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The New Science
of
Radiendocrinology

in its relation to

Rejuvenation

Based on the Radiation Technique of

DR. EUGEN STEINACH

of Vienna

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Foreword

The Steinach radiation treatment for rejuvenation is new to the American public. It is based on scientific developments that are themselves of recent origin. This book should be of timely interest and the greatest value since it explains, step by step, the various findings in the fields of physiology, chemistry and physics, forming the chain of experiment and discovery which has led up to *scientific rejuvenation*.

This book gives a summary of the work done in developing the knowledge of the chemical functioning of the body, as well as a resumé of the activities of the endocrine glands. It outlines the functions and inter-relationship of the endocrines, including the sex glands. It sketches briefly the early attempts to influence body chemistry, and to secure rejuvenating influences by gland transplantations and gland operations. It considers those new findings with reference to the electronic nature of the body, which paved the way for Dr. Steinach's radiation-rejuvenation treatment, and laid the foundation for the newer science of Radiendocrinology. In conclusion, it describes the Radiendocrinator and its use, together with the physiological results obtained therefrom.

The marvellous possibilities of this treatment in its many adaptations for arresting what physicians term "retrograde tissue metamorphosis"—or physical decay or degeneration of the body cells and vital structures—are clearly detailed.

The result of arresting degenerative process—as expressed in a rounding out of shrunken features and flabby busts, or in the removal of disfiguring and life-shorten-

ing accumulations of fat, in the enhanced feeling of vigor and increased capacity for work or play, and in the development of undeveloped or adolescent types—is outlined in a popular way, in order to make this book of the greatest usefulness.

The text was written by Dr. Rubin, America's foremost Radiendocrinologist, after exhaustive research and experiment. It sets forth in a modest way Dr. Rubin's own surprising accomplishments over a wide range of clinical experience. This is the work that has already created fame for Dr. Rubin on both sides of the Atlantic.

A careful reading of these pages will enable anyone to understand the principles involved in this great treatment, and may influence him or her to write freely to the American Institute of Radiendocrinology, the American Endocrine Laboratories, or the publishers of this book for further information on these vital subjects.

The Publishers.

I n t r o d u c t i o n

From time immemorial men have dreamed of rejuvenation and of the possibility of overcoming the devastating ravages of old age. It is a problem that has stolen, like the shadow of a bat's wing, into the consciousness of every man and woman that has walked these "banks and shoals of Time".

It is a grim spectre, peering uncannily out of every mirror that reflects the graying hair, the deepening wrinkle, the dimming flash of eye. It echoes the muffled drum beat of the aging heart, tottering toward the sable curtains of the Night of Life.

It is a goal towards which countless generations of physicians have bent desperate steps—eager to achieve before the creeping paralysis of senescence covered them with its murky cloak.

It is the prize for which the Dr. Faustuses of all the ages were ready to trade their immortal souls. The quest of Ponce de Leon for the Fountain of Youth was but a single expression of the great desire that has been pent up in the breasts of millions during the centuries. It was the cry of that Catherine who said, "All my riches for another hour of life". Caesars have offered their empires to have the fires of youth rekindled. Is it any wonder that scientists have labored for ages to solve the greatest of all problems—the maintenance of virile power and the stamina of youth!

So much of disappointment and discouragement has followed the quest that scientists had practically despaired of ever solving the secret of age, and of holding in check the Moving Finger that writes their death sentence at an age when, according to the law of biological growth, they should be in their prime.

Metchnikoff thought he had solved the problem, only

to be swept away by the very toxins whose development he had hoped to prevent.

And so with scores, if not hundreds of devoted research workers in laboratories throughout the world—laboring week after weary week, in the search for that elusive substance or agent that would quicken the pulse of life and reanimate the sluggish body cells, worn with the struggle against creeping age.

Almost without hope—and then, like a ray of light in the darkness of doubt, comes a message—a message coldly scientific and carefully and scrupulously phrased.

Interpreted into the language of the multitude, it means that Eugen Steinach, a comparatively unknown professor of biology in Vienna, has solved the problem of the centuries, and has brought back, first to aging animals, and then to aging men and women, the flower and bloom of vigorous youth.

To this obscure Viennese professor belongs the honor of having been the first to succeed in producing the means of scientifically rejuvenating the human body, without entailing the perils of a dubious operation.

The world is ringing with the praises of this remarkable scientist. His great clinic in Vienna is the Mecca of thousands seeking new life and vigor, and the beauty of lovely womanhood. Some idea of the tremendous interest evoked in the famous Steinach rejuvenation treatment lies in the fact that the book, "Black Oxen", by Gertrude Atherton—built around his work—has already gone into several editions, and has been eagerly read by hundreds of thousands of people.

The demand for this rejuvenation treatment has been so wide-spread that, in order to bring within the reach of everyone the opportunity of securing it, the Steinach technique, after painstaking research and effort, has been successfully adapted for individual use.

The new Steinach Rejuvenation Treatment by Radiation—a process by which certain glands of the body, known as the Endocrines, are radiated—is now obtain-

able at Dr. Steinach's Vienna clinic only at great expense—entailing a foreign journey and a foreign residence for many weeks, if not months. Many sick or elderly people, as well as others in need of this treatment, are not prepared for such inconveniences and travel difficulties. A Rejuvenation Treatment has therefore been developed, an adaptation of the Steinach Technique, which does at home what is done at the Viennese clinic for thousands of the foremost people of Europe. Inasmuch as the object of the Steinach treatment is to develop and conserve as well as to restore, this remarkable radiation treatment is being taken by people of all ages, for physical development, for rejuvenation and for many ailments of long standing.

Owing to the simplicity and the adaptability of the newer ray sources to home treatment, this work has a usefulness far beyond expectation. In fact, it is now possible to extend the blessings of Dr. Steinach's discoveries to those remotely removed from Vienna or Paris, the centers of the world's rejuvenation activities, and give to men and women wherever they may live on the face of the earth these therapeutic advantages.

From this radiation treatment of the endocrines a new science has arisen, known as *Radiendocrinology*. Physicians giving this treatment are known as *Radiendocrinologists*. One of the principal ray-producing devices employed by them in administering these treatments is called the *Radiendocrinator*. The practice of this new science is called *Radiendocrine therapy*.

In order to set forth in simple terms a few of the phases involved in the newer science of Radiendocrinology and Radiendocrine therapy this book has been prepared. It is written so that all who read may understand. It is my hope that it may have a far-reaching effect upon the lives of those who would otherwise be denied the blessings of youthful activities and mental energies throughout greatly extended careers, and bring to them such enhancement of mental and physical powers and

womanly beauty as could not conceivably be secured in any other way.

Above all, if you lack health or buoyant vitality, or if you are approaching the chasm of the infinite—read this short book. You are entitled to the word of the scientist. You have a right to know what the most recent discoveries have to offer. You will certainly be glad to know *what has been accomplished* and what logically may be repeated.

CHAPTER I

The Steinach Rejuvenation Treatment and its Importance to the World

Rejuvenation and the retarding of senility mean life, health, happiness, longevity. The physical blessing flowing from youthful impulse and exuberant spirits in mature life can be appreciated by anyone who will observe the bubbling, buoyant activity of healthy young people.

Life is a process of construction and decay. From the healthy soil of maternity comes the beautiful blossom of childhood. From this blossom develops the vigor of youth, the glory of adolescence, the power of maturity—decline, sterility, senility, death.

THE SPAN OF NORMAL LIFE

The span of normal life is

Youth to the 13th year	
Adolescence to the 25th year	
Maturity to the 40th year	
Decline to the 60th year	
Senility	Death

After the 40th year, scientific rejuvenation, added to man's waning powers of maturity, increases his span of glorious, active life by ten years or more. In many instances the results are even greater. Many cases are on record in Europe of men and women well past 60, even past 80, who have regained the full energies of middle life. Thousands have been regenerated by adding this renewing electron charge to those endocrines, which, through sluggish action, have slowed down all the processes of life in maturity.

Rejuvenation means more today than any other subject that can concern a man or woman. For the wrinkled face, the drawn skin, the dull eye, the listless gait, the faulty memory, the aching body, the destructive effects of sterility—all spell imperfect endocrine action—subnormal rejuvenating power.

These facts are now established by medical science, and used as a basis of diagnosis by foremost clinicians the world over.

Scientific rejuvenation clears away these evidences of faulty body chemistry by energizing the glandular functions in a definite way, and with exactly the same physiological results as would the injection of new youth, if such a thing were possible.

Rejuvenation, in short, means new life, new energy, new mental powers. Invigorating the endocrines, especially the sex glands—the masters of the endocrines—is basic to the Steinach Treatment. The tremendous consequence attending these greatest of physiological discoveries is today dawning upon the thinking world.

Special cablegrams from Europe to our daily press concerning the progress of this work are news factors of first page importance. Editorials are written, books are being published, physicians are studying with the keenest interest this new science. Even life insurance actuaries are taking note of scientifically increased longevity, in its effect on probability tables, upon which insurance rates are based.

The scientific world stands upon a new threshold, looking upon that Promised Land made visible by the discovery of the functions of the endocrines and of this new-found means of stimulating their healthy action. Thousands of rejuvenated lives attest the realization of this vast dream.

CHAPTER II

The Chemical Control of the Body Laboratory

It has long been realized that the human body is in reality an exceedingly complex chemical laboratory. With the scientific developments in modern chemistry it has become evident that the chemical functions performed in this great laboratory are marvellously intricate and varied in their nature.

The food we eat, plus the water and oxygen we consume, are the chemical agents utilized as raw materials by this laboratory. These are converted into flesh, blood, bone, nerve fibre, plasma or hormones, as needed. Complex chemical reactions take place constantly day and night. Therefore it is obvious that what we eat has a vital bearing upon what we are.

The chemical functions of the body are performed not alone in the stomach, intestines and organs of the alimentary system, but in every fibre and capillary of the human body. The building of a new cell or the destruction of an old one is a chemical process called "metabolism". This proceeds constantly from conception until death. This process, if uninterrupted, would predicate the eternal life of the cell, were not the process subject to degeneration influences, until finally the curtain is drawn in the cataclasm called Death.

