationary. Then the student would be told to multiply $134 \times \frac{7}{8}$, and the balance would slightly shift until the student's head was lower than his feet, showing that an unusual (greater) supply of blood had gone to the brain there to do the mental calculation ordered by the experiments."

Many interesting results have come out of Dr. Anderson's experiments, and one of them, "pleasurable thoughts, causes the blood to flow freely to the brain," says the communication.

It will be observed that in the experiment above quoted that when the student was ordered to spell *dog*, no change in the balance followed, and that when he was ordered to multiply $134 \times \frac{7}{8}$ mentally, the head went

down and the feet *up*. The no change in the one and decided change in the other clearly proves that any articulated or non-articulated words or thoughts requiring no *concentration of thought* causes no shifting of the blood into the brain. The student on said bed could have recited a long lingo of words or sung a series of ditties, the words of all having been so thoroughly memorized as to require no *concentration of thought*, and there would have been the same result as when he spelled *dog*—no change in the balance.

Blood is material and requires space for its accommodation. If it is *forced* into any particular region, the increased quantity in that region results in a crowding of some of the parts contiguous to the region invaded. It is a common saying, and frequently heard, "All the blood in my body seems to be rushing to my head," the idea intended to be conveyed by the person being, that an unusual quantity of blood had gone into the brain. This causes a "crowding." Among the parts or regions of the brain thus crowded are the two *peduncles*, or "stems," between which, at their "forking," are the *two small spheres*, the corpora albicantia (albino-white), as the mammillares are also termed by Dr. Trall.

There is a "coming" and a "going" of these "stems," caused by the alternating *inrush* and *outrush* of the blood *to* and *from* their regions. The *inrush* forces the stems nearer each other, and the *outrush* allows them to again recede from each other, the force used to accomplish which is hydraulic, applied off and on, in alternations.

The mammillares being situated immediatly between the "stems" at their forking, they act in unison with the "stems" in their every movement, coming and *going*

as do they. With the *inrush* of blood to the region, they are brought together in *actual contact*. With the *out-rush* of blood sufficiently, they “break” contact—separate.

It is recognized by all physiologists as an established fact, however, that the exercising of the mental faculties results in an *inrush* of blood into the brain, Dr. Anderson’s Muscle-bed simply emphasizing the proof of such movement from such cause.

If, to reason analogously, the exercising of the mental faculties causes an *inrush* of blood into the brain in the region of the peduncles, or “stems,” brings the mammillares into close contact one with the other, then the *non-exercising* of those faculties must cause an *out-rush* of blood from those regions sufficiently to allow the mammillares to break contact one from the other, and if, therefore, the exercising of the mental faculties can be interrupted, or caused to cease altogether, why, then, should not the mammillares break contact one from the other, and thus, by breaking the electrical circuit, permit the spiritual operator to cease active duty, since it is a known fact that we *must* think so long as we are said to be “awake.”

We recall that Webster says in his definition of sleep: “Direct experimental inquiry has led to the conclusion that the condition of the brain (during sleep) is one of considerable bloodlessness. There seems to be both a diminished quantity of blood circulation through the brain and in the speed of its movements.”

From the foregoing it must be apparent to the reader that the circulation of the blood in the brain and the difference in degree of quantity therein determines the

degree of mental activity or the degree of mental repose—complete “wakefulness,” or sleep; the latter profound or of a disturbed nature, as in the case of dreams.

The mystery is *how* and by what process mental activity is brought about and also made to cease.

THE “BUTTON AT THE DOOR”

The *eyeballs* are the “button at the door” of the human electrical power plant. While “pressed” upon the “bell is kept ringing.” They are the “key” by the manipulation of which the electrical circuit of the mental nerve-wiring system, embraced in the hemispheres of the brain, including the five outposts, of the human electrical plant connected with its central station and over which all messages are sent and received from them by the operator there on duty, is “*closed*” and “*opened*.”

They also control the *volume* of electrical energy possessing the nerve-wiring system, embracing the entire electrical mental apparatus within the plant, by assuming different positions in their sockets analogous to the shifting of the lever of the electrical controller of the traction car by its operator.

During the “wakeful” periods the eyeballs turn, or roll downward, while during profound sleep they turn or roll full upward and tightly in their sockets.

The Author’s first observance of this latter fact was when he was still in his “teens.” While rocking his baby sister to sleep upon one occasion, he noticed baby’s eyeballs were wont to roll upward as she was going to sleep, her eyes partially opened at momentary intervals, displaying the upturned eyeballs. This “discovery” greatly impressed him. In maturer years the sub-

ject of sleep became of intense interest to him. Later, upon learning that it was a mystery how we are caused to sleep, he recalled immediately the upward rolling of the eyeballs of his baby sister. He became thoroughly imbued with the belief that the *position of the eyeballs in their sockets* had something to do with the mystery of sleep. His many years of investigation proved that they have, and that the ability to put oneself to sleep is within the control of our Spiritual selves, the operator of our material bodily plant, through what is termed the will, exercising it, except in extreme cases of bodily derangements.

In our early infancy our "Book for Reference" is as a blank sheet of white paper: there has been no record entered of the messages sent in from the five outposts so far, because no intelligent mental activity has possessed the infant operator.

It is apparent that while we are in this stage of our early bodily existence, *nature acts her primal self*, with the result that the maximum of physical benefits, planned by the Creator, obtains during the periods of our infantile sleep, and, that if we would continue to receive this same maximum of bodily benefits *throughout life* during sleep, the same primal procedure must be enacted or made to prevail as when in our infancy.

The result of this maximum of physical benefits obtaining caused by profoundness of sleep, during our infancy, is the rapid growth of bodily tissue, both of bone and flesh, and, were it not for the limitations of our Creative apparatus within us, all humankind would grow to be giants or giantesses.

The fullness of growth of our material plant attained, the element of mental activity now fully encom-

passes the plant which is destructive of the tissues—zinc—of our bodily *chemical* “battery.” In order to restore and make good the daily bodily waste or loss of tissue—zinc—which ensues, keeping it up to its maximum amount, the same primal procedure which insured us profound sleep during our infantile life must be enacted.

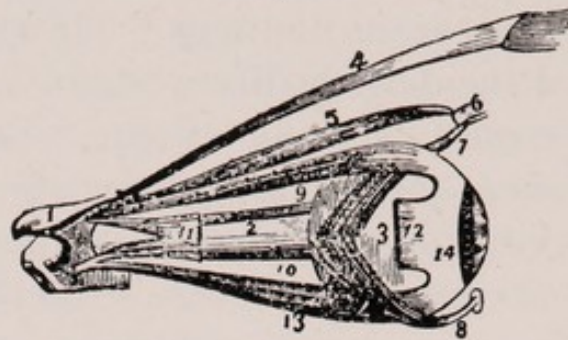
This primal procedure is the “breaking” of the mental nerve-wiring circuit at the mammillares, *completely*—ABSOLUTELY.

The eyeballs by their movements *control the volume of electrical thought current within our brain*, the Author has averred, and he now makes the statement that the mental activity of the mightiest brain or that of the most profound thinker, *while wide “awake,”* can be brought completely and instantly to an abrupt ending by the arbitrary exercise of the will, so much so, that during the continuance of such arbitrary action of the will, it is not possible to create or formulate a sentence composed of but a comparatively few words requiring DEEP CONCENTRATION OF THOUGHT. This, of course, applies to every intelligent human being.

Here is the test: Close the eyelids, keeping them closed. Now, by exercise of the *will*, roll the eyeballs hard upward in their sockets, directing the pupils upward as if you were looking at your eyebrows, and HOLD THEM SO. Now, while they are in this hard, turned-up position, *create and formulate your sentence if you can*. You cannot, you perceive.

The eyeballs, we have learned, are controlled by a series of muscles by which they are made to turn in any direction. There is one termed the *levator*, which raises the upper eyelid. These muscles are shown in the following illustration from Dr. Trall’s work.

Fig 10.



MUSCLES OF THE EYEBALL.

A view of the ocular group, taken from the outer side of the right orbit. 1. A small fragment of the sphenoid bone around the entrance of the optic nerve into the orbit. 2. Optic nerve. 3. Globe of the eye. 4. Levator palpebræ muscle. 5. Superior oblique. 6. Its cartilaginous pulley. 7. Its reflected tendon. 8. Inferior oblique. 9. Superior rectus. 10. Internal rectus, almost concealed by the optic nerve. 11. Parts of the external rectus, showing its two heads of origin. 12. Extremity of the external rectus at its insertion. 13. Inferior rectus. 14. The tunica albuginea, which is formed by the expansion of the tendons of the four recti muscles.

Their uses: "The levator raises the upper eyelid; the four recti, when acting singly, pull the eyeballs upward, downward, inward and outward; the superior oblique rolls the globe inward and forward; the inferior oblique rolls the globe outward and backward."

The fact that the eyeballs, by their movements, control the volume of electrical energy used in the operating of the mechanisms embraced in the five outposts; also the volume of dynamic electrical energy used in the giving off of thought, seems to have escaped detection by physiologists thus far.

It is assumed that the reader has personally made the test of rolling the eyeballs tightly upward in their

sockets, with the eyelids *closed*, as heretofore instructed, and ascertained that concentration of thought is *not possible* while they are thus tightly held turned upward.

A second declaration is now made in proof that the eyeballs, by their movements, control the volume of electrical energy used in producing thought or mental activity, which is: that while the eyeballs are turned hard *downward* in their sockets, the eyelids being either open or *closed*, the maximum volume of electrical energy is made to possess the mental nerve-wiring system embraced in the brain, and thus the maximum volume of mental activity is made to obtain; and that when the eyeballs assume this hard, turned-downward position, and while being so held, involuntarily or arbitrarily, SLEEP IS NOT POSSIBLE.

The Author has averred that the conclusion reached by some physiologists, viz., that the turning of the eyeballs downward in their sockets, does not cause a pull or tension to be exerted upon the optic nerves, is error.

The entire sleep-effectuating mechanism in the human plant having been shown and explained in detail, it is now offered in proof that there IS a *pull*, or tension, exerted upon those nerves upon the eyeballs being turned downward, and upon their being turned hard upward, that that pull, or tension, is entirely removed from them, thereby, in time, allowing the mammillares to break contact one from the other, which causes the cessation of all thoughts and, also, transmission of all messages from the five outposts to the operator at the central station, who then is compelled to cease active duty, being without current.

The practical mechanical eye will readily observe that the peculiar physiological arrangement of the parts

of the sleep-effectuating mechanism, as shown in illustration by Dr. Whitehead, page 148, *requires* a pull or tension to be exerted upon that part of it—the optic nerves—to cause it to perform its functions properly and successfully.

The optic nerves, each attached to its respective eyeball on its inner side, thence running to the optic chiasm, thence *winding around* the peduncles, or “stems,” thence running to their anchorage in their respective hemispheres, it is plain that, upon a pull, or tension being exerted, or put upon them, that the peduncles, or “stems,” will be brought nearer together, analogous to the bringing nearer together of the handles of a pair of shears when grasped tightly with the hand.

WHY this *winding around* the peduncles, or “stems,” by the powerful optic nerves at this particular point; WHY the mammillares placed between the “stems” and at a point *below* the winding nerves and in the acute angle formed by the “stems” at their forking where they, the mammillares, will have exerted upon them the *maximum* of pressure exerted upon the “handles”—stems—caused by the *pull* or tension upon the optic nerves; and WHY their location one on each side of the middle line and fissure separating the hemispheres, and *opposite each other*, if it was not designed by the Great Designer of this mechanism that there should be a “coming” and “going” of those two small spheres and for the purpose of making them the point for “closing” and “opening” of the mental nerve-wiring circuit between the hemispheres of the brain, inducing, alternately, active and non-active mental thought or, to state it more properly, putting the electrical mental mechanisms, also the five outposts, in and out of commis-

sion, thus causing the spiritual operator to resume active duty and to cease to perform same alternately.

Physiologically and electrically the *reasons* why these two opposite results obtain are:

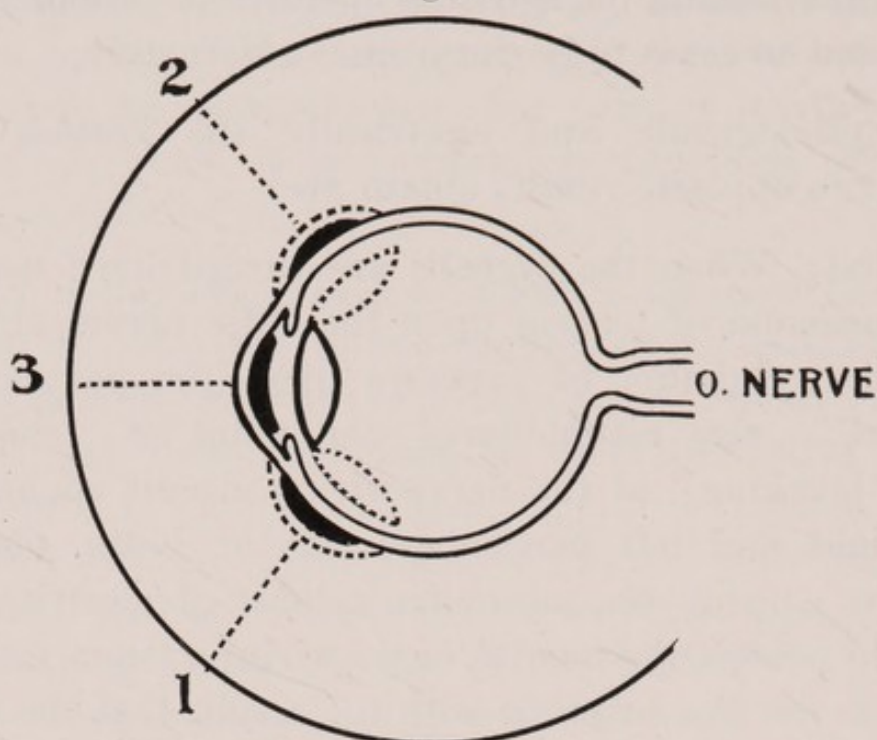
First: When the eyeballs are turned hard *upward* the *minimum* of tension upon the optic nerves obtains, also the minimum of pressure upon the peduncles—"stems"; also mammillares—the point of "closing" and "breaking" of the nerve-wiring circuit connecting the right and left hemispheres of the brain, obtains, thereby causing the minimum volume of electrical energy to possess the mental nerve-wiring system embracing also the five outposts, with the result, that the minimum volume of mental activity obtains up to the point of the actual breaking of contact at the mammillares, and,

Second: When the eyeballs are turned hard downward the *maximum* of tension upon the optic nerves obtains; also the maximum of pressure upon the peduncles, or "stems," and mammillares obtains, thereby causing the maximum volume of electrical energy to possess the said mental nerve-wiring system, with the result, that the maximum volume of mental activity obtains.

The above statements are not mere deductions, based upon theory, but upon the fixed knowledge that the *heavier* the "load," the greater the volume of electrical energy required, and *vice versa*.

The following illustration by the Author shows the position of the eyeballs when the above described minimum and maximum results obtain:

Fig. 11.



THREE POINTS OF VISION.

When the pupils of the eyes are directed towards No. 1 the maximum of tension upon the optic nerves obtains, and the maximum of mental activity is then *only* made to obtain, the eyelids open or closed. Nevertheless, with the maximum of tension applied, mental activity can be wholly stopped by reason of the fact that the operator does not desire it, so completely are the mental mechanisms now under his or her control.

When the pupils are directed towards No. 2 the minimum of tension upon the optic nerves obtains, and the minimum of mental activity also *obtains up* to the actual breaking of contact at the mammillares. Unlike the preceding—No. 1—the eyeballs are here directed to be turned towards No. 2, causing the electrical energy to be so reduced in volume that mental activity is not now possible. In this case the operator *purposely yields control* of the mental mechanisms when desiring momentary or longer respite from mental activity.

It is apparent, then, that as the vision is moved from No. 1 towards No. 2, every movement so made towards No. 2 lessens the degree of mental activity or power for thought concentration, because of the decrease of the volume of electrical energy.

When the spiritual operator is in converse with others; engaged in social intercourse; on a tour, sight-seeing; in a state of absent-mindedness, so-called; in a state of mentality which does not require concentration of thought or in other like conditions, during all such moments the pupils of the eyes are directed towards No. 3. The electrical energy possessing the entire mental nerve-wiring system at such times is neutral in volume, being the normal volume required to intelligently operate the said system and all bodily movements, or to state it more correctly, the *medial* between the maximum and minimum obtains.

All mental and manual work *requiring concentration of thought* done by all the people who have, are now, and are yet to inhabit the earth, has been, is, and always will be done while the pupils of the eyes were and are directed within the area between Nos. 1 and 3, including those two points.

Our arms hang down when the body is erect, the elbows varying from about 18 to 24 inches below the eyes, according to the size of the person. When the hand or hands holding a book or any object to which the vision must be directed, the natural position of these is distant below the eyes approximating that of the elbows. This, it will be observed, necessitates the turning of the eyeballs downward and the directing of the vision *below* the No. 3 point. Is this arrangement one of *design* or one of *chance*?

Especially is deep concentration of thought con-

stantly required of the bookkeeper and draughtsman. Observe them at their work: the head thrown forward over the book or draughting sheet, their eyeballs turned downward, the vision being directed midway between Nos. 1 and 3. The eyeballs of the typewriter operator are likewise so directed, their work requiring constant concentration of thought.

The foresight, wisdom, sagacity, call it what you will, of the Great Designer and Creator of Man in His arrangement of the eyes and hands, is thus revealed, for such and all similar work as above cited could not only be not performed were it necessary to direct the vision above the No. 3 point in the figure, by reason of the difficulty that would be imposed, but for the physiological reason that *thought concentration is not possible while the eyeballs are made to assume the position required when so turned.*

There never lived, neither will there ever live a human being of sufficient mental endowment to correctly work out a difficult mathematical problem while his or her vision was or is constantly directed between Nos. 2 and 3 points in the figure. Such difficult problems are only possible of *solution* when the *pupils* of the eyes are quite nearly directed towards No. 1. Neither is it possible for any musician to perform upon *any* musical instrument following the music composing the "tune," keeping perfect time, while the eyeballs are *turned hard upward* with the eyelids *closed*, it being physically impossible to keep them so rolled up with the eyelids *open* by reason of the pain and dizziness that at once ensues.

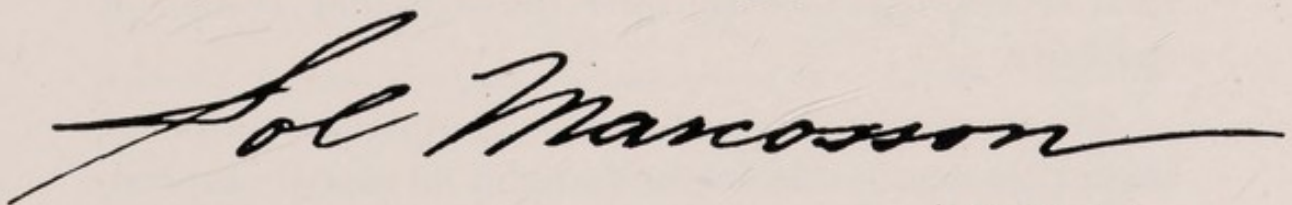
To obtain proof of his above averment, the Author, on October 10th, 1914, visited the studio of Mr. Sol Marcossou, Cleveland's most noted Violinist, and asked

his co-operation in demonstrating the truthfulness of said averment, to which he most graciously consented.

With his head held firmly erect, eyes open, a sheet of music was held before him at a height which compelled him to roll his eyeballs upward to the extent that in order to read the music he had to direct the pupils of his eyes to the No. 2 point in figure 11, page 170. In less than a minute he stopped, remarking, "It makes me dizzy." "Then you could not perform constantly with your eyeballs so held?" "Most certainly not," he quickly answered.

He was then asked to close his eyes and roll his eyeballs hard upward with the pupils directed as if he were looking at his eyebrows. Now, while so held, he was asked to play any tune he had thoroughly memorized. The Author standing behind him, gently placed the soft part of the inner side of his third finger, one each, upon his eyeballs. This, in order to detect any turning-down movement of the balls. Commencing to play, his eyelids were observed to quiver violently, and the eyeballs to often turn downward momentarily, of which each time he was informed by being given the signal previously arranged. It required but a few moments to convince Mr. Marcosson of the physical impossibility for any one to perform on any instrument, regularly and all the time, with the eyeballs so tightly rolled upwards.

The above statements, as made by the Author of this book, are correct and true in every particular.

A large, elegant handwritten signature in dark ink, reading "Sol Marcosson". The signature is written in a cursive style with long, sweeping strokes, particularly in the first and last letters.

Violinist.

Thus is explained why we stagger, become dizzy and reel like a drunken person when attempting to walk along the sidewalk with the eyes directed towards the zenith and so held.

Constructed as is the apparatus within the human brain as relates to the organs of vision, the human family would in a marvelously short period become a race bereft of all mental sanity, culminating in speedy death, should every member thereof be rendered physically unable and permanently, in extent, so as to make the *involuntary* breaking of electrical current at the mammillares—by their breaking contact one from the other—not possible, and which is now accomplished by the rolling of the eyeballs tightly upward in their sockets—involuntarily, bringing on that condition of physical rest or period, termed sleep, and during which period the brain is relieved from performing all mental work, and stopping the while the destruction or disintegration of its myriad of infinitesimally small physical integral parts, the continuing of which, without cessation, causes it to become wholly worthless as a media for giving off of all rational thought, also causing the hastening of the flight of the spiritual operator from out its material abode, which departure, as has been stated, is termed death, for all of which reasons the Creator wisely provided the sleep-effectuating mechanism within the human brain—the protector and conservator thereof.

We must not lose sight of the fact that we, our spiritual selves, have control over the muscular system of our body.

There are demands upon the mental mechanism at times that requires an intensifying of an already intensified condition of the mental faculties; a condition con-

fronts us; we feel we *must* recall to memory a certain message. Then it is that we bring into use special force that causes the muscular system to bring into still firmer contact the mammillares, increasing thereby the volume of electrical energy possessing the mental nerve-wiring system, consequently deeper thought concentration. But this increase in the volume of energy does not always result favorably. The message sought to be remembered, or "read," was so lightly recorded in our "Book for Reference," that it could not be deciphered at that particular time. Maybe some other time—possibly never.

The late Professor O. S. Fowler, in his book on Human Physiognomy, gives two illustrations, one showing the profound thinker and the other the "snob," or light thinker. The deep thinker he shows to be a man walking, body bent forward, head bowed, and eyes directed to the ground a few feet from before him. The light thinker he shows to be a young man, body erect, shoulders and head thrown back, eyes directed heavenward.

