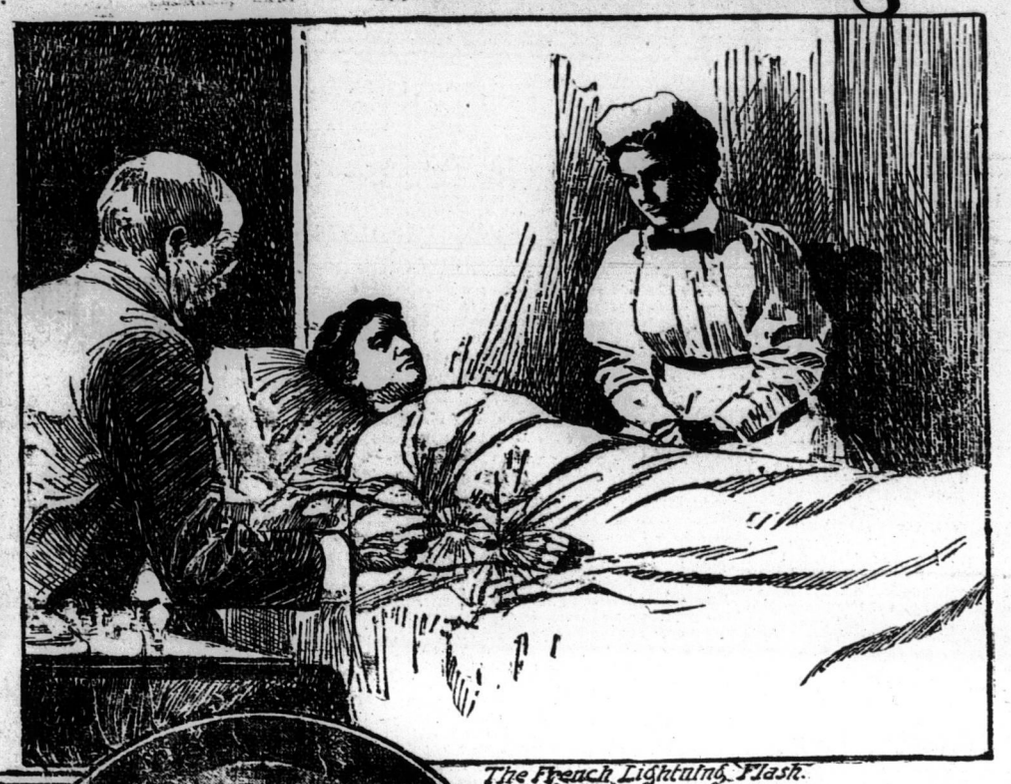
ELECTRICITY THE DOOM OF CANCER

How the American Treatment is Given



The French Lightning Flash.

Science Employs Current to Eradicate the Deadly Scourge

A THUNDERBOLT to annihilate cancer—burning out the dread disease with a mimic lightning flash of 200,000 volts—is the latest scientific discovery reported from Paris.

Cancer, above every other disease known to man, has proved itself reluctant to submit to instant annihilation.

