

EXPERTS FORETELL THE WONDERFUL FEATS OF SURGERY

OPINIONS OF FAMOUS SURGEONS.

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There must be, should we advance * * * a less use, rather than a greater, of surgical operations.—Dr. Finney.

We will all be doing our consultation work in flying machines instead of automobiles.—Dr. Ochsner.

I look for enormous improvement, especially in the serum therapy field.—Dr. Bevan.

I am emphatically in favor of simpler, easier, and safer operations.—Dr. Martin.

Surgery of the thorax promises great achievements.—Dr. Meyer.

Serum therapy * * * will in the near future make many of our present operations in surgery unnecessary.—Dr. Gibson.

Surgical progress will constitute a better knowledge of surgical procedures.—Dr. Charles H. Mayo.

We may expect to overcome a number of the new infectious diseases by the serum treatment. * * * We will transplant great masses of bone to overcome bony defects; new joints, perfect and movable, will be an everyday result.—Dr. Murphy.

What was impossible or unjustifiable yesterday will become the commonplace, or even the discarded, practice of to-day.—Dr. Park.

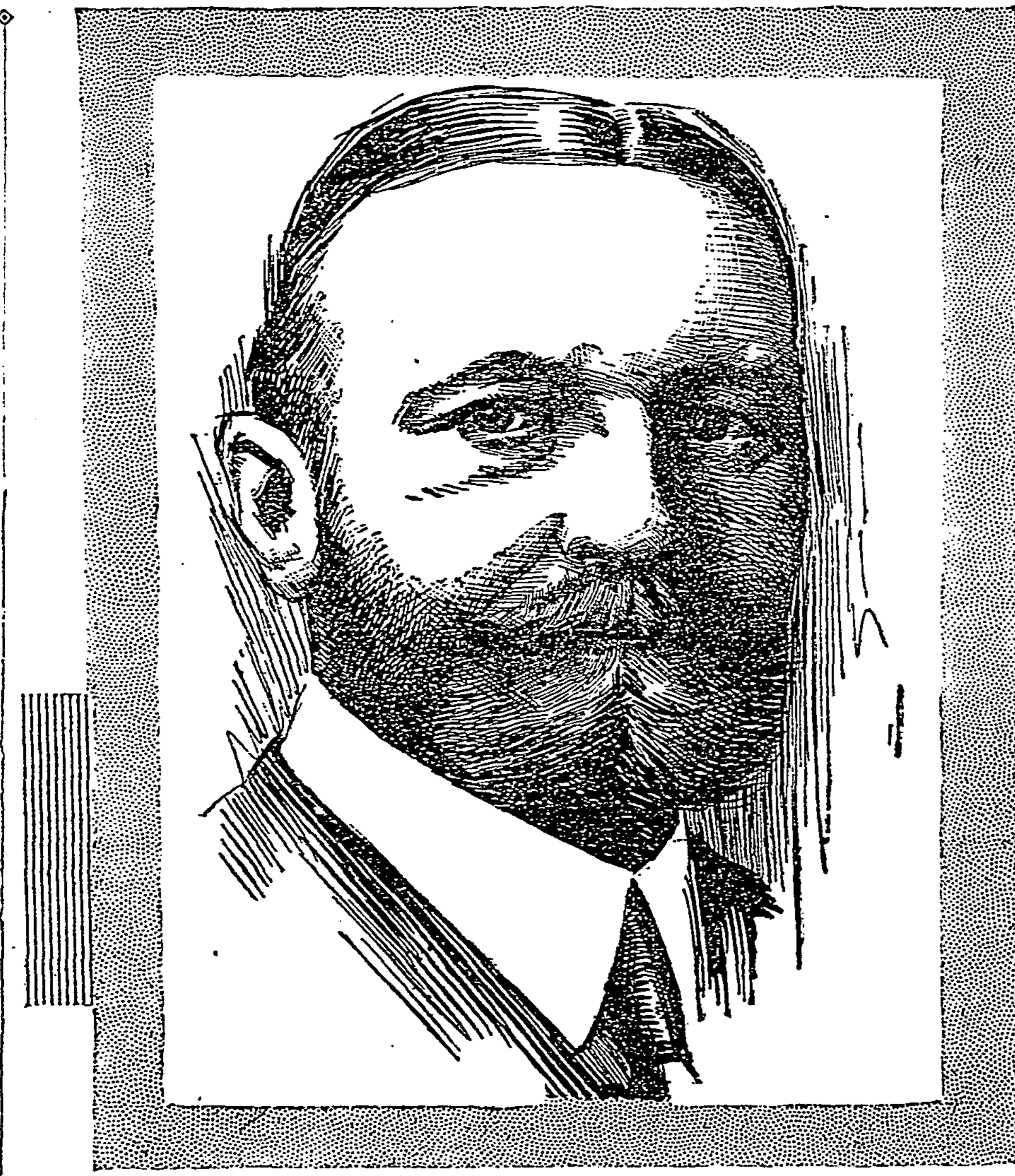
'SURGERY OF THE FUTURE.