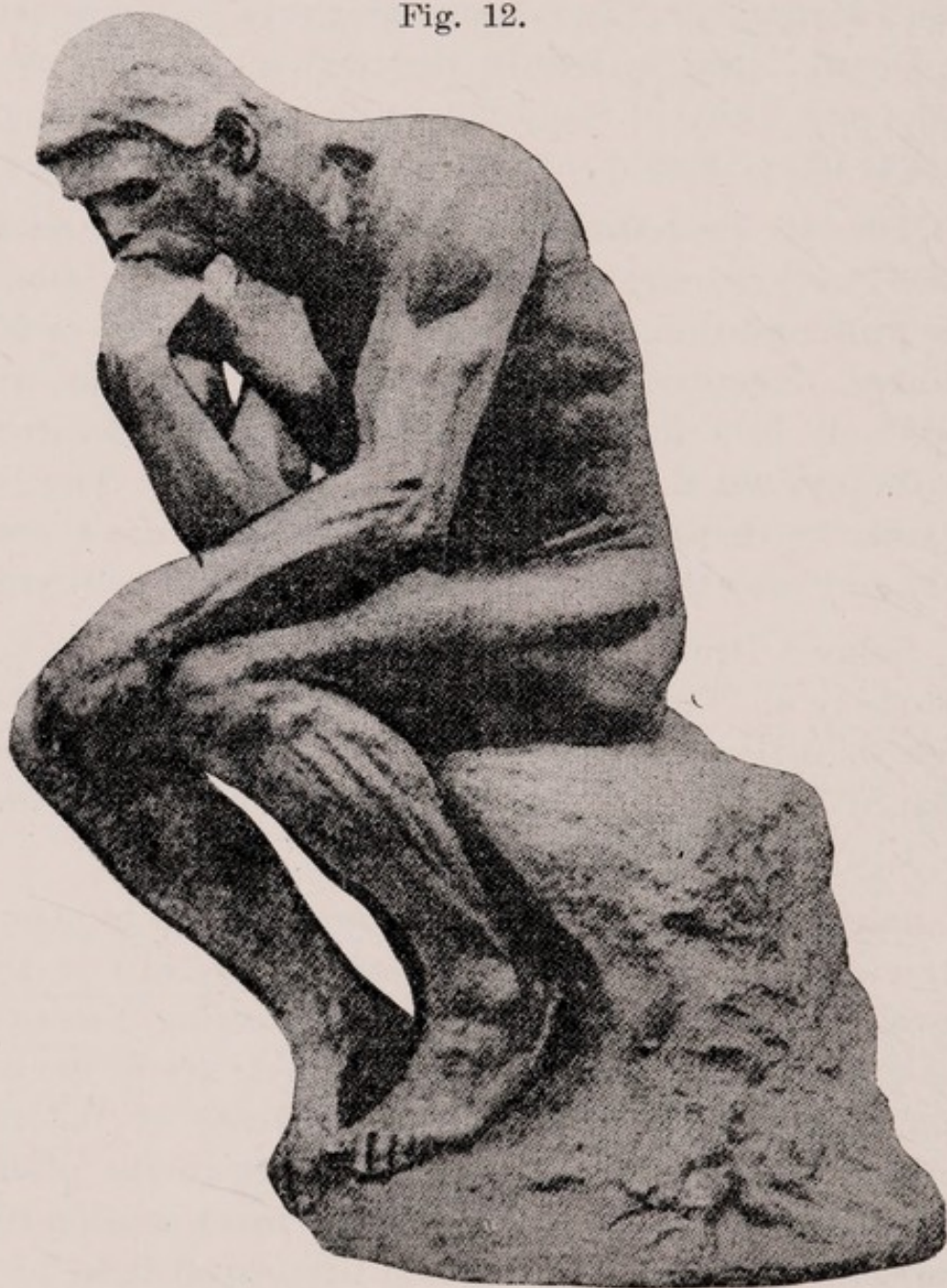
Salman Brown, son of John Brown, "whose soul is marching on," in one of his reminiscences of his boyhood days, tells how his father usually walked with his hands clasped behind him, often *with his eyes on the ground*, as if in deep thought.

It requires no stretch of the imagination to comprehend and discern the position of the eyeballs in those cases. Those of the profound thinkers being directed to the ground a few feet from before them, are in the position nearing that of No. 1, while those of the light thinker being directed heavenward, are in the position more nearing that of No. 2. Simply much tension upon the optic nerves of the *deep* and little upon those of the light thinker.

The Author assumes that Professor Fowler arrived at his conclusions wholly from observation, inasmuch as he did not venture to give any proof or tell *why* those two personages are what he represented them to be.

The French Sculptor, M. Auguste Rodin's statue of "The Thinker" is here shown, proving that his obser-

Fig. 12.



"THE THINKER." One of Rodins' best-known works.

vation of the attitude of the head assumed when the person is engaged in deep thought, to be identical with those of Prof. Fowler and Mr. Brown, and it is most remarkable that these three men, living in different periods of time, different parts of the world, and in different vocations in life, should have seemingly inherently observed the same peculiar posture of the head during the process of deep thinking.

The eyelids, eyeballs, optic nerves, peduncles and mammillares composing the five parts of the sleep-effectuating mechanism, have long been known. Sleep, how effectuated, also, how the many different degrees of mentality or thought concentration is effected within the human brain, remains a profound mystery, nevertheless. Clearly it is the USES to which nature puts those several parts that have not been discovered or noticed, which uses have been clearly explained in detail heretofore under the specific number of each.

The *effect* of the uses of the said five parts of said mechanism culminates at the mammillares where the *closing* and *opening* of the mental nerve-wire circuit connecting the right and left sets of nerve wires within each of the hemispheres of the brain is effected.

But for this culminating point—the mammillares—making the *opening* or breaking of the electrical thought current over the said mental nerve-wire circuit possible, we would never be other than active, wide-awake creatures; the “door-bell” of our bodily plant would never cease its “ringing” from the day of our birth to the day of our departure, a condition not possible, constructed as is man. Thus there was *necessitated* the installation of this special mechanism within the human brain for the specific purpose of *breaking* current be-

tween its hemispheres at certain times, causing the operator to cease active duty; causing the "bell to cease its ringing"; stopping the "eating up" of the tissues—of our bodily organism, all for the purpose of allowing both, the dynamic (frictional), and the voltaic (chemical) electrical energies to be restored to their required normal volume, followed by the circuit being closed at the mammillares and the operator again resuming active duty.

Such special mechanism the Designer and Creator wisely provided His human Creation.

There exists a special mechanism for effectuating like condition within the brain of every living creature that sleeps. The eyeballs of the dog turn downward during sleep, the reverse of the human, the Author having failed thus far in his observation to determine the position of the eyeballs of any of the other animals during sleep.

The Author is fully conversant with the fact that advancements contrary to long-established beliefs are met with derision very often by some. This advancement as to nature's uses of the several parts of our bodily organism above referred to as causing, or effectuating, so-called sleep and regulating the volume of electrical energy over the entire mental nerve-wire system, embracing the five organs of sense or outposts, as those organs are herein termed, within the human brain, is contrary to the long-established physiological beliefs and will, no doubt, be derided by some, their primary base of attack being on the abnormal side, as, for instance, they will say, "Those persons whose eyeballs have been removed are still enabled to go to sleep, therefore, your theory that the eyeballs, by their movements, causes or effectu-

ates sleep, also controls the volume of electrical thought energy, must be error."

Several things must here be considered in the case of the loss of the eyeballs, chief of which are, that their removal does not remove the remaining optic nerves, prevent their entwinement around the peduncles, or "stems," remove the "stems," nor mammillares.

So that, the *opening* and *closing* of the circuit of the electrical mental nerve-wire circuit has not been made impossible of accomplishment by reason of said loss. That Nature has a means or process for compensating for the loss of some of her primary methods for accomplishing certain ends, is a well-established physiological fact. That other means is employed—muscular, no doubt—for controlling the "stems" and mammillares, is self-evident because of the very fact that those who have had their eyeballs removed, as pointed out, are still enabled to go to sleep.

Dr. Trall, you recall, says, page 41, "All the actions or motions of the various parts and organs are produced by contraction or shortening of the muscular fibres, or, rather, their alternate contraction and expansion, *at the behest of the Mind.*" (At the behest of the spiritual Being, he should have said, to have stated it correctly.)

Mr. Chas. J. Yohe, of Cleveland, Ohio, had both of his eyeballs removed, the result of a premature explosion of dynamite in 1902; July 29th, 1912, the Author examined Mr. Yohe's eyes (?) very carefully. Standing behind him and while pressing the inner side of the third fingers, one in each, down into the eye sockets, he was asked to roll his eyeballs up, just as if he had never lost them. Just as was predicted, there was a positive and plainly felt movement upward of the tissues remain-

ing in the sockets; likewise a plainly felt downward movement when again requested to roll them downward, proving conclusively that there was still exerted muscular movements engaging the ends of the optic nerves, they being still in place.

Again, with the removal of the eyeballs and the putting of the outpost for *seeing* out of commission permanently, the number and volume of messages engaging the attention of the operator are greatly diminished, as no more messages from that outpost have to be noted and recorded. There is, therefore, a corresponding lessening in the needs of tension, or other means for regulating of the movements of the mammillares. The need of tension for their regulation is still further diminished with the "closing" or discontinuance of the outpost for *hearing*—both ears—being put out of commission permanently, leaving only the three outposts those of *feeling*, *smelling*, and *tasting* in commission. The messages sent to the operator by the two outposts, *seeing* and *hearing*, constitute immeasurably the greater number of the whole sent in for record during one's life time.

Take, for instance, the case of Helen Adams Keller, the blind and deaf lady. The mental nerve-wires of her bodily plant, embraced in that of the outpost of *feeling*, are compelled to carry almost entirely the "load" of communicating or transmitting messages from the outside world to her spiritual self, it being assumed that the system of tutorage employed or used in communicating to her knowledge, does not embrace the use of either of the other two remaining outposts, those of *tasting* and *smelling*—in a very great degree.

One has but to read her Autobiography, "The Miracle of a Life," to comprehend, and then but faintly,

the amount of knowledge acquired by her, and also to learn the magnitude of the load carried by her outpost of feeling in conveying or transmitting to her spiritual self—the *real* Helen Keller, so vast a store of knowledge as therein recited.

Narrating her visit to the World's Fair, Chicago, 1893, she tells the manner of her "taking in" the fair. She says: "Mr. Higinbotham, president of the World's Fair, kindly gave me permission to touch the exhibits, and with an eagerness as insatiable as that which Pizarro seized the treasures of Peru, I took in the glories of the Fair with my fingers."

To a person, such as Miss Keller, in the absence of pain, disturbing taste or smell, and a mental resolve not to worry over the loss of sight and hearing, life can be one of exceptional serenity and tranquillity. Miss Keller's eyeballs being normal as to size and all muscles thereto belonging, including the levator, which controls the eyelids, she sleeps soundly, as Miss Crosby, her instructor and constant companion, informed the Author in a personal interview. Permit a slight digression just here.

So greatly has Miss Keller's sense of feeling become augmented that she has learned to "hear" the words spoken by Miss Crosby through her outpost for feeling by placing the third, fourth and little finger of her left hand gently upon and over Miss Crosby's lips, while her first finger lays upon and presses her chin lightly and her thumb engaging lightly upon her throat. By this means she rarely fails to repeat correctly every word spoken by Miss Crosby, her tutor. The most remarkable feature of this world's greatest marvel lies in the fact that with the wonderful system of tutoring for con-

veying knowledge to this dear one, deprived of the two major outposts, seeing and hearing, she has been enabled to acquire such a vast amount of learning as to outdistance her instructor, as Miss Crosby states it: "Helen knows more than I do."

Miss Fanny Crosby, the blind Poet and Hymn Writer, of Bridgeport, Conn., made the following statement on the day of the celebration of her ninetieth birthday anniversary, March 24th, 1910: "I have written several thousand hymns and am still at it. I have many pleasant memories. There has been many a change in this busy world since I was a little girl. I have never regretted my loss of sight, for it has quickened my other faculties and has really been a great blessing to me." And, again, on that of her ninety-fourth anniversary, said her long life was due to her "never worrying."

This venerable good woman, possessed with such a serene, halcyon disposition, no doubt is blessed in that her sleeping hours are those of profound rest—*entire unconsciousness*, as Dr. Trall states in his definition of profound sleep; the breaking of contact at the mammillares being absolute, which fact has tended, no doubt, greatly towards her bodily recuperations and prolongation of life, because such persons do not exhaust their dynamic electrical energy, or lose bodily tissue—the "zinc," in their bodily chemical electrical battery, daily, anything like to the extent that those possessed of all their five senses or outposts do.

The quantity of blood flowing to and remaining in the region of the peduncles and their attendants—the mammillares, in the brain of such persons, when seeking sleep, is greatly reduced, making the separation of the mammillares and consequent "breaking" of the electri-

cal thought current easy of execution. Going to sleep is thus made easy for such.

The removal of the eyeballs cannot, therefore, be said to nullify the claim of the Author that the control of the mammillares is effected by the tension or pull put upon the optic nerves by the eyeballs when normally in place.

That, normally, the eyeballs control the volume of dynamic electrical energy possessing the mental nerve-wire system, embracing, also, the five outposts during the periods of "wakefulness," and that the optic nerves are lessened of the tension or pull then existing upon them the instant the person begins to seek sleep, by their *upward turn*, needs no greater proof than is presented in the operation of putting one's self to sleep, as hereinafter directed, physiologically, NATURE'S WAY. Immediately the eyeballs are turned hard upward and *so held*, thought concentration, or active thought, ceases, and simultaneously therewith the excess quantity of blood begins to recede from the regions of the peduncles and mammillares, and when *so held* sufficiently long to allow of a sufficient quantity of blood to recede from those regions, the mammillares separate, break contact, opening the mental nerve-wire circuit between the hemispheres of the brain, when all thought transmission to the operator over said circuit becomes impossible and, therefore, ceases, the operator then ceasing active duty, being without current, as already stated.

The world has ever sought and hoped for a successful method, easy of execution (which, fortunately, Nature's way IS), for effectuating sleep. Such deep mystery has attached to sleep, how effectuated, that there has been bred a general belief that the manner in which it is effectuated is past all human understanding or dis-

covery. This has led to the promulgation of many so-called methods for putting one's self to sleep, but none have presented a single physiological reason WHY their observance, or execution, effectuates it, the Authors of all being blindly in the dark as to the *reason* why.

It is most gratifying to the Author, therefore, to be enabled herein to announce to the world his discovery of what he has claimed to be the Human Material Sleep-Effectuating Mechanism, confidently believing that it will, in due course, be recognized as such by physiologists universally, they having satisfied themselves as to the correctness of his claim.

It is further most gratifying to be able to state that the operation of said mechanism is so simple that a child of but a few years of age, properly instructed, can readily execute the *one* natural movement required to produce the end sought—*sleep*, though it may be wholly ignorant as to the existence of said mechanism, or reason *why* the execution of that movement induces sleep.

Charles F. Thwing, President of Adelbert College, Western Reserve University, Cleveland, Ohio, informs the Author that he had a Professor friend, now deceased, who stated he put himself to sleep by rolling his eyeballs upward. Whether he understood the *reason* why the rolling of his eyeballs upward induced sleep, President Thwing does not state.

Dr. E. D. C. Bayne, Cleveland, Ohio, tells the Author his method of putting himself to sleep, exemplifying it, which is, opening his eyelids widely, momentarily; then he rolls his eyeballs tightly upward, and *while so held*, closes his eyelids, "and I am gone," he says. He does not offer any reason why his *method* induces sleep.

INSTRUCTIONS IN THE OPERATION OF THE
SLEEP-EFFECTUATING MECHANISM

The reader is now prepared to receive instructions how to successfully "operate" the sleep-effectuating mechanism whenever "wooing the drowsy god," using a borrowed phrase.

It is most appropriate to first state, that abnormal wakefulness may be due to several causes. When it is due to certain bodily diseases, or acute pain, it is well to temporarily resort to mild opiates. But insomnia that is caused by excessive nervous strain, mental anxiety or worry, are, primarily, cases that will yield in obedience to, and following the execution of, the movement of the sleep-effectuating mechanism which *Nature exacts*—which is, the rolling of the eyeballs hard upward in their sockets, eyes closed, and holding *them so* until sufficient blood has receded from out the brain to allow the mammillares to break contact one from the other, all by the exercising of the will. When, however, we are in that state of "being so sleepy that we can hardly keep our eyes open," *no exertion of the will is required* to make the eyeballs roll upward, because, when we are in such sleepy mood, they naturally roll upward tightly *simultaneously with the closing of the eyelids*, and the mammillares quickly break contact, thereby instantly inducing sleep.

INSTRUCTIONS

First, preparatory to retiring, arrange for sufficient air in your sleeping room, just enough covering provided to keep the body comfortably warm, and *light out* at night, your room being darkened or eyes thoroughly hoodwinked during the day, barring out all light.

Now let your body assume any comfortable position in bed, being careful not to have the neck, an arm or leg in a twist, else pain may follow and you be "awakened" thereby. Be careful, also, to have the ear lie flat against the head, if lying on your side. Close your eyes.

NOW, execute the major movement—THROW THE "LEVER," that is, roll your eyeballs, BY AID OF THE WILL, upward in their sockets, directing their pupils as if you were looking at your eyebrows, and HOLD THEM SO, (As at No. 2 in figure, page 170.)

Do not let your eyeballs turn or roll downward, as they naturally often do when inclined to "wakefulness." Success is only made possible by holding the eyeballs thus rolled upward continuously, with the eyelids closed, remember. It is nature's exaction, her *demand*, and MUST be complied with if we would enjoy profound sleep.

The above comprises the entire instructions, ordinarily, in the operation of putting one's self to sleep through the manipulation of the sleep-effectuating mechanism within the human brain—by aid of the *Will*.

There are occasion, however, when it requires more and sometimes extreme efforts upon the part of the seeker of sleep, to bring about the outflow of blood from the brain in sufficient quantity to allow the mammillares to break contact one from the other, so obstinate do they appear in their yielding to the dictates of the spiritual will.

In all such cases the following SPECIAL instructions should be followed and persisted in:

First, to assist in the driving of the excess quantity of blood from out the brain.

Lie on the back or nearly so. Now, slowly, take three full breaths, and, at the *third expiration*, force all the

air out of the lungs possible, and immediately fill them to their fullest capacity and, before any air is allowed to escape them, cause the epiglottis or "flapper," as it is commonly called, to close over the wind pipe and hold the breath while your heart beats fifteen (15) times, then allow the air to expire slowly; breathe naturally for a few moments, then again fill the lungs to their fullest capacity—*always remembering to first force all the air from the lungs possible*—and hold the breath as before. The rolling of the eyeballs upward is thus made more easy of execution.

(To close the "flapper" over the windpipe, utter the guttural word HUK, the instant the lungs are filled to their fullest capacity.)

If desired, now let your body assume any comfortable position.

The imagination is now brought into play. Imagine a bright star well up in the heavens; a buzzard soaring lazily overhead; a squirrel basking in the sun upon a limb far up in a tree-top, and in *each case* turn your eyeballs upward as if looking at them. These or any other imaginary object, always, however, at an elevation sufficient to require the turning of the eyeballs well upward, the object of which is twofold—first, the distracting or diverting of the thoughts from the subject or subjects crowding upon the attention, and, second, the taking off of tension from the optic nerves and, therefore, off the mammillares, both of which tend to drive the excess quantity of blood from out the brain.

You have now but to persist in your efforts, gazing at any one of these imaginary objects, when the mammillares will so suddenly break contact that all consciousness of their having broken will be lost to you.

The Author has had many a hard battle during certain times when he has been earnestly engaged mentally, but in *no single instance* has he failed to conquer the unruly enemy—the excess quantity of blood in his brain, and drive it out therefrom.

The reason WHY. Remember that while your eyeballs are thus being held turned tightly upward, that it is being done by muscular force exerted by the WILL at the command of your spiritual self—the operator of your material plant, and that while they are being so held it is a *physiological impossibility for you to think*, as, when so held, the brain is estopped from performing its function, that of thinking or thought production. This causes the excess quantity of blood in the brain to slowly but surely recede from out the region of the peduncles, or stems, and the mammillares, because the tension upon the optic nerves which entwine around the peduncles is now removed; *thought transmission, which causes the inrush of the excess quantity of blood to those regions*, as proved by Dr. Anderson's muscle bed, has now ceased; slowly but surely the mammillares are approaching the position of breaking contact one from the other.

You have now but to persist in holding your eyeballs tightly rolled upward, *eyelids closed*, as directed, until a sufficient quantity of blood has receded from the region of the peduncles and mammillares, to admit of the mammillares breaking contact, thus opening the mental nerve-wire circuit between the hemispheres of the brain, it being the point designedly provided by the Creator for "breaking current" in the mental nerve-wire circuit within our bodily electrical plant.

It requires the holding of the eyeballs thus tightly rolled upwards, ordinarily, but for a very short period,

to produce manifest proof of approaching sleep; you feel it; a positive sensation of a "letting go" is felt in the brain, more perceptibly at times than others; you often begin to yawn; drowsiness and sleepiness will soon follow; your thoughts begin to wander; the blissful sensation or feeling of sleep manifests itself; and then, in a moment, a moment you are never able to recall, Presto! the mammillares break contact; the electrical thought circuit is "cut" on the *main line*; transmission of all messages from the five outposts to your spiritual self at the central station has ceased—made impossible. Being without current, there is now no longer any work for YOU to perform, and you go off active duty, awaiting return of current. You are then said to be asleep, remaining the while, however, within the plant, awaiting return of current, the engine and electrical generator continuing their "running," storing the dynamic electrical energy within the bodily "storage battery," sufficient to operate the plant in full when you again resume active duty.

There are those who say, "I cannot turn or roll my eyeballs up so far and hold them so, because it pains me too greatly." *Exactly! prima facie* proof that the blood is present in the regions of the "stems" and mammillares in too great a quantity, thus preventing the loosening, or taking off, of tension upon the optic nerves, making the turning of the eyeballs hard upward a painful operation. Such are advised to roll or turn the eyeballs up less fully. Intense thinking is an enemy to sleep.

The pressure is now removed from the "button at the door"; the "bell is made to cease its ringing," the tissues—"zinc" is no longer being "eaten up" in your bodily chemical electrical "battery," for, remember, always, that our *eyeballs* are the "*button at the door*,"

and that the *pressure* upon this "button" is removed *only* while the eyeballs are *tightly rolled upward*.

Those whose vocations require that they report for duty at a certain time, especially if it be in the early morning or during the night, also on special occasions, should procure a thoroughly reliable alarm clock; after "setting" which, all thought of the "waking" hour should be dismissed, else the fear of over-sleeping will be so impressed upon one's self as to make sound, continuous sleep not possible.

You observe there is nothing required in the above instructions but to keep the eyeballs well turned upwards when seeking sleep a sufficient length of time to allow the necessary quantity of blood to recede from out your brain, followed by the breaking of the mental nerve-wire circuit between the hemispheres thereof, at the mammillares. This circuit, broken or "cut," sleep **MUST**, and *will* ensue.

A case in point. Upon one occasion, while the Author was riding in a street car, was seated beside him a mother whose one-and-a-half-year-old babe was crying incessantly. In his efforts at pacifying the babe, he succeeded in attracting its attention, whereupon it ceased its crying and began gazing at him, having to roll its eyeballs upward in so doing, its head having been towards him. He remarked to the mother, "It will not be very long until she is asleep if she continues to look at me." And, sure enough, in less than two minutes the child was fast asleep.

THE AUTHOR'S EYES

In order to dispel all apprehension and fear from his readers that the rolling of the eyeballs upward by force of the will may result in impairment of the vision,

he deems it but fair to himself to give the cause of the present condition of his eyes—September, 1919—the vision of which is quite seriously impaired. Remember, too, he is in his seventy-sixth year. The Cause:

One day in the early winter of 1913, when writing upon a small table at a window, preparing the manuscript for this book, my wife lowered the window a foot or more. Sitting, as I was, immediately under it, and being so absorbed in thought, I failed to observe the cold air was falling on my head, and so sat long enough to cause the contraction of the most violent catarrhal cold in my head ever experienced during my life. It seemed almost impossible to cause it to yield to treatment, finally attacking the optic nerves, ending in the most acute, darting neuralgic pains in them, more especially the right one.

Now, up to the day above described, my eyesight was, as all oculists who examined them, pronounced them most remarkably perfect, and that, too, after so many years' practicing the rolling of my eyeballs upward in the act of putting myself to sleep, all the time, as I was, able to read the finest of print and see the tiniest of stars without the use of glasses.

The neuralgic pains continued throughout the winter, the most severely in the right optic, the right eye being now the most seriously affected. The Myopic, or short-sightedness, is still unimpaired as yet very slightly, there being no print so small that I cannot read easily without the use of glasses, proving conclusively that the rolling of the eyeballs upward by force of will all these years, is not the cause of said impairment, but wholly attributable to the acuteness of the catarrhal and neuralgic attack described.

What the outcome is to be, time only can tell. That

I may be spared living in a "Darkened house" before taking my supreme flight, I pray daily, as the impairment is slowly accumulative.

THE MYSTERIES OF SLEEP

That the world knows little as to the phenomenon of sleep is ably put by Mr. Hereward Carrington in his Article on Sleep under the Caption of "Human Wonderland" (Published by permission of the New York World) and by the writer of the Article published in the Sunday Cleveland Plain Dealer, August 31st, 1919, under the Caption, "What Science Knows about Sleep and Dreams." (Published by permission of Newspaper Feature Service, New York.)