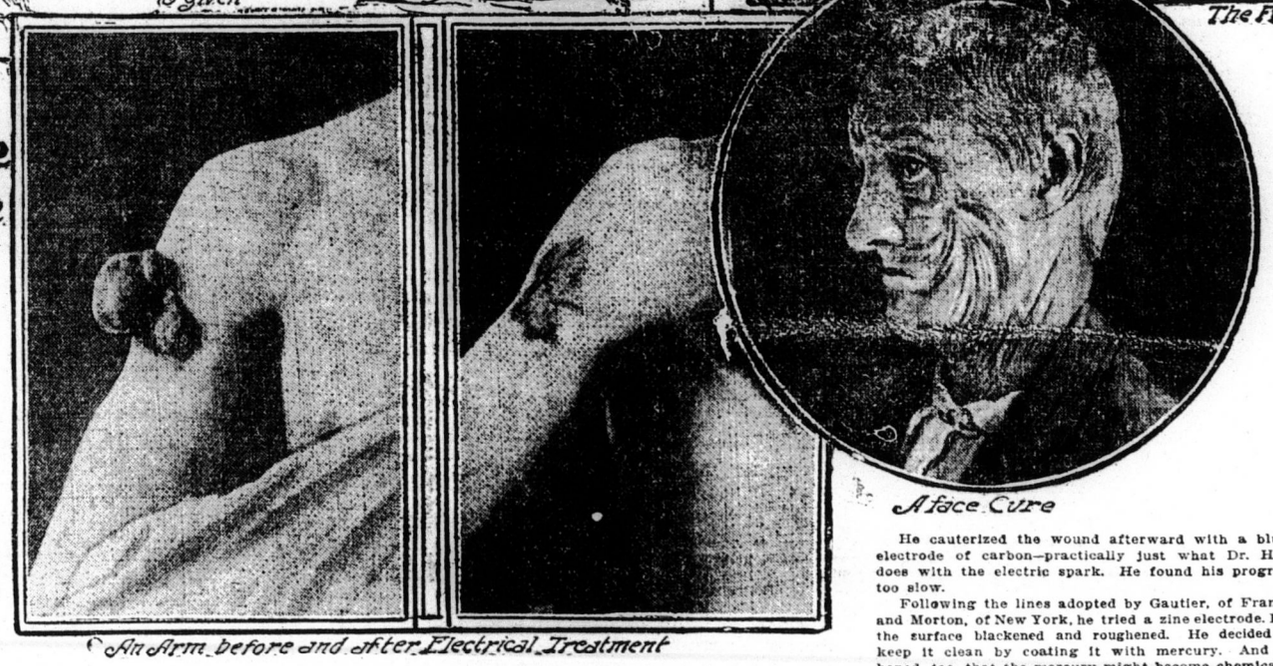
If it is true, striking as it is when considered as a picturesque method in operative surgery, the surgical thunderbolt comes only second to the medicated current, which has been used most effectively for years in the United States.

Of far more immediate and practical importance than any such discovery now can be—and of a reliability that has been indubitably demonstrated—is something which, known with absolute knowledge by the more advanced members of the profession, is barely appreciated by the medical world in general and is utterly unknown to the world at large.

That is the fact that an immense proportion of all cancers can be cured, radically cured, however malignant may be their nature.

Cancer has been cured; and it is being cured, again, and again, and again, at the only institution existing for the exclusive treatment of the disease, the American Oncologic Hospital, in Philadelphia, which receives a subvention from the state annually and treats the disease by electricity merely as one among the recognized methods of treatment.

Use of the electric current there is as much a commonplace of routine as is the use of the knife—and electrical extirpation has already a record better than surgical excision.



An Arm before and after Electrical Treatment

A Face Cure

THE steady, unrelenting progress of cancer during the last half century throughout the civilized world has daunted science and has appalled humanity. Its origin no one yet knows; its prevention no authority can prescribe. Its swift, terrifying growth alone is certain.

The cancer chart of any American city shows lines that mark, with mathematical exactness, the inevitable doom of hundreds every year. The cancer charts of Europe—of England and Wales alone—show even more fear-inspiring, ascending lines.

In New York city, at the close of the Civil War, there were 350 deaths per million of population. The fatal line ascends by leaps and bounds, as it does in all other cities, never once dropping below the first level, until it reaches 770, much more than double the proportion of two-score years ago.

Everywhere it is the same story. A compendium of the statistics of seven leading American cities shows a total of 999 deaths in the year 1870, a proportion of 354 to the million of population.

MORTALITY DOUBLED IN THIRTY YEARS

Those same cities, thirty-odd years later, lose 5532 people by cancer, or 755 out of the million.