WHEN THE BODY PLANT DOES NOT OPERATE SMOOTHLY

Whenever the functions of any organ are interfered with, through injury or otherwise, the other organs are overtaxed to help supply a proper physical balance. This, naturally, means increased effort on the part of the reserve chemistry of the body, which in turn brings about a change in the chemistry of the body's fluids.

For ages we have sought to overcome this by the use of medicines or drugs.

THE USE OF MEDICINES

Medical men have attempted to segregate the various chemical processes of the body and to find accelerators or retardents for the individual chemical processes performed by the major organs. Partly scientifically, but largely empirically, many medicinal agents (chemical agents) have been worked out which more or less perfectly serve these purposes when applied to one or another of the many chemical processes involved.

Up until the days of modern medicine, all manner of queer concoctions were prescribed, on the supposition that they would, by some miraculous but certainly unknown method, perform the hoped-for cure. Modern medicine has been built upon the supposed specific action of the particular ingredient in the acceleration or retardation of a particular chemical process to influence the faulty chemical action, and thus restore the body to normal.

A large amount of useful information has come from this widely popular method of treating disease, yet even to-day, medical results are so much a matter of speculation that a great physician recently remarked "I can practice medicine with oil, quinine and iodine".

Unfortunately, most medical effort has been devoted to an attempt to correct a faulty chemical process that was in itself caused by some more distant and less understood cause. The great strides made in modern medical science have been in the direction of getting behind these major causes by a fuller realization of the basic elements of which life and health are the expression.

Even today, drugs used to correct the chemistry of individual processes in the body occupy a large place in the practice of medicine, although it is now almost universally agreed that whatever is put into the system, with the exception of wholesome food, regardless of its

beneficial effects upon a given process, taxes other body activities out of proportion to the good it renders, and almost invariably adds a destructive burden to the work of the excretory organs.

DISCOVERY OF THE ENDOCRINES AS CONTROLLING CHEMICAL PROCESSES

While physiology owes a great and important debt to modern *chemistry* in unfathoming some of the major mysteries of our general organic functions, it was the physiologist himself who, with an ever-inquiring mind and a deep devotion to a high purpose, persistently asked the question "What governs these chemical processes—where is the guiding hand?" It was in this search, which has extended over 20 years and occupied the attention of the foremost physiological and biological scientist in the world, that the *endocrines* and their functions have been discovered.

First, it was observed that when certain heretofore neglected little *capsules* or *glands* were removed from the body marked chemical and structural changes took place. For example, removal of one of these glands, called the Thyroid, caused retarded growth, loss of appetite, various metabolic disorders, emaciation, myxedema, death. Naturally, science came to the conclusion that *this* gland furnished some substance to the blood that exercised an action on the chemistry of the body.

These tiny bits of our physical make-up first impressed themselves upon scientific men because of the unbelievably weird and destructive effects upon the human system noted when they have been extirpated, atrophied or otherwise injured. Many an unfortunate patient has lost health, happiness or life through lack of knowledge which to-day would be considered criminal. Now we know that these tiny masters of our destiny—the very elements of which our personality is constructed, the sources of all our physical and mental well-being—*must* be protected, conserved, and, if possible, stimulated in

middle or later life by the invigorating means now available to science. Dr. Berman says "Every bit of evidence points towards the glands of internal secretion (endocrines) as the holders of the secrets of our inmost being. They are the well-springs of life, the dynamo of the organism. In trailing their scent we appear upon the track not only of the chemistry of our bodies, but of the chemistry of our very souls.

"The most precious bit of knowledge we possess to-day about man is that he is a creature of his glands of internal secretion. That is, Man as a distinctive organism is the product of a number of cell factories which control the parts of his make-up. These chemical factories consist of cells which manufacture special substances, which set upon the other cells of the body and so start and determine the countless processes we call life. Life, body and soul emerge from the activities of the magic ooze of their silent chemistry".

To-day we know that the chemical control of the body is the physiological purpose of the *glands of internal secretion*—the *ductless glands*—or *Endocrines*.

We now see that Nature supplies her own means of compensation when any of the chemical functions goes wrong in the amazingly complex laboratory we call our body.

CHAPTER III

The Endocrines

CLASSIFICATION

The Endocrine glands (or as they are sometimes called, the ductless glands, or glands of internal secretion) are the Thyroid, Parathyroid, Adrenal, Pituitary, Pancreas and the interstitial or sex glands, called the Gonads. There are also the Thymus and the Pineal—active primarily in childhood or adolescence, not usually active after puberty. The collective name for these glands is "Endocrines" and it is therefore used throughout this work.

DISTINCTION BETWEEN THE ENDOCRINE AND OTHER GLANDS

The body contains many glands which may be divided into (a) the glands of *external* secretion, such as Salivary, Sweat and similar glands, and (b) the glands of *internal* secretion—the Endocrines. These latter glands possess no ducts—hence were first called ductless glands. These glands form within their cells specific chemical substances which pass directly or indirectly into the blood stream, thus forming the active material of their secretion—known as *hormones*. This secretion remains within the body, circulating with the blood, whereas that of external secretion glands (like the salivary) passes by way of ducts to the exterior of the body and is excreted. The hormones from the endocrines are conveyed by the blood to the body organs where they control the chemical processes.

Some of the ductless glands serve a double purpose, in that they also excrete externally. These are the Pancreas, Testes and Ovaries. However, we are concerned only

with the internal secretions—the hormones sent into the blood stream to regulate the body chemistry.

The chemical hormones of the sex glands are produced by the interstitial Cells of Leydig in the testes and cells of the Graffian Follicles and the Lutein Cells in the ovaries. These hormones must not be confused with the external secretion of the sex glands, namely the spermatozoa and the ova.

INFLUENCE OF THE ENDOCRINES ON THE HUMAN RACE

Just as evolution opened a new world of truth to the human mind, so the science of Endocrinology opened new prospects of transcendent importance to the human race in respect to the conservation of functioning power, robust health and long life.

All human architecture, size, shapeliness, symmetry, beauty, hair, teeth, all human character—from the noble, altruistic and virtuous, to the lowest, basest and most bestial—may now be analyzed and traced directly to the endocrines. All the currents and countercurrents that make up life in all its mysteries are now classified, grouped and proportioned with respect to the microscopic stream by these mighty dictators of our destiny. Everyone who has even a general understanding of these impressive metabolic processes realizes the tremendous importance of *any* means whereby these glands may be made to perform their necessary functions in maintaining normal, happy life.

An individual is what he is, solely because of his body chemistry, not in spite of it. Let one of the several master glands atrophy and behold the phenomenon witnessed by every medical practitioner—complete change in appearance, in capacity, in potentiality. Obesity, emaciation, assymetry of feature and form, disfigurements, such as “feminine mustache”, cretinism, myxedema, senility, dotage, death—these and a thousand others, and all the intermediate manifestations commonly termed loss of

beauty or vitality, permanent adolescence, senility or old age, are the direct and inescapable dictates of the undeveloped or deteriorated Endocrines. Physicians of the old school are as helpless as the wise men in the tub in dealing with this newer science. Alert, scholarly doctors, who themselves have good endocrines, are able to keep abreast of this rapidly marching procession. More has been learned about human physiology in the past ten years than in all the previous time that man has inhabited the earth. Today the mysteries of individual variation are as clearly understood and catalogued as the difference between typewriters or automobiles. The invisible, yet dominant control of the endocrines, is as clearly established as are the laws of hydraulics or electricity.

Within the human system is a vast universe of activity, populated by billions of living cells and organisms, moving, working, absorbing, excreting, reproducing. Their types are legion, their functions are numberless. The purpose of their life and co-operation is the production of plasma, hormones, corpuscles, ova, sperma. The product of their labor is chemical combination, combustion, catalysis, electrolysis.

This vast universe is divided into four principal empires of control, the *thyroid*, the *pituitary*, the *adrenal* and the *gonad*.

THE FUNCTIONS OF THE VARIOUS ENDOCRINE GLANDS

The following brief outline of the Endocrine Glands, and their functions, as well as their tremendous importance upon personality, is included in this booklet for the benefit of those who are curious enough to want to know *how* and *why* the Steinach Technique and Radiendocrinology can have such an important bearing upon human physiology.

THE THYROID FUNCTION

The thyroid is the controller of the metabolism of energy in the human body. It is located in the neck, where it is so easily discernable in the swollen form known as

goitre. The thyroid is one of the glands indispensable to life. Mild but chronic ailments are caused by sluggish functioning, such as the slow, stupid obesity of many people after middle life. When decidedly abnormal it may cause with its atrophy or destruction the most repulsive myxedema or even death. The thyroid is a direct index of man's usable energy, since it furnishes the "go ahead" that characterizes all healthy, happy life. Although not the producer, it is the accelerator, lubricator and transformer of our energies. *The thyroid is the controller of the speed of living.*

The thyroid and the gonads (sex glands) are very closely and sympathetically related. With decline or destruction of the gonads, the thyroid withers or swells, the speed producer ceases to call upon the great chemical laboratories, such as the gestative system, for more and more fuel, for more and more steam with which to enable the body to indulge in more work and more play. The fire of youth burns out, and like the eunuch or the eunichoid, the quick, animate, alert, become the slow, heavy and stupid. Thyroxin, one of science's newest discoveries, may temporarily supply the thyroid impulse where needed, by doing part of the work of the thyroid gland. But for real living energy the thyroid must be made to perform its own function. The only definite means known to science by which this result may be accomplished is through ionization, as in the Steinach Radiation Rejuvenation Treatment through the gonads, or as better known in this country through *radiendocrination*.

THE PITUITARY FUNCTION

Tucked deep in the base of the skull, just back of the root of the nose, and protected by Nature with safeguards, like wealth in a bank vault, is the pituitary gland. There is a posterior and an anterior portion of the gland, with somewhat similar functions, but of remotely different origin, as proved by the human embryo and the

vertebrate family tree. Removal of the pituitary gland brings immediate death.