Mr. Carrington says:

"Sleep—What is it? Sleep is one of the most wonderful phenomenon in the world. No explanation has ever been found which will explain it to the satisfaction of the scientific man.

"We all sleep when we are tired, and each night we resign ourselves in complete confidence to oblivion, feeling assured that we will awake the next morning, feeling revived and fresh, and with a load of cares removed from our mind. Where do we go in sleep?

"The mind has vanished; it seems to depart from the body. When we take ether or chloroform, or anything of the kind, we hesitate and fear. We are not sure that we will come back to the land of the living. Yet we have the completest confidence in sleep. It is a marvelous provision of nature!

"Specialists have said that while we can go many weeks without food, we can only last about ten days without sleep. We become insane at the end of the

period. What happens in sleep to refresh us so much? What are the causes of sleep?

“Sleep has been called ‘A resting time of consciousness.’ This may be true, but it is no explanation of sleep. It is one of its conditions. Besides ALL the mind does not rest during sleep; only certain ‘parts’ of it, so to say. It is a curious and significant thing that only those parts of the body tire which consciousness uses.

“Circulation, respiration, digestion, etc., all go on undisturbed during sleep. But the brain needs rest and sleep. It seems as though the operations of the mind tire the body, just as though the mind uses the body to work with, and tires it in so doing.

“The most probable theory is that the nerve cells somehow get emptied through the day—just as a cup might get emptied of water—and get filled again during the hours of rest and sleep. A marvelous recharging of the body with energy takes place at such times. We draw on the great cosmic reservoir of energy.”

The writer of the article in the *Cleveland Plain Dealer*, by the courtesy of the “Newspaper Feature Service,” says:

“Some of the most unusual things are also the most mysterious and wonderful, but just because they are so familiar it never occurs to any one just how wonderful they really are.

“In all the complex arrangements that go to make up human life there is, perhaps, none more remarkable than that by which at regular intervals consciousness is blotted out, the activities of human bodies and minds cease, and sleep alone takes full possession.

“Yet since this miracle happens in the ordinary

course to every healthy individual every day of his life, the wonder of it is scarcely given a thought. For who stops to ponder on it and to ask what is it that happens when life is thus almost completely interrupted?

“Why do we sleep, and more, why do we wake again and what makes us dream?

“The physiologist says that sleep is a ‘synaptic dissociation of neurons.’ It may be, but who is any wiser for that, even if he knew both what is a neuron and what happens to it when it is synaptically dissociated. No, man does not know just what sleep is nor why it happens.

“It used to be thought that sleep happened because the circulation of blood through the brain grew so feeble that this, the seat of consciousness, could work no longer and sleep took place. Many years ago a surgeon studying the subject watched the failing circulation of brain through a hole in the skull of a sleeping animal. Yet this is only effect, not cause. The brain has less blood because it sleeps; it does not sleep because it has less blood.

“More recently it has been thought that during an active day there is created by the activities of the muscles, a poison which has the peculiar action of deadening mental action. This gradually accumulates in the body till, by the time that sleep is due at night, the brain is overpowered. This argument is supported by the familiar fact that there are many poisons, drugs of the ‘dope’ class, for example, which are certainly capable of producing sleep.

“Sleep is a necessity of life no less than is food. No man has ever succeeded in keeping awake for more than a few days continuously. If he is forced to do so, as in ancient Chinese tortures, where constant tickling of the

feet made sleep impossible, he falls at last into a comatose state from which he never awakes.

“Did you ever notice how sleepy you get sometimes at the movies? In spite of yourself (even though interested in the pictures on the screen), your eyelids close, and you begin to nod. You wake up with a start, only to repeat the performance.

It is fatigue of attention that is the cause.

Exposure to wind will make you very sleepy. You must often have taken note of that. Prof. M. A. Mouneyrat, a member of the French Academy of Sciences, says that there is in the atmosphere a mysterious element, possibly a gas, that puts people to sleep. He calls it “*somnifer*.”

There seems to be comparatively little of it in town, but plenty in the air of woods and fields. Hence, he suggests, the element may reasonably be supposed to be a product of plants.

“Sufferers from sleeplessness usually find quick relief if they go to the country. It is ‘*somnifer*’ that helps them.

The automobile is also hailed as a great promoter of sleepiness. After a long ride in a motor car one is likely to be drowsy. At all events, sound sleep usually follows on going to bed.

It is, of course, the wind that does it. But why? Because a swift and continuous current of air has bathed the body outside and inside. The “*somnifer*” in the air has passed through the lungs and into the blood stream, by which it has been carried to all the tissues.

It must be a trip along country roads however. Motoring in the city, for shopping or calling purposes, has not the same effect.

“One of the mysteries of sleep are dreams. But what are dreams? Merely the subconscious mind seizing its opportunity when the reasoning mind is at rest to take the reins and jump the sleeper into all sorts of predicaments.”

Mr. Carrington says:

“No explanation of sleep has ever been found which will explain it to the satisfaction of the Scientific Man.”

The writer of the Newspaper Feature Service article says:

“No, man does not know just what sleep is nor why it happens.” He says: “After a long ride in a motor car one is likely to be drowsy. It must be a trip along country roads. Motoring in the city, for shopping or calling purposes, has not the same effect.”

Riding in the country their brains are inactive, they cast their eyes up in the trees, watch the clouds, look at the distant objects, all of which necessitates the rolling of the eyeballs upward, the pupils or vision being directed above the No. 3 point in the figure, causing a light tension to be put on the optic nerves which tends towards drowsiness, the forerunner of sleep.

“The brain has less blood because it sleeps: it does not sleep because it has less blood,” says this writer. Herein he errs mightily, as sleep is not possible except there be but little blood in the region of the peduncles and mammillares, the latter, therefore, having space enough to break contact one from the other.

“Getting sleepy at the ‘Movies’ ” is because the pictures are thrown upon a screen erected upon a stage, it

being high enough to compel the vision to be directed above the No. 3 point, as in the case of Country Motor-ing, for, be it remembered, in all cases where the vision is direction for a while above the No. 3 point in figure No. 11, a feeling of sleepiness soon becomes manifest.

This is proven to one's full satisfaction in the following manner.

Any time or place, close the eyelids, roll the eyeballs hard upward in their sockets, pupils directed towards No. 2 point in said Figure 11, and *hold them so* while you count 60 heart beats, and note the drowsy, sleepy sensation upon opening the lids.

These writers will, as will all my careful readers, have their knowledge as to sleep, how effectuated, WHY demanded by Nature, fully enhanced and explained to their full satisfaction, the Author avers.

The following is from the *Cleveland Leader* of July 5, 1914:

NO HOPE FOR THE SLEEPLESS.

Sufferers from insomnia have little hope for surcease of their terrible torture unless they just happen to hit upon the right remedy or methods of treatment for their particular trouble.

At a recent meeting of the German Society for Internal Medicine some of the world's greatest investigators of "nature's sweet restorer" confessed they were still very ignorant regarding sleep. "Sleep is a phenomenon of vital necessity" is their definition and that is as far as they will go.

Scientists who presented papers on the subject said

that in most instances sleeplessness was due to a disordered system and that proper hygienic treatment in many cases would effect a cure or at least give some relief, but when it came to generalizing on the subject of treating insomnia they admitted defeat, saying each case would necessarily have to be considered separately from every other and that no sure cure could be expected—only hoped for.

WHY WE MUST SLEEP

The reader, no doubt, now fully understands that the human body is a complete electrical power plant; that the stomach constitutes the furnace and the lungs the bellows or draft system for supplying it with air; that in the furnace the food—fuel—undergoes chemical changes resulting in the generating of what is known in electrical science as galvanic or chemically generated electrical energy; that said galvanic electrical energy—so generated—“runs” the great engine—the heart—and that said engine PROPELS the blood through the Arterial, Capillary and Venous systems of the body, and that it—the blood—constitutes and is the generator by which is generated the DYNAMIC electrical energy with which the entire plant is supplied, it being generated by and through the process of its *rapid propulsion* (or motion) along the nerve-wires or field magnets which it accompanies, you recall, Dr. Trall informs us.

The Doctor, you also recall, says: “Each distinct solid structure is called a *tissue*; all tissues, however, diversified in form, are produced from cells, originating in a mass of liquid matter, and *are constantly maturing*, and, as the body is undergoing *constant DECAY* and

reproduction, they are found in various stages of production."

WHY this constant decay and waste?

The zinc in the commercial galvanic batteries is only consumed or decomposed, while the metallic wire circuit is *closed*, or while the electrical fluid is flowing over the wires forming this circuit. To illustrate in a simple and comprehensive manner.

The door bells in many of our homes are operated by electricity, generated by the galvanic—chemical—process, sulphuric acid acting upon and decomposing the zinc placed within the jar or jars composing the battery, in the form of rounded sticks, or plates. So long as the door bell is *not* ringing, the zinc in the battery is not being eaten up as it is termed, and, as the bell is not often rung, nor long, the "life" of the battery extends over quite a period.

But, if the button at the door is pushed in and made to remain in, thus keeping the wire circuit *closed* and making the bell ring continuously, the zinc in the battery is being rapidly consumed, and when it is all eaten up, the battery becomes electrically DEAD, the bell ceases its ringing, just as when the striker spring of the clock becomes unwound the striking ceases.

Now, upon the "button" at the "door" of our bodily electrical plant being pushed in and made to so remain, and the circuit of our mental nerve-wire system thus caused to be *closed*, the "bell" is set to "ringing," that is, the entire mental electrical apparatus, including the mechanisms in the five outposts within the plant, are put in commission, and we are said to be "AWAKE"—again on active duty.

It is while we are "awake" that the "button" is

kept pushed in and the zinc in our bodily chemical electrical "battery" is being eaten up, which is composed of the tissue-forming cells, they being the little objects which Dr. Trall names as being in a continual process of decay and reproduction.

In the commercial electrical plant it is possible to generate a sufficient volume of electrical energy to keep all the electrical mechanisms therein running continuously, it only being required to keep the furnace supplied with the necessary amount of fuel and air and the boiler with the necessary quantity of water so as to keep the engine and electrical generator running.

FOR SOME REASON, known only to the Designer and Architect, the Creator thereof, in the human electrical power plant, such like results cannot be attained. Feed and supply the furnace and boiler all the fuel, water and air we may, the capacity of the plant for generating a sufficient volume of the galvanic or chemically generated electrical energy with which to keep the engine running, and which generates the *dynamic* electrical energy with which to keep all the electrical mechanisms within it running unceasingly, seems NOT POSSIBLE, and He, therefore, wisely provided for a cessation of active duty by the operator thereof, by providing a means whereby the pressure upon the "button at the door" of such bodily plant can be and IS removed, the bell made to cease its "ringing," and the eating up of the zinc--tissues--in the bodily chemical battery made to cease almost wholly for a limited period, during which period the operator, being without electrical energy--current--is compelled to cease active duty, which occurring, profound sleep ensues, or, as Dr. Trall states it, "The cerebral hemispheres and their sensory ganglia

have completely ceased to perform their functions, being attended with entire unconsciousness."

If the pressure upon the "button at the door" be not removed wholly by the metal nerve-wire circuit being opened or cut, causing the eating up of the zinc—tissues—to cease, the plant will sooner or later become seriously impaired, if not fatally.

As, therefore, sleep is imperatively demanded and exacted by nature, for the welfare of the bodily plant, none should doubt that the Designer and Creator of the human electrical power plant made provision for "breaking current" in the entire *mental nerve-wiring circuit* for the following specific purposes: for putting the mental electrical mechanisms out of commission; for stopping the eating up of the "zinc" within the bodily chemical battery, and the consequent replacement of that decayed or wasted.

These He accomplished by providing for a mechanism, installing it at a specific point in the mental nerve-wire circuit, the special function of which being the breaking of the electrical current between the hemispheres of the brain, thus causing the said mental nerve-wire system to be without current—electrically dead, causing the transmission of all messages over same to cease, the spiritual operator, the while, being off active duty, sleeping, as it is erroneously termed.

The rapid eating up of the cells or "zinc" within our bodily chemical battery during the "wakeful" hours, and the utter inability of the electrical generator within our material plant to generate and store the necessary volume of *dynamic* electrical energy to operate the plant in full continuously during such hours of "wakefulness," are the *reasons* WHY WE MUST SLEEP, using the universal expression.

In corroboration of the foregoing, the following evidence is offered:

Dr. W. A. Evans, Doctor of Health (University of Michigan), B. S., M. S., LL. D., in an article published in the *Cleveland Leader* of October 22, 1916, under the caption, "Don't Pay Too High a Price for Sleep," gives an interesting account of the extensive and instructive collection of lantern slides procured by Dr. Geo. W. Crile of Cleveland, O., showing sections of the brain and other important organs of human beings and various other animals, the sections of the brain showing very greatly enlarged brain cells by being made from photomicrographs, "showing just the appearance of cells that have been magnified a few thousand times."

Dr. Crile, he says, found in the cells of animals in a state of vigor a multitude of small pin-point dots, and that in cells of a fatigued animal it was not possible to find any of these dots.

Commenting upon Dr. Crile's findings, Dr. Evans says: "Let us cut across lots, put technicalities aside, and say that these dots are accumulations of potential energy and power. When the cells are fatigued they have exhausted their stored-up energy and power. After a few hours' sleep the cells are found filled with granules. During sleep the body cells are charged with potential energy and power, just as the cells of a storage battery, under proper circumstances, are charged with electricity."

Dr. Crile's slides substantiates the Author's contention that the certain proportion of the food materials eaten and entering into the composition and structure of the bodily plant where it is cast into the "blood stream" and carried by it to all parts of the plant and

finally so distributed as to be deposited in the myriad cells existing throughout every part of the body where it is allowed its initiatory entrance into the economic plant, is utilized for the specific purpose of restoring the disintegrated portion of the materials forming the plant's "storage battery" for the storage of the surplus mechanically or frictionally generated *dynamic* electrical energy (generated by the rush of blood along the arteries and within the ganglia wherein the blood reaches its greatest velocity and wherein are massed the myriad number of cells), which, upon becoming exhausted from lack of replenishment for too long a period, results in rendering the spiritual operator powerless to longer keep the plant in operation (power being shut off), thus bringing on the helpless and unconscious conditions of those soldiers as found by Dr. Crile (see page 206 $\frac{1}{2}$), their mammillares having broken contact, one from the other, absolutely, causing profound sleep.

Thus we here have satisfactory proof of the correctness of Dr. Evans' conclusions—that the pin-point dots seen in the cells of the non-fatigued animals is truly and literally accumulations of potential energy and power.

We must not forget, however, that those dots are clearly composed of matter possessing the mysterious qualities that the materials forming all storage batteries for storing electricity possess—that of holding in store or reserve, *actual energy* or *power* like unto the wound-up clock spring which yields or gives off its energy in units as determined by the escapement device for its liberation.

Here we have a plain, comprehensive statement by these learned students in Animal Anatomy as to Why We Must Sleep.

Why we "awake" and remain "awake" is quite as much a mystery as why we sleep and remain asleep.

The pendulum each day of our earthly existence ticks alternately, "awake," "sleep."

If the reader has noted carefully the reasons why we must sleep, he or she will have no difficulty in understanding why we "awake" and remain "awake."

We have learned that when the volume of dynamic electrical energy stored in the storage battery for storing electrical energy within our bodily plant is not sufficient—together with that constantly being generated by the generator—to longer operate the plant in full, that the operator commands sleep, which condition is brought about by reason of the mammillares having been too long kept in firm contact one with the other, thereby closing the mental nerve-wire circuit between the hemispheres of the brain, and keeping the electrical mental and other apparatus, including the mechanisms embraced within the outposts, in continuous active commission; the "button at the door," continued to be pressed upon and the "bell" made to keep up its ringing, causing so much of the tissue of the body—zinc—within the bodily chemical battery to be eaten up, that its replenishment becomes mandatory.

Reversely, we have learned, that it is during profound sleep, the period when the mammillares break contact one with the other, *absolutely*, that the mental nerve-wire circuit between the hemispheres of the brain, is "cut" or broken, putting all of said electrical apparatus of every description out of active commission; the pressure upon the "button at the door" then being removed, and causing the "bell to cease its ringing," re-

sulting in the stopping of the eating up of the zinc within the bodily chemical battery; the engine and electrical generator—the heart and blood—continuing their “running” the while, that there is then taking place a restoration of the zinc—tissues—within the bodily chemical battery to replace that wasted, and that there is then also being stored in the plant’s storage battery a surplus volume of dynamic electrical energy sufficient for use when said apparatus and mechanisms are again put into active commission.

Now, therefore, to summarize. The operator commands sleep when the volume of electrical energy necessary to operate the plant in full runs too low, the pendulum ticking *sleep*.

The Designer and Creator of the human electrical plant made provision, that upon the zinc—tissues—in the bodily chemical battery becoming normally restored, and that also upon a sufficient surplus volume of dynamic electrical energy again becoming stored within the said battery, there should be—and is—an automatic coming together in firm contact one with the other of the mammillares, and which causes an automatic closing of the mental nerve-wire circuit between the hemispheres of the brain, when the “button at the door” is again pressed upon, the “bell again set to ringing,” and the said mental apparatus and mechanisms put into active commission, the pendulum ticking “awake,” when the operator (normal bodily conditions prevailing) again takes intelligent command of the plant, resuming active duty.

The dynamic electrical energy generated in each individual human electrical plant varies in degree, no two being alike in volume. Thus we have all degrees of strength of body and intellect. Again, some human

organisms require but a few hours of sleep while others require many.

Dr. Trall informs us that John Wesley, with an active, nervous temperament, and a rigidly plain vegetable diet, could perform mental and bodily labors almost Herculean and sleep but four or five hours of the twenty-four; while Daniel Webster, with a more powerful but less active organism and the ordinary mixed diet, had a "talent" for sleeping eight or nine hours out of the twenty-four, and, most remarkable, Mr. Wesley, with his nervous temperament, few hours of sleep daily and strictly vegetable diet, lived to be 88 years of age, while Mr. Webster lived but 70 years.

A great factor enters into our lives which serves to keep us, or cause us, to remain "awake."

The normal human being **MUST** think during the "wakeful" periods, we have learned. (See exception under Caption "Mind," page 125.) We have also learned that all messages sent in from the five outposts, thus far, have been recorded in the Book for Reference, the remaining "leaves" are all *blank*, human thought being wholly *retrospective* as to the past and wholly *prospective* as to the future. Instantly upon the firm contact at the mammillares being effected, the electrical energy is sent over the mental nerve-wire system of our brain, putting the five outposts in active commission, and instantly there is "seen" lying open before us the great "book for reference." We "see" in it the faces, objects and scenes and also begin to "read" from among the myriad messages therein recorded, in fact, we **MUST** "see" and "read" them. These faces, objects, scenes and readings engrosses the attention of our spiritual selves at all times when "awake," or, rather, when we are not engaged in "receiving" the messages being cur-

rently sent in from the five outposts for recording, and in the execution of the *work* to be performed as determined from the nature of the messages received.

The "reading" of those "records" is said to be the remembrance, or memory, of the messages.

Miss Cora M. W. Greenleaf, in her pretty little poem, *Forget You*, attributes the inability to forget to *memory*. She says:

"Forget you? If I only could,
But memory self-willed
Will sting my heart with thoughts of you
Until death's touch has stilled
Its throbbing and has chilled
It with its dew."

For instance, how is it possible to forget father, mother, brothers, sisters, the old home and fireside? How think you it possible for the bride and groom to forget the happy wedding nuptials, the coming of the first-born, and, later, its departure by "death"; the soldier, the din of battle, the screeching shells, the "song" of the bullets, the dead and dying; the sailor, the coming storm, the vivid lightning, the crashing thunder, the wind, the foundering ship, the rescue; the mountain climber, the grandeur of the scenes; or the old man or the old woman, all the many faces and interesting things *seen*; the varied sounds heard; the many sweet, bitter and sour things *tasted*; the many fragrant or disagreeable odors *smelled* or the many pleasant or disagreeable sensations *felt*, maybe that of the "slipper" away back in their childhood days? How think you all these can "forget," when they see the great "book for reference" lying open before them continually during their "wakeful"

hours, messages that have been sent in by the five outposts and recorded during all their past years?

The "photo" engravings of our loved ones appear many, many times among its "leaves" where we "look" at them. Oh! so often. Many of the most interesting "scenes" are sought times upon times, while many of the most interesting messages therein recorded are read, re-read and read again, the whole furnishing ample "views" and "readings" for engaging the attention of our spiritual selves during the "wakeful" periods and when not engaged in receiving and recording current messages being sent in by the five outposts, and performing the work which they assign for us to do, as has been stated.

Sometimes, at night, we become so absorbed in "looking" at the faces of our absent or departed loved ones; at the beautiful scenes, and "reading" the messages recorded in our "book for reference" that we deprive ourselves of much needed rest—sleep.

Emergencies sometimes arise, however, which causes the operator to peremptorily refuse to command sleep. The safety of the plant may so demand, it being in jeopardy. Watchfulness at the bedside of a dangerously sick or injured loved one; or the destruction or threatened destruction of the home. These adverse conditions sometimes continue until the volume of electrical energy runs so low that the peremptory command is given to cease all labor, the mammillares break contact and the operator ceases to perform active duty. Mothers have been known to fall asleep while watching at the bedside of their sick babes, fearing the departure of the tiny life-spirit; soldiers have been known to fall asleep while the din of battle was on, and cavalrymen while in the saddle, all because the volume of electrical energy was no

longer sufficient to prevent the mammillares breaking contact, and "wakefulness" no longer possible, the pendulum then ticking—sleep.

A German Captain who served in the German army during the great world war of 1914-18, and who was at one time compelled to remain under incessant cannon fire in the trenches for six days and six nights, said: "The lack of sleep was harder to bear than the lack of food."

SLEEP BEFORE MIDNIGHT

The general opinion among physiologists is that sleep had before midnight is more profound and, therefore, more restful and beneficial.

No reason for thus believing has ever come to the notice of the Author.

This thought suggests itself to him: As the sun recedes southward from out the territory lying between the Arctic Circle and the Circle of the Tropic of Cancer north of the equator and recedes northward from out that territory lying between the Antarctic and the Tropic of Capricorn south of the equator, causes a gradual suspension of vegetable growth therein and thereon, and, therefore, a stated period for recuperation, and during which all nature seems to be sleeping; and, since as soon as the sun begins its return journey back into those territories, there begins a gradual awakening, until all nature, in the said vegetable world, becomes fully awake and active, so is it not with our days and nights?

Electricity, therefore, must have an active, energizing influence upon our material bodies; just as it has upon all vegetation, the sun's heat sending an increased volume of electrical energy into our atmosphere; as the sun's rays recede westward so also the electrical energiz-

ing influence recedes from out the atmosphere, ebbing as the tide ebbs from the ocean's shore, the *minimum* of the electrical energizing influence being reached when the earth makes its turn on the opposite side from us, when the electrical energizing influence again begins to "flow," like the tide, back toward us, reaching its maximum volume when the sun makes the zenith, to again ebb to the minimum.

Now, is there not a "pulling away," and does there not result a restful influence as that excess electrical energizing influence ebbs or goes from out our atmosphere during the period before midnight? and does not the receding of the energizing influence from out of it have a quieting, restful influence upon the human electrical power "plant"? and does not that restful quieting influence begin to wane as the tide of that electrical energizing influence begins to "flow" back again into our atmosphere as the earth rounds at the opposite side from us, making our sleep less restful, less beneficial?

VOLUME OF ELECTRICAL ENERGY

The operation of the human electrical power plant, like unto the commercial, requires for its successful operation, that a given volume of dynamic electrical energy be maintained.

As the "wheel is never again operated by the water that is passed," so is it with the human electrical plant, never again operated by the dynamic electrical energy that is passed. Thus is necessitated the generating of a new supply continuously.

The Designer of the human electrical plant provided for the continuous operation of its engine and generator—the heart and blood—during the life of the plant.

We have learned that during its operation, *in full*, the volume of dynamic electrical energy used is largely in excess of that being generated by the generator, thus in time, causing the volume to run low, necessitating a partial "shutting down" of the plant.