The returns of the British register general, embracing the causes of all deaths throughout England and Wales, gave a total of 8293, or 385 per million, for the year 1866. For 1895, a scant thirty years later, the total had risen to 22,946, or 755 per million of population.

That proportion of cancer deaths was not reached by the proportion of the seven leading American cities until 1903. But it was reached, and that in only eight years.

Expert calculation for the future, made upon the charted figures of the past, demonstrates that in the United States only three years longer will be required to raise the dreadful proportion up to 800 cancer deaths per million annually, a record such as the world has never known in all its history.

It is no wonder that science has taken the alarm, that every theory of cause, every hope of cure has been welcomed.

It is no wonder that when a distinguished Scotch physician propounded the theory that cancer was due to aberrant life germs the profession received it with the gravest consideration, and to this day makes use of the trypsin, which he urged as a remedy.

Neither is it a wonder that when a distinguished English physician pronounced the cause to be vitiated blood, and declared vegetarianism the cure, the rejoicing was equally hasty and very premature.

And it is no wonder that when Dr. De Kating Hart, in Paris, before an assemblage of fifty distinguished surgeons in the Droca Hospital, burned out a cancer and christened the method "fulguration," the kindred, man-managed lightnings of the cable should leap from hemisphere to hemisphere to flash the wondrous news.

But it is a wonder that the use of electricity in the treatment of cancer, discovered and successfully applied for longer than fourteen years in Philadelphia and extensively employed, with almost uniform success, in cases that were electrically operative, for nearly the full probationary period of three years demanded in cancer cures by a public institution, should be still so little known and should be employed as yet only by the most advanced of surgeons in smaller cities—like New Orleans, for example.

Startling as is the news from the latest outpost in the impending universal war upon cancer, it is to be noted that Dr. Hart, while stating that 65 per cent. of the patients he has treated by fulguration during the eighteen months of his experimentation have remained cured, does not aver that he has discovered a cure for the disease.

He claims merely to have discovered a method by which cancerous patients can be relieved and eventually cured.

Using the Gaiffes transformer and the ordinary electrical supply furnished by the city of Paris, he brought to the point of an insulated probe the immense current of from 180,000 to 240,000 volts, which gave an electric flash five inches in length.

With that lightning flash he fulgurated the cancer until the growth itself was destroyed, and then the area affected was burned out, or volatilized, with the flash, instead of with the knife. An ordinary antiseptic dressing was all that was required afterward.

American specialists in electro-therapy, together with surgeons who have devoted themselves to the study of cancer, discern the chief value of Dr. Hart's fulguration not in the destruction of the growth itself—for that has been the particular province of the knife since the excision of cancer was first practiced—but in the volatilizing of the surface from which the growth has been removed.

Recent evidence goes to prove that cancer, upon protraction of exposure to its active germs, is infectious. Geylord and Clowes, of the New York Cancer Laboratory, have shown conclusively that rats may acquire sarcoma, or malignant tumor, by being kept in a cage from which sarcomatous rats have been removed.

It is possible that human beings succumb to like infection. But the opinion generally held is that the health of the individual must be lowered to the "cancer level" before any brief contamination is likely to affect him.

The cancer patient himself, however, is, above all other sufferers, prone to auto-infection. He is invariably at the cancer level. The great, if not the whole, danger of cancer is auto-infection.

Here, then, has always been apparent the shortcoming of the knife. The very instrument that removes the tumor is liable to infect the healthy tissue that surrounds it.

Dr. Hart's fulguration obviates that menace perfectly. Every spot his lightning flash touches is germless, while any spot the knife touches may receive the transplanted germ, which awaits only time to grow and flourish as vigorously as the parent tumor.

In the summer of 1893 Dr. G. Betton Massey, of Philadelphia, was called upon to effect the electrolytic destruction of a diseased growth in the groin of a male patient.

He cauterized the wound afterward with a blunt electrode of carbon—practically just what Dr. Hart does with the electric spark. He found his progress too slow.

