

FUSED QUARTZ AS AID TO HEALTH

Makes Healing Ultra-Violet Rays Independent of Sun.

New York.—The perfected method of making fused quartz in quantities, announced recently by the General Electric company, is expected to make independent of the sun's rays so far as his ability to obtain ultra-violet rays are concerned, according to the opinion of scientists now engaged in experimenting with the newly developed material.

Dr. R. Berry, assistant director of the Thomson research laboratory of the General Electric company, announced that he had enlisted the services of Dr. W. T. Bowie, professor of biophysics at Harvard medical school, and Dr. Clarence C. Little of the University of Maine and their institutions to further important experiments in the use of fused quartz.

The property which makes fused quartz stand out above all others is its ability to transmit ultra-violet rays, the healing chemical rays which, emitted by the sun, cause sunburn. These rays are excluded by ordinary window glass.

Now that Mr. Berry has made it possible to produce fused quartz in quantities, efforts are being made to learn whether it will be practicable to use the material in the extensive manufacture of electric bulbs.

Independent of the Sun. "If we can provide artificial illumination that will emit ultra-violet rays we won't have to depend on the sun, which is so uncertain in winter," said Doctor Bowie. "We can get the sun's effects on cloudy days by using quartz bulbs or tubes with incandescent light."

Doctor Bowie is planning to erect on the grounds of Harvard university a greenhouse glassed with quartz in which will be determined certain effects of the rays upon growing plants with a view to applying any knowledge thus gained to improving human health or preventing human diseases. Experiments with a similar object are to be made in the University of Maine laboratories, where conditions are considered especially favorable.

While those who have undertaken the experiments with quartz desire to refrain from making false hopes as to the possibility of curing or preventing certain stubborn diseases, they feel encouraged that infant mortality from rickets, particularly in crowded cities, may be further reduced as a result of the work.

"We all know that exclusion of light results in the blanching of plants," said Doctor Bowie. "They may become more succulent for table purposes, but their tissues are not stout and well developed. This is because calcium and phosphorus salts are not deposited in the absence of the ultra-violet rays in sunlight."

"Especially, if babies are submitted to the same absence of sunlight, or ultra-violet rays, their bones do not grow and hence rickets set in. This is a common disease, but common is not generally realized. It is perhaps little realized, either, that it is prevalent among the babies of the well-to-do who are not allowed to play in the streets."

"Remember that playing in the sun, behind window glass, does not expose the children to these beneficial rays. However, quartz windows which do admit these rays are now entirely within the bounds of possibility as a result of Mr. Berry's work."

The Haven of Rickets. Autopsies on babies in Dresden showed that of those who were born in the fall and died in the spring, 98 per cent had rickets. Of those who were born in the spring and died in the fall only a very small percentage had rickets. The babies born in the spring were outdoors in the sunlight during the summer.

After remarking that the sun's effects could be obtained on cloudy days by the use of quartz bulbs, Doctor Bowie added: "Certain foods act sympathetically to sunlight. It is not inconceivable that we could light our restaurants with sources of ultra-violet light so that while partaking of food rich in phosphorus and calcium we could partake of light energy that would enable us to utilize these salts in normal manner."

"There are diseases other than rickets which are due to faulty metabolism, the 'machine gun sneeze' is one. Such a disease might be alleviated by feeding calcium lactate and using ultra-violet light in connection with it."

Altogether, the availability of quartz suggests very interesting possibilities. With Doctor Little we are undertaking the investigation of the effects of the ultra-violet rays on the calcium metabolism of milk cows. The object, of course, is to see if the rays can have any effect on the milk we feed our babies. It is not improbable that other animals feel the effect of the lack of these rays. Deep-sea fish do not produce bones, though they are probably saturated with calcium salts. Fish of the same species living in the upper water, where the sun rays strike through, have bones of production.

Ultra-Violet Rays for Poultry. "Latterly, poultrymen in the North are unable to grow chickens for early maturity," said Doctor Little. "The dark days of winter in the chicken's life are the cause of this. The ultra-violet rays from the sun are necessary for their growth."

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Daddy's Evening Fairy Tale

By Mary Graham Bonner

RED-EYED VIREO

The Red-Eyed Vireo was dressed in his gray suit with black trimmings. Above his reddish eyes there were white stripes. He was singing and warbling and making a great deal of noise.