The volume of dynamic electrical energy generated by the generator within the human plant being only sufficient to "run" it in full with ease, ordinarily from sixteen to eighteen hours of the twenty-four each day, provision was, therefore, made by the Designer and Creator of the human plant, for putting out of commission, for a time or times, certain parts of the electrical apparatus within the plant—those which use the excessive volume of the electrical energy in their operation. In mechanical parlance there is a shifting of the belt from the tight to the loose pulley of the machine, the engine or water wheel continuing their running, however.

In the commercial electrical plant, in electrical parlance, this stopping is effected by "cutting out" the machine or machines by breaking current, there being a mechanism at some point in the wire circuit where the breaking of current is effected.

The electrical apparatus within the human electrical plant which uses the excessive volume of dynamic electrical energy, embraces the nerve-wires massed within the brain, the function of which is the giving off of thought, also those of the five outposts mechanisms, the function of which is the receiving of all messages sent to each respectively, from the outside world, and their transmission to the operator at the central station, all of which said mental apparatus is put out of commission or "cut out" *simultaneously* by the special mechanism designed and installed by the Creator of the plant for such specific purpose at a certain point in the men-

tal nerve-wire circuit, during which time, or times, the great engine and the generator of the dynamic electrical energy—the heart and blood—continue their running, and there is then, the while, being stored within the “storage battery” within the plant, a reserve quantity of dynamic electrical energy which, together with that constantly being generated, suffices to again operate the plant in full for another like period or periods, it now being known that electricity is like unto a fluid and can be stored.

That the efficiency or storage capacity of this “storage battery” can be added to and made to store an enlarged volume of the dynamic electrical energy, is proved by the fact that some persons of known weakness of strength can be, and are, made to possess great strength by subjecting the body and muscular system to a series of movements and exercises until they become giants of strength.

AIDING NATURE

The human electrical power plant and equipment, including the electrical mechanisms therein installed being material, they are subject to derangements like unto the commercial electrical plant and the mechanisms therein installed.

The Author, therefore, deems it proper to give a few instructions as aids to nature in overcoming and correcting some of the *minor* derangements which take place within it.

CHRONIC INSOMNIA

This is caused by there being an abnormal quantity of blood in the regions of the peduncles and mammillares from which it does not recede as under normal conditions, thus preventing the mammillares breaking con-

tact. To effect a cure this abnormal condition thereat must be overcome and the blood allowed to recede therefrom regularly and normally.

The most efficacious process for restoring said condition, also the driving of this excess quantity of blood from said regions, is by pouring the entire head with very hot water—as hot as can be borne—and *very* cold water alternately, more particularly at the base of the brain. Not less than two gallons each of the hot and cold should be used at *each* pouring, or until the head is very hot and very cold, using the hot three times and the cold *three* times. To avoid shock, begin with a small stream from the pourer vessel, which should be held six to eight inches above the head and the stream moved about. Begin with the hot water and immediately follow with the cold. Finish by using a small quantity of tepid water. Avoid cold draughts while the hair is wet.

In cases of long standing insomnia, pour the head thus *daily* for a week and then gradually less often until a cure is effected.

In those homes where hot and cold water is provided in the bath room, let the hot water be run and held in the bath tub sufficient to allow of being dipped up with a quart-handled vessel, and pour the water over the head, bending over the tub the while, and, having filled the wash bowl with as cold water as possible, step over to it and pour the cold water over the head until it feels thoroughly cold. Then repeat the hot water pouring, as stated, three times with each.

Or, a still more efficacious process is to fill the bath tub with water as hot as can be comfortably borne, and then holding the nose shut, take a full breath, close the mouth and put the head down into the water until it is completely covered, holding it so as long as you can.

Recover, and, after a few moments, repeat. Then, having the wash bowl filled with very cold water, hold the head down into it, or pouring the water upon it with the hands until it is well cooled, and repeat the hot water process. Use the hot and cold water alternately three times each, finishing by applying the hot water but momentarily. Dry the hair and avoid cold draughts.

Such pourings and dippings are very effective in bringing sleep to those unable to go to sleep readily; also they are often very efficacious in overcoming chronic headache. *Positively no harm will come* to any person from these head pourings, if care be taken to avoid cold draughts until the hair becomes perfectly dry.

Many extreme cases of sleeplessness, induced by over-taxing the brain; undue excitement of any kind, such as that caused from grief or worry, can be successfully overcome by applying quite extreme cold to the back of the head, base of the brain and upper part of the back of the neck by means of the rubber water bag. Fill a two-quart bag two-thirds full with *very* cold water; press all the air out till the water shows at the neck, and screw the stopper in tightly while the air is all pressed out. This for the purpose of causing the bag to be soft and pliable.

Now, upon retiring, lie on your back, the bag on the pillow, and place it so as to engage all of the parts above named, letting it so remain until all have become inwardly thoroughly cold.

Remove the bag; turn on either side; assume a comfortable position; close the eyes, and, by will exertion, roll the eyeballs upward, directing the pupils as if you were looking at your eyebrows or at some imaginary object, far or near, *over head* and *hold* them so.

In a few moments you will become conscious of ap-

proaching sleep, by reason of the blood receding from out the brain.

You will begin to yawn—muscular system relaxing—and in a moment, one you cannot recall, as stated, you will be fast asleep, the mammillares having broken contact one from the other.

THE SLEEPING APARTMENT

Plenty of pure fresh air is most essential to perfect health and to insure profound sleep. The sleeping apartment should, therefore, be well ventilated, the colder the air the better, the covering being kept always sufficient to keep the body comfortably warm. Many are denied sound sleep by having *too* much covering, keeping the body too warm. Woolen blankets make the ideal covering. Cotton-filled comforts are both too heavy and too warm, and are not recommended. Sleep between cotton sheets. Under no circumstances have a light burning in the sleeping apartment. The eyes and brain are much upset by the all-day light and call for total darkness. Those whose vocations require them to sleep in the day time, should either have the room made perfectly dark or wear a hoodwink made of some black stuff of sufficient thickness to insure total darkness. The hoodwink will permit of better ventilation during the day-time rest period. Let nature dictate the position of the body while abed.

The physical plant—the body—should be carefully prepared for each daily rest period by giving it a sponge bath, if the full bath is not available, more especially during the summer season, using rather cool water. Soap should be used upon the face, neck, hands and feet, especially the latter. This insures cleanliness and avoids

soiling of the night garment and bed covering. Some retire with the grime upon those parts, and use the soap in the morning, a very unclean and unsanitary proceeding. Give the body the cold sponge or full bath in the morning also. Be careful of your evening diet lest you be deprived of your needed sleep unnecessarily.

THE FEET

The YEAR ROUND, particular attention should be given the feet; to many, they bear the burden of the entire body the day long; they are encased in close-fitting leather shoes and, without ventilation, they become heated and thoroughly tired. "Tired in the feet, tired all over"; how true the saying! Many simply massacre all comfort of body by wearing shoes so tight that the blood is stagnated almost, in its efforts to complete its circuit through the small arteries, capillaries and veins of the feet, through which it must run. NEVER wear anything but a loose, comfortably fitting shoe. Certainly not a tight fitting one during the working hours.

Never allow yourself to deny your feet the thorough bath, using plenty of soap, before retiring, and a sponge bath in the morning. Those adhering to and practicing this advice will be little troubled with the comfort-killing *corns*.

Many will be the benefits that will accrue to humankind when a clear understanding is had universally, that the human body is an electrical power plant, embracing a complete nerve-wiring system, and that minor electrical disturbances accruing among the mental nerve-wires within the brain, preventing normal sleep, can be over-

come or rectified in many cases. It will then be possible to proceed intelligently and employ rational methods to accomplish such ends when possible.

Oh! the many cases of madness, murders and deaths by suicide that are chronicled almost daily, all the result of inability of the person or persons to sleep, of which the following news item is a shocking example:

Filer, Idaho, March 15, 1910.—Telford Thoni, a well-to-do farmer, yesterday killed his wife, his two college-bred daughters who had been educated in Europe and had but recently returned home, and himself, in a fit of despondency. Thoni left a confession addressed to the Coroner. In it he said he was weary of life and yet could not bear to leave this world without taking his entire family with him. He was despondent, he said, over his inability to sleep regularly.

These four lives, no doubt, could have been saved had this despondent one known there existed within his brain a *real* mechanism for inducing sleep, and that there was a means by which that mechanism, at his command, could have, with very little doubt, been made to perform its functions, had recourse been had to the methods employed for overcoming insomnia, as directed herein by the Author.

DREAMS

There is as much mystery attaching to the phenomena of dreams as there is to that of sleep, physiologists being entirely in the dark as to the cause or causes of them.

The word implies imperfect working of the human sleep-effectuating mechanism—failure to break the elec-

trical circuit at the mammillares absolutely when the spiritual operator desires to cease active duty.

Webster defines dreams as "Being trains of ideas which present themselves to the mind (?) during sleep. The principal feature of the state of dreaming is the absence of voluntary control over the current of thought, so that the principle of suggestion has unlimited sway. There is, usually, an utter want of coherency in the images that appear before the mental eye. * * * * *

Dreams are subjective phenomena dependent on natural causes. They generally take their rise and character from external bodily impressions or from something in the preceding state of body or mind. They are, therefore, retrospective and resultant instead of prospective or prophetic. * * * Some authorities declare that all dreams take place when we are in a process of going to sleep, or becoming awake, and that during deep sleep the mind is totally inactive. This is denied by the majority of philosophers, and, he adds, with apparent reason."

Here we have the word of this Eminent authority that the majority of philosophers *deny* that the mind (brain, not mind, Author) is totally inactive during profound sleep. This places Dr. Trall, also an eminent authority, among the minority holding the contrary belief. He says, evidently expressive of his own belief:

"Profound, or quiet sleep, is the complete cessation of the functions of the cerebral hemispheres and the sensory ganglia, and is attended with *entire* unconsciousness." He says, further: "Profound or natural sleep is never accompanied with walking, talking or even dreaming, hence the phenomena resulting from disturbed

sleep are so many symptoms of abnormal bodily or mental irritation. Dreaming implies imperfect rest—some disturbing cause, or causes.”

And now comes one of America’s most eminent physicians, Dr. W. A. Evans, former Health Commissioner of Chicago, and President of the American Medical Association, who says, in reply to one of his questioners in the Cleveland Leader of February 17th, 1914: “A. J. W. writes: I have had considerable trouble in sleeping. I can sleep, but I dream all night, hence I am not fully rested in the morning.” The Doctor answered (Mark his first word): “Everybody dreams all night. There is nothing wrong about that.”

No normal brain longer in the world, Doctor? No one who is blessed with real sleep—the dreamless?

Dr. Trall is positively correct. Entire unconsciousness takes place with the breaking of contact, *absolutely*, at the mammillares.

Dr. S. Frued, the German Neurologist, is reported to have said: “All dreams are of pleasant origin; also that persons on awakening from *dreamless* sleep are usually dull and indisposed for the day’s work.”

It is difficult for the Author to believe in the correctness of the above statements as having been made by so learned a personage. It is absolutely *not true* that all dreams are of pleasant origin, as every adult person will testify. Who has not had most horrifying dreams? Neither is it true that the profound, dreamless sleeper, upon awakening, “usually feels dull and indisposed for the day’s work.” Such statements and beliefs are in direct

opposition to the personal experiences of all close observers, also to the teachings of all true physiologists the world over, all being agreed, that the dreamless is the only real *refreshing* sleep, the dreaming being the imperfect. Such conflicting statements and opinions from the pen of such eminent authorities are most bewildering to the lay student.

The human brain, we have learned, is possessed of a net-work of nerves, innumerable in number, a vast proportion of which are infinitesimally small in diameter, the whole being most complex in their distribution. Each of these are installed for a specific purpose, namely, for the utilization by the spiritual operator of the human electrical plant, a tool, in fact, for use in the production or giving off of a specific thought. They are operated electrically, each being connected electrically with the central station, and from which the spiritual operator is enabled to bring into use or play the necessary and specific nerve-wire to consummate the end sought—the formation and giving off of a specific thought.

In addition to the above described nerves, for said specific purposes, there are installed within each plant five other special sets of nerves, those embraced in the five special mechanisms or outposts, each of which is utilized for a specific purpose, as has been explained. These are also connected electrically with the central station, a “wire” running from it to each of said outposts, from which are sent all messages received by each to the said operator.

The wiring system of the commercial plant is subject to disturbing influences by reason of the physical displacements, also interferences of certain wires. So, also, is the complex mental nerve-wiring system within the human brain subject to like interferences, disturbances

and influences, resulting in their not working perfectly, *not from natural causes*, as Webster states, but from unnatural. As, for instance, a not too great quantity of alcoholic stimulant taken into the system acts upon and puts the brain in the same approximate condition that it is when dreams occur. This cannot be said to arise from natural causes.

It requires a larger wire to "carry" a large volume of electrical energy than a small volume; also it requires a greater volume of electrical energy to give off intense thoughts than light or superficial ones.

It is clear, then, that there exists within the brain of every human being a medium which adapts itself, automatically, to the ever varying conditions, adjusting itself to the carrying of this varying volume of electrical energy. That medium is the mammillares, at which point their contact, one with the other, and the "cut-out" on the *main line*, between the hemispheres of the brain, is effected. The mammillares being perfectly round, of such small size, and the angle of each at their periphery being so acute, the *area* of *first* contact, one with the other, is, therefore, very small, analogous to a very fine wire making the connection between them. The volume of electrical energy capable of being transmitted from hemisphere to hemisphere, upon their *first contact*, is, therefore, very light. These spheres are sufficiently flexible or pliant to cause them to *yield* as the tension upon the optic nerve is increased. This increased pressure causes the mammillares to become more *flattened* at the place of their joining, thereby increasing the *area* at the point of contact, which is equivalent or analogous to an increase in the size of the connecting nerve-wire.

As the pressure upon the mammillares is constantly changing, the size of the connecting mental nerve-wire,

the mammillares, is also constantly changing and, therefore, the volume of electrical energy being sent over the connecting mental nerve-wire is also constantly changing proportionate to the increase and decrease of pressure put upon the mammillares by the optic nerves, analogous to the changes in the volume of electrical energy occasioned by the shifting of the crank lever of the electrical controller by the person operating it. Therefore, flighty dreams are the result of a diminutive volume of electrical energy flowing over the mental nerve-wire system within the brain, by reason of the mammillares being in very slight contact one with the other, not having broken contact absolutely.

How often is the question asked (incorrectly, however) : "What becomes of our spirit while we are asleep"—becomes of US? we should say. We do not take flight from our material abode during such periods. Where, then, do we go?

The only rational answer is: The mammillares, having broken contact one from the other, absolutely, thus breaking or "cutting" the electrical mental nerve-wire circuit connecting the hemispheres of the brain, thereby making transmission of all thought messages over said nerve-wire circuit impossible, we, our spiritual selves, are thus rendered powerless to perform our accustomed work and quietly cease active duty, *remaining the while within the plant*, awaiting the return of current.

When dreams protrude, no notice is taken by the "sleeper" of the trivial messages coming in from the four other outposts—that for seeing being closed. They are disturbing and less refreshing, as Webster states:

"Physiologists are agreed that dreamless sleep is the most refreshing, the lighter sleeper being liable to be disturbed by the most trifling noises."

He should have stated further, or slightest touch or odor. Not so during profound sleep. Take, for instance, the infant who falls asleep in its mother's arms, anywhere, dead to all noises, sensations of feeling or odors, as it is being carried and sometimes knocked about. It would continue to sleep with the noises of the boiler shop bombarding its outpost for hearing being profoundly asleep, the contact of the mammillares being broken absolutely.

In corroboration of the above statements, the following news item was published by the Cleveland Leader:

Auburn, Me., March 10th, 1912.—Snatched from its crib by a panic-stricken mother, a baby was dropped out of the window of a burning building into the arms of a spectator four stories below without injury and *without awakening it from its sleep*, during a fire today.

Again, Dr. Evans, in his article referred to, page 202, under the caption, "Why We Must Sleep," quotes Dr. George W. Crile as saying, "When I went into the battle zone of the Marne, looking for wounded (after the great battle of 1914, in which the French checked the advance of the German Army towards Paris), he found everybody, the wounded and well, fast asleep. For days these soldiers had fought all day and retreated all night, and their exhaustion was so extreme that they slept in spite of horrible wounds. The wounded, while still sleeping, were gathered up, hauled many miles to hospitals, and many were operated upon without awaking."

In order to learn whether Doctor Crile had been correctly quoted, the Author has his letter in answer to one sent him, asking if he had been correctly quoted by the doctor, giving him the quotation, in which he replied, "Substantially, yes!"

The commercial traveling salesman sleeps profoundly in his sleeping car berth, dead to all the jerkings and noises incident to the fast-moving train and screams of the engine's whistle. Profound sleepers sometimes lose their lives by reason of their outpost for smelling being out of commission, being "dead" to all odors, smoke or chloroform, for instance. The outpost for hearing cannot send the message of the screaming engine's whistle to the spiritual operator during profound sleep while lying on the railway track, resulting in the destruction of his or her material body.

At the battle of Liege, Belgium, in the great war of 1914, soldiers of the Allies were so worn out that they could hardly stand, slept within a short distance of the German batteries. They were so exhausted that the thunder of the cannon and the concussions which shook the ground like earthquake failed to disturb their slumber.

In his tale of a Wayside Inn, Longfellow tells us that upon one occasion the relators of the tales were prone to go home.

"But, sleep at last the victory won:
They must be stirring with the sun,
And drowsily good-night they said,
And went, still gossiping, to bed,
And left the parlor wrapped in gloom.
The only live thing in the room
Was the old clock, that in its pace
Kept time with the revolving spheres
And constellations in their flight,
And struck with its uplifted mace
The dark, unconscious hours of night
To *senseless and unlistening ears.*"

Shakespeare says :

“True, I talk of dreams,
Which are the children of an *idle brain*,
Begot of nothing but vain fantasy.”

The primary cause of dreams, as has been stated, is the failure of the mammillares to break contact, one with the other, *absolutely*. If they are in very slight contact, then a very diminutive volume of electrical energy is flowing over the mental nerve-wiring system sufficient to produce or give off thoughts of the flightiest and most superficial character only, thoughts given off or emanating from some section of the mental nerve-wiring system, whereat a more or less disturbed condition exists, the particular nerve or nerves involved determining the *subject* of the thoughts evolved.

Therefore, the more extensive the disturbance, the greater the number of mental nerve-wires involved, the greater will be the flow of irrational messages over the mental nerve-wire circuit, which greater flow causes an increased quantity of blood to be sent to the region of the peduncles and mammillares, thus preventing the latter breaking contact less fully; which, in turn, prevents the eyeballs turning hard upward in their sockets as during profound sleep. There is now an increased pressure upon the mammillares, with a proportionate increase in the size of the “connecting wire” connecting the right and left sets of the mental nerve-wiring system, thus permitting of a volume of electrical energy to possess said system proportionate to the quantity of blood sent to said regions. But, if the disturbance or interferences among the mental nerve-wires is much greater, a greater number of nerve-wires involved, then

those nerves are utilized in the transmission of irrational messages to a still greater degree, sending also a still greater quantity of blood to the region of the peduncles and mammillares, causing the latter to be brought into still closer and firmer contact, and again increasing the size of the "connecting wire" between the hemispheres, which also permits of a further increase in the volume of electrical energy to possess said system, and the messages now being transmitted are increased in number and being of a more rational character, so much so as to be incidentally noted and remembered by the operator. At such periods, and such conditions prevailing, the eyeballs turn downward much more perceptibly. This creates the necessary tension upon the optic nerves to bring the mammillares in the closer contact which now obtains. The dreams become of a more disturbing nature and the spiritual operator is now the more easily "awakened."

There have been cases of persons having become so grossly absorbed in their vocational duties, and being of such mental temperament as to be unable to dismiss their work from their thoughts at the close of the day, and "so take their work to bed with them," as the saying is. There are cases on record of such persons having gone to bed, arose during the night and performed their tasks perfectly, some being enabled to solve problems or perfect devices which they were unable to solve or perform during the day, all because there were no disturbing influences or surrounding conditions to detract their attention, making deep concentration of thought the more possible.

That the spiritual operator, while in such oblivious state, is "awake" and in control of the electrical energy possessing his or her mental nerve-wire system, needs no

proof for the physiological reason, as has been stated, that material of itself is powerless, motionless; that said electrical energy is NOT SELF-CONTROLLED; and for the further reason that the brain is powerless to perform its functions *rationaly* except under the immediate direction of its rational operator.

Thus, the Author avers, is the "phenomenon" of somnambulism made plain; that the "sleep walker" (?) is *not* asleep, *but wide awake*.

Dreams are most erratic as regards subjects presented. It is true, as stated by Webster, to again quote him:

"Dreams generally take their rise and character from external bodily impressions, or from something in the preceding state of body or mind, being, therefore, retrospective and resultant, instead of prospective and prophetic."

However, the facts are, that the interference and disturbances among the mental nerve-wires within the brain are, at times, of such nature as to cause the dreamer to dream upon subjects that were never before presented to the rational "wide-awake" being, often resulting in varied and most grotesque scenes and situations. Such dreams are, therefore, absolutely *not* retrospective, *not* resultant. Interferences among the mental nerve-wires, while dreaming, are generally fleeting, disappearing wholly when the spiritual operator resumes active duty and again takes *intelligent command*. Interferences among the mental nerve-wiring system can, however, be of such severity as to be permanent, as in the case of the demented. It would be within the bounds of truth to assert that no two demented persons are alike

in subjects given off and emanating from their brain, the hallucination of each being dependent upon the particular mental nerve-wire, or combination of said nerve-wires involved in the interferences or derangement.

This is definitely proven in the many cases of the restoration to reason effected by surgical aid, as, for instance, that of Mrs. M. M. Bard, twenty-eight years of age, Cleveland, Ohio, who was troubled with an insane impulse making her play the piano, also to take her own life, but who, fortunately, did not accomplish the terrible deed, being succored in time by the surgeon's knife. She says:

"I would sit down at a piano and play for hours, unable to stop; I would play through an entire opera, and then, without wanting to, would play it again and still again; I would go near the water and something seemed to pull me to it, to urge me to cast myself in and end it all. I would see a high cliff and be overwhelmed by a desire to climb it and throw myself over. I did not want to die; I did not want to leave my husband and the world, but the *something* that followed me seemed to urge me on. It was terrible.

"Yesterday I went out for the first time after the operation. The horror was gone. There was no voice telling me to die. I could look at the water unafraid, and I know that I am cured."

The operation was performed about the first of June, 1911, at New Haven, Conn., by Dr. Morris Satterly, and consisted of the removal of a section of bone three-fourths of an inch thick from the base of the skull. A pair of forceps had pressed upon the bone when Mrs.

Bard was born, which caused the skull plate to thicken at that point three times that of the normal skull.

The hallucination of the desire to travel is caused by an interference or disturbance of and among the motor nerves involving the legs. One so demented will "run off" every chance he or she gets.

One of the most potent causes of erratic dreams is that of chronic catarrh in the head, the ramifications of its insidious poisonous virus among the net-work of the delicate mental nerve-wires resulting in interferences and disturbances of such variableness, instant changes, and of such nature as to cause their mental functions to be lightly brought into play and cause them to cut up all sorts of irrational mental pranks, just as the "kittens play when the mother cat is away," or just as the strings of the Aeolian harp give off incoherent sounds as the energy-producing winds sweep through them or the prattle of the fingers of the infant sweeping over the keys of the piano-forte causes the wires to vibrate but giving off no notes productive of rational music or tunes. Therefore, there can be, absolutely, no reasoning, neither can there be any rational thoughts by our spiritual selves so long as the conditions surrounding the Mammillares are such as to induce dreams.

Injury to the head from blows upon it, or from falls are other potent causes for a variety of dreams, both erratic and otherwise.

The entire proposition embracing the three conditions, those of being "awake," profoundly "asleep" and dreaming, as to how caused and induced, leads us direct to the mammillares, and it is at this point where the closing and "cutting" of the *main line* between the hemispheres of the brain is effected, that we must look for the solution of these three so-called phenomena.

Mesmerism and hypnotism are "echoes" from dream-land.

