

BY THE SAME AUTHOR

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RADIATIONS AND WAVES Sources of Our Life

by

GEORGES LAKHOVSKY

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PREFACE

WHEN GEORGES LAKHOVSKY showed me the translation of his work *Radiations et Ondes*, I realized that here was a veritable revolution in scientific thought of which my American colleagues were as yet utterly uninformed. The magnitude of Lakhovsky's work, although well-known among European biologists and physicists, had not yet been presented to scientific circles in this country. Many eminent scholars, among them Dr. Caligaris, Professor of Neurology at the University of Rome, Professor Attilj, Chief Radiologist at San Spirito in Sassia Hospital in Rome, Dr. Postma, prominent Dutch physician have published volumes explaining Lakhovsky's theories and inventions in Europe. It was the reading of Michel Adam and Givélet's (French scientists) remarkable volumes on the work of Lakhovsky, *La Vie et les Ondes*, that inspired me to write these few inadequate remarks. Professor Lakhovsky's modesty and repeated protests could not deter me in my determination to open to American science a new world of substantiated knowledge which is, I feel sure, destined to revolutionize modern biology and physics.

My own experiences with Lakhovsky's multiple wave-length oscillator apparatus have been such as to leave no doubt in my mind of his invaluable contribution to our unending search for the primary causes of life and death. To Professor Lakhovsky I brought a patient suffering from an advanced stage of stomach malignancy, very painful, and symptomatized by rapid loss of weight, general lack of vitality, etc. I had previously subjected this patient to various blood examinations, radiographs, and other treatments. After several exposures to Lakhovsky's mul-

multiple wave-length oscillator machine, a gradual amelioration of the condition was noted. This is only one of countless cases that have been miraculously restored by Lakhovsky's invention.

Thousands of enthusiastic testimonials from all parts of the world have expressed the gratitude of patients suffering from many varied diseases, often incurables, completely cured by this remarkable apparatus.

When you have read this volume, you will understand the obligation I feel to make known to my American confrères the tremendous scope and importance of Lakhovsky's work.

THE WORK OF GEORGES LAKHOVSKY

Everyone who reads this volume, *Radiations and Waves*, will be impressed by the remarkable results which Georges Lakhovsky has obtained by the application of his theories and the apparatus he developed.

In order to convey to you a better understanding of the magnitude of his work, we have thought it fitting to introduce this great French scholar and scientist.

Approximately twenty years ago Lakhovsky put forward the theory of cellular oscillation to explain the fact that every year billions of tons of living things, both plants and animals, are brought forth on this earth.

He has shown that no living thing is without cells, and that each cell, whether from our own bodies, from animal or plant, or even from a unicellular microbe, is like a radio apparatus formed by oscillating circuits — the chromosomes and the chondromes.

These elements are tubular microscopic filaments of an insulating material, filled with a conducting fluid containing most every chemical element, like sea water.

They constitute true oscillating circuits, which vibrate electrically under the influence of cosmic, telluric, and atmospheric radiations, and envelop us in their own characteristic wave-

lengths ranging from 30 kilometres to about one ten-millionth of a millimetre.

Cellular oscillation spells life. When the cells cease to vibrate, illness supervenes, then death. Now these cells may cease vibrating for various reasons, particularly due to marked and abrupt changes in the cosmic, telluric, and atmospheric waves.

Lakhovsky had the idea that, in order to increase resistance and combat disease, we must strengthen the surrounding radiation so as to give to the cell an aperiodic oscillatory shock.

With this object in view, he built, in 1923, an oscillator producing very short electric waves, from 2 to 10 metres in length, with which he successfully treated plant cancer in the surgical clinic of the Salpêtrière.

In fact, by exposing plants with enormous tumors to this radiation, he succeeded in curing them in sixteen days. On August 26, 1924, he and Professor Gosset made a joint communication on the subject to the Biology Society of Paris.

This communication received considerable acclaim at that time. His experiments were repeated in a great many countries, with the same positive results and became the subject of many communications to the learned bodies of those countries.

It was natural that, at the outset, Lakhovsky should be violently attacked by a large number of scientists who did not understand the solid foundation of his theories, and such an attitude is readily understandable in view of their extreme novelty, for he was indeed the first scientist to explain biology in terms of physics. It is conceded, I think, that the majority of physicists know little biology, and that the biologists are usually very little informed in matters of physics.

It was only after numerous experiments had been made throughout the world that most of his detractors were transformed into admirers. But there is still a very small nucleus who continue to fight him stubbornly. There is nothing surprising in that; did not the illustrious Pasteur himself have a similar fate?

Despite everything, however, the theory of cellular oscillation was corroborated in the laboratories of most of the countries of the world, and it has since become classic.

Georges Lakhovsky continued his experiments at the Salpêtrière on animals and human beings, especially on cancerous subjects.

The very encouraging results which he had himself obtained, followed by those of Professor Attilj, head radiologist of the Hospital of San Spirito in Sassia at Rome, of Professor Mezzadrolì of Bologna, of Professor Roffo at Buenos Aires, together with those of numerous other scientists in Europe and the two Americas — all these led American and German companies to manufacture short wave oscillators in line with the principle of his apparatus at the Salpêtrière.

At present, more than 50,000 of these short wave therapeutic apparatus are in use throughout the world.

Naturally many scientists, chiefly German, claimed priority for the invention of the short wave oscillator for therapeutic use.

But, after many controversies on this point, the Congress of Radiobiology held in Venice in 1934, and the Congress of Short Waves held at Vienna in 1937, gave official recognition to Lakhovsky as the first to invent the short wave oscillator for therapeutic use.

Nevertheless, the experiments which Dr. Lakhovsky carried on at the Salpêtrière between 1924 and 1929 with his short wave oscillator which produced waves of from 2 to 10 metres in length convinced him that, despite the improvement shown by the patients, especially the cancer patients, this apparatus with a single type of wave was unable to reinforce simultaneously the oscillation of *all* the cells of the organism, each of which has its own natural vibration frequency.

And the human body contains about 200 quintillions of such cells!

Lakhovsky had the idea that, if it were possible to produce an electric field including *all* the frequencies of the body cells,

one might succeed in reinforcing the cellular oscillation, and in restoring the resistance of the organism sufficiently to enable it to struggle victoriously against disease.

He submitted the problem to numerous physicists and biologists. Most of them told him, kindly, that in the present state of science, it was impossible to solve it.

But, as a result of intense work and no small sacrifice, he succeeded, in 1930, in satisfactorily completing his multiple wave oscillator, which produces waves of all lengths from 3 metres to the infra-red — hundreds of quintillions of different wave lengths.

His joy at this success was profound, for he was convinced that, with each cell element, finding in his multiple wave oscillator the natural frequency needed to set it vibrating in resonance, he would be able to relieve the greater part of the sufferings of mankind.

He thereupon undertook to try out his multiple wave apparatus on the patients, cancer patients particularly, in various Paris hospitals: the Hôpital Saint Louis, the Hôpital du Calvaire, the Val-de-Grâce, and others.

The results which he obtained surpassed all hopes. He has reported them in many of his works: *L'oscillateur à ondes multiples*, *La terre et nous*, *La formation néoplasique*, etc.

Very soon his oscillator was in use in the laboratories and clinics of many countries, and yielded results as satisfactory as those which he had obtained in the Paris hospitals.

He received many testimonials and much encouragement from eminent professors and practitioners.

On July 26, 1933, Dr. Raoul Araujo, of Montevideo, wrote to Lakhovsky:

“Dear Professor:

“I should have written to you some time ago. But, in my work at the Cancer Institute of Montevideo, I have been using your multiple wave oscillator for about eight months, now, in the treatment of cancer and various other diseases,

and I wanted to check the results exactly before writing you.

"Once adjusted, your remarkable apparatus gave me the utmost satisfaction, and the most marvelous cures.

"In cases of cancer, radiodermatitis, epilepsy, anemia, high blood pressure, uraemia, gastro-intestinal ulcer and other diseases, the results have surpassed our hopes."

Dr. Postma, of Groningue, Holland, wrote on September 3, 1933:

"I have received a multiple wave oscillator from Germany, constructed according to your theories. We have installed it here at Professor Michael's and Dr. Kliser's. For our first experiment we chose a patient with a very ulcerated cancer, 6 cm. x 12 cm. He had been operated twice and there was no hope of curing him. After twelve treatments lasting fifteen minutes each, covering a period of a month, our patient is nearly cured. The nodes have disappeared and the tumor has rapidly necrosed."

But the success of the multiple wave oscillator was established when the famous Professor de Cigna of the Faculty of Medicine of Genoa presented a communication to the Academy of Medicine in 1935 stating that hundreds of cases were cured by the use of the apparatus.

For the most part, these were either desperate or incurable cases. At this session of the Academy, Professor de Cigna brought with him and presented about ten cancer cases cured by the Lakhovsky multiple wave oscillator, with histological examinations, biopsies, and photographs before and after treatment.

At the International Congress of Short Waves in Physics, Biology and Medicine held in Vienna from July 12 to 17, 1937, he presented another communication which aroused the greatest enthusiasm, both there and in the international press.

He then enumerated the cases treated: epitheliomas of the face, erythematous lupus, numerous gastric and gastro-duodenal ulcers, paralysis of the larynx, suppurating and chronic otitis, female genital lesions, hypertrophies of the prostate, nervous diseases, etc.

We have just learned that Dr. Vryonis of the Polykliniki Hospital in Athens, citing numerous cures analogous to those described by Professor de Cigna in a communication to the Academy of Medicine in Athens, had purchased a Lakhovsky multiple wave oscillator in 1937.

I will not mention the wonderful cures obtained at the Institute of Physical Biology in Paris in cases of radio-dermatitis, cancers of all types, coxalgia with muscular atrophy, paralysis, etc.

Dr. Lakhovsky has received innumerable letters from thousands of grateful patients, notably from patients in high positions: government officials, Army and Navy officers, scholars, suffering from these grave diseases before the war, who were cured and able to return to their vital activities after treatment by the multiple wave oscillator.

These patients wrote to thank him for their restored health.

An outstanding personality in the Department of Public Works wrote to Professor Lakhovsky:

"Dear Professor Lakhovsky:

"I am happy to express again in this letter my deepest gratitude for the excellent results which the treatments with your multiple wave oscillator had for me.

"You know that I suffered with a neuritis in my right leg for three years, and was developing a muscular atrophy, even a coxalgia or arthritis of the hip. I took two cures that year, the first in April at Dax, the second in August at Aix-les-Bains, without noticing any improvement in my condition.

"You first gave me treatments with the multiple wave oscillator daily for eight days, early in November and then twice a week for some time, and I found evident and perceptible improvement in my condition. I can walk for a much longer time without fatigue or cramp, and I can once more make certain movements which until then I had not been able to do. My health in general is much better, and in

my close circle of friends I am told that I am looking very much better since I began your treatments.

"I am now therefore quite able to perform my duties in connection with my position as Inspector General of the General Direction of Transports including tours of inspection in various areas. I wish to reaffirm these facts and thank you again for your intelligent and efficacious care."

Mr. Gilles Cardin, Inspector General of Transports in the Department of Public Works, had been so weakened by his illness that he could no longer continue under the crushing burden of his work, which included the organization of all civilian and military transportation during the mobilization.

In October 1939 he had thought it necessary to give up his job. It was then that he came for treatment with the multiple wave oscillator of Georges Lakhovsky. His health improved so much that today he can again assume his weighty tasks with a minimum of fatigue. Professor Lakhovsky has thus contributed indirectly to better transportation facilities.

And a third, celebrated scientist, concludes his letter in these terms:

"It would have been interesting to make a film record to avoid equivocation, of the progressive paralysis from which I suffered in the past fifteen years, even to the point of limiting my movements to a few feet with the help of crutches, the immediate check on that gradual paralysis after a few treatments with your apparatus, and the indisputable and continued recovery of my motor faculties. I can now walk three or four miles with a cane.

"To this tangible result, I must add the marked increase in general vitality and resistance to fatigue which astonishes all who know me."

signed: René BARTHÉLEMY.

Of course it seems superfluous to add, by any words of explanation, to the fame of René Barthélemy, celebrated the world over for his work in radio and particularly as the inventor of

television in France. This eminent engineer, so well known in all scientific circles, had been afflicted for over fifteen years with a serious progressive disease of which official medical science could neither diagnose the cause nor prescribe an efficacious treatment.

His cure, as told by Mr. Barthélemy himself in his letter, may be credited to Georges Lakhovsky's multiple wave oscillator alone. It is one of the best proofs of the results obtained by this apparatus. Mr. Barthélemy is now able to work in his laboratory often longer than twelve hours a day without fatigue, and again render signal service to his country.

From every country in the world Lakhovsky has received letters of encouragement and enthusiastic praise for the remarkable effects of his oscillator.

For our own satisfaction, we decided to investigate personally the work and methods of Lakhovsky.

From the Director of the Institute of Biological Physics we obtained permission to examine many interesting case histories of patients treated with the Lakhovsky multiple wave oscillator.

The Chief of Staff of the Institute took several case records at random from his files:

Case No. 1 — January 4, 1940: Mr. A. . . .

This was a man 59 years old who came to us with a swelling of the nipple, adhering to the skin, deep seated, with little mobility.

This swelling gave no pain and was the size of an egg. There was also a node in the arm-pit which was also painless. The patient had lost 9 kilos (1 kilo = 1000 grams) in a year.

Our diagnosis was neoplastic scirrhus.

After a month's treatment with Georges Lakhovsky's multiple wave oscillator, we noted a diminution of three-quarters of the volume of the tumor, which had now become mobile.

The patient is now able to move easily and has gained several kilos. The node in the arm-pit had become smaller

and more supple. Also, his blood count, which had fallen to less than 3 million red corpuscles, rose to normal and registered 4.8 million. We believe he is on the way to complete recovery.

Case No. 2 — December 3, 1939: Mr. J. . . .

This case was a young man about 30 years old who had been doing radium research for several years as an assistant in the preliminary work. Undoubtedly, due to constant exposure to the action of radium, he showed a pronounced anemia, with hemorrhages of the mouth, respiratory tract, and rectum. He also showed symptoms of colitis. He was extremely weak and complained of continuous pain.

This patient, after 24 treatments with the Lakhovsky multiple wave oscillator, regained his health. The hemorrhages ceased, his digestion returned to normal, evidences of colitis disappeared, and the condition of the mucous membranes was good. He is still under observation.

Case No. 3 — March 4, 1940: Mrs. B. . . .

Came to us with a large, immobile, infiltrated plaque of the skin. It was about the size of the palm of the hand, red in the center, cyanosed on the remaining surface, and very painful to the touch. There was also a small node in the groin, very painful, subfebrile condition 37°3-37°7 Centigrad.

At the end of a week, the plaque or patch had completely disappeared except for the central portion which was still slightly indurated. The apparent changes indicate that the patient is on the road to recovery.

Case No. 4 — January 22, 1940: Mrs. L. . . .

This was a growth noted on the left side of the lower lip about as large as a nut. With pressure applied it emitted pus. It was painful and the membrane was red. The patient told us that she had had this growth about three years

and had been treated several times without success. She had recently been advised to have an operation. A left Bartholitis.

We applied the Georges Lakhovsky multiple wave oscillator for 8 minutes every day for ten days. The growth diminished considerably in only 5 days and, after 10, there was no trace of it. The general condition of the patient improved in every way, and she does not complain of any pain. We believe her to be cured.

Despite these brilliant therapeutic successes, Lakhovsky has not confined his activities to biological and medical fields. He was anxious to present his conceptions on the most varied subjects: the sciences, philosophy, sociology, etc.

The numerous works which Lakhovsky has written on these subjects have won great recognition in intellectual circles in France and abroad in the political and literary as well as the scientific world.

The translations of his books into Spanish, German, Italian, and English have been received with enthusiasm in all these countries.

As early as 1931, *Le Secret de la Vie* was translated in German and published in Munich under the title of *Das Geheimniss des Lebens*. It immediately aroused great interest. Germany, before the advent of Hitler, appreciated scientific and philosophical innovations and this work of Lakhovsky stirred considerable discussion both by the public and the press. All the dailies vied for the honor of devoting editorials to him. The conclusion of an editorial by Arthur Koestler will give you an idea of the reception given the book. Koestler, in the *Gazette de Voss* (#215), sums up the theories and experiments of the famous biologist and concludes by acknowledging Lakhovsky's theory as one of the most fruitful and constructive yet advanced.

The German scientific reviews, such as the *Wissen und Fortschritt*, (August 1932) *Funk Wacht*, *Technik Voran* wrote scholarly articles on his work with many illustrations.

As early as 1929, one of the most important publishers in Madrid, A. Aguilar, published a translation of the same book under the title of *El Secreto de la Vida*.

Moreover, not only the Spanish press, *El Diluvio, Luz*, etc., but the press of the South American Republics hailed this book and lauded its original and stimulating ideas for the future of humanity. To mention a few, there were in Buenos Aires *La Prensa* (July 8, 1927 — April 17, 1929) and *La Nacion* (July 8, 1927 — December 3, 1927). In Venezuela, *El Universal* of Caracas printed a laudatory article on it in November 1931.

In Portugal the papers echoed these praises, but it was Italy that gave full recognition to the superlative value of this work; not only were her scholars enthusiastic about Lakhovsky's theories, after confirmation in their own laboratories and clinics, but the scientific journals and the daily press devoted many columns to his book.

The English papers commented widely on Lakhovsky's work as early as 1923, even though the first translation of *Le Secret de la Vie* only appeared in 1939. We are indebted to Dr. Mark Clement, an English physician and great admirer of the eminent biologist for the success of this translation both in Great Britain and the Dominions. The reviews were particularly favorable and editorials appeared in *The Hospital, Medical World, Irish Journal of Medical Science, Light, Occult Review*, etc. . . .

To illustrate the tenor of these appreciative articles, we quote the following extracts taken at random from among many:

"Lakhovsky's work is now being given serious consideration in all countries. The English translation, which Mark Clement has done admirably, will be welcomed in progressive circles. His general theory is one which physicists, biologists and doctors can no longer ignore."

Science Forum.

"In translating Lakhovsky's work, *The Secret of Life*, Mark Clement has rendered a signal service to the English

public. Lakhovsky has confirmed the value of his theories by treatment of plants, animals, and human beings."

The Anti Vivisection Journal.

"Here is an extraordinary book, filled with such interesting material that it is not really possible to do it justice by merely reviewing it. I recommend that it be read half a dozen times. . . ."

Major MENZIES in the
Journal of the British Society of Dowsers.

We cannot quote here the thousands of encouraging and congratulatory letters which Lakhovsky received after the publication of each one of his books, but we will give a few excerpts to show the keen interest his theories aroused in the entire world.

Many members of the Academy of Medicine even insisted upon a personal visit to convey their enthusiastic approval.

Since 1927, when Georges Lakhovsky presented his theory of UNIVERSION he has kept up a copious correspondence with numerous religious philosophers, notably the Dominican Reverend Father of Bellaing, the Reverend Father Dom Malherbe, and the Reverend Father A. D. Sertillange, O. P., a member of the Institute.

Dom Sertillange wrote him a twelve-page letter about his book *Longévité*, in which he entered into a friendly controversy about the "God-universion" and said in part:

"Dear Professor:

"May I, with your indulgence, in humble admiration and in sincere appreciation, take the liberty of expressing several ideas suggested to me by your last work, as well as by your previous books—for your thought is remarkably unified.

"Your doctrine of universion and universal oscillation appears to me to be quite satisfactory in itself. It constitutes a kind of universal key to an infinite number of secrets. That is enough for one man's glory and even enough for the nation to which he belongs."

Then followed a rather arid philosophic discussion which he ends with these indulgent words:

"In a few words, your universion takes upon itself to replace God, your thought-vibration, to replace the soul. There are my two objections. My admiration and my friendship interfere, however, so strongly, that I no longer see them as objections either."

I must note here that the book on UNIVERSION which was published in 1927 had an immediate and resounding success, especially abroad.

The Reverend Father Gianfrancesci, S. J., President of the Academy of Pontifical Sciences, analyzed this book at a session of that body. He concluded his lecture with:

"France should be proud to have sons like Lakhovsky."

But what really proved the importance and the universality of Lakhovsky's work was a visit, in the Autumn, of a man eminent in the world of politics, who said:

"I was proud of you last night. At the Grand Orient a Colonel spent the entire evening quoting and discussing your book, *Universion*. His audience was in absolute rapture."

So it is evident that this book was appreciated by people poles apart in their interests.

Nothing could be more appropriate in concluding this introduction to Georges Lakhovsky and his vast humanitarian work than to quote the final passage in Michel Adam and Armand Givelet's "La Vie et les Ondes" (*Life and the Waves*):

"Dr. Postma, who, in his book *Leven en Golven* proves mathematically and experimentally the accuracy of Lakhovsky's theories, writes that the work of that scholar surpasses that of Pasteur and Edison in its scope. You will note what an immense sphere his discoveries cover: they are not limited to one special field. Pasteur discovered the microbe and Edison limited himself to physics and principally electricity."

The works and discoveries of Lakhovsky, on the contrary, reach into all branches of human thought: biology, therapeutics, physics, acoustics, philosophy, sociology, etc. . . . Dr. Postma was quite right therefore to write that the work of Lakhovsky surpasses that of Pasteur and Edison, and practically everything man has been able to create to this day.

In confirmation of the exalted appreciation expressed by Michel Adam, Givelet, and Dr. Postma, I cannot resist the temptation to quote a letter from Professor Mathieu Nicolau, Professor at the Sorbonne, explaining the importance of Lakhovsky's work in the realm of philosophy:

"Illustrious Master:

"You may perhaps remember a member of the Honorary Society of UNFIA (or Latin Medical Union), who once asked you to grant him an interview. I am taking the liberty of expressing my deep gratitude for the generous response you sent me then. Unfortunately, I have not had sufficient time to complete my research on the Mathematical Physics of the Ancients and the philosophical doctrines derived from them. However, I want to submit to you the research I have completed and which your marvelous discoveries made possible.

"You have opened up to us, Illustrious Master, new avenues to enable us to understand the ancient philosophies, so long forgotten or misunderstood. Your discoveries have revealed to us unsuspected horizons. But, rising above modern philosophy, you rejoin and surpass the highest peaks of ancient philosophy. 'From Pythagoras to Eddington' the road is not undoubtedly grandiose, but for us, there is something more, and that is what I want to explain to you.

"Forgive me for having waited so long, but my teaching at the Sorbonne, in the School of Advanced Studies, which has no connection with my research, takes up so much of my time. In the meantime I have had the opportunity of admiring once more the marvelous contributions of your work,—an achievement unique in the annals of human thought and science.

"A Roumanian colonel, suffering from a serious cancer and a diabetic besides, came to Paris for treatment in 1933. I took him to Dr. Rigaux, and thanks to your treatment, the colonel went home not only cured, but really restored to his youth. Since, he has been in excellent health.

"With my sincerest expressions of deep respect."

(signed) Mathieu NICOLAU,
Professor at the Sorbonne
Laureate of the Institute
73 rue St Jacques, Paris 5^e

I pause here in this already lengthy preface, for to enumerate and explain the tremendous contribution of Georges Lakhovsky would require many volumes. I fear, too, that the Professor would protest that I was going too far.

Nevertheless, I feel impelled to emphasize the capital importance of Lakhovsky's work, not only to my American colleagues in the fields of scientific research, but especially to the American people.

Europe has cast upon our shores many great scientific minds who fled the persecutions of the German invader, among them Einstein, etc. Georges Lakhovsky, however, is unique among these countless refugees. For his contribution to the future of our health and to the potential welfare of our American people is unsurpassed in scope and utility. We Americans should be happy to have among us a scientist like Georges Lakhovsky.