From the anterior portion of the gland a secretion passes directly into the blood stream—from the posterior, a fluid called pituitrin joins the spinal fluid that bathes the nervous system. Pituitrin is a complex and most marvellous substance. Without it neither human nor animal can function. With a sub-normal supply, the body heat falls off to the danger point, somnolence, loss of hair, dull mentality, fatty degeneration, and sometimes epilepsy, inevitably result. Signs of early mental deterioration, unsteadiness of gait or cold-bloodedness are now traced directly to an insufficiency of this life-giving fluid. Alienists and psychopathologists center their attention here.

The pituitary gland has a wide range of known duties to perform. Some of its blessings are good blood pressure, healthy sex tone, initiative, zest for study, work, change and travel, sustained interest in occupation and the endurance of youth.

With a healthy pituitary balance the skeleton is strong and firm, and remains so in the aged, with bones that show no tendency toward brittleness, the nerves maintain a steady tension, and the sensory faculties of sight, sound and smell are enjoyed to the very end of ripe old age. Here lies the secret of the splendid mental powers of some elderly people. The many conspicuous examples of business men, military strategists, statesmen, artists and men of letters who have retained their brilliant faculties and capacities for achievement in undiminished lustre up to the very end of a long career, must be credited to a finely tuned pituitary—thoroughly balanced, however, by the thyroid, adrenals and gonads.

The thyroid and the pituitary both control body growth and body replacement. The thyroid bears more directly on the outer coverings of the body, the skin, the skin glands, the skin color of pigmentation, and the hair—hence the external appearance; while the pituitary governs nutrition of the framework of the body, the teeth,

the skeleton and the cords, tendons and muscles by which the skeleton is operated. While the thyroid makes available the supply of crude energy by speeding up cellular processes, the pituitary is responsible for the transformation, expenditure and conversion of that energy into healthful, youthful vitality. Especially is this true of the *brain* and of the *sexual system*.

THE ADRENAL FUNCTION

Like the pituitary, each adrenal gland is double, both in structure and in function, although the differing parts so interlace their cellular masses that they were long confused as one gland. These precious possessions lie just beneath the small of the back, astride the kidneys, where they are supplied with an inordinately large blood stream. Their tremendous importance in the body economy accounts for their being so favored.

In the human embryo the outer portions (cortex) are derived from the same cellular patch that forms the sex organs, the ovaries in the female and the testes in the male, a relationship which in later life is clearly expressed by their close functional and sympathetic relationship with the reproductive organs, and their indispensable support of sex tone, extended maturity and long, virile life.

As Berman says—"But not only are sexuality and the conduct of the secondary sex characters connected with the adventures of the adrenal cortex. The development of the master tissues of the body, the brain, the pride and darling of evolution, is in some subtle way correlated with it. The adrenal cortex contains more of the phosphorus-containing substances of the general nature of those found in the central nervous system, than any other gland or non-nervous tissues of the body. During human intrauterine life the adrenal glands are large and conspicuous in the first half of the second month, being twice as large as the kidneys. Most of the relatively huge size, which happens in the human alone and not in other animals, is due to enlargement of the cortex. Should this

preponderance of the cortex over the medullary (or inside) portion not occur in the human, the brain fails to develop properly, or an entirely brainless monster is generated. The human brain, therefore, owes its superiority over the animal brain to the adrenal cortex. The growth of the brain cells, their number and complexity is thus controlled by the adrenal cortex."

The color of the skin is also an adrenal cortex function. Clear, rosy color is an inescapable index of good functioning; dark, sallow color and deep lines are the result of imperfect adrenal hormone action. With the well-known tubercular adrenal gland the skin becomes very dark and is popularly known as Addison's disease.

But upon the interior of the gland (medulla), the world of physiological science has lavished the flower of its attention. Everything that can possibly be determined about its structure, its secretion, and its effect upon the human system has been explored. Today its mysterious fluid (adrenalin) has been reduced to the marvellously scientific formula of synthetic production—it may now be produced in the test-tube.

The necessity and importance of the adrenal-medulla may best be realized by the result of its functioning. Add adrenalin to the blood and instantly a mighty transformation takes place. There is a tremendous tensing of the nervous system, nerve cells become more sensitive to stimuli, the great reservoirs of blood, the liver and the spleen (reservoirs containing one-fourth of all the blood) pour forth billions of red corpuscles into the blood stream, the heart beats more strongly, the eye sees more clearly, the ear hears more distinctly, the breathing becomes rapid, the temperature rises, the hair becomes erect, the fatigued muscle regains its tone and strength, the brain becomes alert and clear—in fact, all physical and mental processes speed up to an astonishing extent.

What causes this marvellous transformation in the soul of living man is now an open book.

The adrenal is the gland of combat or flight. During

the long evolutionary rise to power of the human race the adrenals were man's bulwark in the survival of the fittest. The supreme emergency power for fight or flight was and is furnished by this inconspicuous little organ long passed over by the physiologist as a mere fatty excrescence of the kidney.

A thousand strange and wonderful effects upon the secondary sex characteristics, such as the pitch of the voice, hair on the face, other hair distribution, feminine masculinity and masculine effeminacy are directly traced to the adrenal medulla, the arbitrator between the brain and the sex organs, from which arise that multitude of desires or inhibitions which completely color the life of every individual.

Neurasthenia—the popular diagnosis for listlessness and apparent nervous deficiency—nervous prostration—the temporary breakdown due to over-demand on the emergency supply of energy—are in fact only and solely an expression of adrenal insufficiency. Mental and muscular sluggishness, languor, a state of perpetual tiredness, or a recurring period of excess energy, followed immediately by days of recuperation, perhaps in bed, spell adrenal incapacity, and can be cured only by inducing this tiny laboratory to produce more of the life-giving fluid.

OTHER ENDOCRINES

The Parathyroid, Pancreas, Thymus and Pineal also play important rôles as glands of internal secretion.

On only one of these, the Pancreas, is attention centered today. The hormones of the Pancreas control sugar metabolism. When they fail Diabetes results.

The function of the Pancreas is highly complex, both as to the influence of the pancreatic secretion upon digestion in general and upon what is now recognized as one of its paramount activities—the proper oxidation of sugars.

This function is an attribute of the tiny island cells or

the Islands of Langerhans in the tail of the pancreas. A lack of functioning power in these cells—whether by reason of an actual degeneration in the structures themselves, or in the decrease in their oxidizing power, due to the influence of toxins generated in the intestines and absorbed into the blood stream—is, without doubt, the determining factor in Diabetes.

In other words, when the pancreatic gland fails to secrete the proper amount of its oxidizing substance (popularly known as insulin) the starch and sugar eaten in our food are not burned, to yield energy. We thus find the sugar in excess in the blood. It is also excreted in the urine in abnormal and pathological amounts—a grave and serious disorder, ultimately resulting in death.

THE GONAD FUNCTION (SEX GLANDS)

Popularly, the gonads are recognized as glands of external secretion, and historically they have been considered as such, the vastly more important internal secretion having been entirely overlooked until recent time.

Castration, or the physical alteration of the sex organs, is one of the oldest of surgical operations, dating into antiquity before the dawn of history. In fact, even up to the present day, the eunuch is a sad but familiar figure in the Near East. Unlimited observation of the effects of such operation has been available to physiologists for centuries, yet the true import of the depletion of the *internal* secretion with its transforming effect on all the chemical processes involved in metabolism and the growth and life of normal men and women has been missed.

Nothing more completely changes the entire human organism than the removal or atrophy of this, the master gland of internal secretion. Such loss does not always cause death, although four out of five of the infants castrated in the vicious practice of producing harem guards for potentates throughout the world's history probably died in infancy. Also, women who have had the ovaries removed after maturity, while they seldom

lose their lives, almost invariably lose their sparkle of vivacity and gain the sluggish obesity familiar to everyone who sees.

Volumes have been written on the almost autocratic control of the gonads on all the life processes, establishing beyond all question that normal, happy life is impossible without the proper functioning of this most important wellspring of physical energy, healthy living, sound thinking, and all the wholesome relationships of society. Without proper gonad activity only strange and unnatural life exists, the kind usually shunned by fellow men and commonly termed "queer" or "psychopathic". The gonads dominate the other endocrines to such extent that the whole company makes for health and happiness, the joy of living and the contentment of the soul.

CHAPTER IV.

Duplicating the Endocrine Chemistry

We have learned that it is possible to regulate or stabilize glandular functioning to a large extent by artificially supplying the body with a synthetic or organic substitute for the chemical substances produced by the Endocrines. But no substitute for the internal secretion of the gonads has ever been discovered or is even likely to be discovered.

Pituitrin, Thyroxin, Adrenalin, and finally Insulin were given to the world. These are either made artificially or extracted from animals. But in both cases they are identical with the substances secreted by the different Endocrines. Valuable as these chemical discoveries are their use must be considered as that of temporarily supplying a particular hormone deficiency and hence not applicable to general rejuvenation treatment.

CHAPTER V

The Interrelationship of the Endocrines

In a study of the endocrines it was discovered that they all were connected with one another—a sort of interlocking directorate.

The idea of a certain functional correlation and interrelationship between different organs and different parts of the body is not new. Recently, however, the theory underwent a considerable development with regard to the endocrines.

The individual members of this glandular system are very intimately connected with one another. This relationship is dependent on a chemical interchange of their specific secretions, accomplished by aid of the blood stream. This inter-dependence tends to keep the body as a whole in a condition of equilibrium. Thus the removal of one of these glands, or the cessation of its secretion, will have a deleterious effect upon the others, and tend to upset the equilibrium of the body generally.

Where one gland is injured, or for any other reason furnishes an insufficiency of secretion, the others try to do its work. Yet the individual, with all his peculiarities, represents that trial balance between them, never perfect, proportionally imperfect as the endocrines lack proper proportion for healthy life.

Either Mumps or Goitre affecting the thyroid gland secretion react quickly upon the gonads—often causing sterility. In fact, the removal or atrophy of any one of these glands has a profound effect upon the harmonious correlation of the internal secretions.

