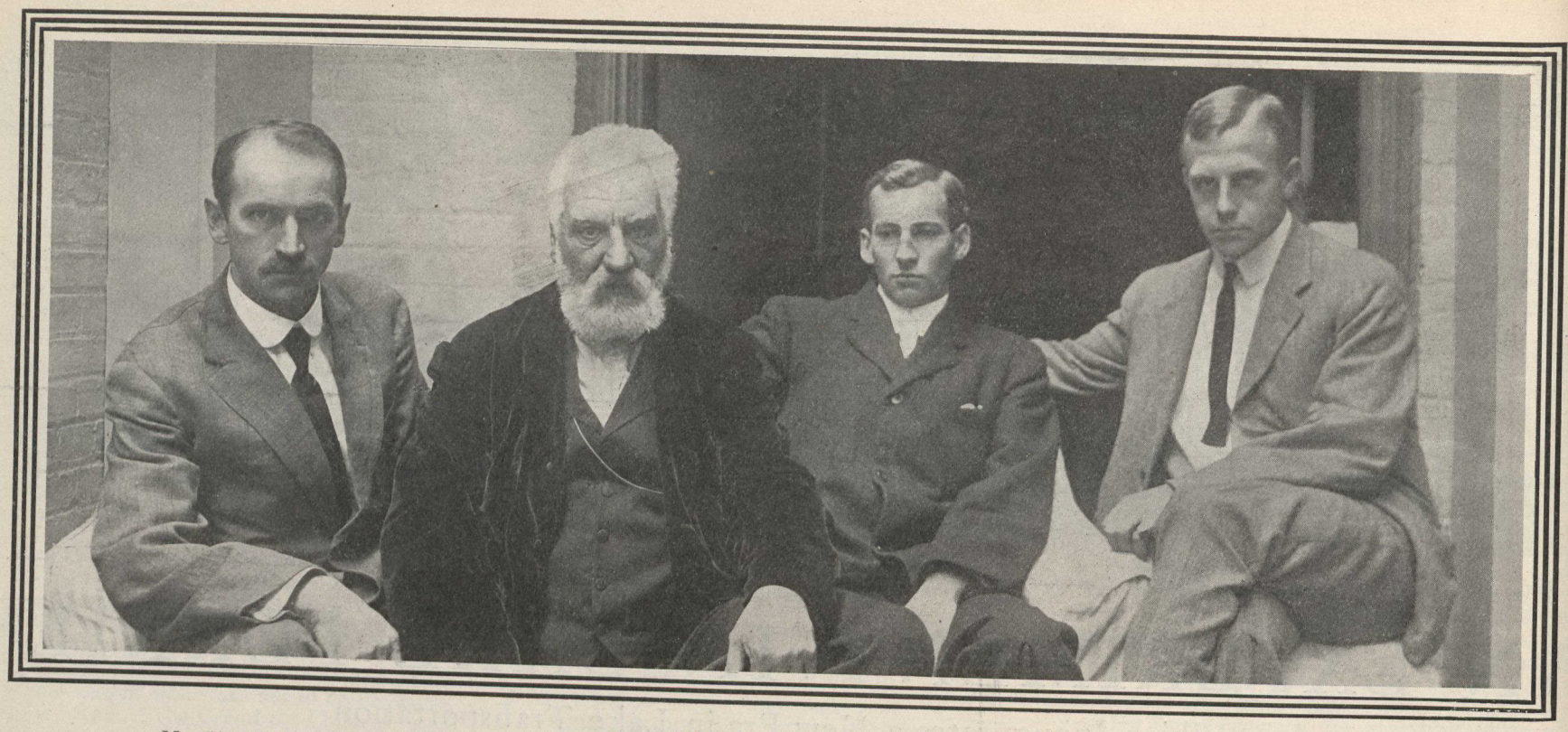

Mr. Glenn W. Curtis. Dr. Bell. Mr. J. A. D. McCurdy. Mr. F. W. Baldwin.

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This is the only photograph showing the present membership of the Aerial Experiment Association.

from the water—on a platform supported by two powerful, high speed motor boats lashed together. These motor boats will be speeded up to eighteen or twenty miles per hour and then at an auspicious moment the aerodrome will be released and soar aloft. If at the conclusion of the trial it is desired, as will probably be the case, to alight at some point on the surface of the lake, there is, it is claimed, no danger involved for either the machine or the operator. Indeed, Prof. Bell in all his aeronautical experiments has been most conservative on this score and would never countenance any trials that involved the remotest chance of endangering life.

The tetrahedral form of airship construction of which Prof. Bell's sky craft is the initial important exponent, has the advantage of embodying the only plan wherein the weight of the structure does not increase with the size, out of all proportion to the increase in the amount of sustaining power. Prof. Bell claims that the tetrahedron is steadier in the air than any aeroplane; has decidedly more head resistance, and can be kept afloat at a much slower speed than the other type of machine—this latter advantage presumably being important in military observation work.