Scarcely a month has passed in the last fifteen years without some important announcement indicating progress in the domain of surgery. Some of the new operations have been spectacular and well-nigh unbelievable, especially in the field of plastic surgery.

Whole organs have been removed from one body and successfully transplanted in another body; diseased and injured joints have been cut out and replaced with joints taken from other limbs, growing fast in their new environment and performing the functions expected of perfect tissues.

Surgeons have cut through chest walls, exposed hearts wounded with knife or bullet, and repaired the damage, saving the lives of their patients; while one surgeon at least, the famous Carrel of the Rockefeller Institute for Medical Research, has tied up the great blood vessels surrounding the heart and then reversed the circulation at will.

These are only a few of the many miracles of modern surgeons—examples that occur readily to the mind of the average medical man as he reviews the situation in this year 1910. But has the limit been reached? That is the natural query of the curious. The medical investigator is ready with an



Dr. John B. Murphy.

answer, and the answer is a decided "No." What, then, are we to look for in another ten years in the surgical field?

One surgeon, at least, has endeavored in the last few months to learn the adequate answer to that question. He is Dr. Lucien Lofton of Emporia, Va., who delivered the Samuel Spencer memorial oration at the recent meeting of the surgeons of the Southern Railway at Richmond. His address appears in The International Journal of Surgery. After paying an eloquent tribute to the memory of the late President of the Southern Railway Dr. Lofton continued:

"Asking, therefore, the indulgence of your further patience, I wish to direct your thoughts to the surgery of 1910 and the possible net results in 1920."

It developed in the course of the surgeon's remarks on this subject that he had addressed questions to a large number of prominent surgeons throughout the country, and had received replies from many of them. While prophesying a wider and rapid development in the realm of surgery, the consensus

