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SIMON NEWCOMB.

Washington, D. C., Oct. 1, 1897.—I spent an evening this week with the most eminent of the world's astronomers. Prof. Simon Newcomb is to the scientists of Europe a far more interesting man than the President of the United States. The leading foreign universities have conferred honorary degrees upon him, the greatest of the world's scientific societies have presented him with gold medals for his astronomical work, and his books are used in the chief universities of England and Germany. There is today not an astronomer living who does not base his calculations upon Newcomb's tables of the movements of the planets and the moon, and there is not a ship that sails the seas that is not guided by his measurements of the solar system.

It is indeed difficult to give in common words a conception of Professor Newcomb's work. It might almost be said that he has weighed the planets, has held his stop watch on the motions of the moon, and through his mathematical genius has given us a set of instantaneous photographs of the greater heavenly bodies as they speed on their courses through the regions of space. Think of the most difficult algebraic calculation you have ever attempted, imagine it to be a thousand times harder than it is, then take tens upon tens of thousands of such calculations worked over and over again until absolute accuracy is assured, and you have a small part of the details of the work of Prof. Newcomb. Think again! Suppose you had to travel the world over to get the records of astronomers for hundreds of years back to form the basis for such calculations, that you had to work them over yourself to see if they were correct, and then to recompute and recalculate them, according to a new set of conditions as to the heavenly bodies, which you yourself had discovered, and you have another part of the labor this man has done.

Much of this work was performed during the leisure he had while acting as computer and superintendent of the Nautical Almanac, which for years has formed the chief guide to the shipping of the world, and the calculations for which require enormous labor. He is, in fact, the Hercules of mathematical astronomy.

Prof. Newcomb's astronomical successes have also extended beyond his generalizations and deductions based upon the observations of others. He has traveled from one end of the globe almost to the other to get the best views of the stars. Now he is in the Saskatchewan region of British America watching an eclipse of the sun, now you find him at Gibraltar noting the motions of the moon, and now his telescope is pointed toward the skies at the Cape of Good Hope.

Professor Newcomb lives here at Washington in a three-story red-brick house on P street, just off of 16th, in what is one of the most fashionable

parts of the city. He has a fine library on the first floor, the walls of his workshop, from floor to ceiling, being filled with books. In his collection there are many rare mathematical works. Among others, he showed me a Euclid which was printed ten years before America was discovered. The diagrams and initials are beautifully made, and the ink, notwithstanding its four hundred years, is as black as that of the newspaper in which this letter will be printed.

Professor Newcomb does the most of his work in his library. He works with his family about him, and many of his most difficult calculations have been made while his wife and daughters were chatting together in the same room. He has, you know, now retired from his labors for the government, but at sixty-two he is intellectually as able as he has ever been, and he tells me that the work he has laid out before will keep him busy for ten years to come. Just at present he is completing his tables of the planets, upon which he has been busy for a number of years.

I found Professor Newcomb exceedingly modest. In fact, had it not been for the assistance I got from his wife and his daughter, Mrs. Anita Newcomb-McGee, who were present during our conversation, I doubt whether he would have said anything about himself or his work. As it was, he deprecated all allusion to himself, was anxious to give others credit, and would not acknowledge that he had done anything wonderful, nor that his works had entitled him to the thanks of the world. The information I got came in piecemeal in response to many direct questions. I have taken the liberty of rearranging it as it is given in the following interview:

I first asked Professor Newcomb whether his mathematical ability was a matter of inheritance. He replied:

"I don't know. I have studied my ancestors somewhat to see, but have failed to find any of them who, during the past two centuries, have been college graduates. One of my grandfathers was a stone cutter by trade, but he owned a copy of Euclid, and tradition credits him with the possession of unusual learning. My father was a school teacher."

"You were born in Nova Scotia, were you not?"

"Yes," replied Professor Newcomb, "but my family came first to New England along about 1660, and it was just before the revolution that the family moved to Canada. It was there that I spent my boyhood, and there I lived until I came to the United States to seek my fortune."

"Do you remember, professor, when you first realized that you had more than ordinary ability as a mathematician?"

"I do not know that I can," was the reply. "I began to study arithmetic when I was five years old, and at six, I am told, I was very fond of doing sums. At twelve I was studying algebra, and about that time I began to

teach. I remember that I was thirteen when I first took up Euclid. There was a copy of it among my father's works. It was, I think, the one which belonged to my grandfather. I took it down one day and got interested in it. I there got my first idea of a mathematical demonstration. The book delighted me. It opened a new world of thought, and I remember I explained it to my brother by demonstrating some of the principal theorems, drawing the diagrams with a pencil on the ends of the logs of a pile of wood. There was not much chance for a boy in Nova Scotia, however. The people were very poor. Nearly every family made its own clothes. The men and boys sawed lumber and cut wood, and the women and girls sheared the sheep and wove the wool into homespun cloth. There were but few books, and until I was twenty-one I had never seen a college professor."

"You can hardly imagine how simple the people are there," broke in Mrs. Newcomb with a laugh. "We have visited Nova Scotia, and found that the reputation of Prof. Newcomb has gone about among the people with whom he used to live. I remember hearing one woman say: 'I hear Mr. Newcomb spends all his time lookin' at the stars, and that he really gets paid money for it, too.'"

"How did you happen to come to the United States, professor?" said I.

"I came to seek my fortune," was the reply. "I began as a country school teacher on the eastern shore of Maryland. The people there were more advanced than those among whom I had lived in Canada, but not much. I taught reading, writing and arithmetic for a year or so, and then through the kindness of Joseph Henry I was appointed one of the computers of the Nautical Almanac, and thus began the real work of my life."

"How did you become acquainted with Prof. Henry?" I asked.

"It was through a mathematical calculation. It was, I think, some algebraic problem. It was new, and I thought it might be worth publication. I sent it to him, and asked him to tell me if he thought it worth publishing. He submitted it to one of his friends, who was a mathematician, and this man said that while it was original, it was hardly of value for publication. Prof. Henry wrote me a kind letter regarding it. When I next went to Washington I called upon him, and later on he secured me the appointment. The Nautical Almanac was then published at Cambridge, and while at work there I was able to attend the Lawrence Scientific school, and for the first time had access to the best books upon scientific subjects. Later on I was appointed professor in the navy, the office of the almanac was moved here, and I was assigned to duty in the naval observatory at Washington."

During the talk I asked Prof. Newcomb to tell me something of his habits of work.

He replied: "I don't know that I