CHAPTER VI.

The Paramount Importance of the Gonads or Sex Glands

That the sex glands, through their internal secretion, are masters of the endocrines seems entirely logical, since the whole of biology, plant and animal, is the story of *survival* and *reproduction*.

Hundreds of careful workers, through thousands of experiments, too intricate and varied to be even tabulated here, have finally brought within the sphere of human knowledge an understanding of probably the greatest of man's physiological discoveries, namely, that the great guiding force in our physical make-up is the sex gland, which controls in arbitrary fashion the entire endocrine system. For this reason scientists have concentrated unlimited effort here in the hope of finding some means of intelligent control.

Dr. Janeway said many years ago, "The genital gland must be regarded as a true internal secretory gland, secreting a hormone which exerts a marked influence upon the other internal secretory glands, upon metabolism, the general power of growth of the body."

Dr. Brinkley says, "The gonads (sex glands) are not merely a link in the chain of the endocrines, but the dominating influence in the well-being of all the endocrines. So that to make this point exactly clear, even defective thyroid glands can be most easily repaired by repair of the gonads. And so with all the glands of the chain."

The position of the gonads in the chain of the endocrines is the master position. The well-being of all the endocrines is directly dependent upon the well-being of the gonads. Thus, a man is as old as his glands—and

his glands are as old as his sex glands. And the same is true of a woman.

The source of all human energy is sex energy. This is another way of saying that the glandular system of Man is a chained system, or series of connected loops, mutually assisting or depressing each other by their secretions. Of this series the genital glands have the power of most directly stimulating and dominating the human body and mind by their particular kind of hormones manufactured by them and distributed in the blood stream for the nourishment of all the tissues of the body.

That the sex gland has occupied a prominent place in history is shown by the literature of all peoples. Even the savages believed in gaining added strength and courage by eating the glands of their adversaries, and thus unwittingly stumbled upon the basis of a great scientific truth. The story of David, in I Kings 1-5, shows that long before the Christian Era the sex gland was regarded as the barometer of a man's mental and physical capabilities.

CHAPTER VII.

Attempting Rejuvenation by Operation

It is conceded that we cannot regulate or stabilize all glandular functioning by artificially supplying the body with a synthetic or other substitute of the chemical substances produced by the endocrines. However, we have long known that the entire glandular system is linked together, with the sex glands in control. The next step, obviously, was to find the proper means of treating these organs, thereby correcting the entire glandular system. In fact, scientists for many years have announced that the solution of the problems of rejuvenation lay within this province.

But no substitute for the internal secretions of the gonads could be discovered. Extracts from various animals were used. These, while they helped a little, did not solve the problem with the same beneficial results as did adrenalin in cases of adrenal deficiency.

Then Lydston, Voronoff and others hit upon the practice of actually substituting the glands of monkeys, goats and other animals for those of humans. This idea was not new or untried. In the case of the other glands it was discovered that a single piece of gland tissue from another person took up the work of producing secretions. A child with severe myxedema caused by faulty thyroid action was cured by implanting a portion of the thyroid gland of the mother in the child. This type of gland transplantation has been common for years.

Therefore, as there was no known substitute for the secretion of the ovaries and testes, and as the other glands were improved by transplanting a piece of tissue from an animal or person, there seemed no reason why the same would not hold true for the sex glands. The

work of Dr. Serge Voronoff and others in this field is well known through his famous monkey gland operation. This operation was rewarded with such a measure Dr. Voronoff performed the operation on numerous well-known surgeons as a demonstration of its success. Dr. Bartignes, Chief of Clinic of the Academy of Medicine, and Vice-president of the Society of Surgeons of France announced that of 44 operations performed all had shown the most beneficial results.

No more important truth has come from the world-wide investigation into the endocrine functions than the absolutely certain evidence that while each endocrine gland must perform its special function, the control of this interlocking directorate rests with the interstitial gonads—the Chairman of the Board. "Old age and senility is not due" says Dr. Granet "to an ultimate using up of all organs, but to the lack of potential stimuli, due to the degeneration of the interstitial (sex) gland". Dr. Granet has induced regeneration of the gonads (sex glands), and even after senile degeneration has been far advanced, the characteristics and marks of senility have entirely disappeared.

These marvels of modern science were performed on animals, as well as on men and women. Many types of comparatively successful operations have been found, the best of which has been "the one-sided operation, which consists of tying with a ligature, under local anaesthesia, the duct leading from the generative part of the gland and obtaining compensatory regeneration in the interstitial portions".

This one-sided operation is declared by Dr. Granet to have been entirely sufficient in all cases. In addition to its beneficial character upon the entire system, it preserved the power of procreation.

In spite of the wide success obtained with this last mentioned operation, a newer, milder and more success-

ful method of regeneration, entirely free from operation, was yet to be discovered.

On October 23rd, 1920, the New York Medical Journal, in an article by Dr. A. Granet, Instructor of Medicine at Columbia University, released in America the first information concerning Dr. Steinach and his work on rejuvenation. This paper was based upon one written by Professor Wilhelm Roux, famous the world over as the director of the Anatomical Institute at Halle, and on another written by Professor Dr. G. Holzknecht, Chief of the Central Roentgen Laboratory of the Allgemeines Krankenhaus. This surprising array of scientific authority made an impression in medical circles comparable with an earthquake.

Dr. Steinach had been quietly working on these subjects for many years, until in 1912 he gave for safe keeping to the Scientific Academy of Vienna the manuscript of his preliminary work, in order to establish priority. In 1913 at the International Congress of Biology at Vienna, he first publicly showed the results of his work on animals. While the war greatly impeded scientific work of this sort in 1920 Dr. Steinach published his now famous book, entitled "Rejuvenation Through Experimental Regeneration of the Aging Interstitial Sex Glands." This work has heard its echo 'round the world. Many medical men hasten to Vienna to see for themselves. Today, the wave of popularity of the Steinach technique is sufficient evidence that the skepticism for which doctors are noted has disappeared. The scientific world stands convinced before the mass of living evidence.

The preliminary work of Dr. Steinach and his co-workers was on birds, insects, amphibia and mammalia. This work as briefly related by Paul Kammerer is as follows:

"For years Steinach has bred and raised healthy generations of laboratory animals, has studied and observed their dispositions, habits, physical characteristics in all

the stages of their development with particular emphasis on sex development and characteristics of senility. His conclusive experiments he made on large rodents. He shows with an abundance of illustrations and photographs the influence on the interstitial gland of those animals. The animals which have acquired all the characteristics of old age have a striking appearance. Their hair becomes bristle and sparse, they are timid and uninterested in the surroundings, the head is drooping, the spine is arched, the eyes have lost their tonus and their brightness, they do not seem to relish their food, they show loss of weight, muscular weakness, inability to climb, they don't fight other males nor pursue females, they harbor parasites.

"The same animals two weeks after treatment begin to change. They begin to pick up their heads, the eyes brighten and regain their tonus, they become lively, watchful and playful, their appetite returns, the hair begins to grow, becomes thick, soft and glossy, they gain weight, they move about with new vigor and agility, they fight other males let into their cage, they pursue and possess the female and bring forth new generations which grow up into normal healthy adults".

True rejuvenation was accomplished in this series of experiments by the simple operation of ligating the vas deferens. The increased resistance to disease and actual prolongation of life of the operated animals was greatly increased or extended.

But the goal had not been reached. Still further study was needed. Steinach himself admitted that the real secret had yet to be discovered.

WHAT CONTROLS THE GLANDS

Suddenly it occurred to a number of scientific men to attack the problem from a new salient.

Curious but progressive men wanted to know what controlled the chemical actions of the body, and, as a result, discovered the commanding role of the endocrines.

Once that truth was established, they asked "What governs these glands?" And here was the new objective—a new quest of the Grail.

It is agreed that the body is simply a chemical factory and that the chemical activities that convert a piece of bread into a piece of brain are controlled by the endocrines. Further, when an organ does not function properly there is a call upon the other organs to help out. This requires increased effort on the part of the body chemistry, necessitating a change in the chemistry of the body fluids. Thus, from our knowledge of the endocrines, as fostering the entire chemical make-up of the body, we know they are called upon to do greatly increased work. If they can't handle such reserve calls there is trouble. The way to overcome it is to correct the gland functioning, for normally we should have enough reserve power to take care of emergencies.

To illustrate by common example—diabetes is caused by the failure of the pancreas (and to be accurate, the adrenal as well) to secrete the substances which naturally convert the sugar into energy. *But why does this gland refuse to perform its work?* If these endocrines run the whole body and are the last word, then they should not get out of order. If they are subject to outside influences then they are *not* the last word. We know that worry and hard work will upset human chemistry and drain the pancreas making it unable to care for sugar metabolism. Students approaching examinations, under great mental strain, frequently have an increase of sugar in the blood—temporary diabetes.

There is no question regarding the endocrine control or the chemical activities of the body—but what is the power behind the throne? What kind of power runs this marvellously complex chemical factory of ours?

Perhaps one of the first intimations along this line was the work of Professor Bordier of Lyons who placed great emphasis upon the rejuvenation effects of the X-ray applied in series to the endocrines.

As related in brief—"After the second or third series, anemic, withered complexions assumed a fresh, rosy, youthful appearance. General debility and mental depression were replaced by a flourishing state of health. This is due to the fact that the interstitial portion of the ovaries is not affected by the X-Ray, whereas colloidal albuminoid precipitation occurs in the cells of the Graafian Follicles, which are radio sensitive, the same as neoplastic cells. The affected cells disappear later by autolysis (self-action), menopause sets in, and the interstitial portion, whose hormones produce the rejuvenating effect, remains functioning."

Another promising lead had been uncovered.

CHAPTER VIII

From The Realm Of Chemistry, Surgery And Physiology Into The Field of Physics

THE CONTROLLER OF ALL ACTIVITY

Nothing moves without power, energy. Chemical functioning alone is not sufficient to operate the plant. We speak glibly of the brain "telegraphing" orders to the fingers to make them move. Even learned scientists failed to stop and analyze this statement. Look at your toe—move it at will. What actually makes the toe move? Do you think the series of muscles, nerves and interrelated mechanism can act so quickly, simply as pieces of matter? What is it that travels like a flash?