Finally, as has been proven, the KEY for "opening" and "closing" of the mental nerve-wiring circuit between the hemispheres of the human brain and over which all messages are transmitted from the five outposts to the spiritual operator, is the EYEBALLS. Or, to state it differently, they are the *lever* or *crank* of the "controller" by which the spiritual operator throws ON and OFF the electrical energy by which the said outposts are operated, thus putting them IN commission and OUT of commission, and also by which the *volume* of electrical energy is controlled in the process of giving off of all thoughts created by and under the direction of the operator, all so long as normal physical conditions obtain.

It is in the latter years of the existence in the material body by the spiritual operator that the Mammillares fail, with many, to break contact, absolutely, during the sleeping or rest period, thereby causing dreams or irrational thoughts to be devolved.

Said failures are wholly due to physiological changes superinduced by advanced age, the direct cause being the lessening of the tenderness, tractility and pliability of the various tissues forming and surrounding the peduncles—stems—and Mammillares that obtain in youth, they having become hardened, toughened, thereby causing their primary or natural functions to be made less easy of perfect execution, which function being but partially executed, results in dreaming.

Many persons, however, sleep profoundly during all their natural, normal lives, so termed, matters not how long prolonged, due, evidently, to non-changeableness in said tissues following youth.

The human is the most sublime of God's living Creations. Each plant is, by Him, placed in charge of its spiritual operator, who takes up its abode therein, and grows up with it, we have learned. When the structure is completed and has reached its maximum growth the spiritual operator should, by that time, be quite well informed as to its construction and workings of the most important mechanisms installed within it.

But, how many operators there are, both male and female, who utterly fail to so inform themselves! They inform themselves fully in the particular industrial work to which they are called, but the necessity of understanding their own sublime bodily plant they consider not necessary, resting under the theory that it will regulate or "run" itself so long as "fuel" of any kind is fed the furnace and a little water supplied the boiler.

Oh! That the necessity of profound physiological study of the human material plant were more impressed upon those who control the tutorage of the youth of the world. Millions of men and women die possessed of practically no knowledge of their sublime bodily organism.

Among the most important duties to which each operator is called upon to perform in the care of the bodily plant, that it may not so soon wear out and cease to "run," the Author has selected the following *six*:

First. The quality of the fuel—food—to be fed the furnace—stomach.

Many so-called Food Experts lay claim to having discovered processes by which many of the human foods are made to be *scientifically* the BEST. The result is a

confusion and tangle of ideas so that the average person has become thoroughly puzzled as to what is really the best fuel to be fed the human furnace. The chemical analysis of foods showing the per cent of refuse, water, protein, fat, carbohydrates, ash and fuel value contained in the breads, meats, including fish and eggs, sweets, vegetables, fruits and nuts, as given in the reports of the United States Department of Agriculture, and other specialists, are, of course, of great value to close students, but let us not forget that the sturdy pioneers who blazed their way into the dense forests of the "far West" upon the American Continent, a few of whom are with us yet (1920), did not have the assistance of scientific food experts to guide them in their selection of food. Theirs was a coarse diet and it gave to them the vigor and strength necessary, and used, in subjugating the wilderness, coupled, as it was, with an abundance of pure air and water.

The diet of millions of soldiers, embracing all nations, has been of the coarsest, and upon which they have been enabled to perform Herculean tasks.

Let the quality of the fuel fed the human furnace be more nearly that used by those sturdy pioneers and less of the scientific, always avoiding that which experience has taught is NOT acceptable to the gastric juices—the real "fire" within the human furnace—and which it fails to consume.

Salmon Brown, at the age of 76 years, son of old John Brown, of Harpers Ferry fame, in his reminiscences of his boyhood days, referred to elsewhere, says:

"The long table where twelve children, the largest number ever living at any time—1843 (20 children were born to Mr. Brown)—sat down with keen appetites, was a *model of the times*. A favorite dish with us chil-

dren was corn meal mush, cooked the whole afternoon long in a huge iron caldron, and served with rich milk or cream. The food was *coarse, heavy farmers' food*, always in abundance and always well served."

The Author takes this opportunity to correct the erroneous doctrine that the food we eat *sustains life*. Were that true, a fact, then animal life would be, instead, *vegetable* life—non-spiritual. As all animal life, including the human, is spiritual, it does not subsist upon food. It is, therefore, error to say that our food sustains life.

Spiritual life is the invisible habitant which abides within each specifically constructed material animal organism, howsoever classified, including, therefore, the human, and which dominates it, being the controller and director of the energy therein generated, applying it where, when, and in such volume as occasion requires, as has been stated.

Life cannot be said to *exist*. That which is said to exist implies a possible ending, which implication cannot be applied to spiritual life, it being, like the Great Spiritual Master—God—immune against death, eternally. It therefore, needs nothing material to sustain it. The duration of its sojourn in its material abiding place here on earth is determined by the duration or length of time the electrical energy is generated within the respective material organisms of each, which, upon failure of generation, the spiritual life, its habitant, takes its departure therefrom, a like declaration having previously been made.

What our food—fuel—*does* sustain, is the material organism, or plant, including the complex mechanisms installed in each, and which generates the electrical energy therein, keeping it and them in a constant state of

efficiency and repair, that the generation of said energy which the spiritual operator demands and requires in the successful operation of its material plant, including all of its auxiliary parts, may not cease to be provided. Unconsciously, a most wonderful physiological truth is enunciated in the remark we frequently hear made by some at the end of a meal, "There, that will keep my machine running for awhile."

Second. The Necessary Quantity and Purity of Water to be fed the Boiler.

Medical practitioners the world over have held to the doctrine and so promulgated, that drinking fluids during the meal is harmful, because, they assert, the presence of an excessive quantity of fluid in the human furnace at such times serves to so dilute the gastric juices as to retard digestion, therefore, detrimental to health. So rational, so full of common sense was this doctrine considered that no one doubted its correctness.

Now comes the statement made by the faculty of the Rockefeller Institute for Medical Research, published in the *Journal of Experimental Medicine*, that this doctrine is all wrong, and that a copious quantity of water taken with the meal is not only beneficial in aiding digestion, but improves the general health and puts on adipose. The following extract from said statement is worthy of a place here:

"MUCH TALK BUT NO EXPERIMENTS"

"Although there have been many investigations made upon the influence of copious water-drinking, yet nowhere in so far as we have been able to discover from a careful study of the literature, has there been made a

carefully conducted experiment or series of experiments upon human subjects for the purpose of obtaining data as to the effect of the copious ingestion of water with meals. The reason why our literature contains records of no such experiments is not far to seek. The Medical profession almost unanimously advise against the drinking of large amounts of water at meal time. The desirable features following the liberal use of water taken at the proper time are thoroughly appreciated, but any suggestion as to the taking of water in large quantity with meals is strongly antagonized.

“Such being the attitude of the Medical profession, it has, therefore, been a natural consequence that those interested in the study of medical problems should fail to attempt to place the theory upon an experimental basis. Why investigate something which is self-evident? At first thought the present-day theory as to the advisability of ingesting large volumes of water with meals sounds extremely reasonable. The principal objection to the copious ingestion of the fluid is based upon the supposition that the excess water dilutes the gastric juice and thus disturbs to a marked degree the normal rhythm of the digestive functions.

MORE ACID IN JUICE

“However, we can no longer entertain the old belief that such is the case. The experiments indicate most convincingly that the entrance of water into the stomach does *not* produce a dilute gastric juice of lowered acidity, but, rather, that the entrance of this fluid acts as a distinct stimulation to the gastric secretion and that the juice, although secreted in larger volume than previous to the entrance of the water, nevertheless shows a

higher concentration of acid than does that juice which is secreted under ordinary conditions.

“In the experiment the subject was placed on a normal, constant diet, and by means of a preliminary period of sufficient length, was brought to a condition of approximate nitrogen equilibrium. At that point, 1,000 cubic centimeters of water—almost one and three-quarters pints—was added to each meal and continued thus for a period of five days. Immediately following this period came a final period of eight days, during which the original normal constant diet was again maintained and the after-effects of the copious water ingestion observed.

“The result showed an increase weight of two pounds during the five days of the test and the general conclusion reached was, that the drinking of a large amount of water with meals was attended by many desirable and by no undesirable features.”

While members of the Medical Fraternity antagonize and condemn the practice of water ingestion with the meals, they almost universally prescribe as the most healthful, a diet composed largely of fruits and green vegetables, the edible portions of both of which are known to be from 85 to 95 per cent water.

The secret of the healthfulness of much fruit and green vegetables in the diet is here divulged and made apparent—much water is ingested.

Here seems to be a point wholly overlooked by the medical fraternity, else it would seem that they would not have arrived at the conclusion that the ingestion of “virgin” water into the stomach at meals is *harmful*, but, that the water ingested which is contained in the

fruits and green vegetables is beneficial to the economic body.

The personal experience of the Author sustains the truth of the Rockefeller Institute statement, for all during his mature years he has partaken of liquids at meals, *mixing each mouthful of food freely* with the beverage provided, and no human furnace, stomach, could be better behaved than has his, several years passing in intervals without as many as even *one* voidance of food.

Third. The Care of the Teeth. The teeth constitute the "grinding machine" of the plant, and fuel poorly ground fed into the furnace is certain to work injury to the furnace and result in curtailing the good value of the fuel, also the volume of electrical energy required to operate the plant successfully. Herein lies the benefit of copious drinking during the meal—the fuel, being well mixed with the liquid in the mouth, insures it being thoroughly ground and reduced, therefore, more easily digested—"burned," and the maximum volume of food value and electrical energy obtained from its use.

Parents and all others having the care and raising of children should impress upon them early in life the necessity of preserving their "grinding apparatus," at whatever cost, they looking carefully after it during their childhood years. Also instruct them early in life the necessity of using the toothpick, especially after each meal; also the tooth brush—wonderful teeth preservatives, these. At least an annual or semi annual inspection of the teeth should be made by the dentist, and any "break" in the enamel should be well filled with gold or other protecting substances, promptly, so as to avoid the killing of the nerve of the tooth.

The failure to perform properly the three remaining duties selected and devolving upon the spiritual operator, results in such manifest injury to the plant that the Author has entered into a somewhat extended discussion of each.

Fourth: The Proper Care of the Plant to insure the perfect circulation of the blood, and also the flowing freely of the other fluids which course through its myriad tiny ducts.

To effect these most certainly is through the process of massage. The meaning of the word is, "the process of kneading, rubbing, pressing, slapping, etc., the body of a person, or its parts." Massaging of the body and its parts is considered by many as a *fad*, and void of any beneficial results. No greater error could possess one's brain. Nothing is more conducive to decay and rust than disuse.

The human material body is possessed of thousands upon thousands of ducts—hollow tubes, through which course the blood, as also other liquids contained in it. Thousands of these are normally *very small* in calibre. Those through which the fluids, other than the blood, flow, become so clogged with refuse, substances contained in the fuel, that the flow is so retarded it becomes infused with poisonous gases. These are absorbed by the bodily tissues, and thus is bred disease affecting the entire bodily organism. To assist in the constant passage freely of this refuse substance contained in the fluids, is the constant duty of the spiritual operator by the process, *massage*.

Let us consider for a moment the complex system of large and small ducts, or pipes, through which the entire quantity of *blood* in the human plant has to be

pumped, shoved, pushed or sent by the heart every four or five minutes, aggregating, Dr. Trall, you recall, tells us, about 10,000 pounds every twenty-four hours in a person weighing 150 pounds, or 3,650,000 pounds yearly. Turn again to pages 67 and 68 and look again at those pictures representing only the arterial and venous systems of the human body, the capillary, or smallest, not being shown. These latter are a network of extremely minute vessels, intermediate between the arteries and veins. Their diameter varies from $1/1000$ to $1/5000$ of an inch. They are not a distinct system terminating in open mouths, but merely *fine tubes* by which the arteries are continued into the veins, you recall Dr. Trall informs us.

What happens when a very considerable number of those tiny ducts or pipes embraced in those three systems becomes or are made still smaller in calibre, or are choked from lack of proper care? Trouble begins. The blood, we have said, **MUST** be sent or pushed through these. By reason of this choking and their diminished calibre, the blood is retarded and the increased pressure necessary to push it through, there comes the inevitable trouble at the "pumping station." The valves of the "pump" become out of order and leak, not able to stand the pressure put upon them; the valves become more and more worn and, finally, the pressure becomes too great, the "pump" gives out—collapses, and one more death is recorded, *cause*, "heart failure."

The Author cannot too strongly condemn the athletics indulged by the young men of the present day, particularly that of long distance running under the direction of our school and college instructors, and sanctioned by the Medical practitioners generally, and he avers, that this heart-straining exercise will be found

to be gross error, just as the "letting of blood" of fifty years ago was so amply demonstrated to be gross error.

The startling increase of the number of deaths now from "heart failure" among the men in middle life, would seem to be sufficient proof of the error of this heart-straining practice, and its further toleration or indulgence should be tabooed by all our school and college instructors.

Not only is there a great over-straining of the heart, but, also, of the lungs—bellows. The following is from the *Scientific American*:

"AIR CONSUMED IN A MINUTE"

"In one minute in a state of rest the average man takes into his lungs about 8 liters, or 48.8 cubic inches of air. In walking he needs 16 liters, or 97.6 cubic inches; in climbing, 23 liters, or 140.3 cubic inches; in riding, at a trot, 33 liters, or 201.3 cubic inches, and in *long distance running*, 57 liters, or 347.7 cubic inches, six times more than when in a state of rest."

The limbs and outer parts of the trunk of the body can be easily treated by one's self by manual kneading, rubbing, pressing and slapping. Those ducts, inwardly located, too deep to be affected by the hands, can be quite effectively reached by contortionate movements of the trunk of the body. The word contort means, "to twist or writhe the body." These latter movements prevent quite effectually the adhesions of internal organs to surrounding tissues and often break up those that have taken place, if any. There is a general stirring or opening up of both the large and small ducts or pipes, and the fluids, including the blood, are made to flow more nearly normally throughout the body. Espe-

cially is the pressure upon the "pump" and its valves very materially lessened and a return to conditions first established by nature will be more nearly approximated.

Varicose veins, common to the lower limbs, are the direct result of retarded circulation through the feet. Those who are obliged to stand most of the day are more apt to suffer from this malady. Such should *under no circumstances* wear tight-fitting shoes, no other factor being more potent in inducing this malady. No part of the apparel should be so tightly fitting as to press upon the arteries and veins so as to induce retarded blood circulation.

Any movement, therefore, of the body of whatsoever nature, twisting and bending of it in all directions, and the kneading, rubbing, pressing and slapping of the limbs and body, will be beneficial and remedial. (A series of movements is prescribed at the end of this book.) Those who can afford to employ professional masseurs will reap more pronounced benefits.

When all the ducts or pipes throughout the bodily plant are well opened up, the fluids and blood flowing freely, the pressure removed from the "pump," its valves "holding," serenity of body and brain is restored and sleep is not only made possible but more readily assured.

Fifth. The Ash Pan or Colon. The Colon or great intestine is the Ash Pan of our bodily plant, and the fæces or refuse from the furnace is the ash, and these will be so designated hereafter.

We have learned it requires that about 1,600 pounds of fuel be fed into the furnace of a man; about 1,200

pounds in that of a woman, and about 900 pounds into that of a child, yearly.

These amounts of fuel give off large amounts of ash which "falls" into the ash pan, from whence it is removed, automatically, by means of the automatic carrier, which is composed of the inner folds of the pan, and so act in their movements as to carry the ash always along and towards the outlet.

The nature or condition of the ash is often such as to cause it to adhere to the folds composing the automatic carrier, being too dry, greatly destroying its efficiency in removing the ash, and also resulting in greatly reducing the efficiency of the furnace; and, as it, the furnace, is the foundation of the human plant for insuring its perfect working as a whole, much harm results to the plant by reason of this adherence to the carrier.

Moreover, the pan is of considerable length, being about five feet in the adult, and has four right angle turns in it before reaching the outlet. It extends from the region of the right groin where the ash enters it through the *ileo cæcal valve*, ascends to a point on a line with the kidneys, turns and runs to the left on about a line with the left nipple, turns downward, where, in the region of the left groin, it makes a double turn upon itself, resembling somewhat the water trap used in plumbing, thence to the outlet.

The object of this double turn, or sigmoid flexure, as it is technically termed, is for the purpose of carrying the weight of the ash in the descending portion of the pan, otherwise the weight of the ash column therein would be thrown upon the muscles of the sphincter, which, as constructed, would not be sufficient to hold the weight. (Query: Is this arrangement one of chance or

design?) These turns or bends impose increased burden upon the automatic carrier.

It has been asserted by some physiologists, in which opinion the Author concurs, that one-half of the diseases to which human flesh is heir, is caused directly by the imperfect working of the automatic carrier within the ash pan, resulting in a *pressure backward* through the entire intestinal canal, extending to and involving the very "gateway" of the system—the stomach.

The ash pan is also the *main sewer* of the human plant, and, if allowed to become partly choked up, the sewerage passing through it becomes infected with myriads of poisonous microbes. Thus the contents becomes infused with poisonous gases which are absorbed back into the system, resulting in derangements and disease.

The Sunday Cleveland Leader of June 7th, 1914, prints a lengthy article under the caption, "The Plight of the Microbe." The purport of the article is the increasing of the longevity of human life. A quotation from said article reads:

"Professor Metchnikoff has long been in the vanguard of those who are trying to bring a greater span of life to the human race. A few years ago he attracted attention to himself by proclaiming that buttermilk was one of the greatest conservers of youth and prolongers of life known to science. In the intervening years to the present time he has steadily been on the trail of the microbe.

"From the earliest times, he says, man has complained of the brevity of his life. Philosophers, poets, novelists and savants all agree that we cease to be at a time when our need of life has not been completely satisfied. Very rarely do you find voices that are not raised in this chorus of complaint. There is no such

thing as a natural death. Why, then, do men die, suffering from no known disease?"

"Professor Metchnioff, says the writer of the Article, answers his own question by setting forth the theory that it is the large intestine (ash pan) of man which swarms with germs that is the cause of his short life. To support his theory Professor Metchnikoff calls to his aid various other European scientists."

The extent to which the automatic carrier is subject to impairment from adhesion of the ash upon it internally, is graphically told by Dr. H. T. Turner, then of Washington, D. C., a specialist in bowel diseases, in a work published by him. He held 284 autopsies, the deaths representing, he says, "nearly all the diseases known to our climate." Of this number he found but 28 colons free from hardened adhered matter and in their natural state. The remaining 256 he found to be in various stages of incrustations of hardened fecal matter within the folds of the organ, many being so completely filled with incrustated matter as to almost preclude the passage of the fecal matter, and the condition of some of these latter, as found by the Doctor, are too horrifying to be here stated. The Doctor says it is safe to assert that seventy per cent of the colons of the human family (living under civilized conditions) are impacted more or less.

The chief cause, if, indeed, it is not the *one* cause for these conditions to arise, is the *lack of a sufficient quantity* of pure fluids being mixed within the fuel—food—as it is being fed into the furnace—stomach—and, also, between meals, to insure the passage, freely, of the ash through and along the pan and thus pre-

vent it becoming so dry as to cause it to adhere to the inner folds of the automatic carrier. Here becomes evident, too, the benefit of vegetable and fruit diet, composed so largely of water.

If for any cause the ash pan does become full and choked up with dry, hardened ash, there is but one rational way of causing the gorge to break and the ash to move. That way is the injecting into the pan at its *outlet*, of a copious quantity of quite warm water which acts both as a solvent and lubricant, causing the ash to let go, cease to adhere to the pan, and move out freely and easily.

When so effective, simple and harmless a process as the above can be so easily and quickly executed, it seems preposterous to upset and throw the whole internal digestive workings of the plant out of its normal condition, by resorting to the drug process for removing the ash, and here follows the harm from the use of the drug process: The pan is chock full of dry, hardened ash, possibly its entire length of five feet; the drug is put into the furnace, causing it, also the liver and entire intestinal canal, to give off an abnormal quantity of watery secretion, which secretion nature forces through the *ileo cæcal* valve, located at the extreme end or *beginning* of the pan, and entering it *back* of, or *behind*, the dry, hardened, gorged ash, and then practically pushing or forcing it along and out of the pan by **HYDRAULIC PRESSURE**, one of the most powerful processes known. The pressure thus put upon the entire intestinal canal is often so great as to cause most intense and excruciating pains, resulting in injury to the delicate membranous linings of the canal.

The primary cause of nature's sending this abnormal quantity of water secretions into the intestinal canal,

upon the introduction of the drug into the "furnace," is NOT for the purpose of forcing the ash from or out of the pan, but for the *specific purpose* of purging the plant of the obnoxious *drug* fed into the furnace, it, the drug, being of a nature repulsive to the economic body, the removal of the ash being simply a resultant of that effort to expunge the offensive drug from the plant.

Especially is it necessary to thoroughly wash out the ash pan in cases of certain fevers when the heat of the bodily plant goes above the normal $98\frac{1}{10}$ degrees.

Let us reason analogously. The human ash pan generally contains both animal and vegetable refuse. When these first enter into the pan they are in a condition that requires but a slight increase above the normal $98\frac{1}{10}$ degrees of heat to render the *animal* putrescent and the *vegetable* refuse or ash, foul from decay, exactly as dead animal and vegetable matter are rendered putrescent and foul in the open with a temperature of 100 degrees of heat and over. In both these cases poisonous gases are given off, and these are absorbed back into the system, causing sickness and derangements throughout the entire plant.

The increase of temperature above the normal takes place when the person is said to have *fever*, when, with few exceptions, the ash is made dry and hard, adhering to the pan with such tenacity as to almost preclude its movement by the automatic carrier. At such times every moment the putrescent and decaying ash is allowed to remain in the pan, the bodily plant suffers thereby. Then it is that the pan should be thoroughly washed out by the warm water process, by its injection into it, copiously, and a copious amount of pure cool water be given the furnace daily to prevent the ash becoming again dry and hard.

Mothers of "ye olden times" were wont to give their children large doses of castor oil (a harmless, perfect lubricant and healer as well, being a vegetable oil) to "*open their bowels*" when fever prevailed, a very rational process in the absence of that of the warm water injections. Those mothers could give no *reason* for so doing, being guided wholly by the *known results*, the removal of the ash and abatement of the fever.

There are times when the bowels are flooded with an excessive quantity of watery secretions, as in the case of summer complaint in the infant child, diarrhea and typhoid fever in childhood and adult age, in all of which cases the ash moves too freely and needs to be checked. No remedy for overcoming such cases is more efficacious than the feeding into the furnace fresh cow's milk brought just to the boiling point and a small quantity of *tried out*, fresh *lamb* suet added, and a little salt to season. For an adult use from one-half to an even teaspoonful of the tried out *fresh lamb* suet to a cupful of the milk, and drink as hot as can be taken, this being the only food given until the trouble ceases. Prepare each quantity of milk fresh. In the case of infants suffering with summer complaint or cholera infantum, as it is technically termed, the milk should be slightly diluted with *boiled* water and but a very small quantity of the lamb suet used to the cupful of milk. Otherwise, dose according to age of patient. Be careful to keep the lamb suet *sweet* and *fresh*. The lives of thousands of infants can be thus saved from the ravages of summer complaint.

Finally, if there be a copious drinking of pure water, *with* and between meals, and the eating of a goodly amount of fresh butter, the ash, kept moving freely by the automatic carrier, thereby preventing any adhesion

of ash to the pan, constipation, as it is termed, then there will be no trouble at the *ileo cæcal valve*, no inflammation of the pan, or of the vermiform appendix; in other words, no appendicitis, which is the *direct result* of the pan being too often and too long gorged and choked with dry, hardened ash, resulting in such an 'unnatural pressure upon the pan at the place of entrance of the ash—the said valve—as to cause inflammation, which extends to and involves the appendix, the whole speedily resulting in putrefaction and death, if not relieved. Let PREVENTION be your watchword, ever.

“The Water Wagon,” a noted writer says, “is the hope of the healthy man. The human body is about four-fifths water. Even the teeth, the hardest and densest tissue of the body, contain about 4 per cent water. The bones contain from 11 to 14 per cent water. Water makes up 97 per cent of the gastric juices, 98 per cent of the perspiration and 99 per cent of the saliva. All the physiological changes take place in a watery solution.