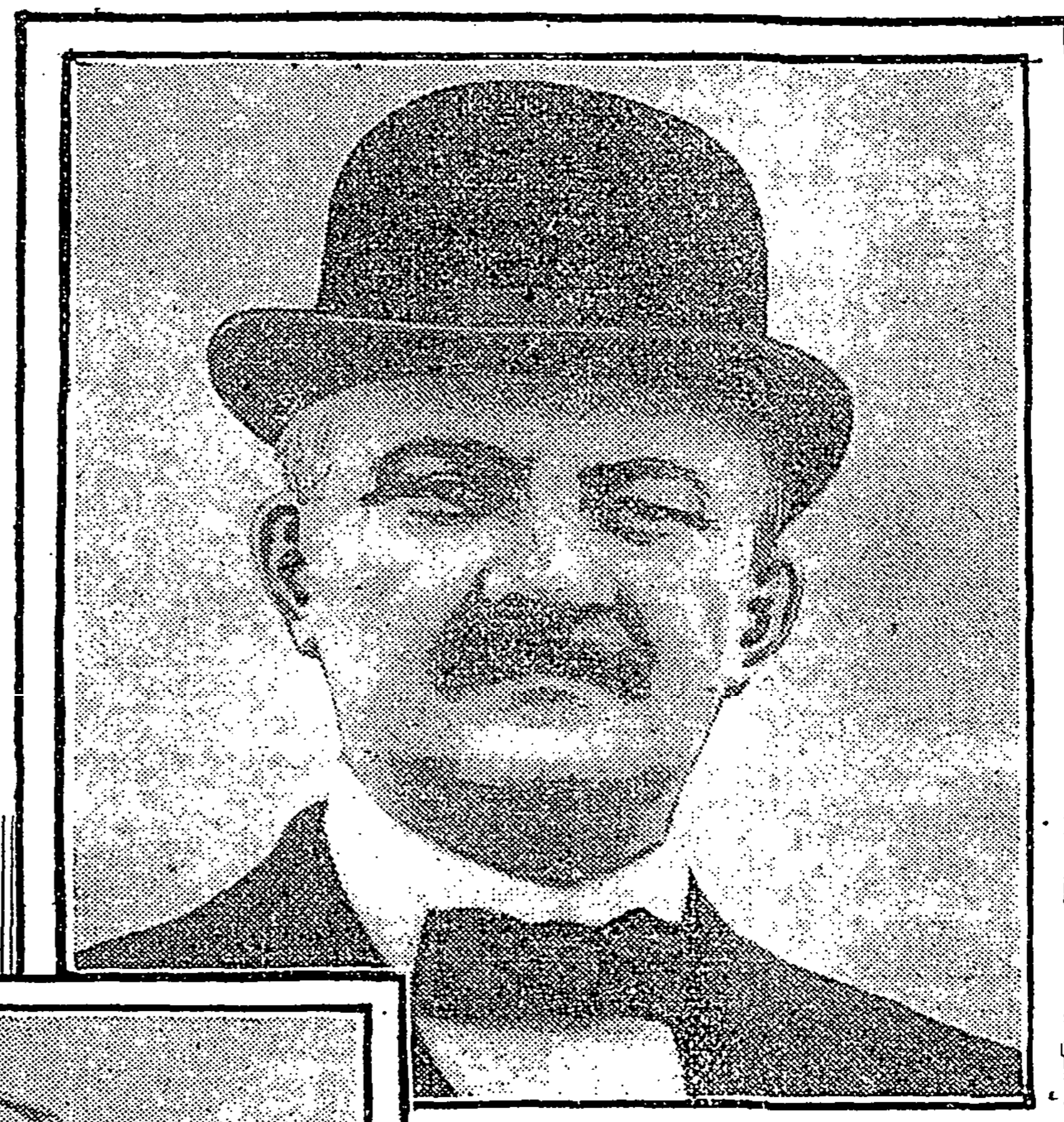
of opinion was to the effect that timely diagnosis and simplicity was to be the keynote of success for the surgeon of the future.

"I fully realize," said Dr. Lofton, introducing the subject to the assembled surgeons, "it is a far cry a decade hence, and yet to make prediction as to what we may confidently expect in 1920 in the surgical world might not be without interest to the surgeons of this association. There is no denying the fact that the surgery of 1910 is a more stable proposition than it was during the ten years just passed; and yet we are looking for more practical and simpler advances; 1910 gives us fewer fads in surgery than in a great number of years. All surgeons are working forward to the one end—simplicity."