No one hesitates for a second to answer "Electronic Forces".

A NEW LINE OF THOUGHT

Sometime ago Professor Zwaardemaker of Zurich was experimenting in this new realm. He selected the potash in the blood as the agency for his studies. On removing the potash from the blood stream the heart was found to stop beating. Even after the heart had ceased beating for thirty minutes it could be made to resume functioning again if the potash was restored. Pursuing his studies further, he found that instead of replacing the potash he could make the heart beat again simply by radiating it with radium—that is, "ionizing" it.

Here, then, was a new line of thought. Potash emits radiating rays of electronic energy exactly like radium. Thus the blood is unquestionably dependent upon electronic energy to maintain life.

IONIZATION

Medical science was quick to turn to the physicist, who in the meanwhile had been playing with atoms, ions, electrons, protons and similar things.

As is well known, everything on this earth is made up of atoms—the smallest particles of matter of which all substances, living or dead, are made. The atom is now proved to be a bundle or sphere of positive and negative electrical charges. The atom of gold is different from the atom of lead only in its electrical or electron make-up, but less than one hundred different varieties of atoms, having different positive and negative proportions, constitute *everything* on earth.

Thus, all matter—our body included—is composed of these electrical charges called atoms.

Heat, flame, radium, potash, electricity and many other substances emit certain types of "radiations". These radiations in passing through the air strike an atom and separate from it one or more of its electrical charges. This newly separated electrical unit or electron is then called an *ion*. Due to the impact of the radiation the *ions* travel at great speed and soon fill the air, which, when well charged with these ions, becomes an electrical field. The air is then said to be *ionized*. The same thing can happen in a solid like the body, so that if there are radiations sufficiently penetrating they can readily ionize the body tissue.

Ionization within the human body is *power, energy*—the same as ionization or an electrical force anywhere on earth.

Professor Zwaardemaker showed that the heart stopped beating when the potash was extracted from the blood and started again when the potash was restored, *or when the heart was radiated with radium*. In other words, when the ionizing influences were removed the heart stopped—when they were restored it started beating once more. Rather conclusive evidence that *ionization was essential to life*.

Even in plant life the effects of ionization have been demonstrated by scientists for years. Artificial light alone has sufficed to greatly increase plant growth due to its ionizing influences. Recent experiments along this line have been conducted at Columbia University as recorded in the New York Times, October 26, 1923. Sometime ago Professor Rusby *doubled* the growth of plants by root radiation. Becquerel has proved that plant life is endowed with a type of ionization of its own.

Scientists long ago demonstrated that the basic factor of all metabolism is dependent on normal ionization and that radioactivity supplied a form of electronic energy that harmonized with all the phenomena of the body chemistry—*that radioactivity restored the balance of chemistry by normalizing the ionization.*

EARLY WORK WITH RADIUM

Meanwhile leading physicians working with radium—the first-discovered but by no means the greatest radioactive element now known—had noticed that when the endocrines were radiated with radium an improved glandular functioning could be recognized, followed immediately by improved chemical activity throughout the body.

As long ago as 1905 Dr. Robert Abbe of New York used radium on these glands to effect a physiological increase of function. Literature on radium for years has been strongly emphasizing the fact that radium regulates glandular secretions in a marked manner—thus giving a normalizing influence to the glands and revitalizing those that were sluggish or lazy—stimulating them to perform their proper work. It has been noted repeatedly that radium transmitted to the body a dynamic force which electrified and quickened to action the idle or inactive agents throughout the body.

THE ELECTRONIC NATURE OF THE BODY.

Physiological science, equipped with new weapons,

was now able to answer the question "What controls the endocrines?" *Ionization* is certainly the answer. Thus the perfected description of the body is, "a complex chemical laboratory supervised by the endocrines, the whole plant operating with marvellous precision under electronic influences or ionization." The action of every particle of the body in its complex chemical functioning is due to this electronic supervision or ionization. The engine makes the automobile run, gasoline supplies the fuel but the *spark* is necessary or the rest is of no avail.

NATURAL ELECTRONIC FUNCTIONING

Whence does the body derive this electronic energy—this ionization? The answer is, from the chemical changes made within the body itself—food, water, and oxygen. We have shown that potash is one source, undoubtedly the chief one but of course there are others. We feed gasoline to the engine, which generates electrical power, which in turn controls the engine. To the chemist and the physicist the existence of a similar process in the human body is easily understood. Here is the perfect balance—the most delicate adjustment known to man. It is an *endless chain*—the body, a self-contained power plant, energizing and controlling its entire structure through the endocrines by electronic action—ionization—which the body supplies to the endocrines by virtue of the chemical processes supervised by the endocrines themselves.

In health, the chemistry of the body creates just the amount of electronic energy necessary to stabilize and regulate the new chemistry and new glandular substances constantly being formed. When the endocrines become sluggish and lazy and fail to function properly because of insufficient ionization to keep them at work, disease and lack of resistance to parasitic germ life appear. It is evident that that if the endocrines can be restored to proper functioning by artificial ionization, we can auto-

matically *compel* the glands to start the chain of chemical processes that brings back *normal* body ionization. This naturally is all that is needed to restore bodily vigor—*life*, in all its phases of health and activity.

There is no question that the purpose of ionization is to regulate and stabilize the functioning of the body. When there is a call for more stabilizing ionization than the body can supply, owing to unbalanced food or living conditions, it must be artificially supplied before, and in order that, normal conditions can be restored. If the necessary ionization fails to come naturally from the body, health fails—the glands do not receive sufficient energy to make them function properly—and we remain ill until the glandular balance is restored. *Old age and senility are nothing more than chronic ailments due to sub-ionization.*

The first glimpse of the great biological postulate that ionization and electronic activity lie at the very heart of cell life, and that the wearing away of vital energies was not the fault of the stomach, the liver, the kidneys, the spleen, but was merely a lessening of the electronic force, came only since the discovery of *radioactivity* and the founding of the electron theory. In other words the decline of life powers in the human organism is now known to be an approach, due to its lessened electronic force, toward the inorganic matter to which the body returns when life flickers out.

Today we are satisfied that the invisible force that makes life possible is the ionizing action in the body and that disease, sterility, old age, senility and other faults of metabolism are due to lack of it.

A few years ago science knew no more of this invisible electronic control than it knew about radio-telegraphy or the vacuum tube. Until the discovery of radioactivity by Henri Becquerel and the X-Ray by Roentgen the whole science of electronic activity was a closed book. From this moment the world took a new stride and step by step the trend of scientific develop-

ment led directly to the treatment of the body by ionization. Artificial ionization within the body alters the character of certain cells. Physiologists have recently proved that the endocrine structures are, of all the body's cells, the most sensitive to electronic action. In fact, a famous scientist recently announced that the endocrines contained, in health, nearly 90% highly ionized matter. The fact is irrefutable that our body needs electronic stimulation—ionization—through the medium of the endocrines to make it function at all. Death ensues when the electronic impulses leave the body. *Life has actually been experimentally restored when the electronic impulses were applied.*

In this connection I must mention the recent announcement made by Dr. George W. Crile, one of the leading scientists in this field of work in America, at the convention of the American College of Surgeons in Chicago on October 22, 1923. Dr. Crile said in part:

"Man is simply a mechanism run by electricity and chemical reaction. Emotions—love, hate, fear—are but stimuli loosing currents of electricity through certain paths.

"The energy which makes Babe Ruth hit homers, which drives the feet of the business man to work, which works the fingers of the typist and causes Jack Dempsey to drive his right for a knockout is electricity.

"The greater the difference in electrical potential the greater energy the body possesses. With death the differences of potential vanishes. All becomes equilibrium. Fatigue makes this difference less. Sleep restores it.

"The electrical machine is a thousand times more minute and delicately arranged than the most delicate instruments made by man. We consider that electricity keeps the flame of life burning in the cell, and the flame—oxidation—supplies electricity used in operating the animal.

"There is no more energy per mass in the living than in the non-living. In the living, energy is captured and

stored and made to run the organism—in the non-living the same energy exists, but balances, is equalized, inert.

“Two streams of water flow swiftly, each seeking the lowest level—equilibrium. One is caught and retarded, thereby building up a potential energy of position, as in a mill race; in its further course this retardation is suddenly released, and in the discharge of this acquired potential energy of position a water wheel is turned and heat or light or electricity is generated.

“This form of control of the body activity—ionization—has stood the test of the surgical clinic.”

Re-ionizing the endocrines should, therefore, restore their functioning—revitalizing, rejuvenating and reinvigorating the entire living process—bringing to the aging system a new tenure of life. That this has been brought to pass is the next great chapter of the story.

CHAPTER IX.

The New Steinach Radiation Treatment

Again we turn to Dr. Eugen Steinach, who to-day stands foremost among the world's specialists as the great discoverer of the simple means of radiation-rejuvenation, whereby enormously beneficial results may be obtained *without surgical process*.

To day Dr. Steinach's clinic in Vienna and other radiation-rejuvenation clinics in Vienna and Paris are the Meccas of thousands who seek their great and lasting benefits. The public press in America carries numberless communications and cables from Europe, setting forth the success and vogue of these treatments and arousing the interest of the entire world.

Unusual success had attended Dr. Steinach's ligating operation. Yet, casting about for an improved rejuvenation technique this great scientist began to experiment with endocrine ionization. After treating cases for a very long period he published the amazing results of his experience in ionizing the sex glands. He told how he had found that radiation revitalized the atrophied or sluggish sex glands, stimulated them to a new activity, thus enabling them to perform their proper work of pouring their special hormones into the human circulation, urging the other glands on to the fullest activity.

After three years of constant use there are perhaps no more startling demonstrations in the world of man's conquest of his physical self than those being performed in increasing numbers by Dr. Steinach and his disciples in Vienna and Paris.