“Lack of water is nearly always a factor in the production of bodily disorders. Without an abundance of water as a part of the treatment, all measures, such as diet, exercise and drugging fail. For a person in average condition, two quarts of pure water daily are thought to suffice. In case of disease this quantity may be increased.”

Sixth: The Lungs—Bellows.

The lungs will be designated under this, the sixth, subject, the BELLOWS, meaning, thereby, the DRAFT system of the bodily plant.

The care, protection and proper use of the bellows of the human electrical power plant is one of the most vital duties devolving upon its Spiritual Operator.

In proportion to the extent of the impairment of the bellows, whereby the quantity of air supplied the furnace is diminished, so is the "flame," or "fire," therein made to burn proportionately lower.

The human bellows, in its labyrinth of parts, embraces innumerable extremely small sacs termed the *air cells*, the walls of which, Webster tells, us, "consist of thin elastic connective tissue, through which run small blood vessels in connection with the pulmonary artery and veins," as heretofore stated. "These walls of these air cells," he says, "are comprised of a film so thin, and composed of such fineness of fibre, as to be beyond human comprehension."

Each of these air cells in the normal or healthy bellows imparts its quota of air to the "fire in the furnace." There can be a certain number of these so impaired or destroyed altogether, as to not seriously affect the "fire," but, when a considerable number are destroyed, then the "fire" burns lower, and the entire plant suffers in proportion.

No single malady the world over is more destructive of the bellows in the human bodily plant than that of consumption, caused by the ravages of the microscopical consumption bacteria. (Consumption means a consuming of a thing.) The disease is also called the White Plague.

Bacteria, is the name given the minute living organisms which are said to abound everywhere, the vast majority of which are harmless, many being useful to the human economy. Those which are harmful to the human body produce disease. The consumption bacteria is in form a bacillus—meaning a *little rod*, and each contains a *spore* which contains the *germ of life*, and

from which their species is propagated. Marvel of marvels!

Webster tells us that the average bacteria is so small that 2,000 of them placed in a row, side by side, would hardly stretch across the head of a pin. Another writer has said, "That a good-sized convention of bacteria could be held on the point of a cambric needle and have room to spare."

The *successful lodgment* of one or more of these living, wondrously minute consumption bacteria within one or more of these delicate filmy air cells which have been allowed to become unclean and foul within, is the beginning of this deadly plague within the human bellows, and, such lodgment *being effected*, the result is almost certain to be fatal. Under the latest advance strenuous treatment, and where the best of atmospheric conditions prevail, a comparatively few cases of cure, it is averred, is effected where the disease has been attacked in its really incipient stage. Statistics show that 150,000 or more human bellows in the United States of America, alone, are yearly consumed sufficiently to cause the "fire" to go out in the plant involved.

The FAILURE to *cure* the bellows, that is, to stop the consuming or destruction of the bellows and free its remaining portion of the devouring consumption bacteria, and thus save or preserve the bodily plant—of the person, is what is causing the world to stand appalled.

The Author avers that the only logical, *effective* method for stopping this awful destruction of the bellows in the human plant is through *prevention*, which is, to adopt and pursue the same course as is employed in buildings for preventing their destruction by fire; that

is, the building is made fire-proof *during its construction*, and so maintained *after* its completion.

There must be instituted as early as practicable in the human plant, during its construction, or growing period, a system to make the bellows proof against the *successful lodgment* within its delicate filmy air cells of the *first one or more* of the deadly consumption bacteria, and so maintained throughout the entire construction, or growing period, and, thereafter, A-L-L T-H-R-O-U-G-H L-I-F-E, under the *immediate supervision* of the plant's *spiritual operator*. The complex structure of the human bellows DEMANDS that this be done.

It is so constructed that it is impossible *to get at* the devouring bacteria, after once, ALIVE, they effect a successful lodgment among the massed body of filmy air cells. The lodgment effected, they immediately begin to act or feed upon the filmy tissues, forming the air cells—they having become foul—and they *at once* become positively ENTRAPPED, closing, thereby, behind them, *all the avenues for escape from out the regions into which they have entrapped themselves*, of any of their offal and sloughings from the wasting tissues.

These entrapped bacteria immediately begin to propagate and multiply rapidly in numbers. Conditions are now ripe for the speedy extension, by the “new arrivals,” into new and contiguous fields which have become befouled, in search of food. This process of new arrivals and extensions into new contiguous fields continues until so much of the bellows is wasted and gone, that the furnace is not now supplied the necessary quantity of air, and the “fire” therein finally goes out, followed by the departure of the spiritual operator.

The air cells in the human bellows resembles the leaves of a tree, and the bellows, that of the tree, their positions being reversed, the bellows hanging down. The main "trunk" of the bellows is the windpipe, which, a few inches down, divides into two large limbs or pipes termed the bronchial tubes, one of which forms the main trunk of the right, and the other the main trunk of the left section of the bellows analogous to the bifurcated trunk of a tree. Dr. Trall says:

"The bronchial tubes, on entering the lungs, divide into two branches, and each of these divide and subdivide until *lost in intercellular passages*, and these, after several bifurcations, ultimately terminate by a cœcal extremity, *which are the air cells.*"

These terminations, or air cells, observe, are exactly similar to the leaves which are the ultimate terminations of the *smallest twigs and stems of the tree at their outermost limits.*

NOW, as to the TREE.

A single female butterfly lays its large number of eggs upon one or more of its leaves; they hatch, and, if allowed to mature into full-grown caterpillars, they will have eaten or destroyed a large cluster of leaves during their growing period. But, most fortunate for the tree, those caterpillars cannot propagate their species, and the attack upon the tree is, therefore, limited to the one colony, the damage to the tree also being limited thereby; also most fortunate for the tree, the young worms can be gotten at and every vestige of worm life destroyed, the remaining leaves thus being saved from destruction.

But, most unfortunate for the bellows in the human plant, the consumption bacteria *propagates its own species*. Most unfortunate, also: the first devouring consumption bacteria effecting a successful lodgment among its "leaves"—air cells—cannot be destroyed as can the caterpillars upon the tree, the only way by which they can be reached being through the main trunk—or wind-pipe, and thence down and through the "limbs" and "twigs"—smaller and smaller pipes—only to find, when those ultimate points are reached at the air cells, that further ingress is cut off. Thus the entrapped bacteria are *immune against all processes for their destruction or extermination*.

The caterpillars devour *only the leaves* of the tree, while the voracious consumption bacteria devours not only the filmy "leaves"—air cells—but their stems, the twigs, and larger limbs—small and large pipes; in fact, they devour all the materials entering into the structure of the bellows as they progress, leaving but the "ash," as it were.

It is incomprehensible, not only to the average, but to many scientific persons, WHY, in the face of all the advancements in medical therapeutics, there has not been discovered a drug or chemical preparation by the use of which these entrapped bacteria can be destroyed—killed.

There are scores of such drugs and preparations, but their use also kills the possessor of the infected bellows. The entrapped bacteria are, therefore, *immune* against assault.

The period during which these bacteria are *absolutely entrapped* constitutes the FIRST STAGE of the malady. During said period, the bacteria are *feeding only upon air cells and smaller pipes*—the "leaves" and small "twigs and limbs" of the "tree," all of which

occupy positions on the *outermost confines thereof*; there is a soreness felt in the upper lobes of the bellows; there is a dry, hacking cough, nothing being "raised" or expectorated; the appetite fails; loss of flesh follows and at last the *pale face* brings the awful message that the WHITE PLAGUE has fastened its deadly grip upon the dear one.

The SECOND STAGE of the malady is fast approaching; it arrives; the dam has given way, and the long pent-up, or entrapped, bacteria, and, also: the mass of their accumulated refuse from the devoured air cells and small pipes, *is at last set free*, and for the FIRST TIME is "raised" or expectorated. WHY? Because the devouring bacteria have now reached in their feeding, the larger air pipes, the calibre of which is sufficiently large to admit of the passage through them of the sloughed elements so long pent up and held back, and, it is now, for the first time, coughed up and finally reaches the mouth to be cast away.

The entire quantity of the blood within the bodily plant is now alive with swarms of the deadly bacteria, as the drawing of the smallest quantity of it from any part of the body placed under a powerful magnifying glass will give ocular proof. These rob the blood of its oxygen. As small as they are, they, too, must have air. This accounts for the paleness of the blood, also of the afflicted one.

The consumption, or wasting, of the bellows has now become so extensive, and the supply of air to the furnace become so greatly reduced in quantity, that the "fire" is gradually going out. The malady has now reached the fatal stage, because there is now present in *too great* volume the one element in which breeds so rapidly the devouring bacteria, making their expurgation impossi-

ble. That element is *foul, wasting flesh*. The supply of air or oxygen for the furnace is now so small in quantity, and the "flame" burns so low, that its final "going out" is only a matter of time.

Indeed, there dwells with the author a lingering doubt as to whether there has ever been a single case wherein one or more, live, really genuine consumption bacteria has effected a permanent lodgment within one or more of the air cells of a human being that such lung has been successfully purged of them—they having been killed—and the person rescued from a consumptive's death, said doubt being all the more entrenched and intensified upon reading evidences of those best informed upon the indestructibleness—hard to kill—of the really consumption bacteria, as for instance:

In his article upon the, "Causes of Failure in the Prevention of Communicable Diseases," published in the Ohio State Board of Health Bulletin for August, 1911, Dr. Martin Friedrich, Health Officer, Cleveland, Ohio, says of the consumption bacilli:

"They are the simplest structures in existence, consisting only of one cell, and very much harder to destroy than more complex organisms, as, for instance—the human body.

"They are endowed with the most marvelous power of multiplying. The fastness with which they can breed exceeds almost our comprehension. When a good spitter in an advanced stage of pulmonary tuberculosis spits up daily, by actual count, over SEVEN BILLIONS of tubercle bacilli, seven billions must be daily produced in his lungs, or more than enough to infect every man, woman and child on the face of the earth. These are the enemies we have to fight. They are endowed by

nature with invisibility. An invisible enemy is the hardest to defeat. *They have more vitality than we have* and a facility of reproduction—well, we can only marvel at it.”

Such horrifying information given by one so fully informed as Dr. Friedrich, emphasizes more than words can tell the necessity of the *prevention of the successful lodgment within the cells of the human bellows of the first one or more* of the deadly consumptive bacilli.

WHY do the air cells of the human bellows become foul and impure within? Because their position is so far out upon the “tree.” The “stems”—pipes—upon which they grow are so infinitesimally small in calibre, that the natural fifteen pounds atmospheric pressure is not sufficient at all times to drive the purifying oxygen or air into them.

The victims of consumption, or the White Plague, are generally those having flat or depressed chests. Dr. Hyman* Cohen, Chief Medical Inspector, Chicago, says truthfully:

“Flat chests are roomy chests for hosts from ‘germland.’ ”

Such people are given to *lolling*; the back is bent, causing the shoulders to droop and chest to be forced inward, all of which directly crowd and depress the bellows. The breathing of such is light and not deep; young ladies begin the wearing of the bellows-crowding device—the CORSET, and, all in all, at last the filmy walls of some of the air cells partially collapse, not enough air or oxygen reaching their interior to purify them properly, and, finally, a foul condition exists therein. *Every condition is now perfect* for the successful

lodgment of the death-dealing consumption bacteria. It arrives, enters, and LIVES; it goes to work; begins its feeding upon the filmy but *now foul air cells*, and IMMEDIATELY IT ENTRAPS ITSELF; also begins to propagate its kind, and GOD HAVE MERCY ON THAT CHILD OR PERSON.

Universally, our Courts of Justice demand corroborative testimony. The Author submits the following from the Editor of the Cleveland Leader to its readers in corroboration of his above statement as to the necessity of preventing the chest to become flattened. Article: Caption,

STAND UP STRAIGHT

“Nearly everybody, at one time or another, feels the fear that he may contract tuberculosis. And the mere thought, in spite of the progress that has been in preventing and curing the disease, is appalling.

“Yet the danger is almost negligible, if the human body is permitted to take proper care of itself. (The Author begs to correct this your last sentence, and make it read, “Yet the danger is almost negligible if our spiritual self, the operator and care-taker of our material body, *will but take proper care of it.*”)

“The first essential in the avoidance of consumption, according to the Journal of the American Medical Association, is to keep the lungs strong, so that if the germs are breathed they can do no harm. One of the most important things in keeping the lungs strong is to keep the chest wide open so that the lungs can be used properly.

“If the body is drooped or stoops, or if the shoulders are allowed to drag forward, or if the head is carried forward instead of well back over the shoulders, the

chest must be flattened, the breathing must be shallow, and the lungs, not being used freely, become weak. It is in this type of chest that tuberculosis usually begins.

“Therefore stand up straight, with shoulders back and head erect. It means better bodily health and strength all around because of the stronger lungs.”

It speaks well for the world at large for the very humane interest shown and care taken, at tremendous cost of time and money, to save the millions of unfortunate persons into whose bellows have been entrapped the deadly consumption bacteria. But, death has put his seal upon them, mercilessly refusing, with few exceptions, to remove them, notwithstanding this great cost; unceasing effort at succor, and the prayers and lamentations of loved ones.

It is obvious, therefore, that the BASIC principle upon which to wage *really successful* warfare against the ravages of the White Plague, is the prevention, where possible, of the successful lodgment within the filmy air cells of *each individual human bellows, of the first one or more* of the live deadly consumption bacteria.

It is known that all the species of the poisonous devouring bacteria in animal tissue can live ONLY where foulness or putrescence exists; that such bacteria cannot live in pure or distilled water, because every element which sustains their microscopic bodies is lacking in it and they *must* die.

The only rational thing to do is to keep *every air cell* within each individual bellows so thoroughly AIRED at all times and thus kept so absolutely clean, pure and free of foulness, that, when one or more of the *living* deadly consumption bacteria succeeds in getting into

the interior of an air cell, or cells, *there will exist in it, or them*, such purity, as to cause it or them to immediately die. Such bellows will, therefore, be immune against the ravages of the life-destroying White Plague.

To accomplish this transcendent end, there must be employed AN EASY TO BE PERFORMED, rational method, the execution of which will cause the interior of *every air cell* within the human bellows to be kept thoroughly "aired," rendering each pure, clean and free of foulness *at all times*.

Dr. Cohen, again quoting him, says: "Your lungs cannot be washed; give them frequent airings."

The ONE, and ONLY one, purifying element, and it, gaseous, possible to be made to reach the interior of the wondrously minute air cells, is the one provided by nature, and which permits of its introduction within them freely. That element is OXYGEN, the one purifying constituent of pure air. *It purifies as by fire*.

Therefore, to save the greatest number of human bellows possible from this destructive plague, every human bellows must, as early as practicable, be put under this assuring purifying process, or method, for *preventing* the successful lodgment within its *air cells* of those *first* devouring living, consumption bacteria. It is not within the possibilities of human endeavor for one person to depute to another the task of "proofing" his or her bellows against the successful lodgment of these, the first living, deadly consumption bacteria.

To this end, each child six (6) years of age or over, must be taught, either by parent, guardian or teacher, the following successful and simple method for forcing the purifying oxygen into every air cell of its bellows,

a method in the execution of which there needs to be no paraphernalia, neither assistant. We have our bellows with us always. They can, therefore, at any time, and should be, given these airings several times a day, and always out in the open where the air is pure and heavily laden with oxygen, when possible.

THE METHOD—for children. The teacher should always exemplify the several movements and utter the little guttural word, HUK, him or herself, that the children may the more readily understand and complete the instructions more successfully.

First, throw the shoulders back, head up and chest thrown outward.

Now, have them take, slowly, two full long breaths, mouth closed, and, when their lungs are filled full upon taking the second one, follow by *forcing* all the air out of them possible, and instantly fill them to their fullest capacity, and, before any air is allowed to escape, begin to hold the breath and hold it so while their heart beats ten (10) times (it being easy to count them while the breath is being so held).

To shut the air in the lungs, the epiglottis or “flapper,” as it is commonly called, must be closed over the windpipe. To close this, teach the children to utter the little guttural word, HUK—mouth closed—just as they have their lungs filled fully.

NOTE: The whole scheme for giving every air cell an *effectual* airing, FAILS, if as much as possible of the foul air within them is not first forced out preparatory to holding the breath.

The holding of the breath for said short period creates, while thus held, an increased pressure, and dur-

ing that period the fresh, oxygenated air is being *forced* into every air pipe and air cell of the bellows, purifying them more thoroughly by reason of the greater volume of oxygen absorbed.

One of the most vital, as well as beneficial, of this process is, that it is also expansive, these daily inflations, during the construction or growing period of the child, expanding the walls of the cavity in which the bellows is located, permanently. The adult person is, thereby, possessed with a *full* chest and the bellows is given ample room in which to perform its functions fully.

Physicians, almost universally, now concede the necessity for deep breathing, insuring, as it does, the carrying into the air cells of the lungs, thence to the blood, of a greater quantity of oxygen, and such method of breathing cannot be too strongly advised and insisted upon.

However, deep breathing lacks in its effectiveness in two most important particulars: First, there is no increase of pressure effected, *forcing* oxygen into the air cells thereby, and, secondly, there is no expansion of the walls of the cavity in which the lungs are encased.

The Author conscientiously believes that if this simple, easily-to-be-performed, effective preventive method of "airing" and purifying the air cells of the human bellows several times daily, could be put into universal practice, the children commencing as early as their sixth year, and continued *throughout life*, it would not be so many years before the number of recruits daily drafted, largely from the among the youth of all lands, into the great army of consumptives, would grow very materially less and there would NOT then be a new *recruit* to take the place of every one "Daily Killed in Battle," and

that vast army of consumptives kept filled to its full quota, as is the case at present.

Every human operator, matters not how perfectly the internal workings of his or her plant may be, should give their bellows these expansions and purifying airings several times a day A-L-L T-H-R-O-U-G-H L-I-F-E.

All the efforts and precautionary measures now being employed to prevent the contraction of this dreadful plague should be persisted in.

Children should be taught the very great importance of sitting and standing erect, keeping the backbone in a straight line, and no spiritual operator of a human plant should forget that the head, shoulders, arms, hands and upper part of the trunk of the body aggregate considerable weight, all of which weight is supported by the backbone, and while it is in a bent or bowed position, a *strain* is exerted upon it *at the bend*, which is harmful to that part, and more serious still, the vital organs, the heart, bellows, stomach, liver and kidneys, are crowded and pressed upon, hindering them in the performance of their natural functions, often resulting in permanent impairment of one or more of those organs.

The Author received his instructions how to air and expand his bellows direct from Dr. R. T. Trall at the age of sixteen years, and he has given his bellows these airings and expansions pretty effectually all during his life. He is, therefore, possessed now at the age of seventy-six years (1919) of a most perfect and healthy bellows.

Finally, since this dreadful malady cannot be cured, as the Author avers, after once the deadly consumption bacteria, ALIVE, secures a successful lodgment within the foul air cells of the human bellows, parents, guardians and school authorities, *the world over*, cannot afford

to, neither should they, allow a single stone to be left unturned in their efforts to prevent the successful lodgment of the said deadly bacteria within the child bellows.

The method to be employed, of course, to be pursued must be one to cause the child to *never forget* the daily airings and expansions of its bellows. To this end the Author would have each child six years of age, or over, take and sign the following Pledge, attested by the parent, guardian or teacher, and presented to the child, it being printed in neat and attractive form. This should be framed and preserved.

PLEDGE

-----	-----
Place	Date
<p>I, -----, at the age of ----- years, do hereby solemnly PLEDGE, that I will give my LUNGS— bellows—"Airings" and expansions as instructed how to do by my ----- several times each day when possible, A-L-L T-H-R-O-U-G-H L-I-F-E.</p>	
<p>Attest -----</p>	
Parent, Guardian or Teacher	Signature of child

To make it more effective, the day set apart for the initial introduction of the plan into the school, should be heralded and known as "Pledge Day."

As a daily "prompter" to assist the child in not forgetting the fulfillment of its Pledge, each child should be obligated to thoroughly memorize the following couplets:

Now I arise from my bed of sleep,
I must not forget my Pledge to keep;
Which is, this day, to keep my eyes awake
Until I do my Bellows—lungs—inflate.

The actual repeating of the words may not be spoken, but the early "lesson" will never be forgotten, and the spiritual being will thus be daily prompted, A-L-L T-H-R-O-U-G-H L-I-F-E.

Each teacher should give his or her pupils comprehensive lectures as to the construction of their Bellows: explain to them the dreadful results following the successful lodgment of a single consumption bacteria within the cells of their lungs, and let the necessity of giving those air cells their daily "airings" and expansions, be so *forcibly* impressed upon the children that they will ever remember, never forget and never neglect to fulfill their Pledge daily *so long as they shall live*.

This suggestion of the taking of the foregoing pledge and the memorizing of the morning "reminder" by each child, should not and must not be cast aside with a sneer by parents or school authorities. If it is proper for the child to take the Temperance Pledge and to be taught to ask its God, nightly, to "keep its soul," as it "Lays its body down to Sleep," is it not as infinitely and as highly proper to take this other pledge, and to be taught this *morning* "prayer," that it may be preserved from an enemy so fateful to its bodily organism as the Deadly Consumption Bacteria?

Since going to press, Dr. H. L. Rockwood, Commissioner of Health, Cleveland, in his article on the prevention of Tuberculosis by children published in the Cleveland Plain Dealer December 18, 1919, says in part:

Tuberculosis is a preventable disease.

Children are particularly susceptible to infection. More than 50 per cent. of all children are infected before

they are 10 years of age, and the percentage increases until at 15 years it reaches its maximum of from 50 to 70 per cent., and by 21 practically everyone is infected.

He, too, as has the Author, would have all children subscribe to a "Health Pledge". He says:

Much good can be done by having your own boys and girls subscribe to the following "Health Pledge for Children.":

I will wash my hands before each meal every day.

I will wash not only my face, but ears and neck, and clean my finger nails every day.

I will try every day to keep fingers, pencils and everything that might be unclean out of my mouth and nose.

I will drink a glass of water before each meal and before going to bed, and will drink no tea, coffee or other injurious drinks.

I will brush my teeth thoroughly every morning and evening.

I will take ten or more slow, deep breaths of fresh air every day.

I will play outdoors or with windows open more than thirty minutes every day.

I will sleep at least ten hours every night with my window open.

I will try every day to sit up and stand up straight, to eat slowly and to attend to toilet and each need of my body at the regular time.

I will try every day to keep neat and cheerful and to be helpful to others.

I will take a full bath at least once a week.

It is a mistaken idea that none but an expert or one well versed in human anatomy is capable of massaging the human body and its parts. It is also a mistaken idea that a person should not massage his or her own body, when physically able, fearing to do it harm. That is not possible to do using one's common sense, as, for instance, women and young girls must be careful not to rub, slap or pinch their breasts so as to in the least hurt or injure the tissues comprising them. The rubbing, kneading and pressing of any part by one's self is bound to be beneficial. Practically the entire body can be reached by the hands. Of course, where a sensible expert masseur is employed, the results will be more in evidence.

There are two sets of arterial, capillary and venous systems through which the blood flows; two sets of ducts through which the watery secretions flow, also two sets of muscles and tissues to be reached.

First, those lying near the surface of the body and limbs.

Second, those located below the surface and within the trunk of the body.

A—The limbs. These should be thoroughly rubbed, kneaded and the flesh twisted, rubbing the tops of the hands and feet vigorously. Massage around the joints of the limbs well with the fingers and thumbs. Rub the arms and legs both upward and downward, the downward movement assists the arterial and capillary system of ducts in conveying the blood *from* the heart, and the upward movement assists the venous system, or ducts, in conveying it *to* the heart. Rub and massage the toes

thoroughly, as it is in the toes where the blood is compelled to make its return movement back to the heart at the farthest and most difficult point from it.

B—The *outer* trunk. This can be successfully reached and massaged by the hands, kneading and rubbing it quite hard and vigorously all over.

C—The *inner* trunk. This can only be reached effectually by bodily movements of a special nature, but easily and readily executed, and are best done when the body is disrobed at retiring or on arising.

