

BIOGRAPH IN MEDICINE.

NEW AID FOR DOCTORS IN STUDYING OBSCURE DISEASES.

Operations Performed by Famous Surgeons Also Shown by the Kinetoscope—The Instrument Harnessed to the Telescope and the Microscope—New Results Obtained.

Already an institution in recording the notable scenes and occurrences of the world kinetoscope or moving pictures are becoming useful for scientific as well as for amusement purposes. In hospitals, particularly, the invention is finding application, declares the New York Sun. One hospital in New York is now adapting a machine to record minutely the actions of patients in epileptic fits and similar affections, and many moving pictures have been taken showing the movements in walking of persons afflicted from locomotor ataxia. Reproduced slowly, on the screen, doctors are enabled to study the symptoms more carefully in their laboratories. And the pictures taken in Vienna, showing operations being performed by famous surgeons, become valuable instructors to medical students. It is also in hospital work that this invention with the microscope attachment, or micro-kinetoscope, is finding the greatest practical use. The movement of all kinds of microbes when thus photographed make striking animated pictures, and the actions of healthy and diseased corpuscles are easily distinguished when thrown upon the screen and magnified thousands of times. Such pictures of diseased blood, taken from time to time, show the improvement or decline in the condition of patients.

It has just been found by one experiment that X-ray photography, now so valuable in hospitals, may be wonderfully developed by the use of the biograph camera, as it is equally possible to take moving pictures with the penetrating light. He believes there is no function of the human body which may not be shown in action by such pictures, even to the beating of the heart and blood circulation.

Many of the animated pictures that are exhibited now for their beauty alone, will likely be useful in school instruction and lecture work, but the difficulty, so far, as the case with the early development of the phonograph, is that these machines are held at high prices, and will only be brought within the reach of public instructors as their possibilities and improvements bring great demand for them.

One of the novel subjects that will soon be put on exhibition will show minutely the growth and flowering of plants from the time of planting until in full bloom. To obtain such results as these a special room is set aside in the new Botanical Gardens at Bronx Park. In order to show the entire growth of a lily on the screen in one series, the biograph cameras and the growing bulb will be arranged in position in this room and a picture will be taken every half hour continually for about thirty days and nights. In order to get a uniform light for every view, artificial illumination will be employed. Something like a thousand pictures will be made of one subject, the final picture showing the opening of the lily, and then its fading away. Though such results have previously been obtained, they were not taken with the necessary uniformity of light. This work will be under the direction of T. S. McGregor, curator of the gardens. Experiments of this kind, too, are being made to show rapidly the changes in scenery from winter to summer, etc.

The experiments of Flammarion, the celebrated French astronomer, show the possibilities of the biograph for recording astronomical wonders. He has taken moving pictures which show moonrise, the Milky Way, lightning, shooting stars, sunrise and sunset. Professors of astronomy in Columbia College also realize the possibilities of the invention in their work and experimenters are improving extremely sensitive films necessary to take impressions of the weak astronomical rays of light. It is particularly the phenomena of the heavens seen at intervals of many years—a strange eclipse, transit, or meteoric shower—which men travel far to observe, and which astronomers hope to observe in photographic effects, making it possible for those at home to observe the heavenly wonders that few now have the opportunity of seeing.

And as the microscope has been combined with the biograph, so also the astronomer's telescopic lenses are being combined, so that we may see distant movements invisible to the naked eye. Many of the moving pictures of naval actions, which naturally could not have been taken at close range, have resulted from the telescopic attachment.

Captain John Finley, an expert on tornadoes, now in the American meteorological service, has taken some remarkable moving pictures of lightning storms, and expects to get some pictures of the approach of a Kansas tornado.

Another new and novel exhibit is a brilliant display of fireworks, taken at night. While it has hitherto been impossible to photograph fireworks, by the use of magnesium powder the biograph has faithfully recorded the shower and pinwheel effects of the most costly piece made.