What Dr. Steinach actually did was to take advantage of the tremendous development work done by hundreds of other scientists in proving

- 1—that the body operates under electronic or ionizing influences, and
- 2—that the proper electronic or ionizing influences could be supplied to the body artificially.

Therefore, Steinach marked a new epoch by using a new method of radiation that ionized the sex glands. His method of doing this was largely through the X-Ray and applied chiefly to women, continuing to a large extent the ligating work with men.

The widest interest is excited in America at the present time by the reports of specialists in radiation-therapeutics, describing the wonderful rejuvenating properties of the Steinach radiation treatment. Aged women with withered breasts and wrinkled faces have been restored to buxom middle-age appearance and physical functioning. Actresses and dancers, whose feminine charms are an indispensable asset in their profession, have been brought safely back from beyond the "dangerous age"—alive once more with their old fire and fervor. Business men, staggering wearily under their load of responsibility, were refurbished—mentally, physically and dynamically—by the beneficent action of endocrine radiation.

So definite are the results in these cases that eminent physicians and medical instructors come before medical societies and read papers on systemic rejuvenation, developed by radiation of the endocrine glands.

The world acknowledges a debt of gratitude to Dr. Eugen Steinach for his masterful demonstration that radiation brought unmistakable rejuvenation. A large measure of praise must also be awarded to Dr. Harry Benjamin of New York who has done much to bring this famous treatment to the attention of the medical men of this country. Yet there were several phases of the Steinach technique that required improvement before general rejuvenation was an assured success. Some of these improvements were vital and have changed

the whole tenor of the radiation-rejuvenation treatment as will readily be seen.

Rejuvenation by X-Ray stimulation of the endocrines was an assured fact. Of this there could be no particle of doubt. But X-Ray treatment for this purpose as made famous by Steinach was not unlikely to entail dangerous or even disastrous consequences. In commenting on this matter Dr. Morris Fishbein, Associate Editor of the Journal of the American Medical Association, recently declared:

“When the X-Ray is turned upon the female gland, the reproductive elements, which are especially sensitive, are destroyed, and the interstitial cells are increased.”

I am personally convinced that Dr. Fishbein sounded a note of warning here on this important question and thus aided in advancing the work already done in improving on these methods.

In order to make the Steinach technique a thoroughly practical and safe method two distinct improvements were needed. One was a means of radiation that would overcome the disadvantages of the X-Ray. The other was to develop a radiation method that would *not* destroy the reproductive elements. Steinach felt that he had to destroy certain cells—in short, sterilize to a large extent—to achieve success. It was found, after extended and accurately checked experimentation, that, by a carefully *balanced* technique of radiation, evoking physiological response from the *various* endocrines, it became unnecessary to destroy any cells, as this *balanced* technique took a load off the gonads caused by inefficiency in the interlocking endocrines. We thus obtain a stimulation of the interstitial cells in the same manner as does the Steinach technique. Thus there was no necessity for using a powerful X-Ray to destroy cells and furthermore the same treatment that applied in Steinach's own work on women would naturally be as efficacious in the case of men. Furthermore, the X-Ray treatment, in addition

to the likelihood of producing complete sterilization, involves the loss of much time to the busy man or woman.

Therefore, new means of radiating the endocrines were developed through the use of newer ray devices described in a later chapter, and these have proved so superior to older methods that, while their use is an adaptation of the Steinach technique, there is no comparison in safety of application, convenience, expense involved or physiological results secured.

These newer methods are now developed into an exact and comprehensive science to which the name *Radiendocrinology* is applied. So totally different is this new type of treatment, as first demonstrated by Dr. Steinach and further developed by others, that it has had a revolutionizing effect on medical practice. Hundreds of physicians are rapidly acquiring knowledge along these lines and the number of Radiendocrinologists is amazingly increasing. This is the new-day science for rejuvenation.

CAPTER X.

Methods of Ionization

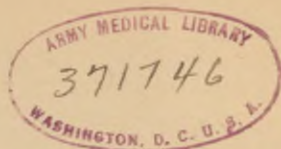
The good hot water bottle has been a standby for years, yet its virtues were little realized to be due to ionization. The healing influences of the sun have been recognized for centuries. This is entirely an ionizing process. Ultra-violet rays, high-frequency current, yellow-red neon rays, the so-called crystal light or quartz lamp, and other still newer discoveries operate solely through their power of setting up a radiation that ionizes the body tissues. But none of these are adaptable to the work of radiating the endocrines, since they have only a surface action, without the penetration necessary for sub-surface effect.

Science, however, has made two discoveries that *have* the power of *ray penetration*. One is the high-capacity, *focused X-Ray*; the other is *focused radioactivity*. By both methods rays or radiations can be sent deeply into the body, or directly through it, there to ionize the radio-sensitive glandular structures. These are the only known means of effectively directing ionizing energy into the body for radiendocrine purposes.

Steinach did much work with the X-Ray, which developed great inconvenience and possible injury. To-day the X-Ray is practically discarded for radiendocrinological work. Radiendocrination technique depends on deep-ray or short electro-magnetic wave lengths, applied directly to the endocrines, giving an uninterrupted flow of ionizing energy, keeping the glands youthfully charged throughout the treatment. Nature then continues the work, as is natural in all conditions where normal stimulus is applied. The application of this type of radiation is possible *for individual use only by radioactivity*.

Therefore, in order to adapt the Steinach technique to general use and to extend the blessings of radiendocrinology, a tremendously involved technical research was necessary in order to produce the powerful yet safe sources of essential rays for penetrating and ionizing. This has been made possible through the effort of the foremost European scientists in the field of radioactivity.

The Radiendocrinator is the result of this profound research work.



The Radiendocrinator

The Radiendocrinator, physically speaking, is the most efficient device yet produced for the Steinach treatment of rejuvenation by radiation. It differs somewhat, as stated, from the older ray sources, but the rays are the same in speed, absorption co-efficients and scattering power, yet with some even more penetrating rays. Hence the identical physiological results are obtained wherever used as in the now famous European clinics for rejuvenation. The Radiendocrinator is a distinct improvement over the bulkier apparatus used in some clinics, for it gives greater ease and simplicity of application and greater certainty of satisfactory results. Besides, it is suitable for *home treatment*.

The Radiendocrinator is built up of *radioactive* materials which send forth from the instruments an unending stream of powerful ray-charges that penetrate the endocrines and ionize them. It is this ionization that produces the life-renewing effects in the radiendocrination treatment. One may liken it to a powerful beam of sunshine turned into the dark interior recesses of the body and there focused on the waning vital spark of life.

The Radiendocrinator sends a stream of electrons directly through the tissues of the body, subjecting the endocrine cells to a bombardment which seems to stimulate every cell into new activity. With this electronic force ionizing the glandular tissue and aiding in the formation of new cellular matter, there is a new supply of hormones created which, passing with the blood stream, accelerates every healthy, normal life process.

To produce such effect it was necessary to perfect a new scientific formula—a precise method that might be

relied upon for safe and certain effect. Various radioactive substances were so disposed in the instrument as to direct into the body in a harmless manner not only the deep rays but also a proper proportion of measured, filtered rays.

HOW IONIZATION IS PRODUCED BY THE RADIENDOCRINATOR

The method by which radioactive substances produce ionization is comparatively simple to understand. All atoms possess an enormous store of latent electronic energy. In ordinary substances this energy is what holds the atoms together. Were it not for this the earth would disintegrate. But radioactive materials, such as radium, are actually disintegrating. They insist on disrupting their unstable atoms and releasing the atomic energy. So great is this energy that in a single gram of radium, a mere fifteen grains, there is stored sufficient energy to run an Atlantic steamship.

As the atom disrupts with a violent explosion its tiny elements, accompanied by powerful waves, are shot into space with terrific speed. *These are rays.* Their velocity varies from 6,000 to 186,000 miles a second. This disruption goes on with the utmost precision, so that from the Radiendocrinator there are shot forth spontaneously millions of rays of various types per second.

The Radiendocrinator is the most remarkable example of concentrated energy in the world—the most advanced radioactive metallurgy the laboratory has brought forth. These instruments weigh only a few ounces each, yet they are so constructed that they can be worn on the body as easily and comfortably as a folded kerchief. Physically they consist of a compound construction of the rarest elements known to science. They are built up of a series of special and rare metal plate and screen laminations charged with radioactive elements according

to an exact formula, so that the body receives the different types of screened radiations so vitally essential and especially adapted to the ionization of the endocrines. *Some of the elements used are a hundred times more active and a hundred times more expensive than radium.*

The Radiendocrinator is charged to give intensive radiation for a period of seven years and a gentle, tonic stimulation for twenty years thereafter. The devices are light, sanitary and comfortable. They are primarily worn at night while asleep.

The complete equipment for "home rejuvenation treatment" as furnished each patient consists of a pair of Radiendocrinators, with means for comfortably attaching them to the body. The outfit complete comes in a lead-lined, portable case.

THE ENERGY OF THE RADIENDOCRINATOR

The Radiendocrinator is an extremely complex apparatus, despite its small size and apparent simplicity of construction. Yet it is not difficult to comprehend the basic principle by which it operates.

It may be briefly described as a "silent generator of stupendous electronic energy."

There are 37 distinct types of radiations produced in the Radiendocrinator. These rays vary in size from that of a helium nucleus to electrons $1/1700$ the size of the hydrogen atom. Their velocity varies from 6000 miles a second to the velocity of light—186,000 miles a second. This gives the body a wide variety of radiation.

The penetrating power of the different rays produced varies considerably—depending on certain conditions inherent in the atomic action, as well as the carefully designed structure of the instrument itself. The laminated arrangement of metals and the scientific series of screenings have been worked out on a formula to give a particular type of radiation. From the most penetrating rays known to man to rays that approach concentrated, filtered

sunlight, emanations are emerging continuously from the instrument. The strongest rays are those of the shortest wave length known ($1/10$ Langström unit, or one hundred millionth of a centimeter).

The number of the combined rays produced in a pair of Radiendocrinators is estimated to exceed eighteen thousand million a minute. The total number of ions created on the basis of Sir Ernest Rutherford's estimates would be a million trillion a minute.