Following the lines adopted by Gautier, of France, and Morton, of New York, he tried a zinc electrode. But the surface blackened and roughened. He decided to keep it clean by coating it with mercury. And he hoped, too, that the mercury might become chemically changed and, with the zinc, be diffused in the tumor.

Instantly, the color of the cancer began to change, and the characteristic odor vanished. That case was the beginning of mercuric cataphoresis—the cure of cancer by means of mercuric salts, diffused locally in the human body by the electric current.

Cure followed cure, and stood the test of time.

Meanwhile, the increasing menace of cancer had become so imminent that the science of government, which always lags so far behind the science of hygiene that thousands must perish before it will bestir itself, awoke a little bit to its responsibilities.

Commissions for the study of cancer, laboratories, state appropriations began to afford the means of at least groping for light in that most foul among the dark places of disease.

Pennsylvania helped, with a parsimonious subvention, the Oncologic Hospital, founded by a few generous, devoted spirits. There, since January 4, 1905, cancer has been cured by mercury and the electric current, until there remains only the completed passage of the full three years to demonstrate that the hospital cures are as perfect as were those accomplished in his private practice by Dr. Massey, who was one of the incorporators and is now a member of the staff in attendance.

Of 115 patients treated, sixty-three were so cured as to be discharged "without manifest evidence of disease"—the formal phrase used to designate a cure in which the three-year probationary period is still unexpired.

The number so discharged necessarily omits those still in hospital, those improved, and many who discontinued treatment against advice, because they preferred to think themselves well when they were only on the road to health. And, inasmuch as such an institution is condemned to acceptance of numerous cases in which the extensive progress of the disease had already foredoomed the patient, the proportion of successful cases has suffered greatly.

Yet, notwithstanding all the difficulties incident to a general hospital utilization, the peculiar value of the cataphoric treatment has been abundantly demonstrated.

For it works as no other cure for cancer, thus far known, works. The mercury-coated electrodes of zinc, inserted in the cancer, operating under a voltage of only 110, destroy the tumor itself, immunize its seat and, above all, permit the healing chemical to seek its path down into the very hidden, buried roots.

The current, following the line of least resistance, is selective; and it always chooses the diseased tissues in preference to the healthy flesh about them. Literally, the cataphoric treatment destroys the cancer, root and branch.

It cannot, however, cure the tendency to cancer when the disease has been allowed to progress so far that the parent tumor has sent daughter cancers through the blood to other portions of the body. It cannot give a new head to a sufferer, any more than the modern cure for tuberculosis can give new lungs to a patient or withhold from the grave one who is in articulo mortis. And it cannot be applied to a tumor so deeply seated that the waste incidental to removal of the tumor will not readily flow away.

To all who suffer from cancer—to all who even suspect the presence of a lump or induration that remains undiminished—the auspicious promise can be made: Seek treatment only soon enough, and you can be cured.

It is the promise that science, at last, is able to give consumptives.

WORK EASY ON FACE

Perhaps there exists no more favorable locality for the employment of cataphoresis, as the electrical diffusion, locally, of mercury is designated, than where the cancer has attacked the face, when no lymphatic involvement has occurred. It is the region most dreaded by all sufferers, and usually the scar consequent upon cure, if cure be effected, is but one degree less repulsive than the disease.

Dr. Samuel McClary, 3d, pathologist of the American Oncologic Hospital, has described in detail, in the course of his reports of method, the peculiar value of cataphoresis and the mode of its application. His description is so lucid that it can be drawn upon largely, as being typical of the marvelous work already accomplished at this pioneer institution for the treatment of the sown dragon teeth of cancer.

Only the diseased tissue and a small amount of healthy tissue are destroyed; the resulting scar is less conspicuous than by any other method, except possibly the X-ray; and the danger of implantation is eliminated.

For cataphoresis, either the direct electric light current or the dry batteries are available. It is important that, as far as possible, the action of the dispersing electrode be eliminated. Unsightly burns may result, otherwise, at the negative pole. Large clay pads, of duck filled with potter's clay, have been found most satisfactory.