A—Place the feet firmly about a foot apart; now turn, or twist the body to the right as far as possible, holding the feet firmly in place, then to the left, rubbing the sides and front well. Always recovering slowly. Repeat *each way ten times*.

B—Stand on the left foot, the left hand spanning the left side above the hips; bend the body to the *left* as far as possible, forcing the right *shoulder* up and the right *hip* down, and while so bent, rub the right side up and down quite hard. Recover slowly. Now stand on the right foot, right hand similarly placed, on the right hip; bend the body to the right, *left* shoulder forced up and left hip down, rubbing as before. Repeat each side three to five times.

C—Place the feet about 15 inches apart, toes turned slightly outward; bend backward as far as possible, and while so bent, rub the entire length of the trunk, sides and front, with both hands, quite hard, up and down. Recover slowly. Repeat three to five times.

These several movements give direct exercise to the internal organs and parts, preventing their adhesion

to surrounding tissue, or break up those which may possibly have formed.

The bending of the body backward is remedial to a very great degree, and is especially recommended for the following reasons (The Author has studiously aimed throughout this work to state his REASON in all cases where a reason in support of his findings is properly demanded): Our bodily plant is bent, or inclined forward almost continuously, resulting in the *stretching* and *lengthening* of every muscle and fibre embraced in its *back* part, and the *contraction* or *shortening* of every muscle and fibre embraced in its *fore* part.

These backward bendings equalize in a proportionate degree those differences of tension of the back and fore muscles and fibres, also the internal structure of the plant. The failure to practice or execute these backward movements of the body is the direct cause of the "bend forward of old age," the rounded backbone at the shoulders and inclined head downward.

Those who are fortunate enough to be able to play golf, tennis, and engage in horseback riding and other like exhilarating exercises will need less of the in-door exercises. Avoid long-distance running.

Never forget to, DAILY, morning, noon and evening, *while in the open*, going *to* and *from* school or labor, "Air" your bellows well by expanding it in the manner as directed on page 260 for caring for your bellows.

FINALLY, dear Spiritual Reader, can you not do this daily in behalf of your own sublime material bodily plant which God has placed YOU IN SUPREME CHARGE?

FINALE.

AT LAST

When, whether it shall be by day or whether it shall be by night,
Thou shalt be called to take thy sublime flight;
Let not thyself no fear nor sorrow know,
But, trustingly, let thy L-A-S-T T-H-O-U-G-H-T-S B-E,
From God I came, to God I go.

NOW! Read this book, also its appendix *through*,
over and over again, study them as you were compelled
to study at school until you “learned” your lessons well
and enabled to comprehend and remember them—
(knowledge stored.)

In this manner ONLY, do we insure all “entries”
recorded in our “Book for Reference” to be so plainly
written therein that they can forever thereafter be
clearly and easily “read”—REMEMBERED.

THE AUTHOR.



APPENDIX

Scalp and Hair Hygiene

THE SCIENCE OF HEALTH AS RELATES TO
THE SCALP AND HAIR OF THE
HUMAN HEAD,

CAUSE AND PREVENTION OF BALDNESS,
DANDRUFF AND FALLING HAIR
POSITIVELY PREVENTED
WITHOUT COST

BOTH MEN AND WOMEN

ILLUSTRATED

By

LUTHER STOCKTON FISH



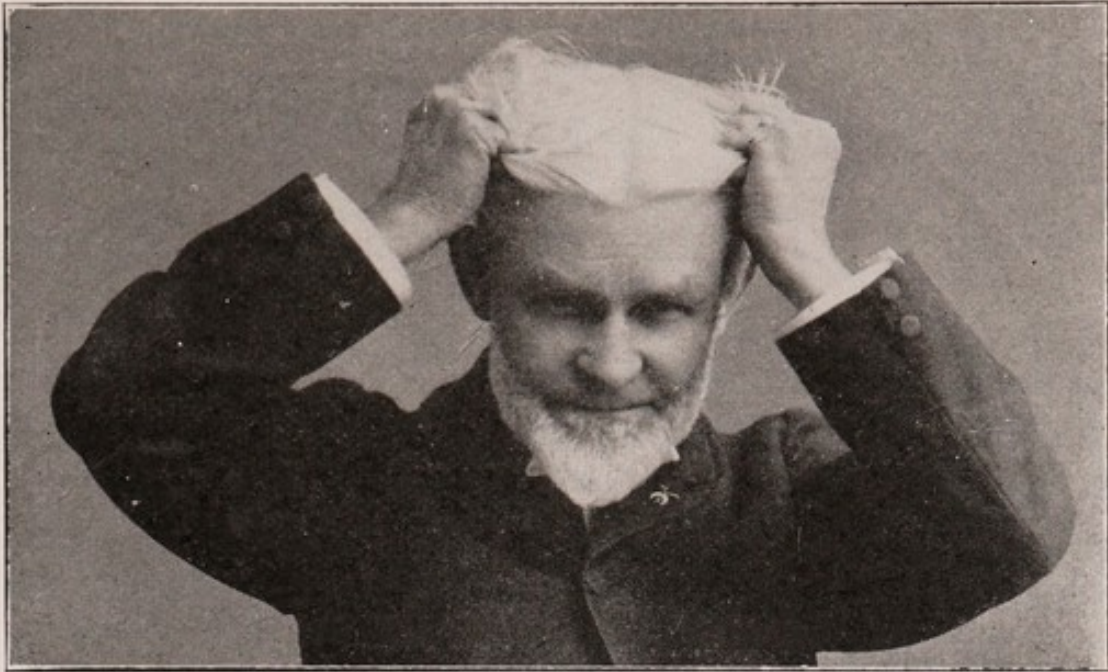
CLEVELAND, OHIO

COPYRIGHTED, 1909

BY

L. STOCKTON FISH

CLEVELAND, O.



"I AM PULLING HARD."
My hair is firmly rooted.

*Scalp and Hair Hygiene is published more specifically
in the interest of those possessing the
FULL HEAD OF HAIR*

*PREVENTION of the loss of hair is its Watchword
from cover to cover*

That which cannot be cured must be endured.

That which cannot be cured should, if possible, be prevented.

—COMMON SENSE.

BOOK TALK

Read and memorize my EXPLICIT instructions—few in number, and follow them implicitly ALL THROUGH LIFE, and matters not what the type of scalp you have you will surely save your hair, for, remember, I tell the

*CAUSE of and HOW to PREVENT BALDNESS,
DANDRUFF and FALLING HAIR
POSITIVELY WITHOUT COST,
BOTH
MEN AND WOMEN*

SCALP AND HAIR HYGIENE

INTRODUCTORY

The purpose of this Book, "Scalp and Hair Hygiene," is to tell in a succinct manner the things necessary to do in the treatment of the Human Scalp and Hair so as to PREVENT baldness, and arrest the death and loss of the remaining hair on the partially bald head, and the preventing and stopping of falling hair from both the male and female head embraced in my Reform Treatment, together with a comprehensive description of the "scalp soil" and growth of hair.

Fathers having the bald head and to whom this message comes too late; Fathers NOT bald, and all Mothers, should familiarize themselves with the instructions herein given, FOR THEIR CHILDREN'S SAKE and for their own, as well, for they will then be in possession of knowledge so as to direct them aright in the correct treatment of their scalp and hair EARLY IN LIFE, causing them to become immune against baldness in later life.

All the vital instructions and recommendations herein contained should be memorized and ever put into practice by every member of the family, more especially and emphatically by the BOYS, since men are the great target for the scourge of baldness.

THE AUTHOR.

SCALP AND HAIR HYGIENE

CHAPTER I

MEN GO BALD, WOMEN DO NOT. WHY?

There is but *one* logical, irrefutable answer to the question which is, that men, almost universally, subject their scalp to an EXCESSIVE HAIR-KILLING treatment, or more properly, to a series of HAIR-KILLING abuses which WOMEN DO NOT subject theirs to.

NO NEED OF MEN losing their hair—Read:

Dr. R. T. Trall in his Hydropathic Encyclopædia says: "Though the hairs of our head are, next to our bones, the most indestructible of our bodily constituents, nevertheless they can be deranged (killed, Author,) by our own physiological transgressions." MEN! Just what you do.

When, therefore, I reflect upon the EXCESSIVE hair-killing abuses which I know men subject their scalp to, the wonder, with me, is not so much that so many men lose their hair, but that MORE do not, and the evident truth is, more WOULD but for the physiological fact, as stated by Dr. Trall, the hair on the human head DIES HARD.

The fact that it DOES die upon so many heads, is sufficient proof that the treatment given the scalp is of a decidedly death-dealing nature to the hair, MEN being the greater sufferers.

It is indeed pitiful to see so many men bereft of their hair. It is equally pitiful to see so many REALLY YOUNG MEN displaying the *positive* signs of coming baldness—the bald spot at the "crown" or the "going hair" at the forehead.

It is the THIN, "SKIN-TIGHT," "DRUM-HEAD" type of scalp, such as the Author possesses, that becomes the prey more easily of the "bald germ" if I may be permitted to use the phrase.

The Author considers it almost a criminal act on the part of those who possess the THICK, LOOSE, FLABBY type of scalp, to KILL their hair, as some do, so utterly unnecessary is it.

The hair on the human head was designed by the Creator, specifically as a protection to the head and brain, and incidentally as an adornment. Its loss should, therefore, be PREVENTED, more especially YES! since all the Chemists (and Alchemists,) of the world have failed to compound a formula that will restore hair to the bald head. ONCE a "bald head" ALWAYS one. The SANE thing NOT to do, *therefore, is not to kill the hair.*

In the year 1888, an INSPIRATION seized me one day when reflecting upon the signs of *coming baldness* and the evident eventual loss of my beautiful head of hair. It became clear to me that I was surely transgressing NATURE'S LAWS. My hair was dry, harsh, and fast becoming lifeless, the crown of my head fast becoming bare, my scalp was throwing off a great amount of "scale" or dandruff, and, but for a COMPLETE STOPPAGE, *then and there*, and ever since, OF ALL THE HAIR-KILLING ABUSES TO WHICH I HAD BEEN ACCUSTOMED TO SUBJECTING MY SCALP, I would now be a "bald-head," and I have never ceased to marvel at my stupidity in that, that I subjected my scalp for so many years to the treatments which I NOW KNOW are so palpably HAIR-KILLING in their effect.

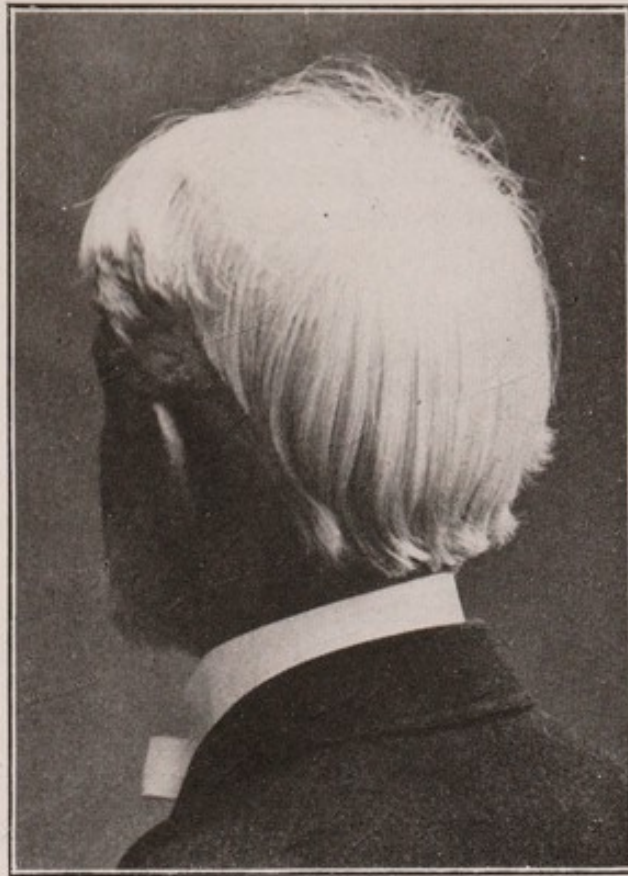
WHAT I HAVE ACCOMPLISHED, *others* can do if they will but follow my instructions herein outlined in the care of their scalp and hair.

That my Reform Treatment of my scalp has abundantly saved to me my hair, the photos herein shown attest, proving *conclusively* my contention that baldness is

EASILY PREVENTED,

and that, too, WITHOUT COST, (for there is none). No special treatments of the scalp with drugs or tonics, a treatment simple in a superlative degree, yet effectual in preserving the hair BECAUSE a *common sense one*, and in entire harmony with NATURE'S LAWS—NOT DESTRUCTIVE.

FATHERS and MOTHERS, you can be of inestimable service to your children, your young sons especially. You can PRE-



"MY REFORM TREATMENT *HELD*. THE REMAINING
HAIRS AT THE CROWN OF MY HEAD TOOK ON
NEW LIFE AND ARE WITH ME YET."
NO MORE DANDRUFF.

VENT the loss of their hair when grown to manhood if you will but learn my simple, COSTLESS mode of treatment of the scalp and hair—positively NON-HAIR-KILLING—and teach it them, (the girls, too, for will not they be mothers sometime?) and thus bend the "twig" so the "tree" will incline the correct way, for my claim is, that the only way to stamp out the scourge of baldness is THROUGH the CHILDREN, by teaching them *in early life* the correct way to preserve their hair and practice it ALL THROUGH LIFE, as the Author has done throughout the many past years. Thus

My Reform Treatment, fair,
Has saved to me my beautiful head of hair.

To the end that I may benefit man and woman-kind and aid in ridding the world of the scourge of BALDNESS, I have

published this, my Book, "Scalp and Hair Hygiene," and have embodied in it my every essential Reform Treatment and Instruction for the PREVENTION of baldness; the restoration to health and vigor of the remaining hair on the partially bald head; the care and treatment, by MOTHERS, of the "Child-head"; how to avoid the hair-killing abuses lurking in defective HEAD sanitation; how Ladies and Misses should care for their Scalp and Hair, insuring a luxuriant growth of hair, together with a concise treatise on the hair and hair culture. It contains REVELATIONS to the average man and woman as to HOW and WHY the hair is killed.

The Author is using no deception. The ENTIRE COST OF HIS SYSTEM OF TREATMENT is, *absolutely*, represented in the cost of this Book. It is the series of instructions it contains and the knowledge it imparts to the reader that constitutes the REAL thing purchased, rather than the materials of which it is made.

Thousands upon thousands who have lost their hair would gladly pay extravagant sums for its restoration. But, hair, DEAD, like every other dead thing that once had life, is *dead*.

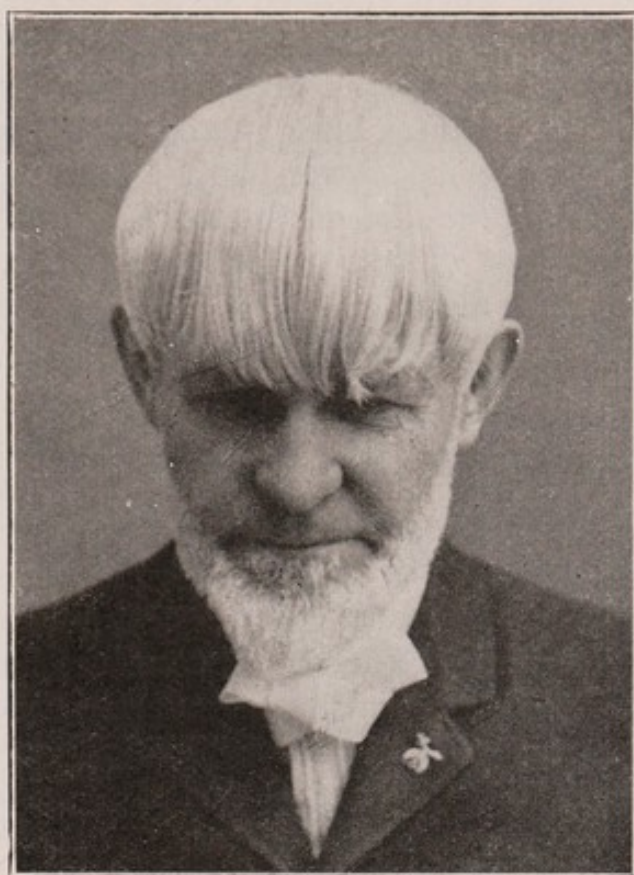
Therefore, it is difficult to state the true value in dollars and cents of such series of instructions, such system, such volume of knowledge, which, in their practical workings, and that, too, without cost, PREVENTS the loss of the hair growing upon the human head, since when it is lost it is lost forever. Is not the PREVENTION of its loss, therefore, GOLDEN?

CHAPTER II

AN INSPIRATION SEIZED ME

The Author was born December 3rd, 1843, grew to manhood blessed with a beautiful head of hair, but, unfortunately, nature gave me the *thin*, "*skin-tight*," "*drum-head*" scalp of an A, 1 type.

At the age of about forty-three, signs of baldness began to appear at the "crown" of my head. The "spot" enlarged slowly but surely, so that in the year 1888 I became alarmed



"THE HAIR ON THE HUMAN HEAD WAS DESIGNED
BY THE CREATOR AS A PROTECTION TO
THE HEAD AND BRAIN."

at the evident eventual loss of my hair, which was pure white. (I began growing gray in my twentieth year.)

My scalp was giving off an excessive amount of dandruff. I concluded that something was going wrong, that clearly I was disobeying Nature's Laws as regards the care of my scalp and hair.

AN INSPIRATION SEIZED ME. Instantly my thoughts reverted to the ingredients used in the making of SOAP—*lye*, and *grease* or *oil*. I knew there is left in the finished soap, a certain portion of the "LIVE" lye, not neutralized from lack of sufficient grease or oil.

This thought came to me: Now my hair subsists on the fat and oil of my scalp; I just believe the *live lye* left in the soap used in washing my hair is changing my "scalp soil" into a REPULSIVE, NON-SUSTAINING, NON-CREATIVE condition, so much so, that it is causing my hair to die.

I recalled that when engaged in my father's business—that of a woolen manufacturer—I learned that the farmers get a large amount of oil and dirt from the sheeps' wool by simply washing it on their back in the COLD WATER of creek or pond. Now, I queried, I wonder if I cannot get sufficient of the oil and *all of the dirt* out of my hair and off my scalp with the use of just CLEAR, QUITE HOT WATER, without the use of soap or other alkali.

I REACHED A CONCLUSION. I would *quit* using soap or other alkali in washing my scalp and hair and note the results, AND DID. To my joy and astonishment I learned for the first time in my life what a WONDERFUL DISSOLVENT and RESOLVENT of grime and dirt CLEAR, QUITE HOT WATER really is, and how successfully it removes them from the scalp and hair and how perfectly it rids the hair of the surplus oil, but in NO CASE “cuts” or “eats” ALL the oil from the hair or surface of the scalp, neither penetrating or involving the “scalp soil” with damaging results as does the “live lye” of the soap, all of which I learned after several trials. I never used soap or other alkali on my head thereafter.

And now, after a test of so many years, not ONCE has soap or other alkali been used on my scalp or hair to even the smallest degree, and nothing could induce me to resume its use, for I am absolutely convinced that *were* I to, the loss of my hair would result.

No person can have a whiter scalp or cleaner hair than have I, and can now, after all these YEARS OF PRACTICAL PERSONAL EXPERIENCE, say to the most fastidious, you need not use anything in cleansing your scalp and hair but just CLEAR, QUITE HOT WATER, (as hot as can be comfortably borne). Wash your head as often as you like, for in 365 washes you will not have ONCE “cut” or “eaten” all the natural oil from your scalp or hair, (which is done EVERY TIME you use soap or other alkali in the head bath,) NOT ONCE robbing Nature of her Nature food, and yet withal she rewards you with the *non-loss* of your hair, PROVIDED ALWAYS, HOWEVER, that you have not already in your *excessive abuses* of your scalp changed its “soil” conditions to so great a degree that Good Mother Nature is powerless to save to you your remaining hair. But she is generous,

HAIR DIES HARD, and if you will stop all the *hair-killing* abuses herein pointed out to you, and also follow my directions and perform them, for restoring sickly hair back to health, (chapter V,) she will most likely save it to you or most of it.

Under *no circumstances* allow yourself to use any of the major alkalis, borax, ammonia, naphtha soap or powder in the head wash.

LADIES! you, too, can remove all the grime and sufficient of the surplus oil from your scalp and hair with the use alone of the *clear, quite hot water*.

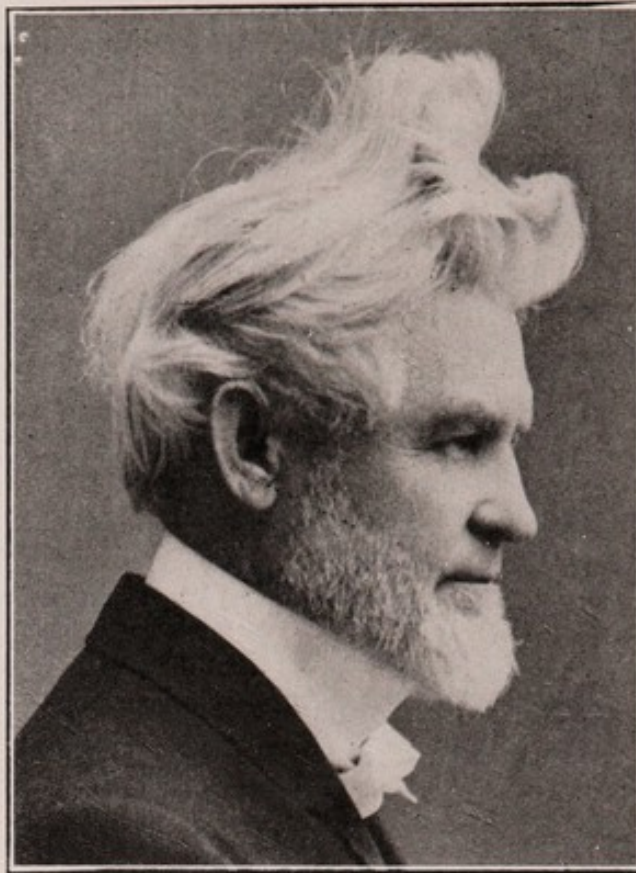
The use of EGG is, perhaps, your panacea for falling hair. The REAL secret of the "good effect" from its use *lies in the absence of ALL ALKALI*—See? If you can free your scalp and hair of all the sticky, oily yolk of the egg with clear warm water to your satisfaction, I vow you can clear them of the ordinary grime and surplus natural oil of your head to your complete satisfaction also. Egg is a substance really hard to remove from the hair.

CHAPTER III

THE HUMAN SCALP

To fully understand the importance and necessity of practicing my Reform Treatment of the scalp for the PREVENTION of baldness, it will require that a correct understanding of the construction of the human scalp be first had.

There are two kinds, the THIN scalp growing so tightly over the skull as to be properly termed the "SKIN-TIGHT," "DRUM-HEAD" type—little fat intervening between the scalp and skull—and the other the THICK scalp, growing so loosely as to be properly termed the "LOOSE, FLABBY" type, a thick layer of fat intervening between the scalp and skull. Both are possessed, primarily, of a sub-stratum of fatty tissue intervening between the skull bone and scalp cuticle, the former little and the latter much, and this is the "soil" in which the hair grows.



AT THE AGE OF 76 YEARS—1919—MY HAIR IS
HEALTHY AND GROWS AS FAST AS
WHEN I WAS A BOY.

This fatty tissue, or substance, exudes an oil through the pores of the skin of the scalp which is called the *natural oil* of the scalp. It is one of the primary natural elements upon which the hair of the head "feeds" and exists. Those having a copious supply of oil exuded are truly blessed, such seldom, if ever, lose their hair, tabooing the barber's brush.

This "scalp soil," in which the hair grows, is just as susceptible of being changed into a condition of REPULSION, NON-SUSTAINING, NON-CREATIVE as is the "Earth Soil" in which grow the trees, grains and grasses. These, we know, can be absolutely killed by the admixture into their "earth soil," of ingredients not natural but repulsive to their natural wants. Like effect follows like treatment of the "scalp soil," in either case the things growing in them, become "sick" and die. Simply cause and effect.