We are therefore honored to present to the public this great work, which will stand as a monument to the scientific progress of the twentieth century.

JACQUES C. PRESNER, M.D., C.M.*
Member of the New York Academy of Science

* Dr. Jacques C. Presner is on the staff of some well-known New York Hospitals.

INTRODUCTION

SINCE 1923, the year I first began my experiments at the Salpêtrière with short wave apparatus producing a field of 2 to 10 meter wave lengths, there has been a considerable development of the therapeutic application of short waves the world over.

At the International Congress of Short Waves in Physics, Biology, and Medicine held in Vienna from the 11th to the 17th of July 1937, I realized that many communications made by the majority of the members presented contradictions, the results obtained, positive or negative, depending usually on the characteristics of the waves used, especially the wave length, power, and nature of the subject and disease treated.

Of course it does not seem possible to apply waves of the same length and power to different individuals, since, of the two billion inhabitants on this earth there are no two with the same personality, appearance, or traits, and consequently no two with the identical physical, chemical or electrical constants.

Therefore, a 4 meter wave, for instance, which would suit one, might be disastrous for another.

In 1928-29, after experiments in Germany by Professor Schliephacke of Giessen, and Professor Esau of Iena, who also used short waves with an apparatus similar to my first oscillator at the Salpêtrière, but with amplified power, I learned that short waves were a two-edged sword, sterilizing the milk on the one hand and killing the mice on the other. I resolved then and there to give up short waves of definite lengths with thermal effects, and to replace them with an electrostatic field of all wave

lengths ranging from 3 meters to the infra-red and producing no thermal effects.

In the ten years my multiple wave length oscillator has cured the most serious diseases all over the world, including cancer, I can truthfully affirm that there has never been a counter-indication noted. This is more than can be said of short waves in general, X-ray, and of course, radium, which may have disastrous effects on both practitioner and patient.

I propose to confirm this fact in this volume. It contains the results of my experiments in the Paris hospitals and a few recorded by foreign scientists in various countries using my multiple wave oscillator, as well as communications made to the Congress of Vienna concerning the apparatus.

I cannot caution practitioners too strongly to exercise the greatest care in the application of short waves with thermal effects. For, while it is true that remarkable results have often been obtained, serious, even fatal accidents have occurred in the course of treatment.

I am, further, convinced that Marconi, the great Italian scientist, died as a result of the overapplication of short waves. As you perhaps know, Marconi had built himself a short wave oscillator of great power, transmitting on about a 6 meter wave length, for therapeutic purposes.

He was enthusiastic about the future he foresaw for this type of therapy. In fact, he considered it much more important to humanity than the radio. Despite all he had done with radio, he continually stressed the beneficial effects of short waves. He even went so far as to state:

"The human body is greatly benefited by the application of short waves. I use them myself and can report their good effects. They make work pleasant, relieve fatigue, and renew my energy."

Those words of Marconi struck me forcibly, and I feared he was exposing himself to great peril.

It is regrettable that Marconi, who was incontestably a genius, did not understand physiology and cellular life. He did

not suspect that every one of our 200 quintillion cells contains ultra microscopic filaments, just like oscillating circuits. He knew nothing of these chromosomes and chondromes, which are the real basis of life, nor of their destruction in a too intense electrical field.

It was a great loss to science that Marconi should have died, a victim of his profession, at the height of his activity. But his example should be a warning to all practitioners in the use of short waves in therapy.

When I recommended, in 1925, in my book *The Secret of Life*, the construction of a short wave apparatus powerful enough to create an artificial fever raising the body temperature to 105-106 degrees F. to destroy certain microbes, particularly the syphilis virus which cannot live at that temperature, I meant to administer a single application for five or six minutes over the entire body, and not to prolong it, even locally for any length of time. A prolonged treatment might entail risk of burning certain tissues — and even death.

I feel justified in emphasizing this point since I did construct the first short wave apparatus for therapeutic and biological use at the Salpêtrière, as explained in my communication to the Biological Society, made jointly with Professor Gosset and Dr. Gutman on July 26, 1924, concerning the cure of cancer in geraniums by short waves.

Nevertheless, it is generally admitted that short waves constitute an excellent therapeutic instrument for the future, particularly in the treatment of microbe infections, provided extreme caution is observed in the strength and duration of treatments. Sometimes a center of infection with auxiliary tissues may be destroyed by a few minutes' irradiation. But these destroyed cells are quickly replaced by karyokinetic division, and, since the microbe can no longer establish its resonance, it cannot continue to develop in the organism. However, too powerful or too prolonged irradiation will destroy so many cells that the organism will deteriorate, the whole system be weakened, and death sometimes ensues.

RADIATIONS AND WAVES

SOURCES OF OUR LIFE

Before publishing the therapeutic results obtained with my multiple wave oscillator and presented at the International Congress of Short Waves in Vienna (July 1937), it may be useful to give a rapid survey of my theory of cellular oscillation which I have developed fully in a number of books.*

All living cells are composed of two essential elements; the nucleus and the protoplasm in which it is bathed. This nucleus is itself composed of many tubular filaments: the chromosomes. In addition, hundreds of such smaller filaments or chondromes are present in the cytoplasm. (Fig. 1)

Chromosomes and chondromes are sheathed in an insulating substance (cholesterine, resin, fat, plastrin, etc.) and contain a liquid like serum with the same mineral content as sea water, and consequently a conductor of electricity. (Fig. 2) Thus, these filaments constitute ultramicroscopic oscillating circuits capable of oscillating electrically over a wide scale of very short wave lengths.

I have demonstrated in my works that these cellular oscillating circuits, chromosomes and chondromes, vibrate electrically under the stimulus of electromagnetic waves: cosmic, atmospheric and telluric.

Now, many internal and external influences may upset the

**Le Secret de la Vie* (The Secret of Life), Pub. Gauthiers-Villars, Paris. *Contribution à l'Étiologie du Cancer* (Contribution to the Etiology of Cancer), Pub. Gauthiers-Villars, out of print. *La Terre et Nous* (The Earth and Ourselves), Pub. Fasquelle, Paris. *L'Oscillation Cellulaire* (Cellular Oscillation), Pub. G. Doin, Paris. *La Nature et ses Merveilles* (Nature and Her Wonders), Pub. Hachette, Paris.

oscillating equilibrium of these cells. For instance, a variation or change in the field of cosmic, telluric or atmospheric waves, a demineralization of the organic matter constituting the cellular substance, traumas causing the destruction by shock of the protoplasm or the nucleus.

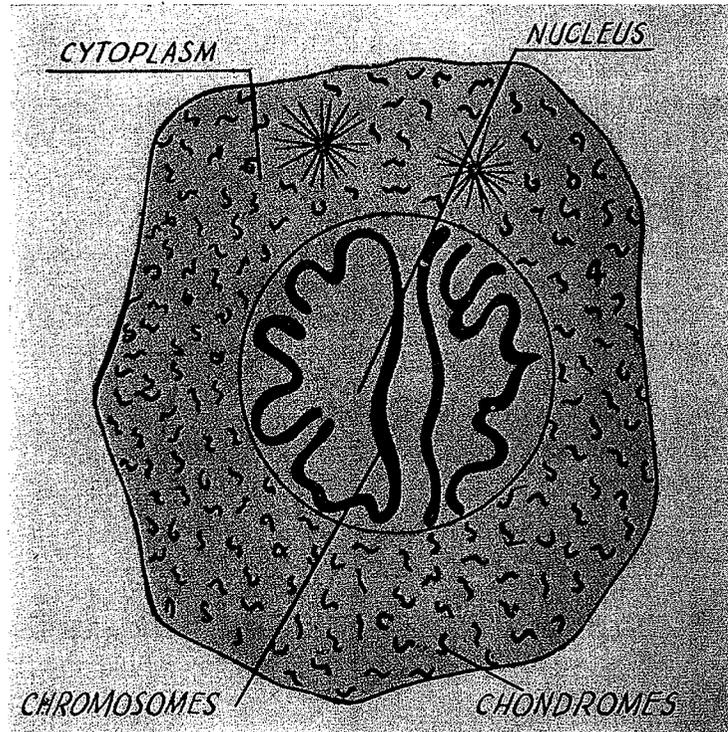


FIG. 1. — Cross-section of a cell in its normal state. This sketch shows a cross-section of a cell in its normal state: in the center or nucleus, large tubular filaments (chromosomes) oscillate at a definite frequency. In the cytoplasm countless little filaments (chondromes) oscillate at a much higher frequency due to their much shorter wave lengths.

Under these varied circumstances cellular oscillation may cease: the cell is then dead. But within the dead cell, the chondromes sometimes continue to oscillate electrically on their own

natural frequencies. Fortunately, this phenomenon occurs rarely, or all mankind would already have perished of cancer.

The chondromes then envelope themselves in a membrane and continue to oscillate and multiply independently of the cell. They may then become neoplastic cells. (Fig. 3)

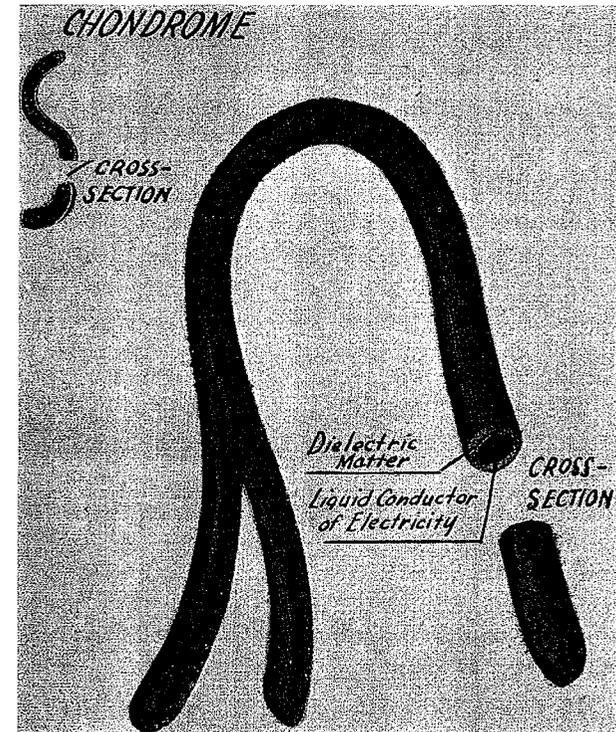


FIG. 2. — This plate shows schematically two elements of the cell which play an important part in cellular life: a chromosome and a chondrome, on the same scale. As you will note, the chondrome is much smaller than the chromosome and will therefore vibrate at a much higher frequency.

In 1923 I first conceived the notion of creating an electromagnetic field producing a sustained very short modulated wave on a single frequency maintained between 2 and 10 meter wave lengths.

With this short wave apparatus I was able to cure plants inoculated with cancer. For six years at the Salpêtrière I observed and checked the effects of these short waves.

Using very low power, from 10 to 12 watts, and a limited

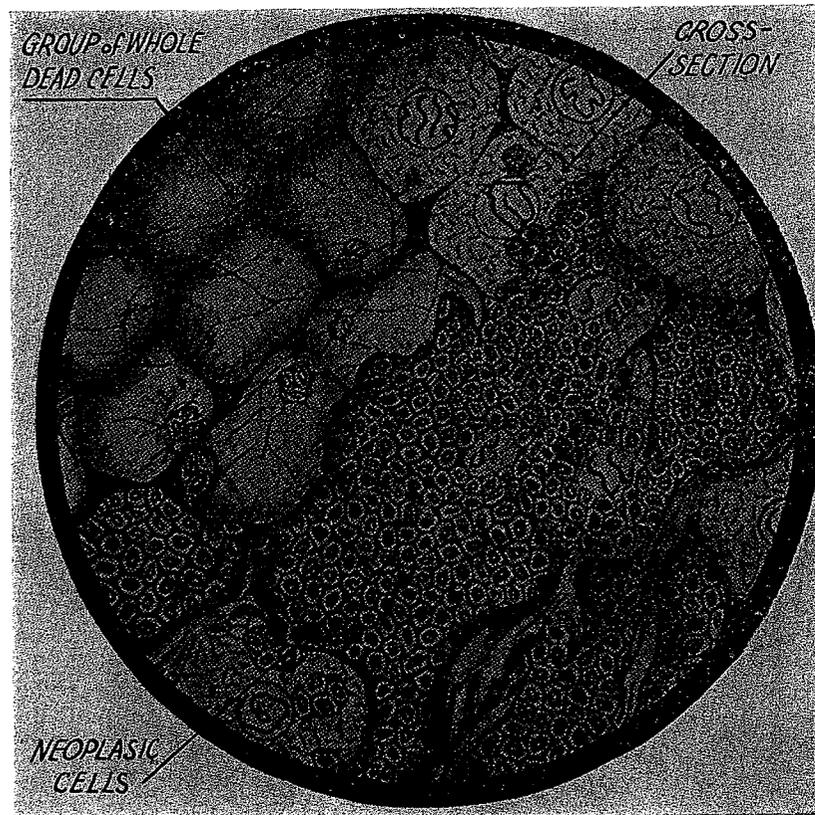


FIG. 3. — Diagram of a group of dead cells, not yet completely destroyed, in which neoplastic cells are forming. You will note, on the right, a region already completely transformed into neoplastic tissue.

duration of treatment, I succeeded in curing cancer in human beings, but also had to record some failures.

The success of my experiments became widespread. In many

countries, as early as 1928, they began to build short wave oscillators of considerable power producing thermal effects.

But there was great danger that the chromosomes and chondromes, which are barely a ten thousandth or twenty thousandth of a millimeter in thickness, might not survive under a high frequency current. They offer much resistance, even to a low current which is sufficient to dissolve and destroy them.

It is simple to prove this by bringing a small bulb of from 2 to 5 volts with a filament of several hundredths of a millimeter, inserted between metal rods forming antennæ, within the radius of a short wave transmitter. The bulb will light up and sometimes burn out, if it is brought too near the apparatus.

Moreover, the chondromes and chromosomes of all living cells, which are infinitely finer than the filaments in the bulbs, are sensitive centers of thermal phenomena, which may provoke their fusion. Undoubtedly this method is effective in killing microbes in the organism and in neoplastic cells. But it can also destroy millions of cells of healthy tissue in every irradiation.

That is why, in 1929, I gave up using my short waves with thermal effects emitted on a single wave length.

On the other hand, I thought it possible to obtain better results by administering an oscillatory shock to all the cells in the organism simultaneously. Such a shock, very brief, produced by damped or weakened electrostatic waves, does not provoke thermal and prolonged effects and involves no risk of burning living cells.

I therefore sought to produce an artificial oscillatory shock causing aperiodic oscillation of the weak or dead cells.

At first glance this problem seems physically insoluble as there are approximately 200 quintillion cells in our bodies, each oscillating on its own natural wave length. Theoretically, therefore, we would have to have a different wave length for each cell, so that every cell in the organism could oscillate in resonance on its own wave length.

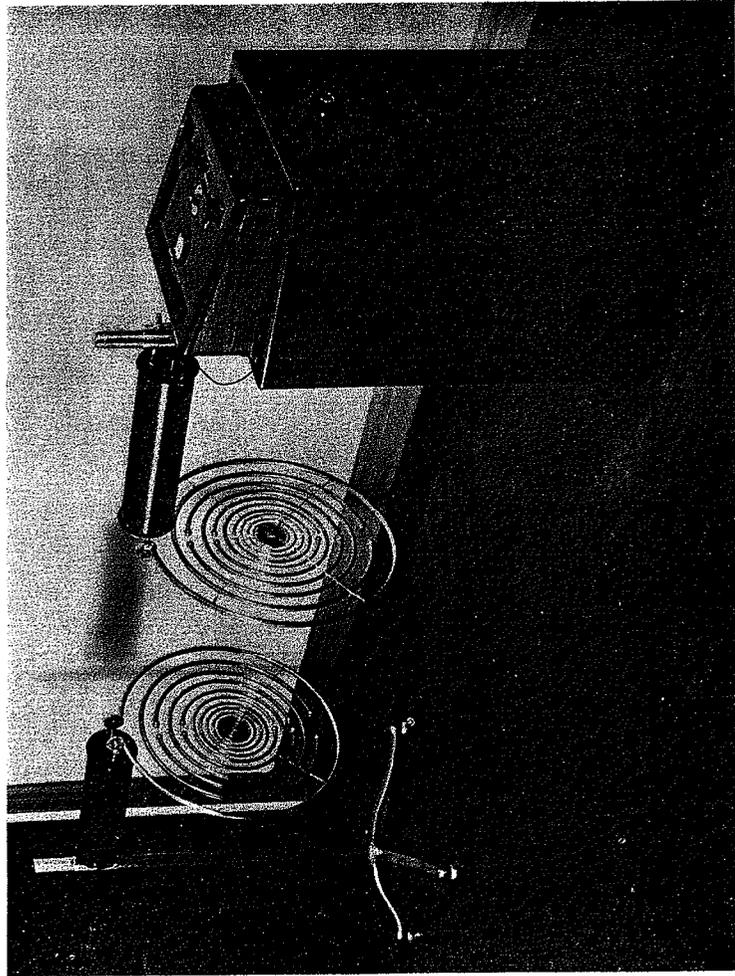


FIG. 4. -- Multiple wave-length oscillator.
The complete apparatus with its two resonators, creating a surrounding magnetic field between the transmitter and receptor.

After much research I was able to construct an apparatus creating an electrostatic field covering all frequencies from 3 meters to the infra-red, so that every cell can find its natural frequency and vibrate in resonance.

We know that in physics, a circuit fed by damped or weakened high frequency currents creates many harmonics. Consequently I conceived an oscillator of multiple wave lengths with a broad scale in which every organ, every gland, every tissue, every nerve, could find its natural frequency. (Fig. 4)

To obtain this result I set up a transmitter composed of a series of circular concentric oscillating circuits linked by a silk cord but not contiguous, as shown in Fig. 4.

Thus, I built an oscillator with all the basic wave lengths from 10 centimeters to 400 meters, that is, all frequencies from 750,000 per second to 3 billion. But each circuit also emits many harmonics, which, with their basic waves, their interferences and their effluvia can reach the scale of the infra-red and even that of visible light (1 to 300 trillion vibrations per second).

Since all the cells as well as the chondromes oscillate precisely at frequencies on those gamuts, they can therefore find on the scale of such an oscillator, the frequencies which cause them to vibrate in resonance.

RESULTS

In 1930 I set up my first multiple wave-length oscillator, an appreciable improvement over the short wave oscillator with which I had cured cancer in pelargoniums inoculated with *Bacterium tumefaciens* in 1924.

As early as 1931 I began using my multiple wave oscillator in the various hospitals in Paris: the St. Louis, Val-de-Grâce, Calvary, Necker, the Franco-British Dispensary, the Laboratory of the National Federation for Veterans with chest wounds, and the Institute of Biological Physics.

In the French medical corps Dr. Pierre Rigaux and Dr. Foveau de Courmelles distinguished themselves in the application of this new apparatus, which was presented to the Medical Society of Practitioners on January 20, 1933, and Dr. Roux de Laroque of Toulon and Dr. Kopp at Thann made very interesting communications on the results yielded by the new machine.

Abroad, the apparatus was being used with success in Italy, Spain, Belgium, Holland, Sweden, Uruguay, Argentina and Greece.

Everywhere the results obtained far exceeded all hopes.

As this little book is primarily designed to complete my previously published works on this subject, I shall not include all the cases described in those works, nor those that reached me since.

As the healing processes are about the same in the various cases, I shall select a few personal observations on patients I myself treated in the Paris hospitals, and those included in the communication to the Congress of Short Waves in Vienna on July 14, 1937 made by the eminent Professor de Cigna of the Academy of Medicine of Genoa.

OBSERVATIONS

Saint Louis Hospital, Paris

Mrs. C. . . . 68 years old. Epithelioma in the corner of the left eye, on the left side of the nose, three years standing, about the size of a dime. Epithelioma is hard and ulcerating. Treated 23 years ago by Dr. Brocq with X-rays, for a tumor of the face. Specific condition improved, but keratose crust formed. After examination September 8, 1931, she stated she had lost her memory, often began to cry on the street, not knowing where she was nor where she was going.

First treatment with Lakhovsky multiple wave oscillator September 8. On September 15, after the third quarter-hour treatment, an improvement in her general health was noted. Size of epithelioma of inner corner of left eye reduced. Crust of epithelioma diminished.

Patient's memory has progressively improved. Treatments given the 17, 19, 24 and 29 of September. Progressive and steady improvement noted.

After treatment Tuesday the 13th, Thursday the 15th, and Saturday the 18th of October, tumor diminished steadily and patient states she feels much better generally. Sleeps well, good appetite. No treatment until Thursday, the 22nd. The tumor is reduced, leaving a small ulcerated spot. Patient says she feels rejuvenated. October 27, tumor completely cicatrized. Slight induration remains at base. November 19, tumor completely disappeared. Scar without induration. The face is really rejuvenated.

November 19th, both tumors at the eye and on cheek entirely gone. The patient emphasizes she feels decidedly younger, happier, and enjoys life. Altogether has not felt so well in thirty years. Patient continues to look marvelously well. (Figs. 5 and 6)

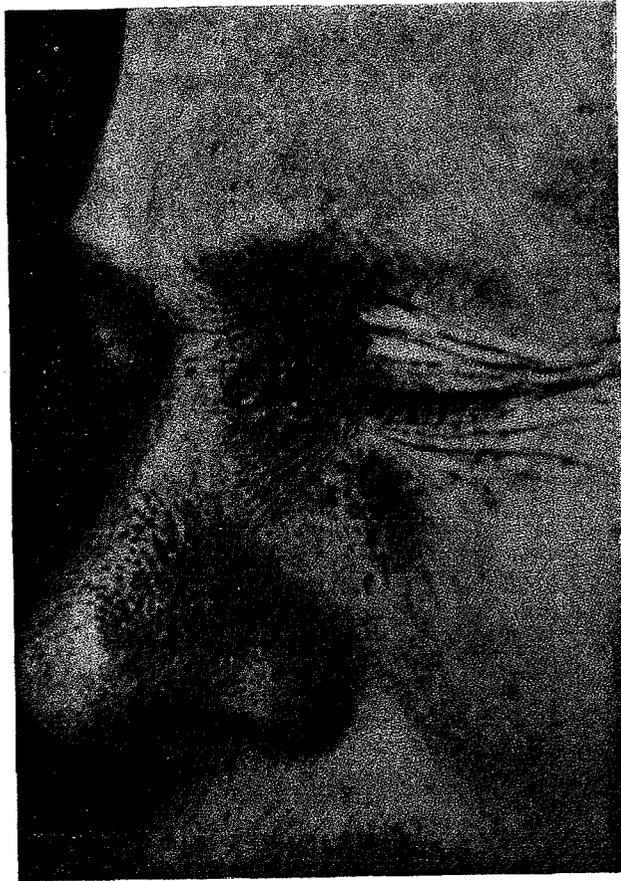


FIG. 5. — Photograph of Mrs. C. . . . Note the tumor at the corner of the eye and another tumor in a suborbital region. Notice the wrinkles and enlarged pores of the nose denoting cellular deterioration in this 68-year-old patient. Photograph taken before treatment.



FIG. 6. — The same subject, Mrs. C. . . . cured of her cancer, with a fresh, rejuvenated skin.