An adventurous operator in Europe devised the idea of taking pictures from the bottom of the car of a balloon in motion. As it ascended rapidly successive pictures were taken straight downward showing the spectators, then the surrounding houses and trees, then roofs and country, fading rapidly

until all that could be seen were dark patches on the earth.

The biograph camera was made to perform another remarkable feat. Placed on the top of a Brooklyn Bridge tower one clear day it was turned so as to take pictures in every direction of the compass, covering fifteen miles in every direction. In the few moments it takes to show these pictures on the screen, the spectators see a panorama covering something like five hundred square miles.

THRILLING WORK.

Coupling an Engine to a Fast Express Train While in Motion.

"One of the most scientific pieces of railroad running I ever saw," said John Rutgers, a former employe of the Pennsylvania Railroad Company, who has now given up railroading and is engaged in business at Milwaukee, "used to be done on the 'Pensy.' At that time they were running an hour and a half train from Philadelphia to this city, and as the present speed of locomotives had not then been attained it was somewhat difficult of getting engineers to make it. The terrific speed maintained, together with the constant strain of anxiety throughout the run, told heavily on men's nerves, and after taking the train through a few times they had to give it up. But to return to the scientific work I started to tell you of. To make such a schedule every minute that could be saved was counted. Princeton grade was one drawback to the run. It was long and heavy, and an inevitable delay always ensued there. To stop and couple on another engine would not help matters, as the time necessary for the stop more than equaled the extra time required to climb the grade. Finally they tried coupling on the extra engine when running at full speed, and the plan worked to perfection as long as the train was kept up. It was one of the most beautiful pieces of work I ever saw. The extra engine would be running quietly along several miles from the grade, and when the express came in sight the speed of the extra would be at once increased until it was greater than that of the oncoming train. Then little by little the engineer would decrease the speed and drop back until engine and train would come together as gently as a feather floats to earth. A man stationed on the cowcatcher would couple the two engines together, and their united strength would whisk the train up the grade with scarce any abatement of speed. The grade surmounted the forward engine would then be uncoupled and would run forward at top speed until it came to a switch which was open and waiting for it. Into this it would run, the switch would then be closed, and a moment later the fast express would thunder by on its way to its destination. It was a pretty and scientific sight, and if you realized the attendant danger a thrilling one as well to watch."

FORGOT BURIED WEALTH.

Gold Dug from a Church Basement Claimed by Its Old Pastor.

A veritable gold mine was found in the basement of the immaculate Conception Catholic Church, North Park avenue and Schiller street, Chicago, on a recent afternoon, and in less than thirty minutes nearly \$7,000 in gold coin was thrown upon the pile of refuse and dirt which was being taken from the basement.

The excitement attending the discovery of the gold mine was intense, and for a time not only the school children, who first made the discovery of the money, took part in the search, but the sisters in charge of the parish school and several brothers left their rooms and dug about in the pile of ground.

The treasure, according to those in a position to know, was buried under the church in 1873, during the money panic by Father Patrick T. Butler, the present pastor of the church, and who is the oldest priest in point of service in that section of the country. When informed of the discovery of the gold coin Father Butler took possession of the money, claiming it as his, and announcing that he had buried it there years ago.

It was during the afternoon recess when the scholars poured into the schoolyard and commenced romping around the refuse which was being taken from the basement of the church that the wealth was discovered. Father Butler was not at the parish house when the discovery was made, but he returned when the work of carrying the money into the schoolroom by the children was going on. His astonishment knew no bounds when he beheld the large pile of glittering gold on the desk. He recalled having buried the money shortly after the church had been erected.

Later he explained that he had inherited the money from a brother, Dr. Butler, in 1873. The money panic during that year was at its height, and believing the banks unsafe he buried the money (\$7,000) under the church, and long since had forgotten of its existence.

The dates on the coins bear out his statement, as all bear the date of years prior to 1873.

Making Allowances.