Some idea of the enormous storehouse of energy that is being drawn upon to furnish this marvellous radiation will be realized when I state that the estimated difference of potential required to produce a single one of those radiations would be 2,000,000 volts—equivalent to a 16 foot spark gap. When it is understood that that is several times the voltage of the most powerful X-Rays ever produced one grasps some idea of the tremendous powers built into the recesses of this small device. Delicate electrical instruments detect the presence of a Radiendocrinator nearly half a mile away. Underdeveloped photo negatives, paper or film is fogged by the rays from the Radiendocrinator twenty feet away regardless of wrappings or cases or walls. Yet these small instruments are worn with comfort and perfect safety at night while asleep for the rays have a marvellously invigorating effect.

MAKING THE RAYS VISIBLE

To Sir William Crookes of England is given the credit of having made it possible to actually see the powerful radiations generated in the Radiendocrinator. His formula was incorporated in the instrument for this purpose.

Ordinarily no rays are visible to the human eye, as the terrific speed with which they are shot through the screening, as well as their small size makes them invisible without some other aid. Therefore, according to Sir William Crookes' formula a tiny trace of Sidot's Hexagonal

Blend is placed in contact with the radioactive substances. When the radiations strike the crystals of this Blend they are lighted up like a shower of shooting stars.

In order to make it possible to see this array of lighted meteors a lens of high magnification and definition is supplied with the instruments. While the powerful radiation will discharge a fully loaded electroscope instantly at a considerable distance, yet an optical demonstration, such as is possible with this lens, gives anyone the most convincing evidence of the tremendous radiation pouring forth in a continuous stream to ionize the body.

CHAPTER XII.

Physiological Results of Radiendocrinological Treatment

The Science of Radiendocrinology—rejuvenation by radiation—means increased health to both body and mind. Whatever helps the body must have an equally helpful effect upon the mind. Therefore, rejuvenation means a regeneration of the mental through regeneration of the physical and physiological.

It has been made plain that the sex glands in young or old are the foundation of the entire endocrine system. For this reason rejuvenation treatment begins with the sex glands. Once this basic controlling factor becomes normalized and adjusted to mature or youthful functioning, the entire glandular system takes on a new activity, bringing about astonishing results. In other words, once radiendocrination succeeds in restoring the proper balance to the endocrines, new life is felt in every fibre and made evident in every move. Indeed, youthful face and form, together with renewed mental capacities, is the object quite frequently sought by those now taking the rejuvenation treatment.

While the Steinach treatment concerns itself largely with the gonads, the Radiendocrinator is adapted to all the endocrines, assisting in their return to youthful functioning by direct local radiation. These advantages may be had in conjunction with the gonad radiation. This technique is utilized to surprising advantage in the Radiendocrinator Home Treatment.

Practically all ailments except germ diseases are due to faulty glandular functioning. Even these diseases are largely the result of low resistance from ductless gland dysfunction. The direct cause of these ailments may be

given as imperfect chemical action or disordered metabolism. But the basic failure is to be found in the endocrines and their unbalanced hormones. It is obvious, therefore, that restoration of endocrine functioning is the proper means for successfully attacking diseases. A famous surgeon recently remarked that his best treatment for goitre in women, for example, was to treat the ovaries and thus cure the goitre, as an abnormal condition of the ovaries actually causes the goitre.

No one needs to be told when his or her body is showing signs of rejuvenation. When the skin becomes clearer, the wrinkles disappear, the memory sharpens, the eye brightens, the circulation improves, the sexual organs become intensified and bodily ailments begin to disappear, true rejuvenation may be said to be effective.

Thus, technically speaking, rejuvenation may be needed by a person of 30 as well as by one of 60. In its broad sense rejuvenation may be taken to mean restoration to normal of all endocrine glandular functioning, and a consequent amelioration of the most common ailments, a few of which have been noted below.

DIABETES

Every doctor knows that Diabetes Mellitus is purely a gland failure. Dieting has rarely led to a complete cure in this insidious disease. When the pancreas and adrenals fail to function as Nature intended, the chemistry that converts sugar into energy for the nourishment of the body is upset, and the sugar finds its way unutilized into the blood and urine. A diet free from sugar will not overcome this disturbed metabolism. Therefore, the only proper treatment is to induce the pancreas and adrenals to turn the sugar into needed energy. Insulin, the chemical equivalent of the pancreatic hormone, is a new means of obtaining this sugar-converting chemistry artificially and temporarily. It must be given daily to supply the constant deficiency of the gland. If, on the other hand, the gonads are made to function normally, they in

turn bring about a direct normalizing influence on the pancreas and adrenals. Moreover, through this new form of treatment the pancreas and adrenals can be directly reached. Once these endocrines are regulated and operate in perfect harmony, sugar assimilation becomes a natural operation.

DISEASES OF THE KIDNEYS

Kidney diseases of some kinds, Bright's Disease and Nephritis, are due largely to infection. Where the infection is severe there is a dangerous drain on the endocrines, since, like the local fire department, they are called upon to exert emergency effort in stopping the conflagration. All doctors know that one of the primary functions of the endocrines is their anti-toxic role.

By radiating the endocrines the hormones are stimulated to increased activity and are thus rendered capable of attacking toxic conditions in the kidneys and holding back their ravages. The toxin-fighting powers of the hormones can be greatly enhanced by radiendocrination.

THE PROSTATE

The Prostate is contained in the gland chain system, although itself not a ductless gland. It receives direct hormone infiltration and regeneration from the testes. While direct radiation of the prostate has proven exceedingly beneficial, far more satisfactory results have been obtained in prostate conditions by toning up the gonads through radiendocrinology and thus pouring increased numbers of revitalizing hormones into the prostate.

THE FUNDAMENTAL CAUSE OF OBESITY and TREATMENT BY RADIATION

Obesity is quite generally a definite disorder of metabolism. It is due largely to faulty thyroid and pituitary gland action. When something goes wrong with these endocrines there is a lack of sufficient hormone-produc-

ing fluid which normally cares for the fats, either converting them into brain or nerve energy, or else in preparing them for excretion. Until the thyroid and pituitary are restored to normal, true obesity can rarely be successfully corrected.

LENGTHENING LIFE BY SOFTENING ARTERIES

Arteriosclerosis, or hardening of the arteries, with its accompanying high blood pressure, have almost invariably yielded to radiendocrination. This is a condition where there is scar tissue or fibrous deposits on the walls of the arteries, thus making it difficult for the blood to flow through these vessels. This brings about increased blood pressure, due to the resistance when the blood is trying to flow through a greatly reduced area. This pressure often causes rupture of one of the smaller arteries of the brain, resulting in a stroke—apoplexy.

The hormones from the gonads possess the power of seeking out this scar tissue as they travel through the blood stream, and dissolving or absorbing it by a chemical process excited by the hormones. The general result is an elastic condition of the arteries, which permits the blood to flow through more freely. When arterial obstructions are removed by the stimulated energized hormones from the endocrines blood pressure returns to normal.

Not only is this recognized by the usual blood pressure tests, but also the eyesight, physical strength, energy, endurance and mental powers are directly and notably improved. From this class of ailments alone it is said that 2500 die every day in the United States. Therefore, the application of radiendocrinology for the purpose of overcoming hardening of the arteries and high blood pressure is a tremendous benefit to humanity.

WHAT THE TEETH TELL

Soft teeth and other dental troubles are due largely to faulty internal chemistry, despite the pretty appeals in

dentifrice advertising. The modern dentist, schooled in the ways of up-to-date science, looks carefully to the endocrine make-up of his patient. Volumes are being added to the science of endocrinology in its relation to the teeth and other body extremities, such as the skin and hair, which are quick to show signs of faulty endocrine action.

The scholarly dental surgeon knows that the endocrines absolutely control the processes involved in the make-up of the teeth and gums. In revivifying the activities of the endocrines by radiendocrinatioa, surprising results have been obtained in rendering the teeth and gums firm and healthy, even in advancing years. This should be a subject of paramount importance to everyone who still has teeth.

SOME OTHER COMMON AILMENTS

The increased production of revitalized hormones after radiation acts in anemia to increase the red blood cells. Doctors have been amazed at the quick increase of the red blood count after endocrine treatment with the Radiendocrinator.

In arthritis the action of the newly enlivened hormones arising from the radiendocrinatioa treatment tends to remove the scar tissue, thus restoring circulation to the affected area, and reducing the condition of rigidity which characterizes this disease.

Gout can be properly treated only by correcting metabolism. All metabolic processes are increased, assimilation and elimination are improved when the endocrines send an increased supply of hormones into the blood stream.

Rheumatism is largely caused by a germ (the streptococcus) which can exert its harmful influence only when the body becomes under-ionized. When radiendocrinatioa treatment is given, the body receives increased ionization and the hormones are better able to demonstrate their anti-toxic powers. Rheumatism has been wiped out in many cases as by magic by radiendocrinatioa.

Acidosis is a common ailment, due to failure of the endocrines to compel proper elimination of excess acids. The radiendocrination treatment operates to correct this condition perhaps more quickly than all the chemical elements ever used in correctives.

Sciatica, neuralgia and neuritis are commonly grouped as one class of ailment, although of different type. In fact, neurasthenia, insomnia and general nervous conditions may well be grouped together as far as endocrine functioning is concerned. In all these conditions the radiendocrination treatment brings blessed relief, since the entire nervous system is marvellously controlled by the hormones, activated by radiation or ionization.

Vertigo, chronic headache, diarrhea, constipation, indigestion, colitis, flatulency and a host of similar ailments are quite generally due to faulty chemistry action in the stomach and intestines. When the endocrines are activated by radiendocrination the stimulated hormones sent into the blood stream quickly regulate the chemistry, with astounding results.

The decrease of pain in Locomotor Ataxia, myalgia and other ailments is brought about to a large extent by the action of the hormones, properly ionized by radiendocrination, in promoting absorption and secretion and in helping to remove the causes of the pain.