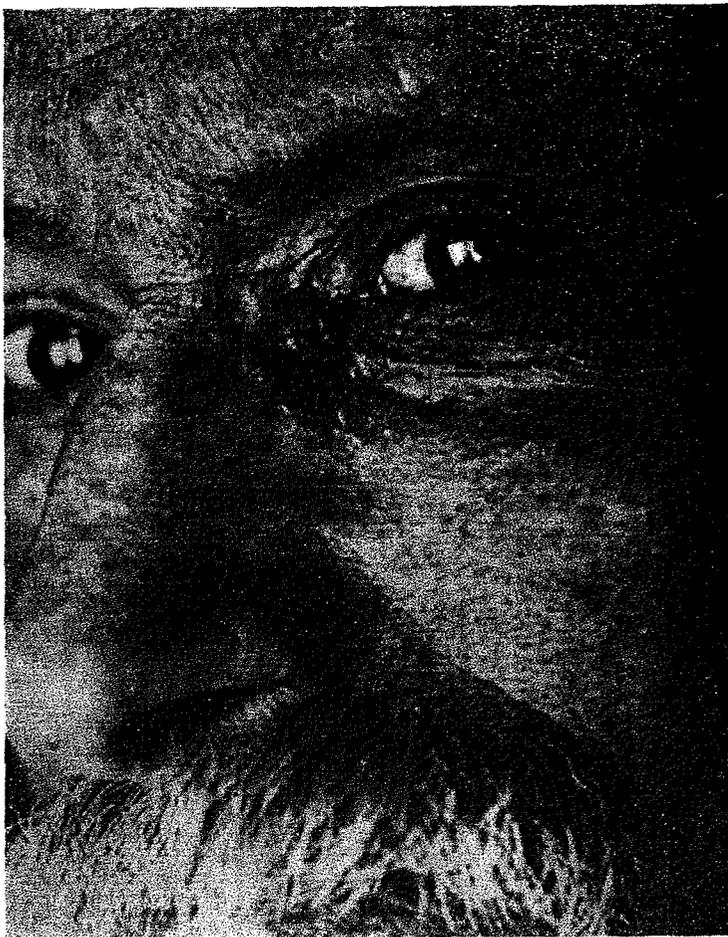


FIG. 7. — Case of Mr. J. S. Before treatment. Rodent ulcer in inner angle of left eye.

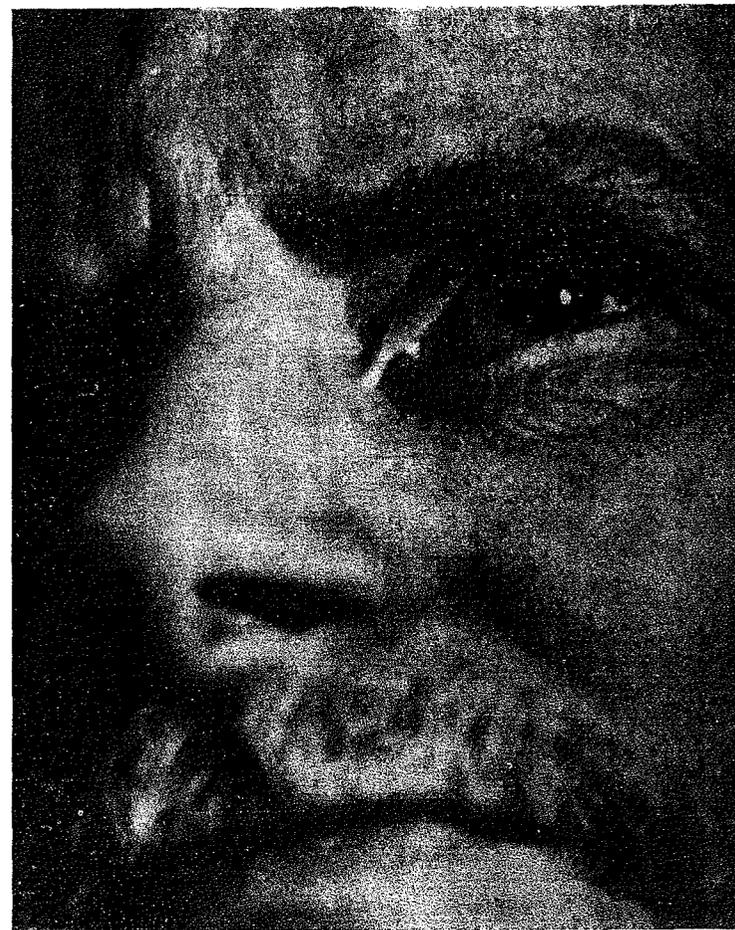


FIG. 8. — Case of Mr. J. S. After treatment.

This woman, completely recovered, later wrote me the following letter:

Paris, June 3, 1932

"Sir,

"Permit me to thank you, a little late perhaps, for the care you gave me, and to tell you that hardly a day passes that I do not receive compliments on my splendid health and vigor.

"The doctors who knew me before the treatments, are amazed. One of them said to me recently: 'You look twenty years younger, cheerful, and you carry yourself like a young person. What's the name of the doctor who cured you?'

"I told the doctor I had been treated for the tumor near my eye by Dr. Lakhovsky at the Saint Louis.

"My old friends marvel at my health and the results of the treatments. Besides I have gained weight: in September 1931 I weighed 55 kilos, in April 1932, 56 kilos; and on June 1, 58 kilos 200 grams.

"Very respectfully I offer you a thousand thanks for my resurrection and complete cure."

signed: V. B. CRUCHOT.

Case of Mr. J. S. — 61 years old

Diagnosis: Baso-cellular carcinoma at inner corner of left eye. Diagnosis confirmed by biopsy.

Duration: Fifteen years. No previous treatment.

Treatment with multiple wave oscillator began on October 13, 1931, at Saint Louis Hospital. On December 29, 1931, the lesion was covered with a scar. Subsequently the patient received further treatment, and in the course of 1932 a complete cure was effected. The patient stated that he felt greatly rejuvenated and that he could undertake heavy manual labor without experiencing fatigue.

(Figs. 7 and 8)

Calvary

Mrs. S. — 82 years old. Epithelioma on the upper region of the left cheek about 3 cm. by 6 cm., extending to the scalp. (Fig. 9)

The patient was treated three years ago at the anti-cancer center.

After an operation in 1939, at the center, for a suspicious looking indurated pimple, an ulcerated sore formed, neoplastic in nature. In 1929 and 1930 she had two treatments with radium. After the applications an improvement was noted, but it did not last long. The tumor persisted and continued to grow. Another smaller tumor, about the size of a bean, also developed on the left cheek in the suborbital region. (Fig. 9) There were very hard nodes in the neck, one about the size of a pigeon's egg, the left sub-maxillary, in addition to an oedema of the ear with keratosed skin.

About the middle of April the patient, whose condition had become worse in the last three years, was sent to Calvary Hospital.

On April 26, 1932, the patient was given a treatment with the Lakhovsky multiple wave oscillator for fifteen minutes. A second treatment followed on April 28 and lasted ten minutes.

On May 10, the main tumor was considerably reduced and the crust fell off. A small sore about 1.5 cm. wide and 2 cm. long remained. The small tumor in the suborbital region had disappeared.

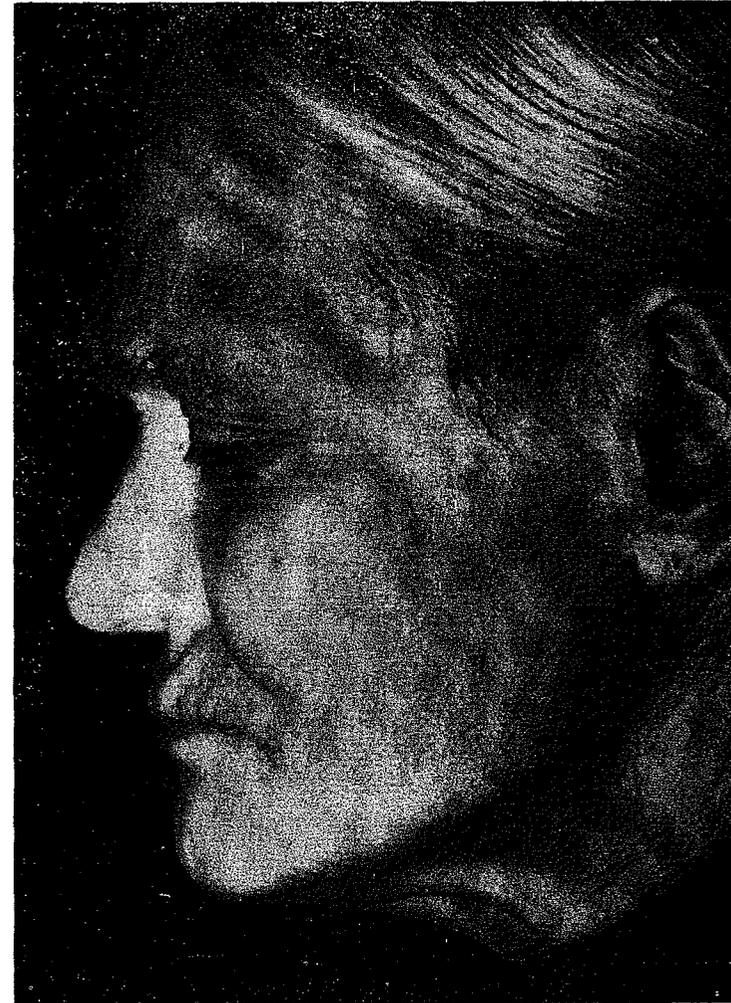
The patient was again treated with the Lakhovsky multiple wave oscillator on May 12 for twenty minutes. The oedema of the ear, as well as the nodes disappeared.

On May 28 the head nurse at Calvary told me that all dressings and treatments had been discontinued as the patient was entirely well (Figs. 10-11)

Under similar circumstances, I was able to cure an octogenarian at the Saint Louis Hospital, of a serious noevo-carcinoma of the left arm. Just recently I saw Mr. M. whom I treated 10 years



FIG. 9. — Mrs. S. . . . photographed the day before treatment began, April 25, 1932. Note the wrinkles in the neck and the aged tissue of this 82-year-old woman.



FIGS. 10-11. — Same patient photographed thirty-five days later. Complete cure. This 82-year-old woman now has the rosy, transparent skin of a woman of 30 or 40. Photograph taken May 30, 1932.

ago, and who is now actually 90 years old. He looked splendid and told me he had never felt better in his life.

Then there were the cures of Mr. P., Manager of a large daily, of an inoperable cancer of the stomach and Mr. S., a well-known writer, of a tumor of the liver. These people were not only completely cured, but felt wonderfully well and looked younger. For the most part, these cures were effected over six years ago and no recurrence has been noted.

I shall give a full account of the case of Mrs. S., cured nine years ago in four treatments.

Val-de-Grâce

In October 1928, Mr. C. consulted several doctors about the severe pains in the head, from which he suffered. Since his condition seemed to get worse, he came to the Salpêtrière for consultation on March 22, 1929. The preliminary examination was made by Dr. Darquier, under the supervision of Professor Guillain. He was admitted to the hospital on March 23 and stayed there until June 15.

Diagnosis: Tumorous growth at the right ponto-cerebellic angle, with pressure on the trigeminal nerve and deafness of the right ear. At first it was supposed the tumor arose from a syphilitic condition, but a blood test and spinal puncture, examined by a Wasserman, gave negative results.

Under Dr. Mathieu, the patient had twenty treatments of strong radiotherapy without any change. Dr. Schmidt, also supervised by Professor Guillain, then took over. No improvement resulted in 1929.

When the patient came to the Val-de-Grâce on January 25, 1932, he had a very hard node, about the size of an indurated egg, under the right maxillary.

On February 1, 1932, treatment was begun with the multiple wave oscillator. At that time, his general condition was very grave. He suffered very much, could not

move the head at all, could not stand and was obsessed with the idea of suicide.

Quarter-hour treatments were administered on the 1st, 4th, 8th, and 12th of February, and the suffering was relieved. After a month of rest, the patient was much improved: he could walk alone, and had regained his color, but could not yet move his head freely.

Since he was able to travel, he was sent to continue his treatments at the Institute of Biological Physics where Dr. Rigaux had been using my multiple wave oscillator for some time.

After ten applications of the oscillator at the Institute, the patient was completely cured. He had gained almost 6 kilos, had gone back to work, and looked wonderful. He seemed much younger.

In the two years following his recovery, he has never had any pain, is working with a really youthful vigor, and has never missed a day at his office.

As a matter of fact, here is the letter I received from him, to my delight and surprise, on January 1, 1934, two years after his recovery:

Paris, December 31, 1933

“Not a day goes by, dear Sir, that I do not bless Providence for having sent me to you.

“Your treatments have produced miracles in me. This year I did not miss one single day of work; I seem to have recovered an ‘ease’ that recalls the days of my youth. And I am happy to express once more my deep gratitude, for you were really responsible for my return to life after so much suffering and despair.

“For this New Year, permit me, dear Sir, to offer you my best wishes with those of my wife, and to express the hope that you may continue to relieve suffering and to console the unfortunate.

“With my deepest thanks and respect.”

Signed: COURBE

Case of Radium Burn

From a medical point of view this case is of great importance, for it demonstrates both the dangers of radium and the regenerating effects of Lakhovsky's multiple wave oscillator.

The diagnosis of this case was radium dermatitis.



FIG. 12. — Photograph taken before treatment with the Lakhovsky multiple wave oscillator, of a radium dermatitis where all previous therapy had failed.

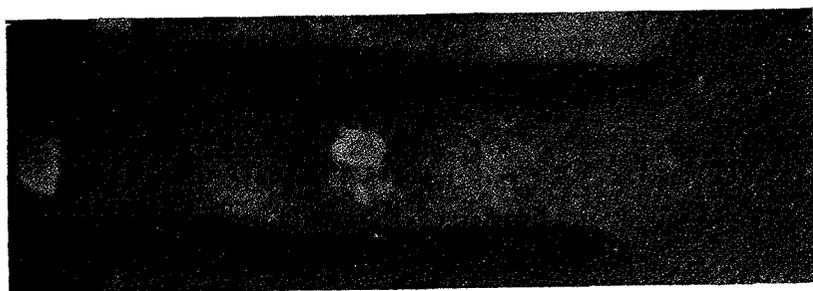


FIG. 13. — Photograph of the same subject after cure of the radium dermatitis by treatment with the Lakhovsky oscillator administered at Goeteborg Hospital, Sweden.

The lesion originated from an ordinary wart on the middle finger.

Radium was applied with the result that a severe burn appeared, which resisted all forms of treatment for a long

period. The tendon was partially necrosed and the patient complained of local pain and rigidity.

This case was treated by Professor Sven Johansson in a Hospital Clinic at Goeteborg, Sweden. (Figs 12 and 13)

Professor Johansson wrote me the following letter concerning the cure:

"Dear Mr. Lakhovsky:

"For some time I have intended to send you some photographs of a case which I treated with your apparatus. (Figs. 12 and 13)

"The application of radium to this young man's finger to cure a wart caused a serious burn, which resisted all treatment for several months. The tendon was necrosed and there was a painful inflammation of the joint with almost complete rigidity. (Fig. 12)

"After treatment with your apparatus for a few months, the radium dermatitis is completely cured as well as the inflammation of the joint, and the mobility of the finger is considerably restored." (Fig. 13)

Signed: Professor Sven JOHANSSON

In November 1932, a Roumanian colonel came to me. He had been recommended to me by a Professor from Bucharest. His health was wretched and he suffered intensely from a serious tumor of the penis. He enumerated the doctors who had treated him with no result. All radium and X-ray treatments had failed. So I sent the patient to Dr. Rigaux at the Institute of Biological Physics and he treated him with my oscillator until successfully cured.

Here is an excerpt from the minutes of the January 20, 1933 meeting of the Medical Society of Practitioners at which Dr. Rigaux made a communication on this case:

**REPORT ON A PATIENT WITH CANCER OF THE
PENIS CURED BY LAKHOVSKY MULTIPLE WAVE
OSCILLATOR BY DR. PIERRE RIGAUX**

My patient's friendship makes possible this communication. Before introducing him, to facilitate your examination, I should like to give you some details on the state of his health prior to the treatment.

Colonel T. . . . of Bucharest, here present, is 67 years old. For 30 years he has suffered continually from a phimosis.

In September 1928, a pimple the size of a pea, and very adherent, between the foreskin and the gland was removed. The biopsy showed negative.

At the beginning of 1931 a new pimple appeared. The biopsy then showed positive.

On October 5, 1931, the patient had three radium injections sustained during 7 days and beginning on October 19, 1931, X-ray treatment was started. The pimple was cured.

In December 1931, a small erosion appeared on the gland and it was established that the patient was diabetic. A urine analysis showed 8 grams of sugar and his glycemia rose to 0.96.

He was given an insulin treatment. The glucose disappeared from the urine and the glycemia in the blood reached 0.28.

On April 5, 1932 he had a second radium treatment. A radium "muff" had no effect.

On June 2, 1932, it was decided to remove the enormous nodes which had formed in the two inguinal folds.

One of these nodes was removable and proved to be hard, sclerosed and cancerous.

In July another surgical operation was advised.

At the end of July 1932 the patient, on the advice of several Bucharest physicians, came to Paris for treatment at the Curie Institute where it was thought best to wait six months before administering another radium dose.

In August he saw two of our colleagues, Dr. Coutard and Dr. Monod.

In October he returned to Paris and went directly to the Curie Institute. The evolution of the disease required further surgical intervention. He saw Dr. Dartigues at the time, and the doctor confirmed this advice. Because of the scope of the operation, total emasculation was advised. The patient refused and it was at this point that he came to see me.

Colonel T. . . . had heard vaguely of the method of Georges Lakhovsky on which I had been collaborating for over a year. I will give you further details of it at another meeting. It involves treatment with the Lakhovsky multiple wave oscillator.

This apparatus was invented by a French scientist, the physicist and biologist, Georges Lakhovsky, pupil of d'Arsonval who has, for the past ten years, been spending his time and his fortune in research on cancer and whose theories are well-known abroad and his books read with much interest particularly in Italy, and also in Germany, Sweden, etc.

I should like to pass around a photograph which I owe to the generosity of Colonel T., which will show you how emaciated he was: for a year he did not sleep, ate poorly, suffered day and night, and now, since October 6 when I began treatment, he has gained 5 kilos, no longer

suffers from glycemia nor shows sugar content in the urine. He has a feeling of well-being, is happy to be alive, whereas before, he was obsessed with the thought of suicide.

To date, this patient has had many treatments with the Lakhovsky multiple wave oscillator.

Briefly, the apparatus consists of a transmitter and receiver of waves, each composed of a series of concentric circular oscillating circuits, non contiguous, but linked by a silk cord.

This oscillator gives all the elemental wave lengths from 10 to 400 meters, that is, all frequencies from 750,000 to 3 billion vibrations per second. Moreover, each circuit emits numerous harmonics. These harmonics in conjunction with their fundamental waves, their interferences, and their effluvia, can reach the scale of the infra-red and even visible light (1 to 300 trillion vibrations per second). Since all the cells, according to Lakhovsky's theories, oscillate on frequencies in this scale, they can find within the radius of such an oscillator their particular frequency and establish resonance with it.

Some day I will explain the basis for Lakhovsky's theories. The case which I am presenting to you is taken at random from some hundred or more patients we treated jointly, who enjoyed the benefits of this method. It gives results not only in cases of neoplastic formations, but also in pulmonary tuberculosis, in all the algies, and we even have a case of radium dermatitis cured by the Swedish Professor, Sven Johansson, with the Lakhovsky multiple wave oscillator. I want to emphasize these points:

- 1) the general increased resistance and improved condition of the patients. They gain weight, their blood sugar and urea disappear.
- 2) Pain disappears and those who used drugs give them up. As for the local condition, you will judge for yourselves.

We started off with two or three treatments every day, then every two or three days, then once a week. During those early months, the Colonel suffered four or five minutes a day, but now there is no pain at all. When he came to me, the gland was completely sphacelated for some 2 cm. and adhering to the member not only at the level of the urether, but also on a line with the cavernous bodies. I did not dare press the method since I wanted to avoid hemorrhage.

I forgot to bring you the segment that was removed, which I kept in a flask and which a colleague of the Society has examined. Let me add that the patient's scrotum was the size of a large melon when he first came. Now, as you can see for yourselves, the scrotum and its contents are normal in size and volume.

What do the treatments consist of? You expose the patient to the Lakhovsky oscillator for 10 to 15 minutes every day, then every four days and finally every week or every other week; if there is an ulcerous wound you apply silver nitrate at 30 for 1000 under the apparatus: the wound buds rapidly. What acts most are the waves, but the effluvia and sparks too favor a diminution of the tumors. On the other hand, I absolutely do not wish to start a discussion of cancer in itself and make comparisons between the various methods of treatment: here is what I want to emphasize particularly: the pain always disappears and there is always a marked improvement in the general condition. As for the local condition, I'll let you be the judge.

(Applause)

This unhopd for cure produced a sensation in Roumania when the patient returned there, for all his previous doctors thought him doomed.

I saw this Colonel in Paris in 1933, a year after his recovery. I was astounded to see this 68-year-old man completely rejuvenated with a fresh complexion and rested look, carriage erect, who had come to express his gratitude to us.

This was only one of the numerous cases of successful recovery after treatment with the Lakhovsky apparatus in the files of the Institute of Biological Physics in Paris where Dr. Rigaux is Director. On July 7, 1933, he wrote me:

"Dear Mr. Lakhovsky:

"I am sending you the following excerpts from a letter I received from Dr. H. . . . of Brussels on June 26:

"I have successfully treated five cases of prostatitis. The number of nocturnal micturitions fell from 25 to one or two in each case. In some cases a urologist discovered upon examination of the prostate that it had been reduced in size and shape from that of a tangerine to normal.

"After a month's treatment, a third prostate analysis showed reduced micturition and absence of hemorrhoidal troubles."

"Among numerous others treated by Dr. H. with the Lakhovsky multiple wave oscillator, he notes particularly duodenal ulcers, ulcers of the small curvature, enterics, and a spasmodic colon of 8 years standing. All these patients were soon freed from pain and their general condition was vastly improved.

"So you see that it is not only in Paris and here in France that wonderful results are being obtained, but everyone who uses the multiple wave oscillator finds it more than satisfactory.

"With my most cordial regards,

"Dr. P. RIGAUX."

Chief of Staff of the
Institute of Biological Physics

I likewise received this letter from Dr. Leonida Roversi, Head of the Clinic at Bologna, Italy, on June 16, 1934:

"Dear Professor:

"I hope you will be pleased to know that I am continuing my experiments and treatments with your multiple wave oscillator.

"I have already completed many experiments and obtained satisfactory cures. With the exception of a few negative results in cases of diseases in too advanced stages of development and persons too advanced in age, I have had excellent results with the most varied afflictions. Here are a few cases among those that deserve mention which you have not yet heard about:

"An adeno-carcinoma of the breast in a 50-year-old woman, a voluminous lipoma in another; a case of kidney stones causing frequent painful colics and intense hematuria, insomnia and lack of appetite which led to generally poor nutrition. The patient recovered in a relatively short time, and gained 6 kilos. The control radiograph showed that the stone had lost its angular shape and was now more smooth and uniform.

"And here is another excellent result obtained in a short time: the improvement of an extended cutaneous ulceration of the hand of a diabetic woman, as well as much better general condition.

"Another remarkable result fully satisfactory to both the patient and myself was obtained by one of my older colleagues, head of surgery and chief of staff of a hospital, in a case of chronic arthritis of the spinal column with intense scoliosis and sciatica, where the patient had abandoned all faith in therapeutic methods known to science. He is now completely cured and very grateful to you and me.

"Moreover, I had good results in two cases of paralysis of the facial nerve, one of multiple neuritis of 8 years standing and one of bronchial asthma of 30 years standing, and one case of asthma accompanied by weakness of the cardiac muscle, a case of uremia, and one of neuritis which resisted



FIG. 14. — Photograph taken in the middle of March 1934 after one month's treatment with the oscillator, showing cancerous lupus of the face. The shaded area surrounding the lupus, shows the volume of the tumor before treatment.