"Do you admire Beethoven's music?" asked the young man whose hair is long and curls at the ends.

"Oh, yes," answered the young woman, "Beethoven was all right for his day. You see, rag time hadn't been invented then?"

Half a million dollars in first-class securities would not represent the fortune made by the man who first thought of copper-tips to children's shoes.

NEWS FOR THE FAIR SEX.

NEWS OF INTEREST ON NUMEROUS FEMINE TOPICS.

Attractive Alpaca Costumes—A Return to False Hair—Freshen Last Season's Lace Frock, etc., etc.

Attractive Alpaca Costumes.

Attractive and serviceable costumes of mohair or alpaca appear in qualities less coarse and more clinging and pliable than those popular a year ago, although these heavier weaves are still in favor with many women. A silky mohair has a little velvet jacket bodice, turned back to show a blouse vest of handsome taffeta silk in tartan pattern, barred with satin lines in green and geranium red. A pointed girdle matches the jacket in fabric, and the sleeves are very close to the arms, with flaring bell cuffs lined with the plaid.

A Return to False Hair.

An era of false hair seems to be upon us, if one is to judge by the present displays in the leading hairdressers' windows. Such an array of fringes and pompadour pads and puffs and long curls and wavy switches and what not we have not had since the days of that terrible fact, the water-fall. Young girls affect the Newport coil, or figure eight coil and single long curl, and right becoming it is. The pompadour with light curling fringe is doomed and the dignified part is to be revived. With it the low coil and the fancy net of chenille, a la Trelawney, as it is named.

What Pleases a Woman.

She likes to be truly loved and to be told so.

She likes some noble, honorable man to be thoughtful for her, kind and considerate of her welfare.

When well and becomingly dressed, a quiet notice of it is always appreciated.

A word of praise for a nice dinner often more than compensates her for the worry and hard work of preparation.

She wants her husband not only to be her supporter, but her companion, remembering that it is the kind, thoughtful, appreciative word that often brings her greater happiness than a new set of dishes, though presents like the latter are always welcome.

She likes to be made to realize that she is good for something beside a mere household drudge and slave.

She likes to be petted occasionally, but not in public. The little private pet names are very dear to a woman's heart.

The Three-Quarter Length Problem.

The three-quarter coats, which will never gain popularity on account of their cumbersome nature and the fact that every woman is not tall and graceful enough to wear them, are being reformed and some of the newest ones are quite wearable, as far as comfort is concerned. One of the chief faults of the three-quarter coat is that it causes the skirts to cling about the knees and renders walking a difficult 5TH TWO.

In the morning she was called ten minutes earlier than usual, and, in bathrobe and slippers, mounted to her gymnasium, which was full of fresh air from the open windows. Two minutes of steady pulling at each set of weights, two minutes' practice with Indian clubs, and four minutes devoted to walking up and down the space between the trunks with regular, swinging strides, taking deep, regular breathes, proves an excellent beginning to the day's work.

At night, if there is time, there are a few simple arm-and-shoulder movements to be gone through for neck and throat development. Altogether not more than fifteen minutes a day are spent in the exercise. And the woman who has adopted this simple regimen feels that it has been of great service to her.—New York Post.

of cobwebby black Chantilly lace completes the effect, and possibly, too, trails of flowers, embroidered in massed jet paillettes, will decorate one or other of the laces. So it is with the jet-embroidered gowns, which display some curiously novel effects in radiating scrolls, their glitter being in almost every case softened by a foam of little net frills at the hem, edged with black velvet baby ribbon, and sweeping out into a spoon or fan shaped train.

A smart dressmaker offers this hint to the possessor of one of last season's hand-embroidered gowns. She says it can be brought up to date by having a flou or frilled net drawn tightly over the shoulders and tied loosely in front of the décolletage, the long ends reaching to the waist, and just a pink rose or two nestling in the misty folds, while the skirt can be provided with these bordering frills.