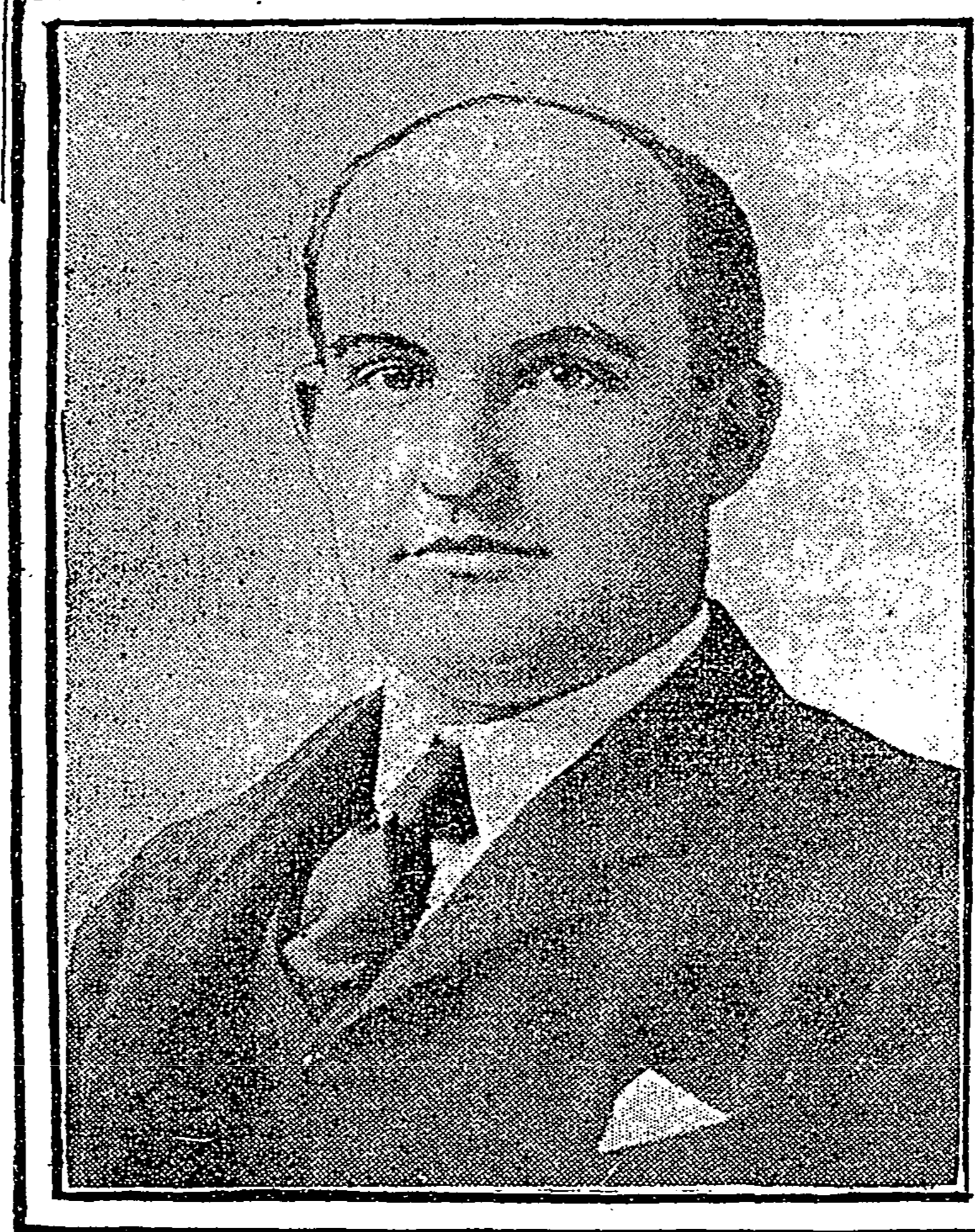
At this point Dr. Lofton began to quote from the replies received from prominent surgeons to his queries regarding the future of surgery.

"There must be," wrote Dr. Finney of Baltimore, "should we properly advance, improvements in anaesthetics, simplicity of technic, and a less use rather than a greater of surgical operations. A good many things we are now treating by surgical operations—cancer, for instance—will some day be