FIG. 15. — Photograph taken April 18, 1934, of the same cancerous lupus. Note that the tumor is further reduced in size, dried up and cicatrized. The darkened area of the skin has cleared; the tissue has returned to normal.

all treatments, two cases of arteriosclerosis and other recent cases which I shall be glad to tell of shortly.

"The public is beginning to know your method and shows more and more confidence in your treatment.

"I plan to open a new laboratory soon to continue my work and my experiments in this line: in the meantime I hope you shall be able to grant me this favor: I should like to have your photo and your autograph to guide and encourage me in my progress in this work.

"With all my thanks and respectful homage,

signed: "Dr. L. ROVERSI."

Toward the middle of February 1934, a doctor friend sent me a patient, Mme X. . . . , whose entire face was disfigured by an enormous cancerous lupus unbearably odorous and atrociously painful. Naturally, I recommended her for treatment by Dr. Rigaux at the Institute of Biological Physics.

When he had examined his patient, Dr. Rigaux called to reproach me for sending him patients in such a condition, because it was going to be a pure waste of time and electricity. But I told him that the patient was suffering horribly, and to alleviate that pain was in itself a good deed.

So he began treatment and after the second, there was no more pain. Naturally, at the Institute it was not considered necessary to photograph the tumor since there was no hope of the slightest improvement.

Imagine the surprise of Dr. Rigaux and myself when we noted that weekly treatments resulted in so considerable an improvement that after the ninth quarter-hour sitting, the tumor was reduced by more than half.

Then we decided to photograph her, since the original tumor covered the whole face to the center of the forehead and had left a pink outline due to the new skin, which is shown in the shaded area of the picture all around the remaining growth. (Fig. 14)

She was photographed again on April 18, 1934, and Fig. 15 shows the tremendous progress we made in a few weeks.

Now here is another case which shows to what degree this apparatus can not only reinforce the vitality of the organism in its struggle against pathological causes, but regenerate and ossify teeth destroyed by pyorrhea.

Moreover, Dr. Ch. Hulin, distinguished dentist of the surgical hospital of the Salpêtrière made two communications on this case, the first on July 20, 1933 to the Paris Society of Odontology and the second March 27, 1934 to the annual Congress of the same body, in which he stated he had gotten marvelous results with my apparatus in alveolar pyorrhea which had resisted all other therapy to date. Here is a summary of his experience.

The local therapy of pyorrheal cases (alveolar pyorrhea and paradentosis) has two important stages:

1) Transformation of the conjunctive gingival tissue made up of the cells of the reticulo-endothelial system, into inert or sclerous tissue by intro-gingival injection of a solution of sclerogene (quinineurea to 1%).

2) Secondary recalcification of the sclerous tissue by ionization of chlorure of calcium, by means of the Lakhovsky multiple wave apparatus, which gives the most rapid and the best results.

The local therapy of pyorrheal conditions is thus carried on rationally with the best chemical results to date.

The attached radiographs show the results of this new therapy after 6 intra-gingival injections of sclerogene and six 20-minute ionization treatments with a solution of chlorure of calcium to 1%.

The four radiographs were made at the same spot during the treatments with the Lakhovsky apparatus. It will be noted in Fig. I that the center tooth is completely unhinged from its alveole. As the treatment progressed, you will note the gradual reossification of the tooth, a result never before obtained.

During my work at the Paris hospitals, my most passionate research was done in the field of cancer. On the other hand, many specialists and practitioners besides myself have treated diseases other than cancer by my method, with excellent results.

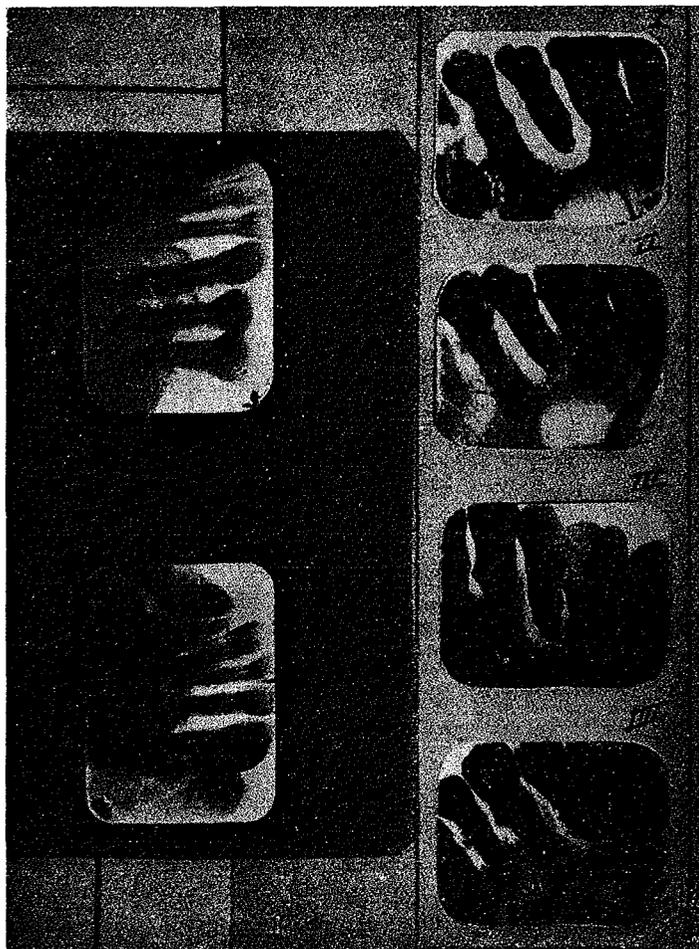


FIG. 16. — Figures I, II, III and IV show the phases of the progressive ossification of teeth affected with alveolar pyorrhea, after treatment with the multiple wave oscillator. Similarly, the two photographs on the left.

Those results have been pointed out in Dr. Presner's Preface as well as in Professor de Cigna's communication, and I have not thought it necessary to expound them here.

However, there is one case of exophthalmic goiter which will be of utmost interest, I am sure.

The patient, a middle-aged woman, was first examined at the Paris Institute of Biological Physics in January 1938, where she was treated with the multiple wave oscillator.

Diagnosis: Exophthalmic goiter. Duration: 11 years.

Operation having been refused, radio-electrical treatment was decided upon.

The first application was given on January 11, 1938. After a few applications the general condition of the patient was greatly improved and the size of the goiter considerably reduced.

Treatment with the multiple wave oscillator was continued throughout February. The patient was photographed on March 4, 1938.

This remarkable result with Lakhovsky's multiple wave oscillator was achieved after only seven weeks' treatment. It will be observed that the goiter has completely disappeared and the general condition of the patient seems to be excellent.

I have received equally remarkable case histories from Dr. Raoul Araujo of Montevideo and Dr. Nicola Gentile of the Free Radiological Clinic for Incurables of the Apostolic Ladies of the Sacred Heart of Jesus in Rome (cases of radium dermatitis, cancer, epilepsy, anemia, high blood pressure, uremia, gastro-intestinal ulcers, etc.).

I must mention another important phase in the scope of the multiple wave oscillator: the pre-operative use of the apparatus.

It was in 1935. An English lady about 52 years old came to Paris to undergo an operation by an eminent surgeon on a very voluminous fibroma. Since it is the custom of distinguished French surgeons to administer, before operation, several analytic tests, such as basal metabolism, blood count, sugar content estimate, etc., this patient underwent these tests and the blood

count disclosed that there were 20,000 leucocytes instead of 5,000 in her blood, rendering an immediate operation impossible.

She was told that her general condition precluded operation and that she would have to have treatments to restore a normal blood count. To hasten this process, she was advised treatment with my multiple wave oscillator.

Early treatments lasted 7 minutes each day. After one week,



FIG. 17. — Case of exophthalmic goiter before treatment.

another blood count was taken and disclosed that her blood was now in normal condition containing the correct proportion of 5,000 rather than 20,000 leucocytes.

Two days later the operation took place and lasted for one hour and a quarter since it presented an advantageous opportunity for an ablation of the appendix and the ovaries. The operation was very successful, temperature almost normal — 32.7 C., pulse 72. Three days later the patient was feeling so well that she demanded food, complaining that she was ravenously hungry.

The surgeon who performed the operation told me he had never seen a comparable post-operation condition, that the oscillator had had an unprecedented effect. Twelve days later, he phoned me and invited me to come down to the hospital to see our mutual patient, promising a big surprise.

When I examined the patient in his presence that evening, I was struck by the almost complete cicatrization in so short a



FIG. 18. — Case of exophthalmic goiter after treatment. Photo taken on March 4, 1938.

period, only twelve days after the operation. The surgeon remarked: "Look at that six-month-old scar." The patient left for London fifteen days after the operation in a state of perfect health.

Following this case, we applied the same method to numerous cases as a pre-operative therapy, especially cardiacs, and very old patients, and post-operative conditions have always been perfect, without the slightest accident or infection, and the same remarkable rapidity of cicatrization.

INTERNATIONAL CONGRESS OF SHORT WAVES
IN PHYSICS, BIOLOGY AND MEDICINE

Vienna, Austria, July 11-17th, 1937

Since 1930, when I modified the technique for the use of short waves in therapeutics, which I instituted 17 years ago, I have noted without surprise, that my apprehensions of the dangers of treatments by short waves with thermal effects, were justified by the numerous communications read at the Congress of Short Waves in Vienna.

In fact, while a certain number of the members quoted cases of remarkable cures obtained by the use of short waves, several others mentioned serious, even fatal accidents in the course of treatment. I have already explained the mechanism of these accidents in the introduction and at the beginning of this book.

On the other hand, not one of those who used my multiple wave oscillator has mentioned an accident, nor have there been any contra-indications. You will note, in the communication of Professor Cigna, of the Academy of Medicine of Genoa, that among the hundreds treated with my apparatus, there has not been the slightest accident, nor have any of the patients felt the slightest degree of discomfort. On the contrary; nearly all the patients treated were cured of the most serious and varied diseases.

Here you will find unaltered the complete text of that communication, and of one which I presented myself to the Congress in Vienna.

INTERNATIONAL CONGRESS OF SHORT WAVES
IN PHYSICS, BIOLOGY AND MEDICINE

Vienna, Austria. — July 12-17th, 1937

COMMUNICATION BY PROF. VITTORIO DE CIGNA

Royal University of Genoa

THERAPEUTIC TREATMENT BY THE LAKHOVSKY
MULTIPLE WAVE OSCILLATOR

Since 1934, I have been studying the Lakhovsky Multiple Wave Oscillator, and to date the cases treated by that special method reach into the hundreds. Among those, a certain number can be allied to those forms, well defined today, of organo-vegetative illness of the nervous system.

I must admit, as a result of my experiments, that the Lakhovsky multiple wave oscillator produces an excellent method of treatment in that field, with enduring results, and with a rapidity sometimes un hoped for. I am purposely avoiding the discussion of those cases in this paper, and will limit myself, as I did in my communication to the Royal Academy of Medicine of Genoa (session of May 31, 1935) to those cases presenting lesions which I could verify by objective clinical observations, especially by photographs, radiographs and histological examinations.

Here are some of the cases treated:

EXTERNAL FORMS

a) *Basocellular epithelioma of the face**Case No. 1: P. A. — 45 years old*

Diagnosis: basocellular epithelioma in the angle of the right interior orbit. (Examination made at the dermosyphilopathic clinic of the Royal University of Genoa).

The lesion is about ten years old, but there has never been any physical treatment. Various local treatments have failed.

First application, April 17th, 1934: treatment lasted 15 minutes.

Second application, April 23rd. The dimensions of the ulcerations were already noticeably reduced.

Third application, April 28th.

Fourth application, May 3rd. Fifteen days after the first treatment the ulceration has abated. There remains, however, a raised edge which is not hard. The skin all around, which was at first highly colored, has now become almost normal.

Fifth application, May 12th. Photograph was taken the day before this treatment, that is, after only four treatments and 24 days after the beginning of therapy. It is documentary proof concerning the condition of the lesion after this period of treatment. The ulceration is completely cicatrized. There remains a sort of excrescence or swelling on the skin around the umbilicus of the cicatrix.

Sixth application: May 17. After the fifth application, that is 29 days after the first treatment, the cutaneous swelling disappeared. The scar is perfectly smooth, and only slightly pink.

Four applications more were administered on the 23rd and 26th of May, and on the 4th and 11th of June.

In less than a month and a half from the first treatment, a lesion dating back ten years was completely cured.

The patient was present at the Academy of Medicine. Today, after an interval of three years, the results obtained remain the same, and one may believe they are permanent.

Case No. 2: G. C. — 46 years old

This case was also given to me because of my therapeutic experiments with the oscillator, through the courtesy of Professor Radaelli, Chief of the dermosyphilopathic clinic of the Royal University of Genoa.

Diagnosis: basocellular epithelioma on the external ridge of the nose. Histological examination at the dermosyphilopathic clinic.

The lesion was one of six years standing; never treated with any physical means.

First application: May 16th, 1934 — for 15 minutes. A hard red swelling surrounds the ulceration, which is hollow and contains zones of hyperplastic tissue. It is covered with a thick scab or crust.

Second application.

Third application. Upon the third treatment, and even after the second, 12 days after the initial treatment, the ulceration began to cicatrize. The excrescence disappeared and the ulceration was considerably reduced.

Fourth application, April 12 (15 days after the third).

Fifth application, April 17. After the fourth application, the ulceration disappeared. The epidermis, although of irregular formation, has almost completely covered the lesion. Only at the top edge, a small ulcerated zone remains covered with a thin crust.

Sixth application, April 23.

Seventh application, April 28.

Eighth application, May 14. Seventeen days after the preceding treatment. These irregularities in the intervals of treatments must not be attributed to therapeutic reasons, but to the negligence of the patient.

Four treatments were given, when the patient, a restless, rather strange subject, was lost sight of. Consequently the ultimate results of this cure are not on record. However even in this case, the action of the oscillator was definitely positive.

Case No. 3: O. G. — 80 years old

An ugly ulceration at the angle of the right internal orbit, circular in form, about the size of a ten-cent piece. Lesion about two months old. The patient was sent for treatment with the oscillator by Dr. E. Merlini.

First application, June 30, 1934. Owing to the advanced age of the patient, and to my own conviction that there would always be time enough, no previous arrangements for a histological examination were made at the time of the first visit. The patient, however, was sent to the photographer to establish documentary evidence concerning the condition of the lesion. But that prescription was not complied with either. The patient was seen after five days. The files recorded: "Ulceration reduced by two-thirds. Surface dry and in a fair way to cicatrization." The patient was asked to have another photograph taken.

Second application: July 9. The patient came to my office the day of July 9. The photograph was made on July 7.

As may be seen in the documentary photograph, the ulceration was completely cicatrized seven days following the first application. The patient was seen again (outside of my office) in February 1935, that is seven months later. The condition remained perfect and the cure effective. In the absence of a histological examination, prudence counselled a diagnosis of an ulcerated wart.

The cicatrizing action of the oscillator, after only one application proved very rapid.

Case No. 4: S. G. — 56 years old

Ulceration at the external angle of the edge of the left lid, with a serious bulb infiltration. Thick veil on the cornea. Loss of sight. The patient has only an impression of light. The lesion is of eight years' standing.

The histological examination was made by Dr. Solimano, Director of the Galliera Hospital and the Scientific Research Laboratories of the same hospital, a man of great competence. Diagnosis: basocellular epithelioma.

The patient complains of pain in the region of the eyes. These pains radiate toward the forehead and the top of the head with terrible and intolerable force. He cannot sleep and has lost his appetite. Serious organic weakness and loss of weight.

Two years ago, the patient was treated with X-rays, with no result. Treatment was discontinued because of increased pain.

The patient was treated regularly with the oscillator from June 21 to August 10, 1934, in ten treatments at intervals of five or six days. After the third treatment, the following record was made in the files: "The tissues in the region of the ulcer, which were already affected, were hard and strongly adherent—now soft and supple. The subjective 'pains' have stopped.

Seven more treatments were given, but at irregular intervals, from September 1st to November 12th, 1934. After the first, noticeable improvement, not only locally, but in the patient's general health, the local condition remained fixed, the pains never reappeared.

Because the patient lived at a distance from Genoa, in the township of St. Margherita, Liguria, the treatments could not be prolonged as necessary.

b) Erythematous Lupus

We now come to a cutaneous lesion, well known in clinics, but of obscure etiology and resisting therapeutic treatment, erythematous lupus. For this multiform and tenacious lesion, the most varied treatments, local and general, by medications and physical means were tried. The case treated is a typical example. He was presented at the Royal Academy, one year after the treatments, completely cured.

P. N. — 47 years old

Erythematous lupus of the face — about 20 years standing.

Many dermatologists and special institutes in Italy, besides medical attention, treat these cases with Roentgen therapy, Curie therapy, Finsen therapy and Cryotherapy, with the same results—scars and very unaesthetic pigmentations. The regions treated seemed to cicatrize themselves for a short time, only to have the squamous efflorescences reappear, and in the meantime, to produce other manifestations in the adjacent regions. The zygomatic regions, those under the chin, the lobes of the ears, the ridge of the nose and the nostrils, the upper and lower lips and the neck seemed to be particularly susceptible.

The last experimental treatment was made by an eminent dermatologist in our city with intravenous injections of gold salts, but the results were not different.

With the multiple wave oscillator

First application October 10, 1934. I note the following in my files:

"Beginning with the second treatment a diminishing of the lupus patches. Those on the chin (the last to appear), luxuriant, mushroom shaped, had begun to flatten out."

Second application October 15.

Third application October 23.

Fourth application October 29. After the fourth application, the lesion in the right zygomatic region disappeared. After the tenth application, I noted: "Noticeable improvement continues. The whole skin has become softer and smoother. Only the cicatrices of previous treatments remain."

After the sixteenth application, the 26th of January 1935, after two and one-half months, I noted: "All the lesions have disappeared. The old scars are gone and the pigmentations are either attenuated or have completely disappeared."

The patient had a few more treatments, 20 in all. As you can verify yourselves by the patient whom I present to you today, about eight months after the first treatment, the cure continues to hold good.

INTERNAL FORMS

Gastric ulcers and primary gastro-duodenal ulcers or those recurring after operation.

Another group of patients treated with the Lakhovsky multiple wave oscillator merits special attention. This is a group with gastro-duodenal ulcers. There are eight cases, all checked and verified by radiographs. Of these, two were recurrent after operations. Six cases were presented to the Royal Academy.

Case No. 1: P. G. — 41 years old

Duodenal ulcer, ill for 18 months.

The patient, one of my own old patients, operated for a mastoid of the left ear seven years ago, came to my office for an acute affection of the right ear. Struck by his emaciated condition, I questioned him about his health and learned, accidentally, that he had an affection of the duodenum. I proposed that he be treated with the oscillator, which he accepted.

At my request, the patient showed me his histological report made the previous year (April 22, 1933) by an eminent radiologist of our city. Dr. Isola, who has given me permission to repeat it textually:

"Radioscopic examination of the thorax: bilateral hardening of the hilus. Examination of the digestive organs. Normal passage in the oesophagus. Ptosis of the stomach with dilatation of the lower pole, and abundant stasis of food at the end of the seventh hour (two checks). Pylorus and duodenal bulb atonic, without organic lesions. Accentuated ptosis of the colon, especially the right side, with predominating atonia; no lesions of the appendix."

After the first application, I invited the patient to undergo another radiological examination, which was made by the same radiologist, Dr. Isola. Appended is the summary of the examination:

"Radiological examination of the digestive organs April 25, 1934.

"The duodenal bulb has now the appearance of an ulcerated tube in its median fold. It is formed like a niche, contracted and

spastic, while the lateral fold is enlarged and diverticulated. The presence of the niche is revealed in a series of radiographs by the presence of a characteristic opaque residue. The evacuation of the stomach is poor, inasmuch as an abundant residue remains in the stomach five hours after barium has been administered. The appendix and the rest of the intestine do not show any pathological manifestations."

The patient, when he began his treatment, had lost weight to a serious extent, was very pale, considerable mucus, and a marked physical and psychic weakness.

He had been compelled to live on a liquid diet for a year: milk, vegetable soups, a little plain rice, stewed fruits and salads. Weight 56 kilos.

First application April 23, 1934.

Second application April 25.

Third application April 27.

Fourth application April 29.

I stopped all medication from the first day, and prescribed a regular diet of pure lemon juice before meals, increasing in dosages rapidly, but moderately, a maximum of four large cordial glasses: two before the mid-day meal, two before the evening for 25 days, then nothing for 10 days, and then continuance of the same diet.

I want to say a few words about this lemon juice cure, which I have prescribed for years for all my patients with gastric ailments. This pure fresh lemon juice (sweetened to suit the patient's taste) has always given me excellent results, whether in hyperchloric or hypochloric cases.

In patients with ulcers of the stomach or the duodenum, lemon juice is strictly prescribed by many physicians, and it has always given me immediate results in regulating quickly the secretion of gastric juices, with an improvement in the digestion and an attenuation of pains until they, too, disappear.

After the fifth application of the oscillator (July 2nd), the stomach condition as well as the general health of the patient improved greatly. I advised a mixed diet, (rice, starches, such as spaghetti, butter, toast, meat slightly broiled). All this was tolerated and digested.

After the eighth application (July 16), only 23 days after the first treatment, the patient weighed 59 kilos. His weight had increased three kilos in 23 days. At the patient's request, I per-

mitted a little red wine with meals. In all, the patient received 12 applications of the treatment, in a month and a half. His general health, physically and mentally, was so much improved that I ordered the treatments stopped.

I saw the patient again on the 10th of October 1934. He weighed 72 kilos. He had resumed all physical and mental activities, and recovered his will to live. It is not superfluous to say that, since the first treatment with the oscillator, the patient had taken no medication of any kind.

I invited the patient to have another radiological examination of his gastro-intestinal tract. I give you a copy of the radiolog written October 27, 1935, or two months after the final treatment with the oscillator.

"Radiological examination of the stomach and duodenum. Although certain small irregularities of the duodenum persist in the small curve, I do not find the penetrating niche described in the former report, in the median fold of the bulb. The formation of the digestive tract and its functioning have improved to such a point that the barium formula after five hours, had not only left the stomach, but almost all of the small intestine."*

Dr. ISOLA.

Case No. 2: R. A. — 46 years old. Carrier agent

Was operated for duodenal ulcer October 31, 1931. Radiological examination made May 5, 1934. Recurrent symptoms. The patient suffers very violent pains in the epigastrium before meals. Difficult digestion, frequent vomiting, chronic constipation. On a strict diet for several months. Mostly milk, cooked green vegetables, plain and pure, stewed fruits.

The treatment with the oscillator was administered October 31, 1934. The patient weighs 69 kilos. I stopped all medication and treated the constipation by nasal-reflexotherapy, which induced a spontaneous fecal evacuation the same day, immediately after formation. Also began the lemon juice diet.

First application October 31, 1934.

Second application November 5.

Already, as early as the second application, the stomach pains diminished and almost ceased, the vomiting stopped. The

* "Today" — that is, more than nine months after the first treatment.

appetite improved. The bowels functioned regularly and spontaneously every day.

After the fourth treatment — 15 days after the first — the patient is put on a mixed diet (rice with butter, dry "pâtes" [starches], with butter, toast, eggs and a little meat lightly grilled).

After the fifth treatment, 20 days after the first, the pains have completely disappeared. The diet prescribed, including the meat, is retained perfectly — the patient even finds it pleasant. Digestion and intestinal functions perfect. The vomitings have not recurred.

