

## ORIGIN OF THE HELLO

INVENTION OF THE TELEPHONE, AS TOLD BY ITS AUTHOR.

Dr. Bell, Like His Father, Was Interested In Efforts to Instruct Deaf Mutes—While Engaged In This Line of Work the Telephone Was Suggested to His Mind.

The story of how the telephone came to be invented was told by Dr. Alexander Graham Bell during his attendance on the meeting of the American Association to Promote the Teaching of Speech to the Deaf, held at Mount Airy. Dr. Bell's father was an elocutionist in England and well known as a corrector of defects in utterance, as his grandfather had also been. His father had devised a method of representing the action of the vocal organs by symbols, similar to those used in chemistry. In like manner letters representing the various organs of speech, with figures attached indicating the positions of those organs, would represent certain sounds or spoken words. A person placing his tongue, teeth, lips and palate in the position indicated by a certain formula would produce a definite sound. The use of such a system for the instruction of deaf mutes was not overlooked by Dr. Bell's father, and experiments were made in a little school in London. Dr. Bell became interested in the subject and developed a method of teaching the deaf to speak. His father had lectured in this country, and in this way the system had come to the knowledge of the deaf and dumb institutions in Boston and of the prominent educators in that city, and in 1871 the board of education invited Dr. Bell to see what he could do in the Boston School For the Deaf. He accepted the invitation and put the system in practice there with very great success, and it was introduced in one institution after another throughout the country.

Dr. Bell did not at that time believe it was possible for deaf mutes to understand speech by looking at the mouth of the speaker. The mechanism of speech was, he thought, too complicated for that. He therefore set to work to invent an apparatus which would represent speech to the eye as it was spoken by throwing a picture of the vibrations on the screen. He commenced his experiments with Koenig's manometric flame apparatus, which, by means of a vibrating diaphragm, stretched on a piece of wood divided into two parts, and a series of mirrors produced a band of light with wave effects, according to the sound uttered. The flame was too feeble to be photographed. Dr. Bell then turned his attention to another apparatus, called a phonograph, in which was stretched a membrane, against which a person spoke and which carried a little pencil over a smoked glass, which made a curved line that could easily be photographed.

He made many hundreds of tracings, but unfortunately they did not correspond with the flame pictures before described, and he attributed the trouble to the clumsiness of the apparatus. He therefore mapped out changes in the construction of his phonograph and thought he saw in his draft a rude analogy to the construction of the human ear. Instead of bones actuated by a membrane, as in the ear, he had a lever of wood moved by a membrane. He therefore concluded to modify the shape to correspond with the human ear and went to a distinguished artist in Boston, Clarence A. Blake, who suggested his experimenting with an actual human ear. Dr. Blake got an ear and dissected it for Dr. Bell so as to expose the membrane and the little bones. The doctor attached a pencil to the bone called the malleus, moistened the membrane with glycerin and water and constructed an outer ear. With this, beautiful tracings were made on the smoked glass. The tracings, however, were different from what he had before produced.

While he was engaged upon the above line of search at the Institution For the Deaf, he was also developing an invention out of which he expected to make some money—viz, an electrical multiple telegraph, by which he could send many messages simultaneously over one wire. Dr. Bell simplified this apparatus greatly. He noticed that when half a dozen were operating together there was a resultant electrical effect, and that but one sending magnet was necessary to produce all the sounds. Further consideration convinced him that he could not only send any number of musical tones simultaneously, but sounds of any kind. His familiarity with the nature of speech had taught him that the term "quality of sound" means really a chord of different musical tones having different intensities, and he could conceive how a sound of any kind whatever, even words, might be transmitted if one of these reeds could be moved in front of an electro magnet in the resultant way in which the air is moved when a sound is uttered. His experiments in vibrations had taught him the form of the sound waves. The problem was to make a mass of steel vibrate in the way the air does. The problem was in his mind at the time he was making the experiments with the human ear, before described.

The thought suddenly struck him that there was a great disproportion in mass between the bones of the ear and the membrane that connected them; that these bones were, relatively to the membrane, very heavy and very massive. Why, then, could not the piece of iron or steel be moved by attaching it to a heavier and stiffer membrane, of the present telephone form. The problem was solved. It will thus be seen that the telephone was the result of two separate lines of thought.—St. Louis Globe-Democrat.

### Insuperable Dimensity.

"What became of your women's debating club?"  
"We had to disband. We couldn't find a girl who would act as chairman and keep still while the rest of us talked."—Philadelphia North American.

## TURNING THE TABLES.

Wanted Her Husband's Opinion About Many Trivial Points of Dress.

A certain uptown Clevelander is the happy possessor of a marital interest in a very pretty and accomplished lady. She is fond of nice clothes and always looks well dressed, and her husband is just as proud of her as he should be. But from a technical point of view he knows nothing whatever about her garments, and it bothers him greatly when the assumes that he does. She fires broadsides of questions at him whenever she is dressing to accompany him. "George, how does my skirt hang?" "Is it too long in front?" "Does my belt cover the pins?" "Do you think this gown is becoming?" "Is my collar down at the back?" "Are there any wrinkles in this waist?" "Is my hat on straight?" These and a hundred other interrogations are fired at him at short intervals. If he doesn't pay close attention she gets cross. So he pretends to listen carefully, and answers glibly, although always at random.