The wire from the negative pole of the controller is attached to a thin, lead plate, which lies in a piece of waterproof. Thoroughly moistened with warm water, the clay pad is placed over the lead plate.

Care must be taken to see that the lead plate is completely covered, and that the wire leading to it is protected by a piece of non-conducting cloth to prevent short-circuiting. When it is feasible the patient should lie upon the dispersing pad, for the back presents the best surface, and the body's weight serves to keep the entire pad in good contact.

The active electrodes are made out of sheet zinc. They vary in size with the character of the case. They can be insulated as far as necessary by rubber tubing, or by coating them with sealing wax. They resemble nothing so much as long, tapering pins; and they can be bent so as to secure any direction which may be advisable.

Before insulation, the electrode is attached to a fine copper wire, so that it becomes capable, when inserted, of being self-sustaining. Before use, it is amalgamated with the mercury, the first step being to dip it in a weak solution—merely 10 per cent.—of sulphuric acid. With the mercury applied, the electrode is connected with the positive pole, and is inserted in the cancerous growth. Then the current is turned on.

SOME DO NOT NEED ANESTHETICS

The strength of the current and the duration of the application depend altogether upon the extent of the growth and the endurance of the patient. Small growths may be treated without anesthetics, and some patients will stand as high as thirty milliamperes.

But a growth larger than a pea usually calls for general anesthesia, with special watch over the action of the heart and over respiration. It has not been found safe to use more than four or five hundred milliamperes upon the face.

Where the Paris experiments have flashed, for the barest fraction of a second, the tip of the electric flame from 200,000 volts upon the tumor, the American method is to turn on the current very gradually, with an instant lessening upon any change in respiration or heart action.

The current is permitted to flow until, in the judgment of the operator, the area of necrosis, as the action of the electrode is termed, includes the whole growth, as well as a small amount of healthy tissue. The change is shown by a grayish discoloration of the surface, caused by the deposit in the tissue of the combined zinc and mercury. After that, sterile dressings, with zinc ointments, or powdered zinc oxide, are applied.

The cancer is sloughed away in from seven to twenty-one days. The cavity fills up with healthy flesh, by granulation. If the area destroyed has been large, the contraction that follows may be minimized by applying the skin grafts, after the granulation is well under way.

Should the Paris discovery prove to have added anything, even of the slightest value, to the efficacy of cataphoresis, the world has the highest reasons for rejoicing. Cancer's terrors loom huge before the eye of bold surgery and timid medicine alike. Dr. Roswell Park, in a recent paper, declared:

"If, for the next ten years, the relative death rates are maintained, there will be more deaths in New York state from cancer than from consumption, typhoid fever and smallpox combined."

So science may well betake itself, now, to that prevention which makes cure needless. Until then, the great news, irrespective of the actual advance achieved in each groping step toward remedy, is true: For all who do not wait, hope of cure has come.

Seven Years' Work to Invent "Diabolo"

"I WAS seven years working it out to my satisfaction," said Gustave Philappart, the man who invented, or, rather, who resurrected and improved, diabolo.

That "satisfaction," now, is not only a knowledge that the strange new game has made all Europe diabolo-crazed and is rapidly making a similar conquest of this country, but in a steady stream of royalties pouring in from busy manufacturers.

Diabolo is juggling applied to sport. Perhaps that is why it is so popular. The first-class diabolist must have steady nerves, nimble limbs and quick eyes. Then, too, it provides healthful, if somewhat vigorous, outdoor exercise.

A 14-year-old French boy, named Meunier, is regarded as the diabolo player. He certainly performs wonders at the game. He throws up the bobbin to a tremendous height, skips then with the sticks and strings and catches the spool on the string as it comes toward the earth; he runs the reel backward and forward along the string, the sticks and his wrists; he spins it above his head, behind his back, in any position. Meunier can play diabolo with an old belt and an ordinary dumbbell.