I gave this patient 20 applications at long intervals (10-12 days). At the fifteenth application, two months after the beginning of the treatment the patient had gained two kilos. By February 16, 1935, he weighed 73 kilos. He had returned to his heavy work and feels healthy and strong, as well as before his illness. The last treatment was on March 16th, three and a half months after the beginning of the therapy. I dismissed him completely cured: he weighed 74 kilos.

Case No. 3: D. F. — 37 years old. Postman

In this case too the diagnosis was checked radiologically and pronounced definitely as an ulcer of the duodenum.

The patient suffered from serious constipation for eight years, constipation successfully treated with immediate results by nasal cauterization (Bonnier method). The bowels at once began to function regularly and spontaneously every day.

The progress of the treatments and the cure followed the same pattern as the two preceding cases described.

First application November 14, 1934.

Second application November 15, 1934.

Third application November 17, 1934.

Fourth application November 22, 1934.

After the third application, the pains disappeared; after the fourth, the diet until then very strict, was changed to "mixed"; after the fifth, a little meat was suggested and a small quantity of wine permitted.

Fifth application November 24th. Following ones on the 10th, 19th, 29th of December and January 8th, 1935. The thirteenth on the 11th of February. The last, the 9th of March. The patient was dismissed as cured. His weight had increased three

kilos. Fifteen treatments were given over a period of about four months.

Case No. 4: P. M. — 34 years old. Merchant

Patient had a gastro-enterostomy performed February 5, 1932. He considered himself cured for about two years when the gastric symptoms reappeared. Radiological examinations were made April 5, 1934, and revealed the presence of a niche at the opening of the gastro-enterostomy on the small intestine, as well as a peptic ulcer.

First application January 5, 1935.

Second application January 7.

Third application January 8.

After the 10th application, February 26, 1935, I find the following notes in my notebook:

"Disappearance of all gastric disturbances. Appetite improved. Mixed diet, including meat and wine. Sleeps well. General health excellent."

In two other cases the progress of the treatments and the results obtained conformed perfectly with the preceding cases discussed.

While six cases are not sufficient, and the time elapsed is too short to speak of a positive cure, the results obtained in the treatment of this serious disease, often obstinate in yielding to the usual medical treatments, and with a tendency to recur despite surgical operations, have been so rapid and so evident that they leave no doubt about the action of radio electric waves as administered with the Lakhovsky oscillator. To date 18 cases have been treated by this method.

I think one of these cases, among the most recent, deserves mention:

This patient, is a Carmelite Monk, Father N. . . . , 36 years old, who has had a duodenal ulcer, with serious symptoms. He was on a strict diet and had lost 10 kilos of his normal weight. Early in February of this year, he had a serious intestinal hemorrhage. An operation was advised, as an intestinal perforation

was feared. The patient refused operation. With rest and the necessary care, the hemorrhage had stopped. In 15 days, he had returned to his original ulcerous condition. Another Father, who knew of my treatments with the oscillator proposed, upon a timid suggestion from me, in view of the gravity of the case, that he begin these treatments.

I first had a precautionary radiography taken (Prof. Bistolfi) with the following report:

"The duodenal bulb presents in the median fold and in the immediate vicinity of the pylorus, a small distortion forming a niche, fixed, painful when palpated, and the same in all positions and in all observations. The radiological picture corresponds with symptoms of pyloritis and peri-duodenitis." (Prof. Bistolfi, February 16, 1937.)

The first application was made the next day, February 17. The patient weighed 63 kilos.

The following applications were made the 18th and 20th of February; 1st, 6th, 10th, 15th, 22nd and 27th of March; the 3rd, 8th, 15th, 22nd, 29th of April, and the 10th, and 15th of May. In all, sixteen applications.

I prescribed lemon juice for the patient and stopped all other medication. A rather strict diet was maintained for the first days, but it was eased after the fourth application. The patient had four meals a day after the fifth application only eighteen days after the first treatment. In the morning, coffee with milk, toast with a little butter, a spoonful of marmalade. At noon, rice with butter, or dry "pâtes" with butter, beef broiled slightly (filet), cooked green vegetables, stewed fruit or compote. At 5 o'clock, a light cup of tea with a little toast or toast sticks (gressins). At night, a light meal: a herb soup, fruit or green vegetables cooked, and a cup of milk. Pains have already completely disappeared: meals are perfectly tolerated, the patient even looks forward to them: appetite increases daily, the digestion is easy, the tongue is fresh looking and pink. He has gained one and a half kilo. The patient feels well, sleeps well, and rests. He has again taken up most of his physical and intellectual pursuits. On March 22,

after the seventh application, he had gained another kilo, and now weighed 65 kilos and a half. On April 8, after the tenth application, he weighed 66 kilos; May 10, after the fourteenth, 67 kilos. June 15, a month after the last application he weighed 68 kilos and a half.

In four months, from the beginning of the treatment, the patient gained 5 kilos and a half, and shows signs of regaining the ten pounds he lost since the start of the disease.

He considers himself in perfect health, and has been able to carry on, without harmful effect, the physical and intellectual burdens of his position as vice-prior.

On my advice, he will have regular radiography check-ups for another two months. The detailed history of this case, and the treatment which was begun under such particularly grave conditions, spare me all words of appreciation. My listeners can easily judge from the results obtained. I consider that, for ulcerated lesions of the stomach and the duodenum, the Lakhovsky oscillator is particularly efficacious.

Among the cases treated with clinically objective results easily checked and verified, I will limit myself to mentioning the following few:

A case of paralysis of the left side of the larynx after a tracheo-bronchial adnopathy in a child of seven. The revealing lesion was a loss of voice of about a year's standing. The radiological examinations were made at the Biotypological Institute of the Medical Clinic directed by Senator Professor Pende, and the diagnosis was confirmed.

I find among my notes the following: "After the second application, the left vocal cord again became active. After the fifth, improvement also continued from the phonetic point of view. After the tenth, the action of the larynx was nearly normal. The applications were given every other day. The treatments lasted twenty days."

TWO CASES OF CHRONIC AND SUPPURATING MEDIA OTITIS*

One of these cases is a boy 11 years old, where the lesion dated back to earliest infancy. This concerns an extended form of a cholesteatomatous type, where the attacking process has destroyed the posterior bony wall of the auditory passage, including the wall of the antrum, establishing a large and complete communication between the cavity of the tympanum and the cavity of the antrum in the same way as a radical surgical operation would have done. The antrum contained cholesteatomatous masses and considerable septic granulations.

This boy, who had been treated for a long time by various specialists, had been advised against surgical intervention to relieve the auricular lesion. I too, after a prolonged period of very conscientious, but ineffectual medical cure, proposed radical surgical treatment.

This advice was finally accepted, despite the forced interruption of the boy's studies. However, since no serious symptoms indicated an urgent and immediate operation, and as my vacation time was approaching, I suggested that a series of treatments with the Lakhovsky oscillator be tried in the meantime. The treatments were started on July 28, 1935.

Fifteen applications were administered in a period covering three months. The secretions diminished very much after the third application, and stopped altogether after the twelfth. I saw the patient in February 1936. The lesion remained perfectly cicatrized.

The second case is one of a young man, 24 years old, with a recurrent suppuration following a surgical operation two years previous. The suppuration was limited, but resistant to the usual

* This communication was completed by its author before the edition published in 1936.

methods of therapy. Six applications of the oscillator brought about a cicatrization of the lesion, which continues definitely after more than four months.

An equally remarkable result was obtained with a lady operated four years before for a scirrhous carcinoma of the left breast and arm-pit, with amputation of the breast. This patient presented recurrent symptoms on the cicatrix on a line with the outside edge, on the left, with the symptoms confirmed by the surgeon who operated on her.

This surgeon suggested a series of radiotherapy treatments, by an eminent radiologist in our city, with good local results, but with serious general organic reaction causing physical and psychic depression. The radiologist advised the discontinuance of the therapy.

The patient presented clearly all the symptoms of "ray illness", accompanied by asthenia, anorexy, insomnia, and general restlessness.

After four months during which these symptoms recurred, the patient consented to try the treatments with the Lakhovsky oscillator.

These treatments were begun the 17th of January 1935, with unhopd for results. Not only was the recurrent mass reduced after six applications, but the general condition of the patient improved rapidly with the cessation of pain, her appetite returned, she slept well, regular bowel movements renewed, and her general vivacity of personality reappeared. After four months during which 20 treatments in two series were given, at intervals of 15 days, the entire mass disappeared and the patient was cured.

To conclude, I will give two more cases of lesions in the region of the female genitals.

In one case the patient was an unmarried woman of 43, with a gynecological diagnosis of fibroma of the uterus accompanied by copious menstruations like metrorragias, which occurred often, sometimes even twice in one month. The lesions were of about two and a half years' standing.

Two series of ten applications at intervals of 4 to 5 days, were administered, excluding the menstrual periods. The two series were one month apart.

After the first series of treatment, the menstrual periods were regulated, in time as well as quantity and the general condition improved. After five months, the ovarian functions were so regulated that the patient was believed cured. The gynecologist confirmed the disappearance of the mass of the tumor.

The second case was an unmarried woman about 33 years old. Her menstrual periods had, without apparent reason, stopped six months before. Gynecological treatments had no results. The diagnosis of an eminent visiting surgeon was premature menopause.

After the second application of the oscillator, coincidental with a menstrual period, the patient had a regular period, the following month, in duration and quantity. This continued for five successive months. She had 14 applications in two and a half months. An interruption of menses five months later required a renewal of treatments, and after the fourth application, they reappeared.

Thus, the action of electromagnetic waves on the ovarian functions was demonstrated.

Before concluding the enumeration of cases treated, I want to bring to your attention a case of hypertrophy of the prostate, the first one I treated with the Lakhovsky oscillator. This will confirm the findings of others as to the excellent results obtained by this treatment for hypertrophy of the prostate.

Here, in a few words, is the case in question:

The patient was a man 64 years old, suffering from a hypertrophy of the prostate for two years. The diagnosis of the lesion was made by specialists of indisputable ability. Their final recommendation was surgical intervention. This was refused by the patient.

The prostate was the size of a large tangerine.

The patient could not urinate naturally: he was forced to catheterize himself two or three times, every night before bedtime, and occasionally during the night.

After only ten applications in two months, the patient considered himself cured. After the sixth application, he was able to urinate naturally.

A digital examination, about a month and a half after the final treatment by the same specialist, showed, much to his surprise, that the hypertrophy of the prostate had completely disappeared. "Your prostate," said the doctor, "is ten years younger than you are."

I have treated, and always successfully, a rather considerable number of nervous cases (asthenia, insomnia of long standing, agoraphobia), many neuralgic cases, cases of rheumatism, gastric and intestinal atonia, with the oscillator with remarkable results.

I am forced to conclude this list of cases before it carries me too far afield.

I have only a few more words about the mechanism by which these physical agents act on the living cell:

Two factors are specially taken into consideration: heat (diathermy-short-wave) and oscillation.

The first, more easily accessible to our interpretive possibilities, in the phenomena of cellular reaction under these electromagnetic stimulants, does not seem to be an indispensable element to many scientists.

Many of them consider it dangerous, and to such a point, that they advise the utmost precaution in avoiding its production in therapeutic experience, results having been demonstrated even more clearly when the factor of heat had been dissociated.

The oscillatory factor, linked to the Lakhovsky theory which I brought up at the beginning, certainly has the most significant value, but for the moment, we cannot completely prove it.

The new conceptions about the electric constitution of matter, which include the living cell and its transformation due to electronic exchange, would seem to confirm that theory, which is undeniably a most genial and constructive one. But the problem remains for the moment without solution, as does the problem of life itself. We must be content for the time being, to follow closely the mysterious but infallible reactions of Nature in her use and distribution of the effects of these radiations.

INTERNATIONAL CONGRESS OF SHORT WAVES
IN PHYSICS, BIOLOGY AND MEDICINE

Vienna, Austria. — July 12-17th, 1937

COMMUNICATION BY M. GEORGES LAKHOVSKY

NEW APPLICATIONS OF THE LAKHOVSKY MULTIPLE WAVE
OSCILLATOR TO CELLULAR OSCILLATORY EQUILIBRIUM

I do not propose to discuss at length my theory of cellular oscillation. It has been stated with all its inferences in many publications.* I will merely summarize it briefly, as it is a basis for radiobiology in general and my work in particular.

It is a known fact that every living cell is composed of two essential elements, the nucleus and the protoplasm which surrounds it. The nucleus is composed of a certain number of filaments, called chromosomes. The protoplasm contains many tiny, ultra microscopic filaments, called chondromes. All these filaments are small tubes of insulating matter (cholesterin, fat, resin, plastrin, etc.) filled with a liquid resembling serum comprising most of the minerals found in sea water, and consequently conductors of electricity.

These cellular filaments, chromosomes and chondromes, therefore constitute actual microscopic oscillating circuits, isolated from the medium in which they are bathed and capable of oscillating electrically on a scale of very short wave lengths.

I have demonstrated experimentally that these oscillating cellular circuits vibrate in response to ambient electro-magnetic waves: cosmic, atmospheric and telluric.

* See p. 29 for list of publications.

Now, many internal and external stimuli may disturb the oscillating equilibrium of these cells.

Thus, for instance, a great variation in the intensity of the ambient radiations (cosmic, atmospheric, and telluric), the demineralization of the organic matter constituting the cellular substance, or traumas causing the destruction of the nucleus and the protoplasm by shock, are just so many causes of cellular disturbance, and consequently, of illness and death.

I have shown in my books, *The Secret of Life*, and especially in *The Earth and Ourselves*, that every living cell draws its oscillatory energy from the field of secondary radiations resulting from the ionization of the geological substances of the earth by cosmic radiations.

But certain natural radiations are particularly toxic, especially those originating in earth programs. Many cancer cases have been attributed to these toxic radiations and proven experimentally, notably in Germany by Dr. Rambeau of Marburg. Therefore, earth radiations sometimes cause disturbance of the cellular oscillatory equilibrium of the organism.

To reestablish this equilibrium, I thought of creating, in 1923, a constant compensating field of very short radiations (2 to 10 meters in wave lengths) to neutralize the action of the disturbing rays, and give the living cell the necessary stimulation for a return to its normal oscillation.

To this end, in 1923, I constructed my short wave oscillator, using two triode tubes for very short waves made especially for that apparatus. I tried several cross leakages for this machine using one or more tubes and then multiple triodes with a tube containing oscillating circuits within the bulb. Finally I adopted the oscillator with symmetrical cross leakage comprising two triodes. The oscillating circuits formed a single spiral, branched between the two grilles and the two anodes. It was fed directly by alternating current from the local supply circuit.

You know the results I obtained with continuous very short waves using triode tubes at a distance, with no contact electrode.

This work, done in collaboration with Professor Gosset and Dr. Gutmann at the Salpêtrière Hospital, was published in a communication to the Biological Society of Paris on July 26, 1924. In that communication I showed that with the radiations from my apparatus, it was possible to cure geraniums inoculated with cancer, in fifteen days.

This apparatus was also applied to numerous cancerous patients at the Salpêtrière from 1924 to 1929. With it, it was possible to cure cancers of the tongue, the lower lip, and to prolong the lives of incurable and dying cancerous patients for several years.

Moreover, my short wave oscillator, created in 1923, was the inspiration for all the short wave apparatus for therapeutic use (electroproyria and others). In 1927, in my book, *The Secret of Life*, pp. 112-123, I explained the value of producing fever artificially by short waves.

But I thought that, without thermal effect, a much better result could be obtained by an oscillatory shock to each chromosome and each chondrome through ultra short waves. It was then that I conceived my multiple wave-length oscillator, which would stimulate the cells to vibrate in resonance, each on its natural frequency.

With this aim in view, I created an apparatus producing a field containing, simultaneously, oscillations of every frequency, from 3 meter wave lengths to the infra-red. I set up a transmitter composed of concentric circular oscillating circuits, non-contiguous and linked together with a silk cord. These circuits are stimulated by damped high frequency currents from a spark gap. Thus each circuit of the transmitter vibrates not only on its natural frequency, but also on numerous harmonics.

As early as 1931, I began using this multiple wave oscillator in various Paris hospitals: the Saint Louis, Val-de-Grâce, Calvary, Necker, etc. . . .

Among the many cures with this treatment, I will mention especially those of various cases of cancer which X-ray and radium

treatments failed completely to improve. These patients cured six years ago, have had no recurrence and are in perfect health at this date. In all pathogenic cases this treatment gives very good results. As it does not attack the microbe directly, it does not destroy live tissue, but reinforces the vitality of the organism by accelerating cellular oscillation. It is therefore the reinforced organism that successfully resists the microbe and all pathogenic causes.

So, while X-rays and radium destroy microbes, neoplastic cells and healthy tissue at the same time — which accounts for the serious accidents which occur during and after such treatments — high frequency radiations (short waves) applied at a distance and without thermal effect cure diseases of all kinds, even those of the prostate to a considerable degree.

Whatever the pathogenic cause, the multiple wave oscillator reproduces the frequencies necessary to reestablish the cellular oscillatory equilibrium.

In general, it is sufficient to seat the patient, or to have him stand in the radius of the apparatus, before the transmitter. The duration of the treatment is usually from five to ten minutes, every other day. These figures are purely arbitrary, since these radiations reinforcing cellular oscillation do not produce organic disturbances, whatever the duration of the treatment may be.

WHY ADVANCED CASES OF CANCER CANNOT BE CURED

Despite the many cases successfully treated, almost without exception, it must be understood that my oscillator cannot cure all types of cancer in all its stages of development. In many cases, when the cancerous tumor has already destroyed important blood vessels, my apparatus is powerless to rebuild that tissue before the fatal hemorrhage.

To illustrate, I will describe three cases, which constitute the three failures I have had in the course of innumerable treatments with my multiple wave oscillator.

First, two advanced cases of cancer of the throat, with oedema and nodes at the Saint Louis Hospital; then a cancer of the thorax at the Val-de-Grâce. The observations which I made of these three cases follow:

On December 1, 1931, a patient came to me at the Saint Louis Hospital with lingual leukoplasia and ulcerations. The diagnosis revealed a neoplasm of the tongue and mouth with induration, oedema and nodes. The patient said he suffered a great deal and could not take nourishment. He had four treatments with my multiple wave oscillator, the 8th, 10th, 12th, and 15th of December. After the fourth treatment the indurated sub-maxillary regions became softer and the patient said he hardly suffered at all and could take nourishment. When I arrived for the fifth treatment the nurse told me the patient was in bed with a severe hemorrhage, from which he died shortly after.

I was somewhat discouraged at this first defeat.

Two weeks later another case was presented to me with much the same diagnosis: indurated sub-maxillary nodes, violent pains, great difficulty in taking nourishment.

He was treated with my apparatus. After the fourth treatment he said he could take nourishment more easily, that he

suffered much less, and I verified the fact that the indurated regions were much more supple. When I arrived for the fifth treatment the nurse, as in the preceding case, told me that the patient had been put to bed with a severe hemorrhage from which he did not recover.

I was quite upset by the almost identical repetition of this failure and I began to meditate on the conclusions to be drawn from this double defeat.

We know the sub-maxillary region is grooved with many important blood vessels, branches of the main carotid artery: interior carotid artery, thyroid artery, lingual artery, etc. . . . It was conceivable that one or more of these arteries had been partially destroyed by the neoplasm and constricted by the induration, giving rise to the most unbearable pain.

When the neoplastic tissues began to necrose, the induration disappeared progressively and the pain diminished. But since the arteries had been cut over a certain length by the neoplasm, the pressure of the blood, suddenly freed, provoked a hemorrhage.

This phenomenon cannot be better explained than by what happens in a water pipe or a frozen radiator. During the freeze, the consistency of the ice prevents the circulation of the water, and no leaks occur. But when the thaw comes, the frost-cracked pipes will leak. Moreover, it is the classic fate of all cancer patients when the neoplasm has destroyed a certain extent of tissue in important vessels and arteries. There are always external hemorrhages and even internal ones, which infiltrate the tissues, causing metastases and an unbalancing of the organism and unbearable pain until the fatal end.

I believe that when the essential elements of the organism, veins and arteries, which carry on the circulation of the blood, are destroyed by a neoplasm in any region whatsoever, no treatment in the world, no physical or chemical agent can save the patient, unless by skillful surgery it is possible to ligate the cut vessels.

The same phenomenon was observed in another case. In November 1931, Professor Chaumet of the Val-de-Grâce told me:

"I am treating a wretched officer Mr. H. from Professor Jame's service for a cancer on the upper part of the thorax, which has caused the growth of a monstrous "cauliflower". Even though we are used to this horrible disease, it is dreadful to see this man's suffering. You cannot think it possible to cure him, but if you could only alleviate his pain you would be doing a good deal."

When we began the treatment, the odor of the tumor made it difficult for us to stay near him despite my long experience with cancerous patients. But the hope of relieving his pain blotted out all discomfort.

I was face to face with an intelligent man, conscious of the gravity of his disease and hopelessly desperate to the point of welcoming a swift death. I tried to encourage him and give him some hope.

After three or four treatments he began to feel better and told me he suffered much less and that he could sleep at night. After five or six treatments the loathsome odor emanating from the tumor had almost disappeared and he suffered no more. The right hand which had been completely paralyzed for a long time could now be moved easily.

The first goal was reached, for I had never claimed to be able to cure the patient, only to ease his pain.

But the hope of a cure increased from day to day, for at the end of a month and a half, with two fifteen-minute treatments per week, the tumor began to necrose rapidly and we witnessed this extraordinary sight: the monstrous "cauliflower", which, it was estimated, weighed 8 to 10 kilos, began to crumble away. "At each dressing," Professor Jame told me, "they were able to detach a piece the size of a new born baby's head." The moment came when almost the whole tumor had disappeared; only a flat, hollow surface covered with a grayish substance remained. The officer, who had hoped for death, now began to enjoy life again: he became quite merry. He had regained his strength, a

good appetite, and regular sleep — in short, he had recovered a zest for living.

He expressed his great gratitude to me for having saved his life and talked of nothing but getting out of the hospital.

Professor Chaumet, Professor Jame and even I began to hope for his cure, when, during the month of January 1932, I arrived one Monday morning at the Val-de-Grâce to find the nurse in tears:

“Poor Captain H. died yesterday, Sunday, of a terrific hemorrhage.”

I was absolutely broken-hearted to find that we had foundered just as we seemed about to make port. A man I had begun to believe I had snatched from death!

We explained this defeat by the same phenomenon which had caused the hemorrhages in the two cancer patients at the Saint Louis Hospital. This poor fellow had had cancer for three years: the neoplastic tissue by a progressive evolution had slowly developed in depth and had cut the subclavian artery or the upper scapular artery. In their sheath of neoplastic tissue, the rotted parts of the arteries were sustained by the indurated tumor. The day this support was released by the necrosis of the tumor, an internal hemorrhage proved fatal.

Two analogous cases of cancer of the throat, with oedema and nodes, were described by Dr. Rigaux. By a singular coincidence the hemorrhage and death always followed the fourth treatment. But I believe that even in these desperate cases, my multiple wave oscillator can be of beneficent use, since these patients who are condemned to die in atrocious suffering, will be able to face death without fear and without pain.

MY FIRST ENCOUNTER WITH A FEW NEW YORK DOCTORS

The multitude of case histories concerning the treatment and cure of tumor and cancer which I have cited may cause some readers to raise dubious eyebrows as to the scientific certitude of my results. Let me, then, tell you something of my past experience in the medical circles of both Europe and America, which will convince you that it was with a foreknowledge of such a scornful reception and no little apprehension, that I approached the subject of cancer in this volume. And if I decided, despite the solemn warnings of high medical authorities to set forth here experiments performed not only by myself in five Paris hospitals, but by eminent scientists in many countries of Europe, in this still nebulous field of disease, it is with full consciousness of my responsibility, and with the sole purpose of giving you the truth, which I consider the highest goal of all science.