More beautiful, perhaps, than any fashion of late years are this winter's gowns of black velvet, lace insertion and jet embroidery. One picturesque frock of this description is in princess style, and the lace is introduced at the waist in the most artful way, so that in contrast with the velvet above and below a wonderful slimmness is given to the figure, where it is most becoming.

Exercise and Fresh Air.

To the woman who is all day in an office the problem of exercise is a difficult one to solve. The distances to and from her work make it practically impossible for her to do any walking, excepting from her door to the elevated station or the car. Her activity in the office all day, though she may walk a great deal indoors, simply uses her strength without benefiting her. For luncheon she seeks the place commending itself for its nearness, and she rides home at night. And the evening she spends either in rest indoors, after a hard day, or else, with the consciousness of duty done, she spends the evening in a close theatre. There is no time for exercise in the morning, there is no time at night.

In spite of all this, one woman has solved the problem. She goes to her work every morning not later than she used, and neither her color and freshness nor her elasticity of step is being forfeited to long hours and hard work every day. Like so many other people in this crowded city, she lives in an apartment-house. She is on the fourth floor, and above her is the attic, filled with trunks and boxes of a score of boarders. The attic has four roof windows, left open excepting in rainy weather.

One day, when they were open and the sunshine was pouring in, the woman in question went upstairs to her trunk, and saw the possibilities of the room. She talked it over with her landlady, who said that she might do as she liked so long as she didn't disturb the boarders.

So she moved all the trunks close to the wall, leaving a long lane between which extended the length of the garret. On the rafters at one end she fixed two small iron pulleys, purchased for twenty-five cents apiece, and fitted with rope, tied to a lead weight. A duplicate of these was fastened to a side wall. Two Indian clubs were added, and her gymnasium was completed at a cost of \$1.00.

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NEW FASHION FANCIES.

Sable is first choice for fur collars.

The greatest outflow of furs in a new direction will be for trimmings for garments.

Some of the newest toques of fur are of moderate size and trimmed with bice lace and handsome gold buckles.

In street costumes furs appear in collars, the straight or medic, revers of coats and boleros, incise effects in skirts or waists and in bands on edges of tunics or jupons.

The new velvet collars are cut high under the ears and embroidered in a pattern with steel beads. A two or three inch fringe of the beads falls about the neck from the foot of the collar.

A new pearl necklace is of twisted strands, forming a rope of pearls, which is looped about the neck in the same fashion, and the ends are finished with a sort of pearl tassel.

The latest string ties are of stitched taffeta with fringed ends caught in a sort of tassel effect. The very dainty girl puts a little sachet powder of her favorite perfume in the ends of her ties.

Silks and satins are now being made bearing the applique designs. An elegant piece of old rose satin is scattered over with white butterflies so deftly wrought that a few yards away they seem bits of lace applied by hand.

A recent bride was attired in a demitained gown of ivory-white ladies' cloth of fine texture. It was trimmed with an elaborate pattern of white velvet with white plumes, and a large diamond buckle.

The newest black and white gowns

worn at day weddings and receptions are those in brocaded patterns over checked taffeta of very rich quality, also in matelasse silks and satins, and in plain or flowered stripes, both wide and narrow, in silk and satin alternate-ly.

Have you seen the little umbrella purse? It is a very convenient novelty, of leather, round in shape and fastening securely with a clasp. Fastened by a short chain to the umbrella handle, it is easily got at on a rainy day and is just large enough to hold carfare pennies for "wuxtras," or a chrysanthemum for your buttonhole.

ROPEMAKERS OF TONDO.

Crispo, the Hunchback, is the Jolliest One in the Philippines.

Of all the ropemakers of Tondo, in the Philippines, there is none so happy and jolly as Crispo, the hunchback. His laugh is so hearty that it can be heard from one end of the twirling strands to the other, and sometimes that is a full eighth of a mile. Every day when there is no rain he is seen with his fellows. Sometimes he is twirling the reel and feeding the hemp to the lengthening strand. When his reel is full he begins again, or winds the strand off upon another reel of larger size. All the while he is humming a tune, sometimes one of the tunes the American bands play on the plaza, and again the songs of his home.