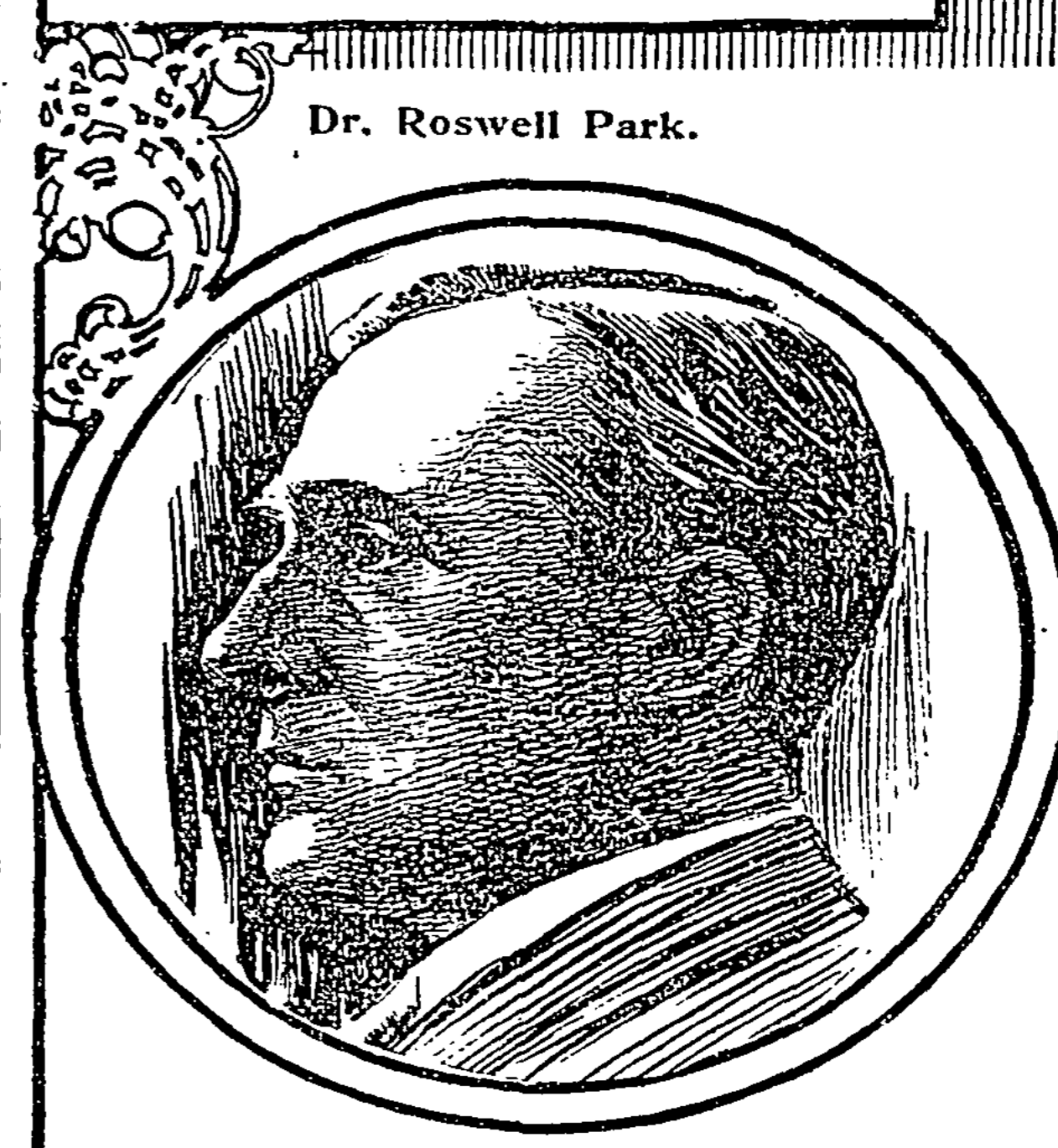
Views of Drs.
Charles Mayo,
John H. Gibbon,
Edward Martin,
John B. Murphy,
Roswell Park,
and Others.



Dr. Roswell Park.



Dr. John H. Gibbon.



Dr. Charles H. Mayo.

made unnecessary by preventable medicine," said Dr. Ochsner of Chicago, "chiefly in the line of sensible obstetrics and serum therapy, and we will all be doing our consultation work in flying machines instead of automobiles."

"I look for enormous improvement, especially in the serum therapy field," says Dr. Arthur Dean Bevan of Chicago.

"Joseph Price of Philadelphia," con-

tinued Dr. Lofton, "also looks for startling progress made along all scientific lines, particularly early diagnostic surgery."

"Edmund Martin of Philadelphia writes 'emphatically in favor of simpler, easier, and safer operations, because of increased skill and in the forming of timely diagnoses.'

"Willy Meyer of New York says: 'Surgery of the thorax promises great achievements,' and believes that 'the invasion of this cavity will be made as practical and upon the same basis on which abdominal surgery has been for the last twenty-five years.'