Now, naturally, therefore, it must be plain to the reader that the life of the hair grown upon or in the *thin*, "skin-

tight" scalp is more precarious and in greater danger of being "killed off" than that grown on, or in the *thick*, "*loose*, *flabby*" scalp. First, because there is less soil, and, secondly, because the supply of blood to that soil is very materially less because of the diminished size of the blood arteries and veins going in and out of it.

Again, and it is a most material factor, the *hair root* in this *thin* "soil" is, perforce, shorter and, therefore, less thrifty, less able to overcome destructive substances intruded upon it—more easily "killed."

But our *hair dies* hard, Dr. Trall tells us.

The blood is the life of the hair as it is of all our body constituents. In no other part of our body is its flow more easily retarded than in the scalp. A tight-fitting hat pressing upon the hard bone of the skull—ALL THE WAY ROUND—is a most successful means of retarding it.

Therefore, the hat should be worn loosely, and the tight-fitting one should always be "eased" on the head whenever and wherever circumstances will allow.

CHAPTER IV

TO MOTHERS, WOMEN AND MISSES

I claim, and truthfully, that the *hair-killing* abuses commence when we are wee babes. Mothers, with the same misconception, think they must use soap on the infant head, just as if it were subjected to the same conditions as the passer of coal in the pit. How Absurd. All the dirt (?) that gets on its sweet head can be removed with the use alone, of the *clear warm water* used in the bath before any soap is put into it.

Practice this, mothers, with all your children and hold fast to it so long as the child has to be administered to, and then when it begins to "go it alone," especially if it be a BOY, teach it my correct Scalp and Hair treatment, commanding it to observe and practice my (your) instructions ALL THROUGH LIFE. In doing thus you will bend the "twig" so the "tree" will incline the right way, as already stated.

Some ladies are troubled with falling hair and have much

dandruff. Same trouble and same cause as that of the men. Too excessive use of alkali in one form or the other in the head bath. The more alkali the more dandruff and the greater loss of hair. No need, Ladies, of using any alkali to cleanse your scalp and hair of all the *grime* and *surplus natural oil*. The *clear, quite hot water* is all-sufficient, matters not how fastidious you may be. Try it once, and after your hair is perfectly dry, note results.

You will note one thing while giving your hair the hot water bath—there will be a “gummy” feeling or condition, disappearing after the hair dries, it being caused by the small quantity of the natural oil remaining and which insures to you just what you want, lustrous, healthy and thrifty hair. All these you will have if you banish, for all time, the use of all alkali washes from your scalp and hair, using nothing, let me again repeat, but just the *clear, quite hot water*, which, by reason of the greater bulk of hair to be washed, over that of men, the water should always be as hot as can be comfortably borne, and taboo the barber’s brush.

Ladies, read Chapter VII as to the dangers arising from the use of the “everybody’s” brush and comb at the hands of the public barber. All applicable to you. Give your “Rolls” the same bath occasionally, using hotter water.

CHAPTER V

SAVING THE REMAINING HAIR

If you have lost part of your hair and would preserve that which remains, you must exercise great care in handling it because it is in an impoverished condition and must be carefully nursed back to health.

The use of all alkali washes **MUST POSITIVELY CEASE**. If yours is the thin, “skin-tight” scalp, greater will be the care required. It will require persistent, careful, painstaking massage of your entire scalp, the manner of doing which is fully explained in Chapter VI following.

You must have your thoughts on the preservation of your hair. Take the man with the “way-back” bald forehead. How came he so to be? you ask. In this wise. He got him-

self in the habit of also washing *back into the hair* on his forehead every time he washed his face with soap, and continued to do so as the "hair line" receded. We see the result. Like the proverbial "top rail" in the army, the "front" hair kept disappearing until now the whole "fence" is gone. The Author is very careful to wash his face *only* when washing it with soap.

After giving the head the *clear, quite hot water* bath, cool the scalp with cold water. It brings on reaction and improves the circulation of the blood in it.

Avoid a tight-fitting stiff hat. The main arteries that supply the scalp with blood, and the many small veins (ducts) through which it reaches the great "return system" back to the heart, through the lungs for purification, are all more or less "strictured" at the point of contact at the tight *band line* around the head, and this results in a lack of FULL nourishment being given the scalp and hair. Impoverishment of the "scalp soil" follows, which, of course, impoverishes the hair also. Use the ventilated hat and loose fitting. Better still wear a loose-fitting *soft* hat. Keep your hat off when in-doors. Never scratch your scalp with the finger nails. Use a non-scratching comb. Comb the hair thoroughly with a fine toothed comb twice a month, to remove the *lint* that accumulates from use of towel and other sources, it adding to the cause of the scalp itching, following with a good brushing with a stiff brush.

When drying your hair after the hot water bath, dry it by throwing the towel over the head and rub your hands *hard* over the towel, sending the water into it. You thus avoid pulling the hair. If your scalp itches give it the *clear, quite hot water* bath. Our bodies are largely composed of fluids; nature demands a copious supply of water; many refuse her that supply; myriads of tiny ducts in our bodies become befouled and disease is bred within our system. Drink plentifully of pure water daily. It aids mightily in keeping our bodies healthy.

There are, of course, occasional cases where, by reason of great debility of body, caused by a weak heart retarding circulation, or by reason of a badly diseased scalp, the loss of the remaining hair cannot be prevented.

The diseased scalp might have been prevented, maybe, had its possessor taken the precautionary measures pointed out in my instruction in Chapter VII, while in the hands of the Public Barber, upon every occasion.

CHAPTER VI

SCALP MASSAGE—ITS IMPORTANCE

GET BLOOD INTO YOUR SCALP, GET BLOOD INTO YOUR SCALP

I have stated my claim, (it is worthy of being repeated,) that the only way to stamp out the scourge of baldness is **THROUGH THE CHILDREN**, by teaching them *early in life the correct way* to preserve their hair, and to practice that way **A-L-L T-H-R-O-U-G-H L-I-F-E**.

Scalp Massage is one of the things to be practiced—*all through life*.

After the non-use of all alkali washes for the scalp and hair, the non-use of the barber's hair brush and comb, the massage of the scalp is next in importance.

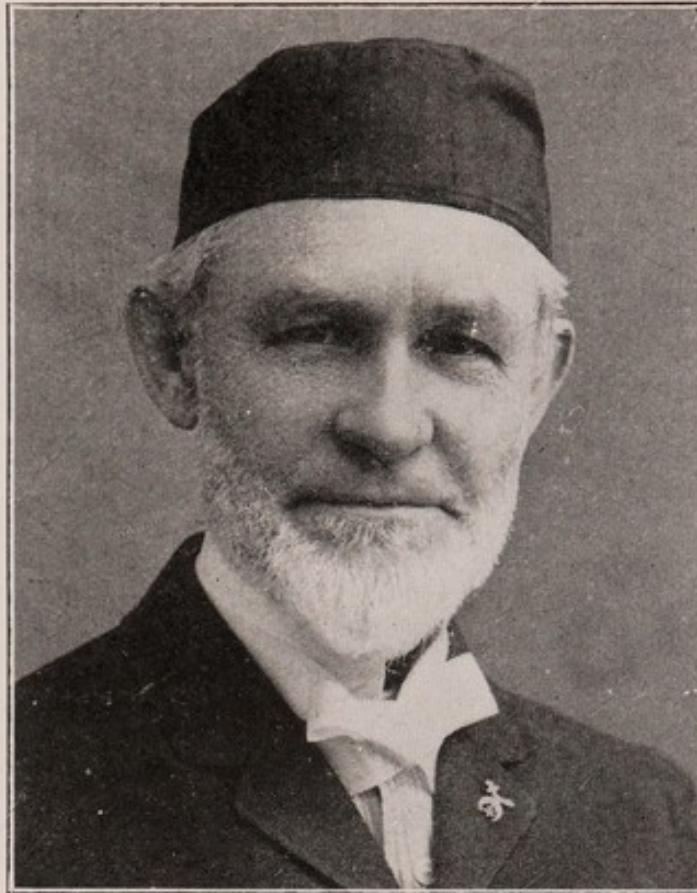
Parents should teach their children, especially their *boys*, its value, explaining to them **WHY**, and those having the thin "skin-tight" scalp should be taught specifically the imperative necessity of the scalp massage all through life, (just as they are taught the necessity of the observance of the bodily bath all through life). Herein lies the value of early teaching.

Massage of the scalp is Common Sense treatment. The arteries and veins of the scalp become more or less hardened and inflexible, retarding circulation and denying the scalp its full quota of blood. Massage overcomes these unnatural conditions, allowing the blood free, full flow throughout the entire scalp. Thus is the "scalp soil" continually enriched, supplying the hair roots with an abundance of food nourishment. It keeps the remaining hair of those partially bald in a healthy condition; also gives new life to the impoverished hair.

There are six main arteries leading into the scalp, one each crossing the right and left temple, passing obliquely

over the forehead at the outer corners of the eye socket, where they enter the scalp; one each entering the scalp just in front of the upper part of the ear, and one each at the base of the skull bone and about two inches from behind the ears. These can be readily located by gently pressing on them with the fingers and the pulsations noted.

There are those who maintain that the real cause of baldness among men is due to the wearing of the tight-fitting, stiff

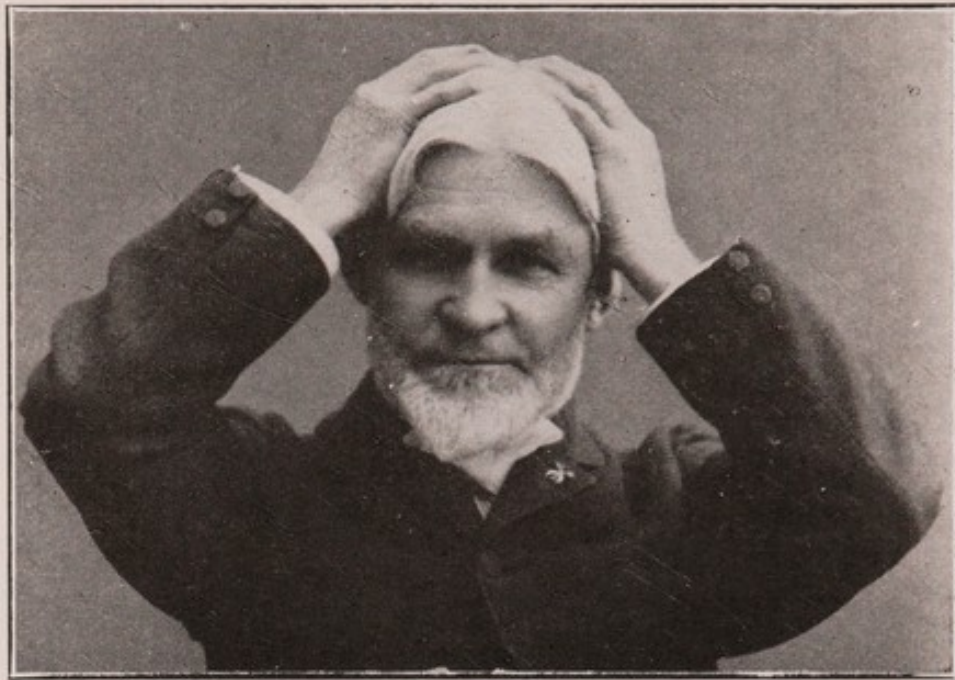


THE TROUBLESOME AND UNNATURAL "PROTECTOR."

hat. As these scalp arteries are located at exactly the right place to cause them to catch the maximum of pressure from the tight-fitting hat, more especially those at the temples and those before the ears, there can be no denying that this pressure has much to do in preventing the blood entering freely into the scalp, but that it is the prime or real cause of baldness, the author avers, is erroneous, the real or first cause being the robbing of the hair roots of their natural food—the scalp oil, by the deadly, non-neutralized alkali remaining

in the soap or that applied directly, such as ammonia or borax, the second real cause being that emanating from the use of the barber's foul, germ-laden hair brush, thus inoculating the scalp with the deadly, hair-killing bacteria, the presence of which is made known by a profusion of scalp scale, called dandruff, causing irritation or itching of the scalp. Dandruff, however, is directly formed by the use of alkali alone upon the scalp surface, causing it to throw off the deadened cuticle rejected by nature in her effort at healing.

The most efficacious way to assist nature in preserving the hair, after the discontinuance of the use of the alkali



MASSAGING THE SCALP

wash and the barber's germ-laden hair brush, is the *Scalp Massage*, the most effectual way to do which, and cause the blood to be placed in every part of the scalp, is to press the soft inner side of the finger tips hard upon those arteries named above, commencing at their entrance into the scalp and then press and follow them upward and along their entire course to the top or center of the head.

The process for loosening the scalp from the skull bone is by placing the hands tightly upon the head, as shown in the picture, and with the soft, inner finger tips not being allowed to slip, pull the scalp in all directions, which loosens

it from the skull bone. Shift the finger tips until every part of the scalp has been thus treated. In this manner the hair roots are directly cultivated.

Those partially bald, desiring to preserve their remaining hair, must, in addition to the discontinuance of all alkali washes and the use of the barber's brush, massage the scalp sufficiently until the roots are restored to a good, healthy condition. A few minutes daily at time of the morning face wash will suffice.

This constitutes the only labor that attaches to my Reform Treatment. Not onerous, is it? Costless, too, if "time" be not charged against it. Thus is the "scalp soil" daily cultivated and caused to be kept enriched with an abundance of "hair food" or nourishment.

CHAPTER VII

THE PUBLIC BARBER

I am not prepared to assert positively, NEITHER DO I, that with some of the more harmful, HAIR-KILLING abuses inflicted upon the human scalp at the hands of the PUBLIC BARBER in "shop" or "parlor" *continuing* and *persisted* in, that the washing of the scalp and hair in the CLEAR, QUITE HOT WATER bath, will prevent the loss of the hair.

Has it ever occurred to the reader of the absurdity practiced in sanitation by the public barbers? With what scrupulousness they avoid serving you with a *towel* ONCE used—a clean towel every time.

BUT, (the thought gives me the creeps), your barber will give you a good shampoo, for instance, and then use his *everybody's brush* on your head, one that has been used goodness knows how many times before, and that, too, upon heads of those whose bodies were, possibly, reeking with some vile disease. Such brushes are reeking, Germ-ologists tell us, with millions of microbes. Good-looking brushes, too, but you would not pick one of them from off the street and use it on your head.

NEVER allow your barber to use his *everybody's brush* on your head, not ONCE. That *one time* may cause your scalp

to become inoculated or infected with a vile, lasting disease that will cost you the loss of your hair, if no more serious affliction befalls you. The same is true of his *everybody's* comb. The really *safe* way is to supply your barber with your own comb and brush as is done in the case of the shaving mug and brush.

NEVER, under any circumstances, use a *public* comb or brush anywhere—too great a risk.

I am persuaded that thousands of men lose their hair from scalp disease contracted at the hands of their barber. A goodly number of them would have remained immune against baldness—those who were not in the habit of using strong alkali washes on their scalp—had not that scalp disease been contracted. I refer to those having the *thick, loose, flabby* type of scalp.

I hope I have made my plea strong enough against allowing the use of the public barber's *shop brush* and *comb* so as to scare every one of my readers into the everlasting banishment of them from and use on their head.

Keep your *own* comb and brush at home clean. A little borax or ammonia in a little water cleanses perfectly.

Avoid the use of all so-called Hair Tonics. Many of them do the scalp and hair positive injury. You are not a chemist, maybe. You do not know their ingredients. There are those, whether knowingly or otherwise, who throw upon the market "Nature's Greatest Hair Remedy," when, in fact, it is a regular *hair-killer*. You will need none of them. Simply YOU *stop* all the *hair-killing* abuses as in this my Book directed, and GOOD MOTHER NATURE will do the "curing." That prerogative is hers alone.

How absurd to "cut" or "eat" all the NATURAL oil from scalp and hair with the use of soap or other alkali, and then use a "substitute" oil for oiling the hair. Nature accepts NO substitutes.

Few vocations in life result in soiling the scalp and hair sufficiently to make the use of any alkali necessary to cleanse them perfectly. Having the CLEAR WATER as hot as can be borne on the scalp, will clean a very bad case of soiled scalp and hair. If you think you *must* use alkali, then use a mighty little in the hot water, but don't practice that often.

Of one thing the Ladies generally are IMMUNE—that is the “hurts” received at the hands of the *public barber*, and, maybe, for ought we know, constitutes *the one* primary reason why they do not go bald as do the men, for it is definitely proven that there lurks in the “everybody’s” brush of the public barber a vast colony of disease-breeding germs from which springs a larger number of diseased scalps through inoculation than the world is cognizant of.

Those of my Lady Readers who frequent the *Ladies’ Public Hair-Dressing Parlors*, should forbid the use of the “everybody’s” brush in use thereat, upon their heads.

Those whose hair is impoverished and needs to be nursed back to health must follow those of my directions, applicable to them, given the men in Chapter V.

CHAPTER VIII

CRITICISMS

Criticisms, the Author expects. Some there will be, no doubt, who will pooh-pooh the idea that soap or other alkali is hurtful to the scalp or life of the hair. Let such go right on making soap grease of the natural oil of their scalp. They will kill their hair eventually, or a goodly part of it, and such have my sympathy. The Author prays YOU *do not do it*.

Others, it is expected, will refuse to believe that their scalp and hair can be gotten clean with the use of CLEAR, QUITE HOT WATER alone.

To such this appeal is made. REMEMBER that the Author has NOT ONCE used any soap or other alkali upon his scalp or hair since the year 1888, and, too, being a resident the entire period of Cleveland, Ohio, known to have as dirty and soot begrimed atmosphere as any city, most, in the United States.

The most fastidious person need not fear uncleanness in the use of just *clear, quite hot water* for washing their scalp and hair. Wash your head as often as you think you must—*every day*, if you like—no harm will result either to your scalp or hair, for not ONCE will be “cut” or “eaten” ALL the natural oil from the surface of them. There WILL AL-

WAYS ENOUGH REMAIN TO SATISFY NATURE, and give softness and luster to your hair.

Again, others will declare baldness is hereditary in their family. No. I am not a believer in it. If Father, Grand, or Great Grand Father did not know enough NOT to *kill his* hair using soap, (possibly the Great Grand used the old-fashioned and strong *soft soap* of the early times) DO YOU NOT KILL YOURS IN THAT MANNER.

It will be observed that I make use of the phrase, CLEAR, QUITE HOT WATER, repeatedly. I do so for the purpose of *emphasizing* the innate, inherent function of such water as a dissolvent and resolvent of dirt or grime, and how completely it removes them from off the scalp and out of the hair of the human head in its use alone, as, also, that of the surplus natural oil of the scalp needing removal for sanitary reasons.

Critics will, no doubt, say that my deductions are wholly erroneous from the fact that men do not lose the beard, which is washed with copious use of soap daily, several times, in many cases.

TRUE, but, there is as great difference between the hairs on the head and those of the beard as there is between the *puny weed* and the *giant oak tree*.

The hair on the head, *fine, thickly grown, small, short root, thin, sparce soil, and very small ducts* for supplying nourishment.

The hairs of the beard on chin and cheeks, *coarse, grown far apart, long, deep root, thick, rich, fatty soil, and large ducts* for supplying nourishment.

Again, my critics will say, "All men use soap for washing their scalp and hair, therefore all men should go bald."

NOT so, and for physiological reasons. An unknown percentage of men have the THICK, FATTY, LOOSE, FLABBY type of scalp, as explained elsewhere, which resembles more nearly the conditions prevailing in the *thick soil* of the chin and cheeks in which the beard grows. Nothing short of strong, BURNING ALKALI kills the hair on such *thick, loose, flabby* scalps, (in the absence of all hair-killing scalp diseases). In proof, observe how few men lose their hair well down the sides and back of the head where the scalp is generally

thick, loose and flabby, longer, stronger root, harder to kill,
PROOF AGAINST ALKALI.

The Author has an A, 1, thin, "skin-tight," fatless, "drum-head" type of scalp, and he is truly thankful to be able to say that he has PREVENTED the loss, saved to himself his beautiful head of hair now to his seventy-sixth year—1919—by HIMSELF observing implicitly, since the year 1888, his every instruction and recommendation given and prescribed in this his Book,

SCALP AND HAIR HYGIENE.

CONCLUSION

In concluding, the author deems it not inappropriate to give his readers a synopsis of an article published in the July, 1919, number of Physical Culture, by Dr. Edwin F. Bowers, under the caption, "How to Keep Your Hair." He says:

"The battle against baldness is one of the grimmest and most unrelenting of all conflicts waged by the human race.

"The most important of all reasons for baldness is the lack of fat on the top of the head. No matter what else one may do or may not do, so long as one can maintain the cushion of fat between the scalp and the bony tables of the skull, he stands a good chance of retaining his hair, for it is this scalp fat that supplies the reserve food upon which the hair bulbs 'banquet,' and, further, this fat keeps the scalp freely movable. It never lets it bind itself down, like the leather on a baseball, to choke the struggling hair bulbs to death. For, remember always, that if the scalp doesn't move, the hair will, for all the care and coaxing in the world will not prevent the hair from deserting a sterile pasture.

"It is not 'early piety' or a twenty horse power brain that causes baldness, it is lack of food and the presence of microbes.

"Now, how to apply our knowledge:

"First, we must understand that germs cause irritation.

irritation causes inflammation, and inflammation eats up fat and sometimes forms scar tissue in its place.

"With these facts in mind, let us examine the chief causes of inflammation.

"Most important of these is seborrhea, a highly contagious disease. It is caused by microbes, and may be, in fact, **ALMOST ALWAYS** is—(caps the author's) contracted in the barber shops or hair-dressing establishments or by using toilet articles that have been infected by a victim of dandruff. (The Doctor evidently means the barber's brush.) The pathological action set up by these microbes produce an increased flow of the oily secretions at the roots of the hair. These secretions harden and form scales on the surface of the scalp, which obstruct the mouths of the glandular ducts, fill up the hair follicles and choke the life out of the hair. Don't see the barber too often.

"Scalp and hair cleanliness is excellent, and absolutely essential, but too frequent washing by removing the natural oil from the scalp and from the roots of the hair, especially with soaps that contain large proportions of alkali, will cause the hair to dry up and wither off, like any other animal or vegetable growth that has been deprived of its nutrition.

"This applies, also, to the practice of 'Slicking' the hair, wetting it with water before combing it."

Now, the author of "Scalp and Hair Hygiene," since the year 1888, has washed his head near about weekly in clear, quite hot water, using no soap or other alkali; also, wet his head thoroughly every morning at the time of washing his face, as far back as he can remember, and has not lost his hair, it being so firmly rooted as to withstand the hardest of pulling, grows so fast that it requires cutting every sixty days, all these notwithstanding he has scarcely any fat intervening between his scalp and skull, the scalp being stretched over his skull as tight as the leather on a baseball, as the doctor describes it.

The author cannot discern any disclosures in the doctor's "message" that tells one "How to Keep Your Hair"—prevent baldness. True, he tells us that washing the head with soap kills the hair and that use of the barber's brush causes the scalp to become infected with microbes; that these microbes

eat up the scalp oil and fat upon which the hair feeds, but he does not say *emphatically* that if one does *not* use soap in the hair wash and positively forbids the barber using his brush upon his head that the hair will NOT be lost, his whole contention being that there must exist a goodly layer of fat between the scalp and skull in order to insure against loss of the hair.

Just here is where the doctor, as are the people throughout the world, uninformed as to the efficacy of just clear, quite hot water for removing grime and surplus oil from the scalp and hair when used solely as the head wash—tabooing the barber's brush—it having required the long period since the year 1888, as stated, for the author to prove by actual, personal practice that this easy, scientific, costless method of caring for the scalp and hair is a POSITIVE PREVENTION of baldness, matters not how tightly the scalp is stretched over the skull, nor how deficient the scalp is in the amount of fat intervening between it and the skull.

Now, since Mother Nature gives us either the tight, immovable, fatless type, or the loose, movable, fatty type of scalp, the doctor's pronouncement, "do what we may", he practically consigns all those who have the tight, fatless type of scalp to the vast army of "Baldheads," comprising, as they do, the Ninety and nine per cent of the recruits joining said army.