Crispo lives in one of the little nipa houses that hug the railroad track. It does not amount to much, as far as architecture goes, but it is his home and he is happy with his family and his guitar. Crispo is married and he has children about him that are as straght as children grow. At night they listen to his songs as he twangs his guitar and sings to them in the Tagalog tongue about the ancient and chivalrous days. Often he tells them stories of the ghosts that ride in white boats on the bay at night when there is a storm upon the waters.

Ropemaking is an industry at which many may work. The machinery used is primitive, but the finished article the workers turn out is smooth and strong. There is no way of cheating in this work. The hemp comes in bales, as it leaves the plantations. It is taken out to the street, where the work is done and where the spools are, for the first process. Time and practice are needed to learn the knack of keeping the reel going around by a simple twist of the wrist. The operator backs slowly away as the strands grow in length, and when he has gone as far, as he deems necessary he begins to wind up all the cord that he has spun.

For the next operation twelve spools of this cord and another machine are used. The machine has twelve cranks at one end and two at the other. When the strands are laid, if the rope is to be a long one, supports are erected about fifty feet apart. These are to keep the strands from twisting and tangling as they are spun about. Two men stand at the upper end of the walk and face the man who is turning the twelve strands. Each has two cone-shaped pieces of wood in his hands, and in these cones are six grooves, through which the strands run. The operator at the strand end turns his wheel to the right and the men at the other end reverse the operation. The strands begin to twist and grow smaller and harder, and at last the two men with the cones start slowly toward the strand man. If there are tangles in front of them they separate the snarl with their toes. In front are twelve strands. Behind the advancing operators are two. It is a slow walk from one end to the other, and it is hard work to keep the strands whirling and the machinery going until the two ropes are complete. When all is done the finished object is a rope the size of a clothes line.

If a larger rope is to be made the operation is repeated with as many strands as desired, according to the thickness of the rope wanted. The process is the same, but cones with larger grooves are used. In fact, as long as the hemp holds out the operators can splice and splice indefinitely. The rope is rolled up in great coils when it is finished for shipment, and is then wrapped in coarse cloth manufactured from the same fiber.—Harry A. Armstrong.

The Supply of White Oak Giving Out.

The supply of white oak timber in this country, used extensively and almost exclusively for shipbuilding of the most durable kind is becoming exhausted. A report received at the Navy Department from an expert who is investigating the subject says the material in Ohio has become scarce, and no timber of equal quality is to be found in any other State. Every year, he says, from 1,000,000 to 1,500,000 feet of this timber is shipped to Quebec, and thence to Liverpool, where it is used by British shipbuilders. It is the general opinion that within ten years there will be no available white oak timber in Ohio. The naval constructors say this presents a serious situation, although it is not so calamitous as it would be were ours not now a steel navy. Still, we use the white oak in the construction of small boats, and to a limited extent in the decking of warships.

Enthusiasm Everywhere.

"I suppose the war hero received a warm welcome when he returned to his native town?"

"Gosh! yes, stranger. Why, the bated car window even shared in the welcome."

"How was that?"

"Why, it was the first one to fall on his neck and catch his hand."—Chicago News.

THE SAMOAN SETTLEMENT.

Something About the Islands That Have Been Parcelled Out.

Of the Samoan Islands Germany gets the lion's share, Savali, with an area of 650 square miles, and Upolu, with an area of 540 square miles, with a combined population of about 29,000. The area of Tutuila is only 54 square miles, and its population 3,750. The area of the Tonga Islands is 374 square miles, and the population 17,500, including 250 foreigners, mostly British.