"John H. Gibson of Philadelphia 'looks forward to revolutionary changes in surgery in the next twenty-five years, possibly the next ten years. Until recently,' he continues, 'the field of surgery has been constantly widening, so that at the present time there are few regions of the body which are not more or less readily accessible from a surgical point of view; that a contraction is going to take place in this field, the result very largely of work being done in so many excellent laboratories in this country and abroad, the object of which is the discovery of the causes of diseases; that it has always been true in surgery and medicine, that when the cause of disease is discovered a more or less reliable treatment soon follows. Serum therapy,' he adds, 'which has done so much for such diseases as diphtheria and cerebro-spinal meningitis, will in the near future make many of our present operations in surgery unnecessary, especially those which are done because of infection.' He concludes by stating that he 'expects some form of non-operative treatment of malignant growths will be brought forth; that when this is done, it will equal or surpass in value the introduction of anaesthetics and the development of aseptic surgery.'

"Charles H. Mayo of Rochester, Minn., thinks 'that surgical progress will constitute a better knowledge of surgical procedures, with regard to the duct and ductless glands of the body. Through more rational treatment, eliminating a vast majority of drugs, there will be a closer association between medical men and surgeons. The healing process of nature will be better recognized and controlled, and considered the same whether the condition be a medical one or one relieved by surgical measures.' He doubts that a cure will be found for cancer in the next decade, 'but that earlier operations and diagnosis will be more carefully applied.'

"John B. Murphy of Chicago replies by writing:

"I would say that we may confidently expect to avoid a number of the metastatic infections which are now called rheumatism, by the removal of the primary foci of infection or trauma; that we may expect to overcome a number of the new infectious diseases by serum treatment; that we may expect to render a prophylactic immunity against many of the infections which are now most dangerous; that we may expect to do more intra-thoracic surgery and pulmonary; that we will know very much more about the ductless glands and their effects on the general economy; that we may change the arterial tension of certain organs and favor the processes of repair or retard the processes of decay; that we will transplant great masses of bone to overcome bony defects; that new joints, perfect and movable, will be an every-day result; that large portions of the pancreas will be removed with safety, and the stumps implanted into the intestine; that the true cause of gastric ulcer will be discovered; and that the doctors of the 'colossal ignorance' of the medical profession of 1910, and wonder why they did not see things that will be then so apparently obvious."

"Roswell Park of Buffalo is optimistic as to the net result in surgery in the next twenty-five years, much of which may be realized in the next decade. Among other things he says: 'What was impossible or unjustifiable yesterday will become the commonplace, or even the discarded practice of to-day. Thus at the present time practically no organ of the body has remained unattacked, and it would veritably seem as though, topographically at least, we had reached territorial limits. But here we must make a distinction between territorial limits and limitations, inasmuch as while we have brought all organs into active touch with the knife, we have not yet learned just how much we can safely do with them. Discoveries made in the physical sciences will control our movements beyond doubt.'

"The new discoveries in physiology and biology have also the widest importance to the surgeon," Dr. Lofton continued, "not being confined alone to conditions involving the alimentary canal. When we know more about the actual causes of death we may be better able to avoid them. When, for instance, a heart removed from the body can be made to beat more than forty hours after the death of the individual, then we have a right to raise anew the question, what really constitutes death?"

"We have much to gain from discoveries concerning the blood and sera, the nature and cause of hemolysis and of the various toxins and substances which produce them. Every gain toward a more intimate knowledge of our body chemistry can but redound to the benefit of theoretical and applied surgery. What we need most of all is such improvements in our powers of diagnosis as to permit an early recognition of deep-seated cancerous lesions at a time when there is yet some hope for treatment, be it operative or otherwise. I refer you to the fact that cancer by itself has absolutely no symptomatology of its own. Signs it has, and when the lesion is superficial these are usually unmistakable. Then years hence may give us a clearer realization

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(Continued from Page 2.)

of that unknown relation which exists between the ductless glands.

"Brain surgery, especially the improvement in our treatment of hydrocephalus and of lesions of the hypophysis, will undoubtedly be greatly advanced, and better methods introduced for treating the neuroses and painful affections of neural origin. I do not look for much progress in nerve transplantation and nerve grafting other than technical. Operations for the repair of the spinal cord will become more successful as diagnostic advances are made. The cranium offers a most promising field for the deft and intelligent surgeon. The heart, surgically speaking, is subject to repair from injuries, but more brilliant work upon this organ and its sac may be looked for. The surgery of the blood vessels will in future include much freer use of nature's establishment of anastomoses. Reversals of circulation will come into play, since Carrel has already shown how perfectly this may be accomplished in animals.