Upon my arrival in New York harbor, I was greeted by several American doctors who knew and admired my work. They congratulated me on the successful crossing and expressed joy at having me with them in America. Three days later, these same gentlemen held a luncheon in my honor during which the following conversation took place:

“My dear Professor,” began one eminent physician, “we are very happy to have you with us, to welcome you into our great free country.”

I thanked them for this warm reception and told them how pleased I was to be here, after the trials of the life I had fled.

“However,” continued another, “let us warn you of one thing. Any announcement you may make regarding the discovery of a cure, or even a treatment, for cancer will be received very coldly in this country. Americans are extremely sceptical. Never

breathe a word of it in New York medical circles. They won't believe it and you will immediately be accused of quackery."

To which I replied:

"What you tell me does not surprise me in the least. I have found the same reaction in every country of Europe. And it is understandable. There have been so many claims made to have cured cancer that never showed actual results, that medical corps have become accustomed to treating their authors as charlatans. But you are well acquainted with my personal record: the remarkable experiments I conducted in Paris at the St. Louis, Calvaire, Salpêtrière, Val-de-Grâce, Necker and other hospitals, and their startling results. You have read them in my many publications. I shall always remember a visit at the St. Louis Hospital in 1932 from the celebrated Professor d'Arsonval, the creator of physio-therapy, in the company of Professors Richet and Pochet, to inspect some twenty cancerous patients I had cured, with biopsies and photographs before and after treatment. Professor d'Arsonval, who was thoroughly acquainted with my theories and my research work, and who had written the prefaces for two of my books: *The Secret of Life* and *Universion*, tremendously moved by these living results, exclaimed:

"It's too wonderful! Too remarkable for it to be considered seriously in France! Let me warn you that your work will have no recognition in France until after your death. Only then will your discovery have world-wide repercussions. You will suffer the fate of Pasteur. During his entire lifetime, not one single experiment based on his findings was performed in France. In scientific circles he was dismissed as a quack and accused of illegal practice of medicine. Confirmation of his microbe theory first came from foreign sources. Eberth, in 1870, succeeded in identifying and isolating the typhoid germ; Koch, in 1878, the tuberculosis and cholera germs; Neisser, the blennorrhagic microbe in 1879; Friedlander, the pneumonia germ in 1882; Loeffler, the diphtheria germ in 1884; Nicolaiew the tetanus germ and Yersin,

the germ of plague in 1894. But these were German and Russian scientists, all outside France. It was not until thirty-five years after his discovery that Pasteur was admitted into the learned society of the Sorbonne. And this was possible only through the pressure brought to bear by these various foreign scientists.'

I answered Professor d'Arsonval thus:

"Since I have no intention of dying before my time for the glory of recognition, I shall continue my research without any publicity or intrusion upon my privacy. For I am working for the future of science itself.

"However, after my cancer cures of plants at the Salpêtrière in 1923 and 1924, reported by Professor Gosset in his communication to the Paris Biological Society on August 26, 1924, news of these experiments spread over all of Europe. Foreign scientists began experiments, following my example, on both men and animals, and obtained similar results. Likewise, my experiments with the Multiple Wave Oscillator in the Paris hospitals from 1931 to 1935 became known in foreign medical circles and were repeated by the most eminent professors in most European universities and clinics. Only after numerous communications to the Medical and Scientific Academies of these various foreign countries, news of which reached the ears of my French colleagues, did my detractors become my admirers. To such a degree that I enjoyed the rare privilege of being treated as a 'genius'—before my death.

To which, one of my American friends retorted:

"We are well aware of all that. Yet, we feel it prudent to advise you that Americans are very wary of foreign discoveries. Especially in so mysterious a field of science. We fervently hope that you will escape the bitter experience of Pasteur, who waited thirty-five years for confirmation of his theory. Nevertheless, to gain time, we counsel you not to start your work in America on cancer or infantile paralysis. These are our bugaboos! You will

be branded as a quack if you touch upon either of these diseases. Why not start your experiments on general diseases? For we know the marvelous results obtained by your invention on blood constants, blood pressure, prostate, etc. If you start out thus modestly, they will listen to you and recognize your value."

Consequently, of the offers I received from several New York hospitals in the month of June 1941 to use my Multiple Wave Oscillator experimentally, I accepted that of one New York City hospital whose Head of physio-therapy is recognizedly a man of the highest integrity, intelligence and scientific merit. I began experiments in this hospital on July 1. On August 21, when I was completing this volume, I asked permission of this eminent physician to publish some results of my American experiments. He informed me that he could not allow me to publish anything in the name of the hospital, with specific details, until after my discoveries had been presented officially at a meeting of the Society of New York Physiotherapists. Any publicity prior to that meeting would destroy the novelty and the impact of my invention on American scientific circles. But he did authorize publication of the information here below on condition that there be no mention of the name of the hospital or the names of the patients.

I am, therefore, publishing here a partial listing of cases treated, taken from the hospital records, as well as a few complete case histories. There can be no danger of a charge of charlatan-ism here. For these are illnesses for which treatments are known, without recourse to my Multiple Wave Oscillator.

(See Table on the Following Page)

CASES TREATED IN A LARGE NEW YORK CITY HOSPITAL WITH THE LAKHOVSKY MULTIPLE WAVE OSCILLATOR

July 1 through August 21, 1941

PATIENT	ILLNESS	No. OF TREATMENTS	RESULTS
X	Arthritis—both knees	14	Improvement good
C. P.	Endoservicitis—abdominal pain vaginal discharge	6	Condition good
F. T.	Periarthritis—shoulder	12	Marked improvement after first treatment — condition good
M. M.	Osteoarthritis	7	Marked improvement after two treatments — stiffness diminished
M. K.	General chronic arthritis	11	Slight improvement
M. C.	Arthritis of ankle	3	Results good
A. F.	Post-operative fracture	6	Results good
C. V.	Arthritis—both knees	11	Marked improvement
M. D.	Generalized arthritis	8	Marked improvement
J. H.	Epicondylitis of elbow	7	Results good
D. G.	Chronic bronchitis	10	No cough, no soreness, marked improvemnt
S. L.	Generalized arthritis	10	Marked improvement
B. M.	Arthritis and circulatory disturbances	6	Improving
M. L.	Arthritis—ankle and knee	7	Improvement— no recurrence
M. B.	Arthritis of shoulder	7	Marked improvement
M. C.	Tenosynovitis—hand	6	Improvement
S. S.	Arthritis—both knees	7	Improvement
S. C. N.	Congenital hip dislocation	3	Marked improvement
R. L.	Fracture—both ulnae synovitis—both knees	5	No pain, but swelling still present

Case No. 1: G. D. — female, 25 years old

Patient complained of pain in the chest, muscles of the right arm and back, and constant cough. She did not respond to medication or baking and massage. Lakhovsky multiple wave oscillator* treatments were instituted.

After the fourth treatment, coughing stopped, pain in the chest became infrequent, and the tired feeling in the back was gone. At the end of twelve treatments the patient no longer complained of previous symptoms. She did not return for treatment.

Case No. 2: M. M. — female, 51 years old

Patient complained of pain and stiffness of the right hip. X-ray examination disclosed a marked narrowing of this articulation associated with extremely large spurs at the margins of the acetabulum which appear to ankylose the joint. There are proliferative changes in the upper margin of the femoral head. Diathermy and massage failed to relieve the pain or the stiffness. After ten treatments with the Lakhovsky multiple wave oscillator the stiffness was markedly reduced. The pain was only slightly alleviated.

Case No. 3: F. T. — female, 38 years old

For two months patient complained of pain in both shoulders. She presented no previous history of injury or illness. Examination disclosed slight limitation of flexion and abduction of both arms in frontal plane. Slight peri-articular tenderness over both shoulders and upper part of the right arm. Abduction of the right humerus against the scapula was limited to 45 degrees. A diagnosis of peri-arthritis was made and the Lakhovsky multiple wave oscillator treatment was started. After three treatments patient claimed she felt much better. The improvement continued. After a series of eleven treatments the patient did not return. Apparently permanent relief had been obtained.

* Oscillo-therapy.

Case No. 4: A. B. — male, 60 years old

Patient gives history of pain in both knees beginning in 1940. Diathermy, baking and massage for one year gave only slight relief. Lakhovsky multiple wave oscillator treatments were instituted. After one treatment patient stated that he felt better. After four treatments patient felt so much better that he took only one treatment in two weeks.

Case No. 5: M. M. — female, 42 years old

Patient complained of pain in left lower back and hip. X-ray examination of the lumbar spine and pelvis showed calcifications at the anterior margins of the inter-vertebral discs between the ninth and tenth and the tenth and eleventh thoracic vertebrae. There are also similar calcifications noted on the upper margins of the left side of the first lumbar vertebra. There is a slight scoliosis of the lumbar spine. The pelvis shows no abnormality. Lakhovsky multiple wave oscillator therapy was instituted. At the first treatment patient felt better. After the fifth treatment improvement was very marked. Patient did not return after nine treatments.

Case No. 6: S. N. — female, 59 years old

Patient complained of pain in the right shoulder and inability to extend the arm. No history of injury or recent acute upper respiratory infection.

Examination shows patient unable to abduct the arm more than about 5-10 degrees accompanied by severe pain. Tenderness is present over the right shoulder anteriorly. The arm can be abducted passively to about 150 degrees with considerable pain.

X-ray examination of the right shoulder discloses irregular calcium deposits in the region of the greater tuberosity. Lakhovsky multiple wave generator treatment was started.

After one treatment the patient said she felt much better than previously. The improvement continued steadily until ten treatments were completed. Patient did not return.

Case No. 7: C. P. — female, 38 years old

Gynecological examination showed: uterus slightly enlarged, hard; right parametrium tender; left adnexa negative. Cervix shows a few ovula Nabothi.

Diagnosis: R. parametritis.

Lakhovsky multiple wave oscillator treatment was started July 17, 1941. After four treatments patient felt better. Examination after six treatments showed the adnexa to be less tender. After twelve treatments patient was found to be much improved.

Examination on October 7, showed the adnexa and parametria to be painless. Patient was considered healed.

Some very interesting observations reached me just prior to the printing of this book. I will include them because they portray the efficiency of the Lakhovsky multiple wave oscillator.

These results were obtained by a very prominent Brooklyn urologist whose name must be omitted for ethical reasons. He is a Fellow of the American College of Surgeons and enjoys an excellent reputation.

He purchased a machine about six weeks ago. Hundreds of patients have been benefited by these treatments. Due to the limited amount of space in this book only a few typical cases can be cited. Those recorded here were picked at random from the files of this physician.

In order to render quicker service to his patients, due to a noted increase in the demand for this type of treatment, this physician is now considering the purchase of another machine.

Upon request from duly qualified physicians the name of this physician may be had.

(See Table on the Following Page)

**RESULTS OBTAINED WITH THE
LAKHOVSKY MULTIPLE WAVE OSCILLATOR
BY A PROMINENT BROOKLYN UROLOGIST**

PATIENT	ILLNESS	NO. OF TREATMENTS	RESULTS
H. G.	Acute Urinary Retention hypertrophied prostate	2	Retention ceased
R. B.	Bleeding from Uterine Fibroids two-year standing	3	Ceased bleeding
S. M.	Mild Multiple Sclerosis with halting gait	6	Improved markedly; able to run on several occasions
R. R.	Pain and Cellulitis of Nose following cold	2	Cleared completely after two treatments of 10 minutes each, in one day
B. T.	Acute Urinary Retention hypertrophied prostate	2	Retention ceased
S. B.	Bleeding from Ca of Bladder	3	Bleeding checked. The necrotic tumor seen on cystoscopy cleared up nicely and was reduced in size when seen again on cystoscopy three weeks later
J. F.	Chronic Eczema of Axilla	2	Cleared entirely
L. G.	Severe gastric pains from duodenal ulcer	2	Greatly improved

Six (6) cases of Prostatic Hypertrophy with nocturia 3 to 5 times per night were reduced after 2 applications to either 1 or none at night.

DIRECTIONS FOR USING THE LAKHOVSKY MULTIPLE WAVE OSCILLATOR

The oscillators being used at the present time can only function on alternating current. They are set up for 110 or 220 volts — 42 or 50 per second. They may be attached to any electrical outlet in use for an apartment, and only use 2 to 4 amperes.

The laboratories* which sell my apparatus have modified the models to meet the requirements (kind and characteristics of current) of various practitioners.

The apparatus is extremely simple. It requires neither special skill, nor a knowledge of physics or electricity. It is started by a switch and has a power regulator for three positions: weak, medium and strong.

TREATMENT

The treatment with the multiple wave oscillator is also very simple.

The apparatus is composed of a transmitter and a receiver, thus establishing an electrostatic field with multiple waves between these two resonators.

Place the transmitter and receiver about 1 meter 30 to 1 meter 50 apart and the patient between the two on a non-metallic seat, or a wooden or wicker chair.

With the patient in position, the current can be turned on and the apparatus functions instantly.

The duration of the treatment depends upon the patient's condition and the extent of the disease. Theoretically ten min-

utes is sufficient for one treatment. Excellent results have been obtained by timing treatments at 5 or 7 minutes every other day. Certain physicians believe that each treatment should last 10 to 12 minutes.

The number of treatments is extremely variable, as so much depends both on the condition and the reactions of the patient.

According to current practice, it is better to stop after the fourth treatment, that is, around fifteen days after the beginning of treatment, and to omit treatments for about two to three weeks thereafter. Then, according to the practitioner's judgment, about once a week.

* Laboratoires Colysa, S.A., 25 rue des Maronniers, Paris (16ème).

IONIZATION BY MEANS OF THE MULTIPLE WAVE APPARATUS

Science has not yet discovered the cause of cancerous tumors.

Recently, Professor A. Roffo of Buenos Aires claimed to have discovered the cause of cancer. I wrote an article explaining his remarkable work in the March 18, 1939 issue of the *L'Illustration* of Paris: it was titled *The End of a Nightmare*.

My own theory is that the cause is to be found in a disturbed oscillatory equilibrium of the cells, which can be imputed to the radiations from earth programs, to the demineralization of the cellular substance, or other radiations of cosmic, telluric and atmospheric origin, and sometimes to artificial radiations such as X-rays, radium, ultra-violet rays, etc.

From a therapeutic point of view, therefore, there are two problems to be attacked: to destroy the cause of the disease by re-establishing the normal cellular oscillation, and to destroy the neoplastic cells.

By suppressing the cause, the resistance of the organism is sometimes sufficiently strengthened to dissolve or absorb the neoplasm. But it means a severe struggle in which the body is not always successful. If, however, the neoplasm is attacked directly while the cellular oscillation is reinforced simultaneously, results are extremely rapid and cures sometimes effected in a few weeks.

Nothing is simpler for external tumors than the use of the multiple wave oscillator with simultaneous ionization of the neoplastic tissue.

PROPHYLAXIS

From a prophylactic standpoint, a weekly treatment with the oscillator, or a session once in two weeks, will heighten the prob-

ability of avoiding colds and the grippe, and sometimes even organic diseases including cancer. The organism is strengthened sufficiently to successfully resist any disease of pathogenic origin.

In short, this apparatus is not dangerous either for the patient or for the practitioner, since its radiations are electrostatic, do not heat or burn the tissues, and do not risk their destruction. The action of the apparatus is purely electric.

The multiple wave oscillator is therefore the first apparatus offering all wave lengths to the physician, eliminating all gauges and adjustments, and safeguarding him automatically from the risks associated with the use of radiations of actinic and thermal effect.

SUMMARY

Before completing this volume on therapy by electromagnetic short waves with thermal effects and electrostatic waves as produced by a multiple wave oscillator, a therapy which will change the future of medicine, I would like to summarize quite independently the gist of my personal experience, represented by sixteen years of experimental research.

The living cells which make up all vegetable and animal tissue are very tenuous and fragile elementary organisms. The slightest variation in physical conditions can sometimes destroy them, particularly a rise in temperature of even a few degrees.

We know that fever, when it is too high can kill a man. Some can resist a temperature as high as 106 F. Others die when the temperature reaches 104 F. We shall see why.

It has been shown that all cellular elements, especially the chromosomes and chondromes, the essential constituents of each living cell, resemble small tubular filaments, as shown in Fig. 2. These filaments are sheathed in a dielectric matter varying in thickness from 1/10 to 1/20 of a micron. You can see how extremely fragile these tiny tubes are. Moreover, these electric substances are fusible at variable temperatures, but always low ones. Certain fats and resins (protein, paracholestrin) sometimes melt

at 100 F., that is, at a very slight rise in temperature of the human body. Others, such as plastrin, can resist much higher temperatures. The resistance to heat will vary, then, in accordance with the composition of the tubular sheath.

Consequently, when the individual is "balanced", so to speak, the physical and chemical constants remain stable, as does the body temperature. You may ask why the body temperature is normally 98.2 F. during good health, instead of responding to the variations of the environmental temperature, as does all inert matter. Of course, you know that all electric currents produced by Joule effect a certain amount of heat, as de Foucault inductive currents. This fact precisely confirms my theory of cellular oscillation: the cellular oscillating circuits, in kind, chondromes, chromosomes, and others, are receptors of currents induced by the cosmic, atmospheric and telluric waves; the normal resistance of these cellular circuits to the invading currents produces a dissipation of heat, notwithstanding the ambient body temperature. Here is proof of that reaction: at death, our bodies take on the environmental temperature like all inert matter, because the cells have ceased to oscillate electrically. I have developed that theory at length in my book, *The Secret of Life*, and will not stress the point.

But if disease develops, there is a general disturbance of the equilibrium, certain colloidal substances become flocculated by the excessive number of dead cells, the electric resistance increases, markedly raising the body temperature. For the cellular current produced by the cosmic, telluric and atmospheric waves depends only on the extent of these waves, and is independent of the electric resistance of the cell. This current always passes through the cell, whatever its resistance, due to the great penetrative power of the cosmic waves.

Therefore, when cellular resistance is heightened excessively due to flocculation, for example, the very high temperature melts the chondromes and chromosomes, and the cell dies.

A fortiori, if you send an electromagnetic radiation of very

short waves through the body, the chromosomes and chondromes, which have become too resistant, overheat themselves to the melting point, like the filament of an overcharged incandescent bulb, as I pointed out at the beginning of this book.

You can see how dangerous the arbitrary use of short waves with thermal effect can be. This therapeutic method should only be used by practitioners who have a sufficient knowledge of modern physics and biology, for, the majority of physicians who handle these apparatus know very little of both.

At the Short Wave Congress in Vienna (1937) where hundreds of communications were read on the application and use of short waves in medicine, I was struck by the erudition of the majority of the members: the physicists knew biology and vice versa.

Unfortunately there are still too many doctors who know nothing of these sciences, and in whose hands short wave apparatus become dangerous instruments.

Between sessions of the Congress, while the speakers were discussing their communications, I approached one who, in the course of his talk, had mentioned fatalities during treatment. Curious to know which apparatus had been responsible for the fatal cases, I asked:

"Could you tell me, Professor, what was the construction of the apparatus you used? What power did it carry? How many tubes? Were the waves damped or sustained?"

I was dumbfounded at his embarrassment. He gaped uncomprehendingly. Finally he pulled himself together and said:

"To tell the truth, my dear colleague, you are asking too much! I know nothing about the operation or the nature of the apparatus. The only thing I know was that there were two settings: 16 and 20."

"Sixteen and 20 what? Probably 16 and 20 meter wave lengths?"

"That's it, that's it," he said without conviction.

This is one of many incidents that strengthened my apprehensions concerning the dangers of short waves. But fortunately

most of the members of the Congress were remarkable physicists and biologists, very well informed on my theories of cellular oscillation, and capable of using their apparatus intelligently. I must say that this majority group who acknowledge that they firmly believe in my theories have obtained marvelous results. Among these are Prof. P. Liebesny of the Faculty of Medicine of Vienna, and Prof. Hugo Walter Reilly of Buenos Aires, founder of the clinic of radiobiology of that city, who has already attended and cured more than 1200 patients with short wave, particularly diseases where all other treatments failed, such as progressive general paralysis, infantile paralysis, diverse hemiplegias, tabes, scleroses in patches, neuritis, etc. He is so enthusiastic about my theories and methods that he has already devoted numerous medical articles and books to them.

I would also like to mention Dr. Raoul Araujo, medical inspector of Public Health and of the Prophylactic Institute of Montevideo, who has obtained excellent results in thousands of cases with my multiple wave oscillator. In his clinic, where the most modern electrotherapeutic apparatus are available, he prefers to use the multiple wave oscillator, which he has had since 1932. Dr. Postma, of Leeuwarden, Holland, whose book, *Leven en Golven* (Life and Waves) demonstrates mathematically my theory of cellular oscillation, has treated patients for six years with my multiple wave oscillator and has also effected many cures.

There are hundreds of such doctors. They use short waves with circumspection and very rarely have accidents. But as long as there are doctors who not only ignore the theory of cellular oscillation, but have no general knowledge of physics and biology, short waves will continue to be dangerous weapons.

It was to obviate this risk that I created my multiple wave oscillator in 1930, where the electrostatic scale is absolutely harmless even in the hands of the least learned practitioner.

To better understand the benefits of my multiple wave oscillator, and the pathology of cancer, I thought it well to quote several extracts from my book, *The Skin*.

THE SKIN, THE NATURAL PROTECTION OF THE BODY

Have you ever considered the function of the skin?

You know that the skin is more or less colored — that is how we distinguish the white, black, yellow and red races. The color of the skin is a product of the geological nature of the earth, the latitude, the climate and nutrition. The causes of these variations have been explained in my latest book, *Civilization and the Racial Folly*.

Moreover, in a specified climate there are skins of different colors: there are brunette pigments, blonde, reddish and even a total absence of pigment as in the case of the albinos.

The geological nature of the soil often varies in a specified locality, as in Paris or Berlin, for instance. We shall soon learn what an important rôle the pigment and especially the cells of the skin play in the maintenance of health.

I do not wish to return to my theory of cellular oscillation here, as I have developed it sufficiently in the course of this book. You know enough about it now to understand the action of the skin in maintaining health and fighting disease.

As an example, let us examine the pathology of cancer.

In my book, *The Secret of Life*, I explained, in connection with the etiology of cancer, that it was a case of a war of radiations between the cellular oscillations and all other sources of radiation, such as a radio-active substance, or variations in cosmic, atmospheric and telluric waves, as well as microbic radiations.

An interference between cellular oscillation and any other radiations causes death to the cell and its transformation into neoplastic tissue.

This theory which I launched twenty years ago, has been much discussed and disputed by certain biologists. Finally it was

irrefutably confirmed by numerous scientists, notably Professor Castaldi at the University of Cagliari, Italy; Professor Postma of Leeuwarden, Holland; Professor Hugo Walter Reilly of Buenos Aires and various authors, particularly in Germany.

But I was most gratified when my theory of cellular oscillation was recently confirmed in my own country in a communication to the Paris Academy of Sciences on May 22, 1939, by Professor Metalnikoff and his collaborators of the Pasteur Institute, and presented by Professor Emile Roubaud. This communication demonstrates the injurious effect of radiations between cells, microbes and radio-active substances, to which I allude in my article in the *L'Illustration*, reproduced in these pages. The authors prove that radio-activity creates a veritable anarchy in living tissues as well as in bacilli. Thus, when sarcinae are exposed to the action of a tube of radon, they multiply very irregularly in an infinite number of extraordinary forms: micrococi, rod-like cells of different dimensions and varied colors, arrows, pins, and chains with vesicles, etc.