Amenorrhea, dysmenorrhea and many ailments, generally known as "woman's complaints", are ideally adapted for radiendocrination treatment, due to the prompt response of the glandular substances to ionization.

Congested and inflamed conditions, such as sinus infection, are favorably influenced by this treatment. Influenza, colds, grippe, etc., which are distinctly germ diseases, are very responsive to increased endocrine stimulation. With the endocrines functioning properly through the work of the ionized hormones they ward off the attack of these germs. Thus in the field of preventa-

tive medicine radiendocrinology opens up a wide vista of possibilities.

The vast majority of our ailments, barring those of mechanical injury, may be traced by the scientist to our endocrine difficulties. It is not claimed that all these may be overcome by radiendocrinology, yet it is an absolutely undeniable fact that if the endocrines can be brought to a normal healthy state freedom from ills will be enjoyed past all expectations.

THE PROBLEM OF THE UNDEVELOPED WOMAN

In every school or college in the land and in numberless homes there are young women, single and married,—weak, pale, listless, lacking in energy and vitality. They maintain progress in their affairs only by constantly drawing upon their depleted reserves of physical and dynamic strength.

These young women, naturally bright, vivacious and of a cheerful, happy disposition, are forced to appear dull—even stupid—by their incoherence, their inability to think clearly and to correlate the information they have acquired with the exigencies of the moment.

They may be unsocial—not by nature—but because of the embarrassment which contact with older persons, or with bright, vivacious persons of their own age, causes them. Instead of bubbling over with the joy of life, which is the normal heritage of every young woman, they are reserved, silent and retiring, or they may vary completely from day to day.

They are nervous, “high-strung” and irritable—subject to headache, neuritis or neuralgia. Their sleep is disturbed and unrefreshing. They are of the type that may slip unconsciously into the bromide and the veronal habit.

Not infrequently they develop hypochondria (or melancholy), bursting into tears for little or no apparent reason, and in many cases these “lovely orchids of civilization” have planned or accomplished suicide.

These young women frequently suffer from nervous dyspepsia and the fermentation and auto-intoxication brought about by this disorder. Their deficiency in nervous energy usually predisposes them to constipation—which further aggravates their condition by favoring the absorption of toxins from the intestines into the blood.

Their menstruation is scanty and irregular—the entire genital system is frequently undeveloped—remaining often after marriage in the adolescent or semiadolescent condition. Even after child-birth these traits may remain.

Thyroid troubles, either from an excess or a deficiency of thyroid secretion, is of common occurrence among them—manifested either in an unsightly enlargement of the gland of the neck—together with all the symptoms of “hyper-thyroidism”—or too much thyroid secretion; or else in that sluggishness and apathy, or chronic “sleepy-headedness” found with “hypo-thyroidism”, or too little thyroid secretion.

The skin of these girls is likely to be sallow and “liver-spotted”. They are prone to develop pimples, boils and many forms of mild skin eruptions. Their eyes lack lustre, and the sparkle and brightness of healthy youth.

This entire condition, or any predominating complex of its symptoms, is primarily an endocrine disorder, due to improper functioning of the adrenal glands, the thyroid, the ovaries or perhaps the pituitary, and sometimes the other glands, as well.

To attempt to correct these troubles by the administration of gland extracts is, with our present knowledge of endocrinology, extremely difficult except in rare cases.

And yet, all this is accomplished quite uniformly by Radiendocrinology, the marvellously successful application of the radiation technic, as first used by Professor Steinach and his pupils in Vienna, and as more completely expanded by the newer school of Radiendocrinologists.

I earnestly believe that it is possible to bring about an absolutely normal condition in the vast majority of these patients, and by means that are free from operation, absolutely safe, and devoid of any possibility of harm—no matter what the gland defect may be—whether over-active or under-active.

By means of this treatment we have been able to accomplish results, which, but a few years ago, would have been considered nothing short of miraculous.

We have restored to perfect health and functioning power scores of young women in a most deplorably nervous and physical state—undeveloped, thin, pale and adolescent.

We have seen these young women absolutely transformed in a few brief months of treatment—blossoming like a rose—the hue of ruddy health in their cheeks, the sparkle of quick life in their eye, the restored musculature showing in every springy step and every animated movement.

I am convinced, from my experience with these methods, that there is nothing in the practice of medicine or in the application of radiendocrinology more interesting or more satisfactory than is the solution of the problem of the undeveloped woman.

MY PERSONAL EXPERIENCES

While many thousands of cases of varying degrees of retarded development, senile decay, etc., have been successfully treated in Europe by Radiendocrination I personally have to date treated by these methods scores of patients. Many of them were well advanced in senescence. Others suffered from some form of functional neurosis.

The results in a number of these cases were nothing short of astonishing. One man of sixty-four, with acidosis, nervous dyspepsia and putrefactive intestinal fermentation—evidenced by the extremely high percentage of indican in the urine—lack of memory and general

mental incoordination, tachycardia and marked asthenia, became vigorous and robust. The urea and uric acid balance was restored. His stomach and intestinal condition cleared up; the indican disappeared from the urine. His memory and general mental functioning improved to an amazing degree, while he developed such vigor as he had not known for twenty years.

He also lost twenty-six pounds, and an extremely puffy abdomen, without the slightest modification in his diet. Within six months this patient was restored from an apparently *hopeless impotence* to full functioning power. He has recently married a young woman of 33 or 34 and will be the father of a child within a few months.

Many of the women given ovarian and adrenal stimulation by radiendocrine therapy became *years younger in appearance*. Their menstrual functions, almost without exception, have markedly improved. Hemetin and hemoglobin ratio has increased. Neurotic and rheumatic symptoms cleared up. Metabolism and assimilation have been enhanced, and a general feeling of well-being restored.

In fact my experience has been such as almost to warrant me in believing that, by scientific radiendocrinological treatment, the progress of senescence can be definitely retarded in practically every case in which actual structural degeneration has not yet developed and a new lease of relatively normal functioning power assured to many whose Sun of Life is slowly sinking into the purple shadows of the long night.

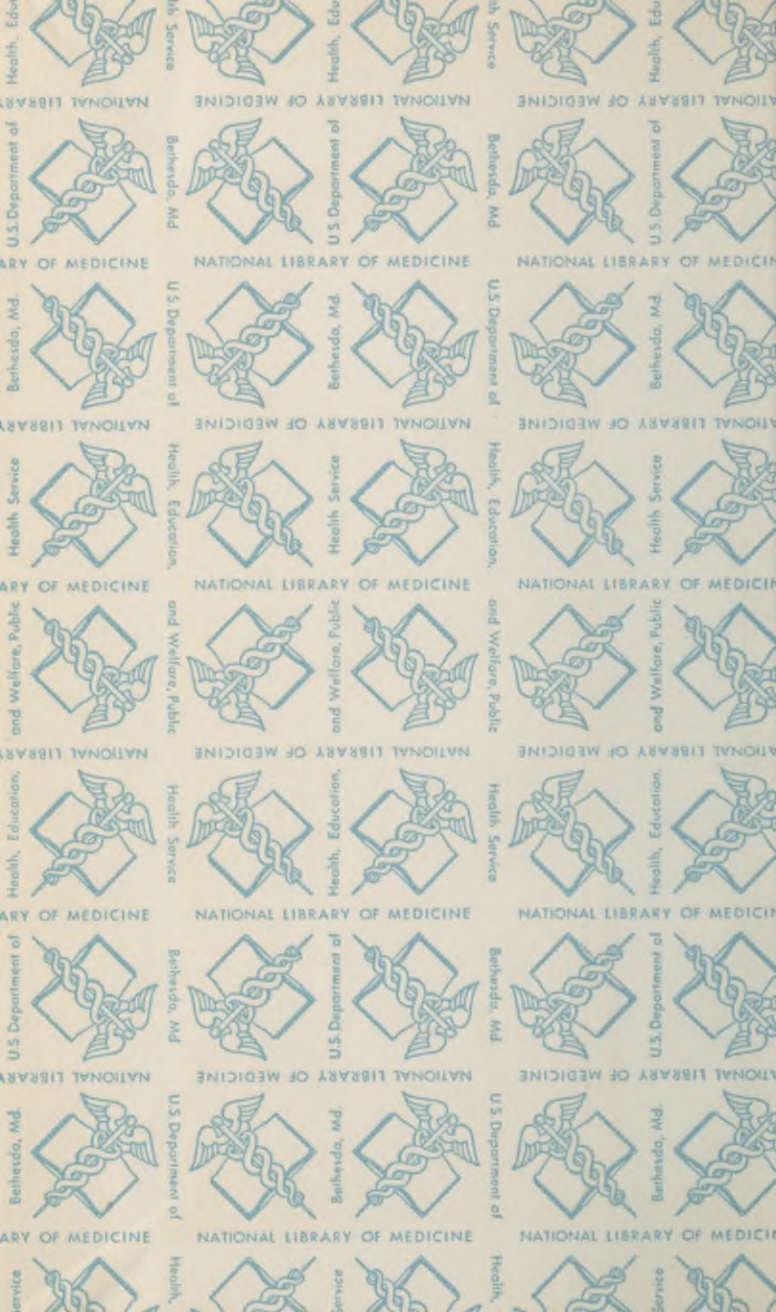
Hundreds of persons suffering from ailments outlined here have been brought to normal health, and a life of happiness and usefulness, through this newer science. Within the compass of this little book these subjects have been treated with great brevity for practical purposes. However, if anyone has any special medical problem, he or she may feel perfectly free to call upon the American Institute of Radiendocrinology for advice, or they may

rely upon the cooperation of radiendocrine specialists with the local physician who recommends the radiendocrinological treatment or practices Radiendocrinology.

In cases of deferred adolescence, extending as it so frequently does into the years of maturity, I especially recommend radiendocrinology as *the greatest of scientific achievements*.

But, for lowered vitality in early or advanced manhood or womanhood, for the creeping sense of old age, for impotence or senescence, the forewarners of the Night of Life, *there is nothing heretofore within the ken of man that even approaches the majestic grandeur of these great discoveries and accomplishments*.

HERMAN H. RUBIN, M. D.





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