The other day a neat way of getting even dawned upon him. When he was dressing that night for a party, he suddenly called his wife from the adjoining room.

"Alma," he said, "do you think these new trousers hang just as gracefully as they should?"

"Why, George," she said, "I don't know anything about it. Why do you bother me?"

"Hold on," said George, "I was wondering if this shirt bosom sits quite right?"

"Of course it does," snapped Alma.

"And these shoes—do you really think they are becoming to my complexion?"

"What a silly question."

"And—hold on, Alma—aren't the coat a little long in the tails—on one side, I mean—and can't you pin it up?"

"Why, George, I never heard you talk such nonsense. You haven't been drinking, have you?"

"And—just wait a minute, Alma."

He quickly raised his silk hat from the dresser and clapped it on the back of his head. "Now, dear, please pay attention. Is my hat on straight?"

Then she understood his wicked little game.

They walked together in silence until they came within sight of their destination, and the deeply wounded Alma managed to stammer:

"Well, George, you mean old thing, is my hat really and truly on straight?"

Whereat they both laughed.—Cleveland Plain Dealer.

### "STONE OF SCONE."

The Enterprising Schoolboy Who Slept In the Coronation Chair.

It is a long walk from the dining room of the Westminster school to the coronation chair, which stands behind the old stone screen just back of the altar in the abbey, but there is an interesting connection between the two. This chair, as is well known, is a rude, heavy oak chair, much worn by time. It contains the "Stone of Scone" and was made by the order of Edward I in 1297, and every English sovereign since then has sat in it to be crowned.

A stout railing in front of the chair restrains the crowd of visitors from coming near, but if they were allowed to examine it as closely as I was fortunate enough to do they would find cut boldly into the solid oak seat in such sprawling letters as the schoolboy's knife makes upon his desk, "P. Abbott slept in this chair Jan. 4, 1801."

P. Abbott, it seems, was a Westminster schoolboy, and a tradition, which there is every reason to believe is true, tells that he made a wager with a schoolmate that he dare stay in the abbey all night alone.

In order to win his wager he hid in some corner of the old building until the doors were locked for the night and thus was left alone there. Fearing, however, that when morning came the boy with whom he had made the bet would disbelieve his statement that he had won it, he determined to have some proof of the fact, and so spent the hours of the early morning in carving on the coronation chair the sentence which, even now, nearly a century after, bears witness for him. It is disappointing that the tradition does not record just what form and amount of punishment was visited upon the lad for his escapade, and that history does not tell us of his later years. I wonder whether the courage and grit which this deed manifested foretold an energetic, successful life or was dissipated in mere bravado.—Max Bennett Thrasher in St. Nicholas.

### The Newest Envelope.

Opening an envelope by pulling a string is the latest labor saving device. Like all simple contrivances, it seems queer no one thought of it before, but that doesn't impair its usefulness. Any envelope can be equipped with the opener. An ordinary piece of thread is inserted at the top of the flap, and when the flap is made the thread projects from one end. To open the envelope all that is necessary to do is to pull back the thread.

This envelope opener is a New York invention, and it promises to be very popular with the busy business man.

### Silly Question.

When a man has lost his pocketbook or a gold collar stud, the question asked him by nine people out of ten is, "Where did you lose it?" And this is always a very soothing question to the loser, because if he knew where he lost the article it is not reasonable to suppose that he would be looking in 40 different places to find it.—London Tit-Bits.

Jerusalem has been partly or wholly burned 17 times, each great conflagration being kindled when the city was taken by a besieging force.

The Hebrew figures place the date of the flood at B. C. 2340.

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Ladies' long sleeve underwear for 17c. up.

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I have bought the Finest and Best line of Goods ever brought to Reynoldsville.

A line of novelty goods from 10 to 50 cents a yard; dress goods in all colors and at all prices; plaids from 8 to 75 cts a yard; Shepherd plaid from 12 1/2 to 75 cts; cashmeres in all colors and at prices to suit the times; forty-five inch Henrietta in black, blue, green and rose at 48 cts a yard; former price \$1.00.

A large line in wash goods; Dimity, Percalé, Gesmonda and Moire Esistal, Dotted Swiss in white, blue and pink at prices lower than ever; white goods at all prices; satines in plain, striped and figures.

Large line of embroideries from 2 cts up to 75 cts a yard.

Ladies' waists from 48 cts to \$1.25.

### CLOTHING.

You will save money by buying your clothing at Hanau's. Men's all wool cheviot suits at 6.50, worth 10.00; men's all wool cheviot suits at 5.00; men's clay suits from 6.50 to \$14; youth's suits in cheviots, worsteds and clay, all colors, at all prices.

Boys' and children's suits from 75c up to 5.00.

A large line of laundered shirts, white and colored, from 50c to 1.25.

A fine line in neckwear, hats and caps.

Please call in before buying elsewhere. No trouble to show goods.

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