Let us suppose that some radio-active ray such as that of an irradiated hydrocarbon, or a radio-active substance, comes in contact with the living cell. The oscillation of the cell will be destroyed, and it will divide anarchically, producing diversified forms which will make up neoplastic tissue or other tissues in which the cells will be "unbalanced".

It is as if a group of instrumentalists in a symphony orchestra suddenly started to play off key, producing cacophony. In the body the living cells play the part of the orchestral instrumentalists. When a radio-active substance or a radiation from the outside throws their oscillation out of equilibrium, they no longer oscillate on their natural wave length. They "play off-key" and change into neoplastic cells (cancer).

Furthermore, Professor Metalnikoff concludes his communication in these words:

"It can be stated that radio-active substances or radiations stimulate creative or anarchic forces in micro-organisms capable

of changing drastically their structure and their physiological traits and of bringing forth new species (neoplasms, bacteria)."

But the most brilliant confirmation of my theories came as a result of the work of the illustrious Professor A. Roffo, Director of the Institute of Experimental Medicine for the study and treatment of cancer in Buenos Aires. I have presented this confirmation in detail in the article *Toward the End of a Nightmare*, which appeared in the March 18, 1939 issue of the *L'Illustration*:

TOWARD THE END OF A NIGHTMARE

(Reprinted and Translated from "L'Illustration")

EDITOR'S NOTE: "The enigma of cancer remains one of the most agonizing in medicine. Despite the research of so many scientists concentrated on this problem, working privately or in special institutions, and above all the Pasteur Institute, despite such encouragement as has been given by the Braconnier Institute of Liege by offering prizes of several hundreds of thousands of francs, or the activity of the French League against Cancer, no one has been able to determine the etiology of this disease. But, an illustrious scientist, Professor Angelo H. Roffo of the University of Buenos Aires, after long and meticulously verified work in a laboratory which is a model of its kind, may well have succeeded in determining the cause of this disease with its toll of millions of victims annually (40,000 in France alone). Our readers also know the research work of the scholarly biologist Georges Lakhovsky, who has devoted himself to that question for fifteen years, and whose multiple wave oscillator has numerous cancer cures to its credit. Moreover, was it not the physicist Lakhovsky who introduced the use of short waves in therapeutics, a fact officially recognized by the Congress of Radiobiology in Venice (September 1934) and the Short Waves Congress in Vienna at its session of July 16, 1937? That is why we have asked him to summarize and give us the essential results of the research of Professor Roffo."

DOES CANCER DEVELOP FROM A WAR OF RADIATIONS?

Since the beginning of the century all the scientists in the world have concentrated their research activities on discovering the causes of this scourge and finding possible cures. Despite this indefatigable and unselfish activity, we are still helpless in the face of the ravages of this frightful disease. Worse still, it is more widespread each year.

But of all the laboratories in the world whose work I follow with meticulous attention, I foresaw a possible solution of the problem at the Institute of Experimental Medicine for the study and treatment of Cancer, an annex of the University of Buenos Aires, directed by a remarkable scientist, Professor Angelo H. Roffo.

It would be impossible to summarize his exceptionally important work in a few lines: I will only say that in 1935, on the occasion of his scientific jubilee, twenty-five years of terrific work at the head of the Institute, the scientists of the world presented him with a Golden Book for his glorious achievements. This 2,130 page book is thicker than a dictionary, contains no less than 186 original articles on the progress made in the etiology of cancer in various countries. More than twenty articles were written by our French scientists, notably Prof. Charles Richet, Prof. G. Roussy, Prof. Lapique, Prof. Hartmann, A. Lumière and countless others. This will suffice to give you an idea of his merit and renown.

He really seems to have found the cause of cancer and to have opened the way for the discovery of suitable prophylactic and therapeutic treatment. Let us examine briefly how he achieved this result.

For over ten years, Professor Roffo had been struck by the fact that epitheliomas and all cancers of the skin and face were especially frequent among peasants, workmen, sailors, and those

who, in the practice of their trade, are exposed to the sun for prolonged periods. He set about to determine what characteristic chemical substance, not normally present in the skin, is to be found in these tumors. And he was able to establish undeniably that CHOLESTEROL always formed in the epithelioma. (This discovery was confirmed by Prof. W. I. Cook of the Cancer Hospital in London and at the Carnegie Institute of Antwerp). Professor Roffo concluded that the presence of cholesterol in the epidermal tissues provoked cancer. Some solar radiation produces cholesterol, which, in turn, causes the formation of the neoplastic tumor.

What could this radiation be? The work of various Italian and German scientists has demonstrated that all radiations can be classified into two groups with the luminous radiation of the color yellow as the dividing line. All the radiations of higher frequencies: violet, ultra-violet, X-ray, radio-activity, gamma rays and ultra penetrating rays are malevolent and cancerogenic, because they prevent cellular division and most often kill the cell. All the lower frequency radiations, on the contrary, such as: red, infra-red, hertzian waves, stimulate and facilitate cellular division.

Therefore Professor Roffo thought that the only radiation of the solar spectrum capable of killing certain cells and transforming them into cholesterol would be the ultra-violet rays. He then tried to reproduce the same tumors on thousands of mice, either by exposing them to the sun or to artificial ultra-violet rays (tubes of mercury vapor). In both cases he obtained identical results.

An enormous step forward had been taken. Ultra-violet rays, whether they come from the sun or from artificial sources (bulbs or tubes) are the cause of cancers of the skin.

However, most people succumb to internal cancers affecting internal organs: liver, stomach, kidneys, lungs, etc., which are not exposed to the ultra-violet rays of the sun.

Here again, Professor Roffo had an original idea. He mixed cholesterol, irradiated either by the solar rays or artificial violet

TABLE OF RADIATIONS

ESTABLISHED BY PROFESSOR VINCENZO RIVERA

Ultrapenetrating or ultra-gamma		From 0.0002 to 0.0007 A°	For doses existing in ambient centers: de- pressive
Gamma	6 octaves of which 4 same as X-rays	From 0.0007 to 1 A°	For all experimental doses used in labora- tory: depressive or anodyne, but defini- tely stimulative on vegetables
X	12 octaves of which 4 infra- Roentgen and 8 Roentgen	From 0.057 to 144 A°	Same effect as Gamma rays
Ultra-violet	5 octaves	From 144 to 3,800 A°	For doses existing in normal ambient cen- ters: depressive
Luminous	1 octave	From 3,800 to 7,600 A°	Section of shorter waves: depressive Section of longer waves: stimulative or less de- pressive
Infra-red	8 octaves	From 7,600 A° to 0.25 mm.	Stimulative
Hertzian	22 octaves	From 0.00025 to 30.000 m.	For laboratory experi- ments: stimulative in the case of short waves

rays, with the food for the mice, or irradiated the food containing cholesterol directly. Of the thousands of mice fed with this irradiated cholesterol, more than 55% developed enormous tumors of the liver, stomach, kidneys, intestine, etc., and died very rapidly, while the thousands of other mice, fed with non-irradiated cholesterol, did not show a single case of cancer.

There must, therefore, be a difference between irradiated cholesterol ($C_{21}H_{36}O_8$) and non-irradiated cholesterol ($C_{27}H_{46}O$). Professor Roffo studied that difference from the point of view of both physics and chemistry. He ascertained that irradiated cholesterol contained a photo-active, radio-active and fluorescent hydrocarbon. Therefore these radiations in contact with the cells of the organism (the stomach cells, intestinal cells, etc.) must cause the destruction of these cells and subsequent cancerization.

Now, since the beginning of microbiology, there has been a vain attempt to attribute cancer to a microbe. Many scientists still profess the idea that the neoplasms are due to a parasite. But it is an established fact that cancer is not contagious, from which it must be deduced that there is no cancer microbe.

Moreover, the determination of whether or not there is a microbe is, in itself, of little interest, since it is not the microbe, but its radiations which kill the cell.

In like manner, when a radio-active hydrocarbon comes in contact with a cell, as Professor Roffo has shown, its radiations, not its chemical constants transform the healthy cell into a neoplastic cell.

Therefore, as I maintained sixteen years ago, cancer is the product of a "war of radiations", between those of the healthy cell and an interferent radiation. It may be the radiation of a radio-active composite or of a microbe, which emits a specific radiation.

As I wrote in 1925:*

"Unicellular microbes also emit radiations. Each time these

* *The Origin of Life.*

rudimentary bodies come in contact with an organized body, a 'war of radiations' breaks out between the microbes and the healthy cells.

"The problem presented is analogous to the agonizing dilemma of a life-guard who rushes to the rescue of friends to find them struggling with powerful aggressors. He is afraid to use his weapons for fear of wounding his friends in the confused tangle with their assailants. In like manner, healthy cells and noxious microbes are equally exposed to all radio-active action for the destruction of the malevolent radiations. It is difficult to suppress the one without annihilating the other."

And that is precisely what has been done for over thirty years in therapeutics by using radio-active substances and rays fatal to both healthy and sick cells. It is just like firing a machine gun into the mêlée of a struggling mass.

Time and again, the lethal effects of radio-active radiations and X-rays on the body have been confirmed by numerous authors, especially S. Laborde in the *Medical Press* of November 25, 1936. In the last number (July-August-September 1938) of the quarterly bulletin *The Struggle Against Cancer*, Professor R. Reding, Director of the Cancer Research Institute of Brussels, published a remarkable article on the dangers of using certain cancerogenous substances notably radio-active substances, in therapeutics:

"The practitioner," he writes, "does not know that the medicinal substances he uses daily are endowed with dangerous cancerogenous properties."

Let us note also, that Roussy, Oberlin and Guérin observed that, of seventeen rats injected with therotrast in the abdominal cavity there were eleven peritoneal sarcomatoses; and of five rats treated in this way four developed sarcoma in the injected region.

Before Professor Roffo's discovery, it might have been supposed that only naturally radio-active substances could cause cancer. We knew that irradiated cholesterol can also produce cancer

—and there is cholesterol everywhere, in all foodstuffs: eggs, meat, especially in fat. Moreover, these foods are often exposed to the sun when they are displayed by butchers, grocers, and even in kitchens. . . .

Although the annual proportion of cancer victims in France is only 1 in every 1000, or 40,000 for 40 million Frenchmen — it is an impressive percentage. So that 999 out of every 1000 persons must resist the effects of cancerogenous substances which we all absorb, because, fortunately, the resistance of the body, our best natural defense, intervenes.

The same is true of microbes: in our nasal passages, our mouths, our lungs, our intestines, there are quintillions of microbes which we do not even notice as long as the cellular oscillation of our bodies is stronger than the oscillations of the microbes.

Likewise, radio-active cancerogenous substances, whose radiations are for the most part noxious, are effectively resisted by cellular oscillation.

To reinforce this cellular oscillation in the event of a disturbed equilibrium as a result of some pathogenic cause, and to raise the body resistance to disease, I set out, in 1923, to create a constant compensatory field of very short waves (2 to 10 meter wave lengths) neutralizing the action of the disturbing field and simultaneously stimulating the cells toward resumption of their normal oscillations.

To this end I constructed a short wave oscillator using two triode tubes especially made for this apparatus. The results which I obtained for the first time with continuous very short waves at a distance with no contact electrode, at the Salpêtrière Hospital in Paris, in collaboration with Professor Gosset, have been made public in a communication to the Paris Biology Society.* It was demonstrated that the radiations of this apparatus would cure geraniums inoculated with cancer in fifteen days.

This short wave oscillator was also the model for all other

* See *L'Illustration*, issue of August 16, 1924.

short wave apparatus in therapeutics (electropyrexia and others).

But I thought that by eliminating the thermal effect, I could get better results in using ultra short waves to give an oscillatory shock to chromosomes and chondromes. It was then I conceived the multiple wave-length oscillator which stimulates each cell to vibrate in resonance on its natural frequency. This apparatus produces a scale of simultaneous oscillations of all frequencies, from the 3 meter wave length to the infra-red.

As early as 1931, I began to use this multiple wave oscillator in various Paris hospitals in the cure of various internal and external cancers where the use of X-ray and radium had failed. These patients have been cured for eight years with no recurrent symptoms, and are in good health today. In all pathogenic cases this treatment is effective since it does not attack the microbe directly, it does not destroy living tissue, but rather reinforces the vitality of the organism by accelerating the cellular oscillation. Thus, the reinforced resistance of the body fights the microbes and neutralizes all pathogenic causes, such as hydrocarbons, radio-active elements of all kinds which we absorb daily.

This theory of cellular oscillation has been confirmed experimentally in the principal laboratories in various countries.

Now we shall understand the noxious action of radio-active substances on the living cell and the formation of the cancer.

Let us examine what is generated in the cell upon exposure to the radiations of a hydrocarbon or radio-active substance. These very high frequency radiations reinforce the oscillation of the chondromes. Contrariwise, they interfere with the oscillation of the chromosomes, whose frequency is much lower. The result is that, on the one hand the living cell is destroyed by this interference, and, on the other hand, the chondromes whose oscillations are reinforced by resonance, envelope themselves in a membrane and continue to oscillate, this giving birth, as it were, to a neoplastic or cancerous cell. (Fig. 3)

To counteract this sinister radio-activity of the hydrocarbons and all the radio-active radiations, the multiple wave oscillator

produces all the wave lengths (infra-red and hertzian) higher than the destructive radiations, and strengthens the oscillation of the chromosomes as well as that of various other cellular elements. This theory was confirmed in 1931 by Professor Roffo in his communication:

"Ultra-short hertzian waves and cellular life," a study of the culture of normal and neoplastic tissues IN VITRO, in which he says:

"In the experiments made I obtained interesting results which could be interpreted as a finding for cellular oscillation, a theory stated for the first time by Georges Lakhovsky, and compatible with the results I have obtained."

But Professor Roffo did not stop there. When I congratulated him in August 1938 for his wonderful successes in the discovery of the cause of cancer, he answered: (September 27)

"As you appreciate, the question of the etiology of cancer proceeds step by step on sound and solid ground. The production of tumors with irradiated cholesterol acting as a photo-active and luminescent agent, is based on the phenomena of radiations, and we return thus to the field of your very important and interesting research."

In this way Professor Roffo confirmed the thesis I have maintained for fifteen years: that the neoplastic formation is actually due to a struggle of the radiations of healthy cells and the radio-active substances. We know what produces cancer. It seems but another step to establish rational methods of prophylaxis for this scourge, either by a physical device, as in the case of the multiple wave oscillator, or by the application of certain metals, or by a totally different procedure, perhaps chemical, which will annul the radio-activity of the hydrocarbons produced by irradiated or heated cholesterol.

A great hope has arisen. Doubtless one can catch a glimpse of the end of the nightmare of cancer, which annually takes such a toll of unfortunate victims.

GEORGES LAKHOVSKY.

You have just read my article from the *L'Illustration* of March 18, 1939. You have learned of the most recent discoveries relating to cancer. They will help you to follow my demonstration. This article had such a resounding success that when I wanted to buy a copy during the week of its publication, I could not find one in the shops. Fifteen days later I begged the Editor in Chief of the *L'Illustration* to send me several copies, but he answered that that number had had such a success that it was completely sold out and no copies had been returned. Furthermore, I received many letters asking me where a copy containing my article could be obtained, as the writers were unable to get it either in the shops or from the *L'Illustration*. That is why I thought it better to reproduce the article in extenso, rather than content myself with quotations.

This extraordinary success was due to the fact that I was the first one to give the facts of Professor Roffo's great discovery to the world.

And to confirm the importance of his work, I will add that on Tuesday, May 16, 1939, in the course of a solemn conclave of the Paris Faculty of Medicine, held in the Council Hall with the Minister of Public Health and the Ambassador of the Argentine Republic presiding, the Amerongen Prize of 100,000 francs was awarded to Professor Roffo for this discovery. The most glowing speeches were made at this session, notably by Professor H. Hartmann of the Academy of Medicine.

WHY IS CANCER FORMED SO OFTEN AFTER THE 45TH YEAR, WHY IS IT SO RARE AMONG YOUNG PEOPLE?

Because when the skin is young it is impermeable to the radiations which provoke cancer, while as people grow older the skin permits such radiations to penetrate. And that is precisely what I propose to explain to you.

It is well known in physiology that the skin forms a screen or protective coat which stops all noxious radiations. In particular all the ultra-violet rays, the solar, telluric, atmospheric and others are filtered by the skin, and only those oscillations which are strictly necessary for the maintenance of life are distributed in the body.

Without the skin acting as a screen, life could not go on, as our cells would be bombarded and destroyed by environmental radiations. In the case of serious burns covering a large area of skin, death usually follows in a few days, or even in a few hours, because the sinister external radiations penetrate the body unimpeded and there smother cellular oscillation.

Moreover, everything that lives covers itself with a protective membrane, which is its screen. In microbes, infusoria, the cells are protected by a membrane. Trees are protected by their bark, insects by a covering of chitin, fish and reptiles by scales and vertebrates by the skin.

In short, no living thing can exist or grow without the protection of a coating or screen which separates it from the external world and forms a filter for radiations. Nature so nurtures her creations that even cheese covers itself with a crust forming a protective cover for the lactic ferments which it encloses.

We shall show why with old people, the skin loses its power to act as a filter. I will dispense with giving you a detailed ana-

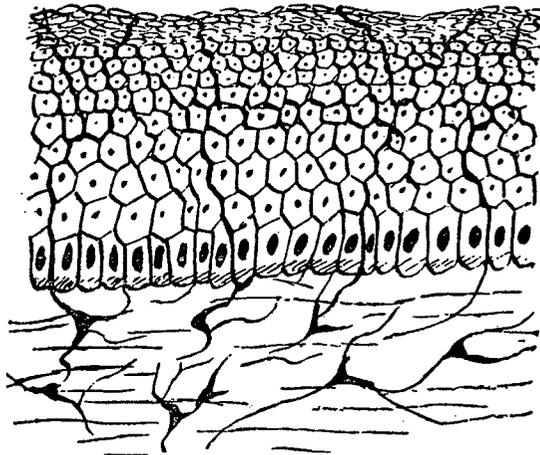


FIG. 19. — Cross-section of a young man's skin.

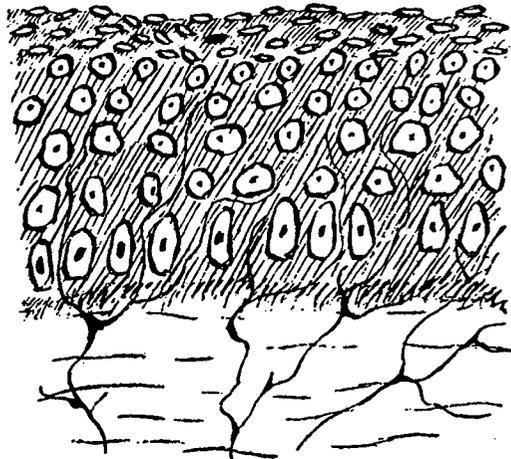


FIG. 20. — Cross-section of an old man's skin.

tomy and physiology of the skin. I will only ask you to remember that it is a rather thin membrane, varying in thickness, according to the part of the body it covers, from 1 to 3 millimeters. It is essentially constituted of two superimposed tissues: the dermis and the epidermis.

Let us imagine we are entering the body through the skin. We first encounter a thin exterior layer, elastic and transparent, which separates the body from the outer atmosphere. It is composed of a series of layers made up of flat cells. Below, a line of nucleated cells, then the mucous body of Malpighi which contains the colored pigment of the skin.

After the epidermis, the next encounter is a whitish fibrous membrane, very elastic and also very resistant: the dermis.

I will not go into a detailed description of the epithelial tissue. You are not unaware that the skin encloses a multitude of tiny organs: sweat glands, hair pores, the sebaceous glands at the hair roots, the tactile papillaries and others which, although interesting, have no relation to the skin properties which make it a powerful screen.

Here are two drawings showing a cross-section of a part of the skin: the first, the skin of a young man, the second of an old man (Figs. 19 and 20).

You will note in the young skin all the cells are tightly pressed against one another, and as each cell is an oscillatory apparatus releasing a radiation, the excess of incoming noxious waves is barred. Only the radiations absolutely necessary for cellular oscillation filter through.

While in the skin of the old man, the cells are widely spaced and the interstitial void is filled with conjunctive tissue, an inert matter from a physiological point of view, which permits the infiltration of all kinds of detrimental radiations. Thus, the solar, cosmic, and telluric radiations, which contain violet and ultra-violet rays, and various penetrating radiations, travel through the skin and injure the organism by weakening the cells and, particularly, by strengthening the radio-activity of the hydrocarbons and all other radio-active substances present in them. These, in turn, shake the equilibrium of cellular oscillation by killing the chromosomes.

To shed further light on this study, I will give you a little outline of the constitution of all substance and its radio-active

properties, as set forth in my book, *Matter*. This outline will be very useful in understanding the formation of radio-active hydrocarbons through the effect of ultra-violet rays and the radio-active force of these hydrocarbons.

I demonstrated in that book that the universe is filled with immaterial and infinitely elastic forces which I call "universion", and which the physicists now call "cosmic waves". It is this universion which is the cause of all that exists in the universe: it moves the atoms in the molecule as it moves the stars in the heavens.

The interplanetary and intermolecular spacial void stimulates the dynamism of the entire universe.

According to the degree of intermolecular compression, every substance releases a specific radiation. The excess of compression in the intermolecular spacial void causes the explosion of atoms and makes bodies radio-active. If you enclosed a radio-active substance, radium for instance, in the center of a lead sphere, a solid 25 meters in diameter, the radium would lose all its radio-active power as long as it remained in that sphere, because it would be removed from the action of cosmic waves and the compression of its spacial void would be eliminated.

The physicists have proved that cosmic rays can traverse a maximum thickness of 11 meters of lead. Therefore, at the center of a sphere of lead 25 meters thick, radio-activity no longer exists. If that thickness were reduced to 1 meter, radio-activity would be increased considerably. An absence of the entire covering of lead would suscite full radio-activity.

Moreover, the radio-activity of the hydrocarbons which provoke cancer is infinitely less strong than that of radium and to arrest this radiation, a lead plate a fraction of a millimeter thick, not 25 meters, would be necessary.

So, radio-active hydrocarbons which we absorb daily in great quantities with our food, lose their radio-activity as long as the skin plays its rôle of protective coating, that is, until about the age of 40, while in the case of old people, the skin permits

the passage of all solar, cosmic, telluric and other radiations which intensify the radio-activity of hydrocarbons and other substances of the organism, causing an interference with cellular oscillation, destruction of chromosomes, and development of cancer.

The same is true of all cells, which age and disappear because of the weakened power of the skin as a protective covering.

* * *

My oscillator not only has the specific properties necessary to strengthen the organism's resistance and help it fight successfully all pathogenic elements, but it can also draw the cells in the skin of older persons closer together. This has been proven experimentally. All the physicians who have used my apparatus have verified the fact that, at the end of a few weeks, their patients look extremely well, and their skins have a younger texture and more color.

This was most startlingly demonstrated, and with widespread notices, when I cured Mrs. S. at the Calvary Hospital in Paris, for she was 82 years old. I cured her of a tumor of the face on April 25, 1932.

The Calvary is a hospital for incurables. The nurses are society women who volunteer their services to care for these patients. When I cured Mrs. S. after a month's treatment (Figs. 9, 10-11), I arrived at the Hospital one fine morning to find all the nurses lined up to offer me congratulations and present me with flowers in testimony for this wonderful cure, the first in the hospital's 65 years of existence.

Then two of them, Queen Amélie of Portugal and the Duchess d'Uzès, came forward and said: "Professor, you not only cure cancer, but you make the women look 20 years younger!"