The chief interest of the United States in the Samoan Archipelago was the preservation of our rights in the harbor of Pago-pago, a lease of which was secured to us by the treaty of 1878. This did not give us any absolute property in the island, as it was provided that it was to remain in force for ten years from its date, and was then terminable upon twelve months' notice by either party. By a similar treaty in the year 1879, the German Government had a right to the establishment of a naval station in Salafata Harbor, in the island of Upolu, and in the same year Great Britain acquired the right to establish a naval station on the shores of a Samoan harbor to be hereafter designated by the British Government, this privilege not applying to the harbors of Apia or Salafata, nor to that part of the harbor of Pago-pago to be hereafter selected by the Government of the United States as a station under their treaty with Samoa.

By the arrangement between the Governments of the United States, Great Britain and Germany, the United States became possessed of all the islands of the Samoan group which lie east of the 171st meridian of longitude. These islands comprise Tutuila, which contains the harbor of Pago-pago, and further east, Manua, Oloofaga, Ofoo and Rose Islands. Outside of Tutuila in this group there is no harbor and but one anchorage, situated on the northeast side of Manua. In Savali there is only one harbor for ships, that of Matanua, exposed at all seasons, and, moreover, during the period from December to April, when the north winds are prevalent, it is dangerous. In the island of Upolu there is no first-rate harbor. Even that of Salafata, mentioned above, would require very considerable expenditure to make it of any use, while the inadequacy of Apia as a harbor was clearly shown in the terrible and destructive tempest of a few years ago. But in the island of Tutuila, besides five reef harbors like those in Upolu, there is the harbor of Pago-pago, which is a deep and land-locked basin, whose easy approach and perfect security for vessels causes it to outweigh in value the other islands in the group. It is generally considered by naval experts the finest harbor in the Pacific Ocean. Its entrance is three-quarters of a mile wide, with soundings of thirty-six fathoms.

"About a mile from the entrance," says Capt. Wakeman, who, at the instance of a private firm, examined its fitness for a coaling station, "we open out the inner harbor, which extends one mile west, at a breadth of 3,000 feet abreast of Goat Island, to 11,000 feet at the head of the bay, carrying soundings from eighteen fathoms to six fathoms, while the reefs which skirt the shore are from 200 feet to 300 feet wide, almost awash at low water."

Pago-pago was ceded to the United States by a treaty made with Maunga, the chief man of the Samoan tribes at the time.

An officer of the United States steamer Adams, which took possession of the place, wrote at the time: "The port is a magnificent land-locked harbor, secluded from dangerous winds coming from any quarter. It is an admirable station for call for a line of steamers from America to Australia, and a valuable coaling place for men-of-war cruising in the Pacific Ocean. It can be readily fortified, and might be made a stronghold for our cruisers in case of war. It dominates the South Pacific, and naturally gravitates toward the United States. On the occasion of the formal hoisting of the American flag to denote the acquisition of the harbor, &c., more than 500 natives from all the contiguous islands assembled and witnessed the imposing ceremony ratifying the concession of the splendid port above described."

Oom Paul's Door-Plate.

John G. Thomas of Chicago is probably the only man in the Northwest who has ever sold any merchandise to Oom Paul Kruger, president of the Boer Republic. In conversation he said: "I owned a glass door plate manufactory a few years ago. A year ago last July I got an order from him and forwarded it by mail to his address. It was about fifteen inches long and six inches wide, and on it, in plain, gold letters, was the inscription: 'Paul Kruger, Staats President.' I have no doubt that the plate is now doing duty on his front door, and that if the government goes under it will be found among the assets."—Milwaukee Sentinel.

Incredulous.

A country rector was showing a party of his parishioners over the rectory, when they came to a small room full of curios. Pointing to an armet of dull gold, the clergyman remarked: "That ornament was found in a tomb in Mexico, Central America. The tomb was probably a thousand years old."

An old fellow standing by fidgeted, scratched his head, and then remarked: "Sense me, sir; they must 'ave 'ad yer. America wasn't discovered six hundred year ago, let alone a thousand."—Answers.

Thawing plants are to be used in the Klondike.