M. PHILAPPART acknowledges that diabolo is a modern transformation of the old Chinese game of koney gey. But koney gey, he insists, would resemble the present game as much as a cave man would resemble a gentleman of the twentieth century.

"Koney gey," says M. Philappart, "was a sort of double humming top, which served, and still serves, among Pekin and Canton tradesmen to attract passers-by. The game of diabolo, which had a furious vogue during the Restoration in France, was merely one of the numerous ephemeral games played by persons of a whimsical and frivolous epoch, who had no notion of the modern conception of sport as physical exercise.

"It would be too long to recount the transformations and the successive improvements of diabolo. Let me say, however, that to arrive at a definite formulation of the game, I worked for seven years patiently making research and experimenting—seven years have passed since I first played in my garden with a koney gey, a frail and badly balanced toy, absolutely without value for purposes of sport.

MADE 150 MODELS

"During seven years, with an obstinacy which had in it something of prescience, I made a quantity of models, more than 150 different types of the diabolo, modifying the caliber, increasing and diminishing the angle, changing the weight and the material and even the form, in order to discover a projectile light enough and yet sufficiently resisting to allow it to be thrown forty to forty-five meters high without being injured on its descent to earth.

"To find such a projectile—if one may so call the graceful double top—that was difficult enough. But it was necessary to discover the instrument for throwing it; that is, the flexible rods which assure the proper play, and the cord on which the diabolo runs in its manifold evolutions.

"In all games practice precedes theory, because theory in these cases can only be the result of experiment. The game of diabolo, though perfected as to its instruments, still wanted the elaboration of its rules, and these I formulated after receiving much practical advice from C. B. Fry, for whom the co-ordination of physical resources and the physiology of bodily exercises have no secret.

"Out of these consultations, or rather conversations, was evolved the technique of the new game, as well as its name, for Mr. Fry is, indeed, the godfather of diabolo. It is he who invented the name under which it is making the conquest of the world, and under which the counterfeit, parasite of all inventions, is trying surreptitiously to make its way.

"My first public experiment took place in the Bois de Boulogne, not far from the Allee des Acacias. A most select gathering assembled in the twinkling of an eye around us. Some one inquired: 'What is this new game? What do you say?'

"'Diabolo.'

"'Diabolo! What a nice name! Is it difficult? Where is it to be got?'

"Public curiosity, hitherto restrained, began to be excited. I renewed the experiment as a doctor uses a new remedy, with fear, with hesitation. This new trial unchained enthusiasm; it was the battle won.

"I immediately saw that the public would take to the new sport. The experiments were multiplied with the same success; the press and the theater became involved in them. Diabolo was played everywhere—in the Champs Elysees, the Luxembourg, the Bois de Boulogne, out of doors, at home, by the children, the mammas, the sportsmen. It was 'Diabolo fever,' a happy complaint, of which the results from the physical point of view are excellent.

"If inventors have their Archimedes they have also their Zollus. It came about that one of the members of the French press, to whom diabolo appeared of no value, allowed his little girl, a puny child of 12, to practice the sport in fashion.

"At the end of a few months diabolo, with its rhythmical movements, had transformed the child to an extent to make her unrecognizable for the same. She was no longer a puny and sickly child, but a robust girl, whose name has been announced by all the press as the result of a championship gallantly won. This example won over the most skeptical, and all the French press resounded with the successes of diabolo.

"Diabolo is not, as it has improperly been described, a 'craze.' It is, on the contrary, a sport which will last. Besides, as I said at the outset, the rules of the game are being drawn up under the high direction of Mr. Fry, for, side by side with diabolo tennis, there is the real diabolo—a sport eminently athletic, which can be compared with the Basque pelota, and which has its own technique. One cannot apply the term 'craze' to a scientific game, worthy of the attention of sportsmen, and which so much success has already justified."