"The transplantation of tissues and organs from animals to man, or from man to man, should be seriously considered in view of the fact that Carrel and his co-workers have recently introduced such innovations. Thus, in a

dog's neck these pioneers transplanted the heart of another dog, connecting the aorta with the carotid and the vena cava with the jugular, demonstrating thereby the astonishing anomaly of an animal with two hearts, beating at different rates.

"Entire limbs of animals have been successfully grafted on other similar animals by Carrel and his assistants. The author has now a case under his care in which a white girl, aged 10 years, had the misfortune to have the left ankle practically severed from the leg by a mowing machine blade cutting through the skin, ligaments, and bony structure, only a strip of flesh on the anterior surface three-fourths of an inch wide holding the foot to the leg. The ligaments were approximated with silkworm gut, the bones united with kangaroo tendon, and to-day, three weeks after the injury, the patient has regained muscular motion and there is every evidence that the sensory nerve supply has been restored. Legless and armless men may yet be accommodated by people who wish to sacrifice members to their fellow-men.

"Regarding the improvements in the surgery of the lungs there is yet room for considerable advance. The pneumatic cabinet is only of limited value in operations upon these organs. If any apparatus is indicated, it may be

found in some simpler form, such as was first employed by Dalton and later by Fell.

"The stomach offers wide opportunities for surgical treatment, but this will depend in a large measure on what improvements are made in diagnosis. The early recognition of gastric cancer and ulcer is yet a problem that no doubt will be solved before ten years shall have passed. What applies to the stomach is virtually true of the intestines and the other abdominal viscera.

"The right iliac region, the great watershed of the abdomen, has yet to be fully understood, for do not the perforated stomach, the ruptured liver, the duodenal ulcer, the affected gall bladder and ducts, the invaginated intestine, the diseased kidney, the obstructed ureter, and the overworked liver all reflect their symptoms to this cheerless but favorite haunt of the surgeon?

"Capsulotomy for Bright's disease will in my opinion become better known when the condition for which it is indicated is recognized early. A reasonable and stable operation for floating kidney is yet to be devised. Tubercular renal lesions are but imperfectly understood. Much is yet to be accomplished in the surgery of the ureters.

"Concerning the female pelvic region too much has been attempted already by the man looking for a record.

"Much is yet to be learned about orthopedics and the surgery of the bones and joints. Bloodless operations have not yet emerged from the experimental stage, but there is evidence of knifeless procedures—while tedious—becoming popular. It is hoped that some means will be devised for relieving the paralytic, for he has not been given as much surgical consideration as he deserves. We may look for, and with reasonable confidence expect, enlargement of our knowledge of the infectious arthritides.

"The advantages of the blood clot and its power of forming new tissue are being more and more appreciated. Fingers known to have been severed a half to one hour have been stitched in place, and under the blood clot and moist antiseptic dressings have undergone complete restoration, so that

finally, under the use of superheated air and massage, they have completely regained their functions.

"If such a condition is practicable, why should not masses of apparently lifeless flesh be replaced in the four great extremities of the human body? In one instance where the larger portion of the sural muscles had been torn away, and in another where there was a defect of three inches in the flexor muscles of the forearm, the blood clot with moist dressing replaced the lost tissue.

"The question of restoring destroyed tissue of whatever character by the use of the blood clot under moist antiseptic dressings is yet to be fully and generally appreciated. New integument, muscles, ligaments, nerves, arteries, veins, and osseous structure may be formed by resort to the blood clot, and especially does this apply to the man with the mashed and crushed hand and foot.

"Timely diagnosis and simplicity is the keynote to future successful surgery. I must beg you to realize the difficulties before the man who aspires to play the rôle of a prophet, and yet, considering the recent past, why should we not have many of our predictions come true? In the meantime I crave your leniency on such prophecies as have been outlined."