For, Mrs. S., whose skin, before her treatments, was lined like parchment, recovered with skin as pink and transparent as a woman of 40.

A GLIMPSE IN THE FUTURE APPLICATIONS OF MY THEORIES WITH THE MULTIPLE WAVE OSCILLATOR

In the twenty years of my life I have devoted to radiobiology, I have studied the problem thoroughly and am firmly convinced that, with the progress of modern physics, physicians will be able to cure their patients of the scourges which ravage them, such as tuberculosis, syphilis, cancer, and even leprosy.

For in recent years when science has invented such drastic methods of destruction, that their continued use would annihilate mankind as a whole and civilization with it, it is a good thing that, on the other hand, science offers us other means of saving human life and sheltering it from diseases which ravage it as savagely as wars and revolutions.

As I near the conclusion of this account, I feel impelled to mention here two facts of superlative importance for the future of science, of medicine and of humanity.

First, a fact of extreme novelty and interest brought to light some years ago by my best pupil and friend, Dr. Jacques C. Presner.

You have read my theories of cellular oscillation based on the assertion that each chromosome and each chondrome contained in every individual cell is an oscillating circuit which projects a specific radiation. I shall not go over the mechanism of their functions here.

Consequently, all the elements that make up our organism in their living state, are colloidal: that is, all these atoms and electrons are in a state of perpetual suspension and function as electrical entities.

As soon as certain chromosomes and chondromes stop oscillating for various reasons which I have explained above, the

cell dies. It is no longer a living, oscillating matter, it is now an inert, flocculated substance. Its component particles are no longer electric, but form a sort of emulsion in liquid which is visible to the naked eye. You shall now understand what follows.

You know that a picture can be transmitted over a distance, electrically, by television. Tubes composed of silenium, or other materials, will transform luminous electric particles vibrating at specific frequencies into pictures.

Now, Maxwell and Louis DuBroglie have demonstrated scientifically that light is an undulatory electrical phenomenon. It can therefore be reproduced electrically at a distance with all the degrees of light and shade of its component electric particles. Thus, the "nuances" of any picture are really a translation into visible form of the specific frequencies of each electrical entity.

Dr. Jacques C. Presner has developed the idea, in accordance with my theories of cellular oscillation. Since all living matter is electrical in essence, and since every disease results from the disturbance of the equilibrium of oscillation in the cells, which, in turn, causes a variation in the normal frequency vibrations of the protoplasm and of the blood, nothing would be simpler than to transmit by television these unbalanced frequencies into pictures. In this way, we could get a televised picture of each specific disease. For example, tuberculosis would have a distinctive translation into picture, syphilis would have a very different picture, and cancer would have a definite picture particular only to the disease of cancer.

Moreover, it is a matter of common knowledge that we are able to live for many years while a neoplastic, or destructive body or bodies develop slowly in some portion of our organism (the duodenum, for instance), utterly unknown to us. As long as these neoplastic bodies do not destroy certain tissues or cut certain blood vessels, we are completely unaware of their presence.

But, if, by means of a tube of television or an electrode in a bulb producing certain rays, as suggested by Dr. Presner, we

could easily detect the presence of neoplastic or destructive elements at the inception of the disease by examining a drop of blood or by photographing the organism with this electrode bulb, if we could thus translate into pictures the disturbed radiations of our body cells, we would be able to "see" cancer, or any other disease, directly transmitted on a screen.

On the other hand, it is important to point out that of the 2 billion 150 million inhabitants of this earth, no two have the same chemical, physical or electrical constant, no two have the same type or number of cells, the same qualities of blood, etc. However, there are blood and metabolic groups of cells that appear during certain illnesses. The blood of a cancerous person, for example, would differ from the blood of a syphilitic, or a diabetic. My contention is that each of these cell groups as to the blood has a specific frequency and consequently, a specific color and form.

You will therefore appreciate the tremendous value of being able to identify these blood groups through television or by a special lamp.

* * *

Just as I finished this work and was preparing to submit it to my publisher, I received a letter from Professor A. Roffo which proved to be a very pleasant surprise. You already are aware of the remarkable work of Professor Roffo, for you will remember that I explained it at length in my article in the *L'Illustration*, March 18, 1939. Toward the close of a long letter, he announces a very important piece of news relating precisely to the detection of cancer before its development. I shall quote here the paragraph which deals with this discovery:

" . . . In the latest issue (No. 56) of our Bulletin which is on its way to you, you will find a new communication explaining the technique of photographing pre-cancerous lesions photofluorescently. As you realize, this is one of the most significant discoveries I have made, not only

from the point of view of biology, but especially as an early diagnostic method.

"I have constructed a portable apparatus which contains the sources of ultra-violet radiations, represented by two lamps of the 'Oscira' type. These lamps have an advantage over the Bach lamps in that they have a high pressure mercury vapor burner fed by an incandescent cathode which is enclosed in a Wood glass bulb; so that the Wood source and filter are united in one. You will read the details in the Bulletin.

"With this apparatus, in the dispensary, diagnosis can be made of pre-cancerous lesions of the skin."

You must realize the importance of this question, and since Professor Roffo is a very energetic worker and has the most extraordinary laboratory facilities and the most modern physical equipment, to say nothing of his rare genius, this discovery by such an eminent scientist is not surprising.

The discoveries of both Dr. Presner and Professor Roffo will open up magnificent unexplored avenues to medicine and to mankind.

* * *

Hereditary characteristics, as you know, are transmitted by the chromosomes or genes of the sperm and egg cells. From the moment of its birth, a child already has a specificity of cellular composition combining the inherited elements of the parental cells, which determines its power of resistance to disease.

For instance, the chromosomes and chondromes of cancerous parents will hand down to the child the same chemical or electrical constant so that, although the child may not yet be cancerous, its blood will be cancerogenous, or potentially cancerous. The child may not develop a cancer before the age of 50, which is the most common age for the development of the disease.

By means of television, an examination of the blood of a child as young as 5 or 6 will determine whether or not he is likely

to develop cancer in adulthood or middle age. The same is true for all other diseases such as tuberculosis, syphilis, diabetes, etc.

* * *

We have seen that we do not know the causes of all diseases. We also realize that when the disease is already in an advanced stage of development it is often too late to do anything about it. However, there are some diseases that develop from inherited tendencies. We are going to examine biologically what is meant by an hereditary tendency.

The nucleus of every cell in the human body contains as you know 48 chromosomes. The sperm and egg cells, which combine to form the embryonic cell, contain 24 chromosomes each. The embryonic cell, therefore, contains 48 chromosomes, and it is this embryonic cell which divides karyokinetically until the perfect being is formed.

Not only do the characteristics of the parental chromosomes pass from generation to generation, but the specific of the electrical oscillation of these chromosomes is also transmitted to the progeny. Under normal, healthy conditions, this cellular oscillation has a perfect equilibrium and it is this balance which is reflected in the cellular oscillation of the offspring. Likewise, a disturbance in the balance of cellular oscillation and radiation is inevitably inherited.

Naturally there may be a disturbance in the cellular oscillation of either or both parents, and the balance of cell radiations in the child will have its own specificity.

Those diseases which result from the disturbed equilibrium of cellular oscillation are most often inherited.

To sum up then, the unbalanced cellular oscillation of either or both parents transmitted to the offspring creates the hereditary tendency.

Now that you understand the mechanism of heredity, I hope to demonstrate to you experimentally how these tendencies may be obviated.

For many years I worked in Paris in six different hospitals—notably in the Franco-British Dispensary. It was a hospital for the tubercular. My multiple wave oscillator was being used in the treatment of the patients.

Among these tubercular patients, I treated, in 1932, a woman of 24, suffering from an affection of the upper regions of the lungs, showing cavernous bodies, running a high temperature, etc. After two months of treatment, her condition was greatly improved, the temperature had fallen, the lesions were almost completely cicatrized—she looked very well, her skin had become smooth and rosy—she was almost beautiful.

Two months after the first treatment, she announced that she was pregnant. Naturally I congratulated her and advised her to continue her treatments with the oscillator, not only for her own illness, but for the health of her prospective child. For I was almost certain that these treatments would affect the unborn child and I was especially curious to see what effect they would have on the offspring of a tubercular.

For seven months I treated her with the oscillator. But, since she was the wife of a mason worker, she was forced to go back to her household duties and abandon further treatment. She told me when she left: "I don't need them any longer, I feel perfectly well."

I was rather annoyed and my ever-growing curiosity was thwarted. However, I obtained her address from the Hospital office and went to see her. I scolded her for not continuing the treatment, but she answered: "Since I'm feeling fine, it's senseless to waste my time, I have other things to do." Despite this, I did not lose sight of her, and I used to go to see her from time to time to bring her a gift and clothes for her unborn child.

In short, after the normal lapse of nine months, this woman gave birth to a daughter. I was struck by the perfection of this new-born child. Her childhood was spent under the most deplorable unhygienic conditions. They lived in a dirty room, and the little girl played and rolled on the floor in the very sputum

of her tubercular mother. Generally, the children of tuberculars who remain in contact with the diseased parent, contract the disease. But I followed the development of this little girl for five years. I had adopted her as my godchild. All this time the child grew admirably well, free from illness, no sign of temperature, normal digestion and exceptional general vitality. In 1938, the family left Paris for the South of France. I received news of the child's progress from time to time. Each time the report was that she was in perfect health.

Here is another very interesting case.

For eight years I worked under Professor Gosset at the Hospital of the Salpêtrière. One of Gosset's pupils, a celebrated surgeon, had often confided to me his anguish, for in the ten years that he had been married, he had had no children. I advised him and his wife to undergo treatment by my methods. Imagine my surprise when I learned two months later that his wife was pregnant! Nine months later she gave birth to a beautiful girl, who developed normally throughout childhood.

But I must insist particularly on this most recent and most remarkable case.

When Professor Cigna made his communication to the Congress at Vienna in 1937, on the excellent results obtained with my oscillator, which you read in the preceding pages, it aroused quite a stir in the press of central Europe and in France—particularly a long article in the *L'Illustration* of August 28, 1937, written by the scientific editor of that newspaper, Jean Labadie. A few days later, the editor-in-chief of *L'Illustration* came to see me, and addressed me in these words:

"My dear Professor:

"We have been very happy to publicize in our newspaper the signal success of your work and its recognition at the Vienna Congress. However, I have come to ask your personal advice, and I shall be more than grateful if you can help me.

"My daughter-in-law had a miscarriage two months ago, and her condition was so serious that the surgeon who treated her warned us that she should never have any more children, because it might prove fatal.

"Now she is very sick and we are afraid she may die. "Do you think you could help her with your machine?"

Naturally I told him she had only to come to my laboratory and I would treat her with my oscillator and hoped to improve her condition.

At the beginning of September I began my treatments three times a week. This young woman, who came to me looking cadaverous, pale, complained of buzzing in the ears, showing symptoms of gastric and vaginal disturbances, etc., was so changed after two weeks, that I could hardly believe the transformation. She had become a superb-looking woman. I continued the treatments until the end of September. On October 20, she came for her treatment, this time, accompanied by her husband. He took me aside and told me with the greatest anxiety in his manner, that his wife was pregnant again. He remembered the warning of the surgeon who had handled her miscarriage, and was fearful his prediction might come true. I tried to reassure him by telling him that I had already treated analogous cases, that she would have a perfect child, and that everything would be all right.

"However," I said, "I must have your solemn promise that your wife will continue her treatments throughout the period of her pregnancy."

In her seventh month of pregnancy, she was so healthy that the surgeon who had treated her declared that her case was positively abnormal in its normality.

On July 20th she gave birth to a girl. The midwife told me she had never seen as easy and calm a birth. The child was born at 3 o'clock in the morning. About 2 o'clock in the afternoon of the next day, the husband rushed into my laboratory triumphantly to announce the blessed event and told me his wife had been asking for me to tell me how grateful she was.

When I got to the hospital, I was amazed to see a woman, lying in bed, with an expression of complete peace and repose on her face, and beside her, a superb child. In the months that followed the child developed normally, without showing the least symptom of functional or organic irregularity. The doctor who

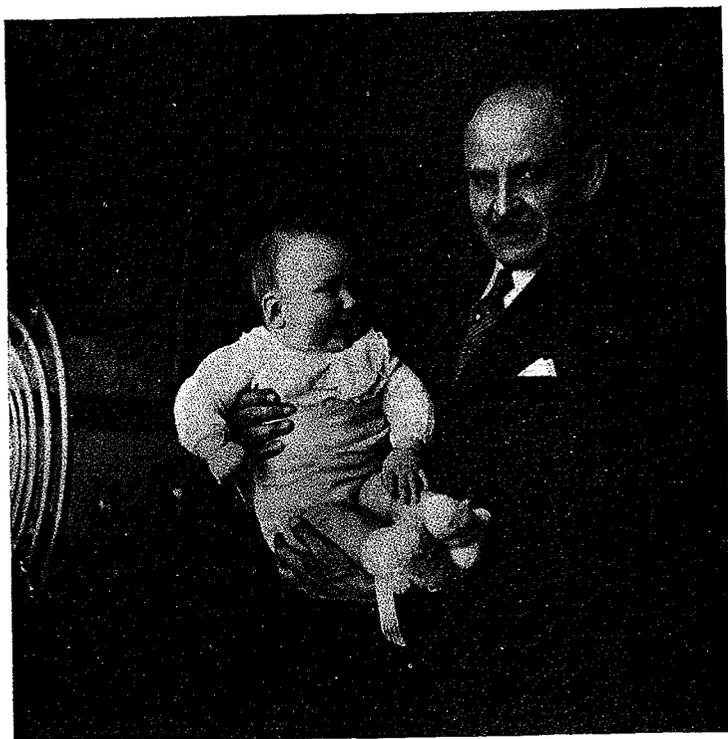


FIG. 21. — Photograph taken at the age of three months. Note the vivacity of the child; she could easily be taken for a child of five or six months.

had handled the case told me he had never seen so perfect a child, nor one so completely immune to all of childhood's various maladies.

Due to the fame of the mother's father-in-law, the case



FIG. 22. — Taken at the age of 11 months. The photograph cannot show the transparency of the skin, the golden hair and the deep blue eyes. Also note the health of the mother: she seemed to be another person after the treatment.

caused much discussion in scientific and literary circles in Paris. They called the little girl: "The Child of the Waves".

Unfortunately, when war broke out in 1939, mother and child were forced to leave Paris and take refuge in the South of France.

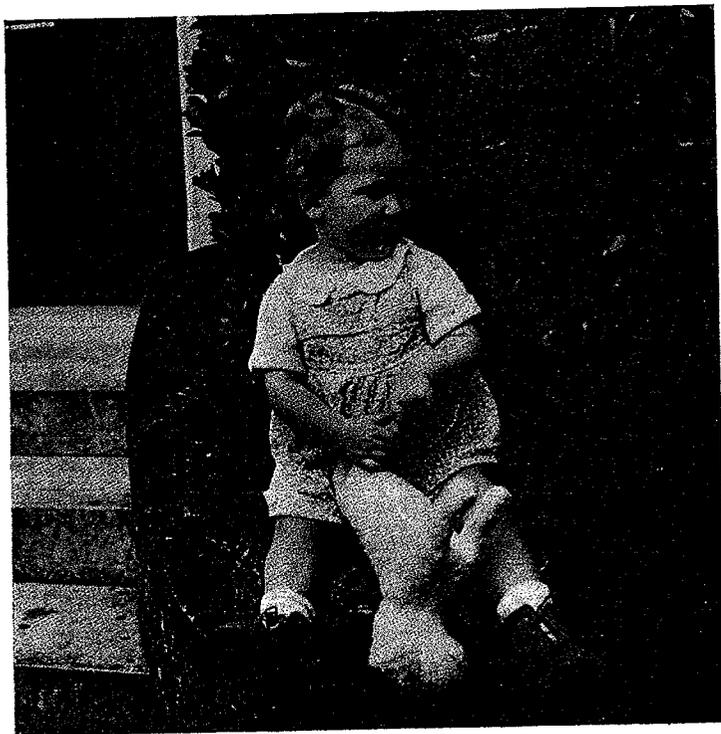


FIG. 23. — Taken at the age of sixteen months. She might be taken for a child of from two to two and a half years.

In November 1939, I received the following letter from them:

"My dear Master:

"I had meant to write you some time ago to give you news of the 'Child of the Waves', and to send you these photos.

"Sigrid is developing astonishingly well. All those who see her for the first time guess her age at two or two and a half, and are impressed by the balance which seems to radiate from her little person.

"She was sixteen months old on the 21st. She is naturally very calm, never capricious, never irritable. She is always in good humor. She observes everything about her with sustained attention. She weighs 12 kg. 500. Her skin is always radiant with health and her very blond hair forms a wispy aureole around her bright little face. . . .

"I am also feeling as well as possible, but there are times when a little session in your laboratory would be very helpful. I hope those happy days will come back soon.

"Sigrid sends you her kisses and her most gracious smiles.

"My dear Master, I send you my kindest remembrance and my deepest gratitude."

I must add, and this is most important since it proves the efficacy of treatment with the oscillator, that the three children whose cases I have given here, all looked very much alike; blond, very regular features, deep blue eyes, exceptionally beautiful. You might say, a new race of unusual strength and perfection of form.

* * *

There is a permanent Committee in Paris working to increase the French birth rate, for, as you know, the infant mortality in France far surpasses births. Following the astonishing results obtained in the cases I just outlined, a member of this Committee came to see me and told me he was going to suggest to the Ministry of Public Health an installation of my multiple wave oscillator in all the City Halls and by an official municipal decree, the requirement that all engaged couples, a month or two before marriage, have at least one free treatment per week at the City Hall, and in the case of the woman, a continuation of the treatments throughout the period of pregnancy. In this way,

a race could be created of strong, perfect children, free from all hereditary stains.

Now you will object that three isolated cases are insufficient to deduce that all mankind can be changed. Nevertheless, it is so simple to perform the experiment in one single Maternity Hospital with one apparatus on a sampling of some twenty pregnant patients, even if only for two or three months before confinement—and I am convinced that excellent results will be obtained.

* * *

Unfortunately, a barbarous and sanguinary monster put an end to all these plans with fire and sword.

I am certain that if this idea could have been carried through, not only would the birth rate have been increased considerably, but future generations would be immune to most of the diseases that destroy man, and particularly, infantile paralysis, so common in America. It is more than probable that pre-natal treatments would eventually rid us of this terrible scourge.

I have just read a bulletin published by the Division of Public Health Methods, National Institute of Health, U. S. Public Health Service, Washington, D. C. In this pamphlet I was astonished by the number of working days lost because of chronic diseases as shown by the chart here below reproduced:

It is to be noted that these chronic diseases are most prevalent among persons between the ages of 15 and 64. Therefore the causes can be sought, not in a deterioration of the organism because of old age or senility, but in the inheritance of the equilibrium of cellular oscillation of the parents.

I am convinced that if the parents of these 23,000,000 persons who are experiencing moral and physical suffering, had been treated during the pre-natal life of these diseased persons, with an apparatus similar to my multiple wave oscillator to restore a normal cellular oscillation, most of these 23,000,000 would be healthy individuals, working all their lives and living to a ripe old age without pain and symptoms of senility.

For I repeat, these chronic diseases arise from the disturbed

equilibrium of the chromosomes and chondromes of the parents of these 23,000,000, which is transmitted to the progeny in the guise of an hereditary tendency—or expression of this cellular unbalance—and thus creates a burden for the nation.

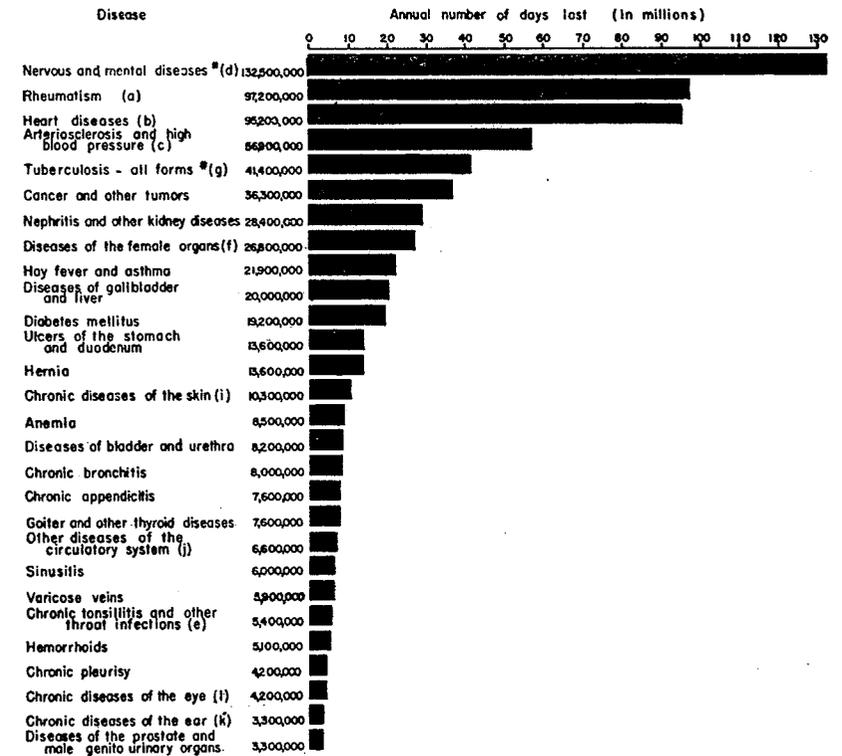


FIG. 24. — Estimated annual number of days lost from work or other usual pursuits by reason of specified chronic diseases (United States, 1937).

Moreover, you know that in countries where military service is obligatory, the Selective Service Board or the Recruiting authorities declare unfit for military service an average of from 35 to 45 per cent—depending on the country. What a waste of

manpower! Yet, if the parents had had previous treatment, the percentage would decrease to 5 per cent at the maximum.

It is also a known fact that in the Americas, infantile paralysis is unusually widespread. There, too, a considerable proportion of the numerous victims of this grave disease could be saved.

* * *

Another idea occurs to me: there are now about a billion and a half persons, young and old, women and children, all over the world, undergoing horrible suffering, martyrdom unknown in our times: moral and physical pain, famine, privations of all kinds brought about by this terrible war. Naturally their cellular oscillation is constantly in a state of unbalance and their resistance to disease diminishes proportionately. My anguish is intense when I think of future generations who will bear the hereditary weaknesses of all these debilitated and unbalanced war victims.

Here, too, many of the causes of hereditary weaknesses may be eliminated if the present generation were exposed to treatment with some physical apparatus comparable to my oscillator, and their cellular oscillation balanced to ensure a strong and healthy offspring. Such a therapy is all the more indispensable in that millions have been killed and are being slaughtered daily in this conflict. If it were to continue indefinitely, all mankind would be wiped from the earth.

For, all these individuals acquire a new weakness—not hereditary—by moral and physical suffering and through deprivations, and will pass on this new flaw to their children.

Let me then clarify: disease arises not only from general tendencies transmitted from one body to another by heredity, but also from acquired tendencies originating from pathological causes, such as demineralization of the organism, deficient nutrition, accidents, physical and moral suffering—which may disturb the cellular oscillation of a normal person whose parents were perfectly healthy.

In the present instance, the victims of the present war will become a generation with a very unbalanced cellular oscillation, and, by their chromosomes and chondromes may pass these weaknesses on to later generations. That is why I advocate treatment with the oscillator to restore to perfect health the conditions of cellular oscillation—and increase tremendously resistance to disease.

All my life I have worked with all my energies with the single purpose of alleviating human suffering by bettering public health, and it would be my greatest happiness if my theories and methods should help to restore the balance of human health that a barbarous monster is making every effort to destroy.

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