"The Waxwing family," he said, "are so polite. They dress beautifully with their soft grayish-brownish suits with the little wax touches of decorations on their wing tips and the touch of yellow at the tip of the tail."

"But they don't make much noise. And they're so polite to each other, passing each other bugs, and having such good manners."

"They bow and make such a fuss and when anything surprises them, instead of making a noise up goes the crest upon their heads."

"They don't raise their voices and even the great excitement of a cherry orchard which they dearly love does not make them noisy in their joy."

"They are very sociable and friendly and such quantities of them meet and have dinner parties."

"But their voices are so quiet that it makes me feel like a great, bolsterous fellow."

"I wouldn't like it if you had a low voice," said Mrs. Red-Eyed Vireo. "And every one thinks your voice is beautiful and your songs exquisite."

"True enough," said Mr. Red-Eyed Vireo, "but in the summer time they get tired of my singing so much."

"In the spring they say: 'Oh, do listen to that dear little red-eyed vireo!'"

"But in the summer they say: 'Did you ever know a bird make such a noise as that red-eyed vireo? He is singing from morning until night and you can hardly hear the other birds his voice is so much louder!'"

"Sometimes I wish I had a nice little low voice such as Mrs. Dove's husband has. He waits on her and feeds her and his actions seem doubly devoted and beautiful because he bills and coos so prettily."

"But then—it is true—in the spring every one is so glad to hear me. 'And it is spring now. It is spring now!'"

So excited did Mr. Red-Eyed Vireo become about that that he sang a little song to Mrs. Red-Eyed Vireo, and this was the song:

Oh, oh, oh, The spring is here, I know, Warble, warble, warble, The spring is here, I know.

Dear, dear, dear, The spring is surely here, Warble, warble, warble, The spring is surely here.

Oh me, oh my oh me, It certainly fills me with glee, Warble, warble, It certainly fills me with glee.

The wood duck puts on airs, As food with his mate he shares, Warble, warble, warble, As food with his mate he shares.

We love the woods we do, And along the roadside too, Warble, warble, warble, And along the roadside too.

I love to sing it I love, Songs both old and new, Warble, warble, warble, Songs both old and new.

And, as it was springtime, people heard Mr. Red-Eyed Vireo and said: "Oh, do listen to that dear little vireo and his sweet voice."

A Sinner That Repented

A school presided over by a very harsh and bad-tempered teacher had a visit one afternoon from the bishop of the diocese. The bishop called before him a white-faced urchin who was very much cowed and depressed by punishment he had received that morning. "My boy," said the bishop, "who made this great and glorious earth of ours, and set the sun, moon and stars in the wonderful firmament?" The boy began to blubber. "I did," he said, "but I won't do it again."

Followed Him Home

Little Harry wanted a dog. He had many arguments with his mother on the subject. He was sent to a neighbor by grocery. He was gone so long that his mother became anxious. Stepping to a window, she saw Harry down the street manfully pulling at a rope, the other end of which was tied around the neck of a small dog. The pup was resisting every step.

Presently Harry triumphantly entered the room. "Mother," he cried, "won't you let me keep this little dog? It followed me home."

Employing the Magic Crystal With Success

By SELINA E. HIGGINS

FOR A WHOLE DAY OUR DARLING HAD

remained about the house as one in some dreamlike trance. Elida was listless. She would sit for an hour gazing at seeming nothingness.

L. her aunt and guardian, wondered if it was anxiety for her absent lover, Willard Hull, that had brought on this deep abstraction.

It was early that evening when a warm friend of the family dropped in. She was a music teacher and quite an attraction at local social entertainments. She had been out late the evening previous at a soiree that I knew Miss Evans had also attended.

We were close friends with the music teacher, and in my anxiety and perplexity I spoke of the strange mood that had held Elida in a strange thrall. "My dear Miss Nettleton," spoke my visitor, when I had concluded, "I came purposely to see Elida. You understand me well enough to know that it would not be from any idle curiosity, but from motives of the purest friendly interest. Something happened at the soiree last evening that was inexplicable."

"Something happened?" I repeated, a trifle fearfully.

"Yes. A young man, his name was given as Dalzell, attended the soiree last evening. He came with the Ritchies, whom I only know incidentally. He is a wonderful conventionalist and a marvel at the piano."

"And he met Elida?" I asked, dreading that something might shadow the love and loyalty of my darling and her fiancé.