The motor for the Tetrahedron was built by Glenn Curtis. It is a fifty horse power machine and weighs about 170 pounds. There are two propellors rotating on the same shaft. Thus if one propellor is disabled, as in the memorable accident to the Wright machine, the reduced power applied will be in the centre line of thrust and will not endanger the balance of the machine. The Tetrahedron is approximately 50 feet in length at the top and 40 feet at the bottom, has a width of 12 feet and is 12 feet high. The propellors are eight feet in diameter.

DR. BELL'S BIOGRAPHY

CANADIANS take a special interest in the accomplishments of Dr. Alexander Graham Bell, not because he may be classed as a Canadian, but because his greatest experiments have been carried on in this country. If Dr. Bell is not Canadian, certainly the Bell telephone is.

When Prof. Alexander Melville Bell left Scotland for Canada his son, Alexander Graham Bell, was twenty-three years of age. The son had been attending London University, but ill-health drove him across the Atlantic. The father joined the staff of Queen's University, and later the whole family moved to Brantford. This explains the Canadian connection.

The careers of father and son are still more intimately connected. The father had invented what is known as "visible speech" for the use of deaf mutes and had done considerable experimenting with the human voice. The son became interested in the father's work and his younger mind went farther. The transmission of the human voice by electricity became the object of his study and ambition. It was the study of the human voice which caused the younger Bell to receive the appointment as Professor of Vocal Physiology in Boston University. Part of his time was spent in Boston and part in Brantford, but the experiments with the telephone were confined to Brantford for obvious reasons. When he had succeeded in making a machine which would transmit the human voice, his business instincts told him that the great field for his invention would be the United States. Accordingly we find him taking out his first United States patent in 1876, in time to exhibit his invention at the Centennial Exhibition in Philadelphia that year. It soon became apparent that if he was to realise any great profit from his patents it would be necessary for him to live entirely in the United States, and accordingly we find him taking up his residence in Washington in 1881.

There were many years of fighting and more than a dozen men tried to share in the glory and profit of the telephone. The Supreme Court of the United States decided that Mr. Bell was the inventor of the first real telephone, and when that decision was made his troubles were over. In reality the invention of the telephone was only an incident in the life of Dr. Bell. He is not a man of one idea, neither does he work in a narrow field. When the French Academy granted him the Volta Prize of fifty thousand francs for his telephone invention he founded the Volta Bureau in Georgetown for the study of problems involved in the education of deaf mutes. He invented an electric device for the location of the bullet, which took President Garfield's life, and for this invention received the honorary degree of M.D. from Heidelberg University. He has also taken a great interest in geographical work, and has been president of the National Geographical Society. The Smithsonian Institute owes2 much to his interest in its work, and for some time he has been a regent of that body. Besides his interest in educational and geographical work, he has done a great deal to encourage Dr. Langley in his experiments in aero-dynamics, and was present when he made his first aerodrome ascension in 1896. This latter interest probably led to his experiments with kites and flying machines, which have been conducted at his summer home at Baddeck in Nova Scotia and in New York State.

Mr. Edward W. Byrn, an authority on inventions, says the electro-magnetic telephone "stands alone as an unique, superb, unapproachable triumph of the nineteenth century," and also points out that it was the direct outcome of persistent experiments in the direction of electric transmission of speech. In other words, it was no accident, as so many inventions and discoveries have been. The work of the father and the work of the son proceeded in an orderly manner through the long succession of experiments in connection with the human voice, and because of this, Canada, the United States and the world in general owes much to these two men; and Canada especially has reason to be proud of the fact that many of the experiments, and no doubt the most important of them, were performed in this country. She has also reason to be proud that Dr. Bell resides a portion of each year in the Dominion. When the history of the past twenty-five years is finally written there is no doubt but that Dr. Bell will be credited with having been one of the greatest men of this period, even if the historian finds difficulty in deciding whether he was a Scotchman, a Canadian, or a United States citizen.

There are many people in Brantford who remember the first public exhibition of the telephone made by Dr. Bell. These people still tell of the wonder which was caused by the invention. The Hon. George Brown used to tell how he could have bought a big interest in the patent for a small sum. Mr. H. P. Dwight, president of the Great Northwestern Telegraph, had the first telephone in Toronto, one receiver in his office and one at his house. He says everybody thought it a toy, and none dreamed of its great possibilities. Next week, Dr. Bell's own prophecy of 1878 will be reprinted. That he should foresee the development of the last thirty years is proof of his almost prophetic vision.

Dr. Bell's original Experiment Station, near Washington, D.C., used for his early experiments in Aerial Navigation.