"Only as he did the others, as a gentleman of great attainments, courteous to everybody. He had just finished a brilliant musical composition of his own, however, when I saw him lean toward Elida, who sat nearby, and fix his eyes upon her. A light shone in them. I cannot describe."

"You are alarming me," I said timidly.

"I am sorry, but I must tell you all," replied Miss Evans. "I saw Elida start and a nervous tremor crossed her face. She was like one entranced, fascinated. Suddenly, but without removing his glance, this Dalzell dashed both hands down upon the keyboard of the piano. There was a strain of wild, unearthly music. A look I cannot describe passed over Elida's face. Near to her was a stand containing a fragile glass receptacle for calling cards. She seized this, dashed it violently to the floor and it shattered to a thousand atoms. Then with a low cry she struck back shuddering, covered her face with her hands."

"You astonish me!" was all I could say.

"I glanced at young Dalzell," I went on in Miss Evans' "There was a strange, weird expression on his face. He flashed off into a quick, lively Polish mazurka."

Thus I went two blocks from the house and was turning into an interesting street, when I chanced to look back. A man was just going up the steps of our home. In a flash I recognized him as answering the description Miss Evans had given me of Dalzell. I hurried back to the house. I paused to take up a small revolver kept for security in the drawer of the hall rack. Then I proceeded to the parlor entrance.

An amazing spectacle met my view. Seated at a little stand, her face pale but placid, her eyes dreamy and glazed, was Elida. Standing before her was the stranger. He held a piece of faceted crystal in one hand. On that Elida's eyes were fixed.

"Who are you? What are you doing here?" I quavered impulsively, and the man turned to face the weapon in my trembling hand.

He was not in the least moved. He placed a warning finger to his lip, never lowering the crystal.

"For Willard Hull," he said, "was his astonishing announcement in low musical tones."

"From Willard Hull!" I cried.

"No—for him. Do not interrupt—it is a critical moment. Speak!" he added, directing the mellow insinuating word at the transfixed Elida and fixing his glances piercingly upon her. "The wall—is it east? And which wall?"

"No," came in a dreamy, faraway murmur from Elida. "Not a wall—but a well."

"Success!" gasped the stranger, and sank into the nearest chair as if exhausted after some superhuman effort. In a few moments the man arose. He made some movements with his delicate hands toward Elida, whose face renewed its usual expression. Then he turned to me.

"Miss Nettleton," he said, "I have heard of you. I am a friend of Willard Hull, who has gone to look up the hidden fortune of his dead uncle. He did not find it at any wall, as the hint was. I am credited with possessing certain occult powers, or talents. At least, my mind filled only with honest motives, working on the pure crystal-clear mentality of this beautiful young lady, has evolved a clew—well, not wall."

It was a well, indeed—we knew it within a week, when Elida's fiancé came back a rich man.

And Dalzell, the strange, mystic genius whom I at first so feared, we all love now as a loyal, devoted friend.

DIPLOMAT FROM EGYPT ADMIRES YANKEE WOMEN

Not Surprised Anywhere, He Says, But in His Heart He is a Lover of Open.

Washington.—A man from the desert has forsaken the great barren spaces for the whirl of Washington social and diplomatic life.

But for A. M. Hassanein Bey, first secretary of the Egyptian legation, the moonlight nights, sandstorms and hardships of the desert are more attractive than the elaborate ballrooms and colorful receptions which are inseparable adjuncts to diplomatic life in America.

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Hunter Kills Cougar With Rabbit Shooter

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Watkins was out hunting rabbits to use as coyote trap bait when he came face to face with two cougars. He was about thirty feet from them when they came in sight. Watkins had carried a rifle many a day expecting to meet a cougar. But in the history of the biological survey hunters in Oregon, dating back a decade, none had ever killed a cougar in the eastern part of the state.

So Watkins didn't have his rifle. His automatic pistol was his only weapon. Knowing full well that a cougar's heart is but a few inches in diameter, he expected to make a showing against a big cat, and realizing that the animal's if wounded might turn on him, Watkins nevertheless opened fire.

Fortunately for him neither attempted to attack him. Instead they tried to flee.

As the smaller one, a yearling, turned, Watkins dropped him. At the older beast, apparently the mother, Watkins sent four shots which, blood stains in the snow told, took effect.

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