Ben Avon Area Historical Association Newsletter

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Tesla Coil Built in Ben Avon

by John Warren

Here in 2011, you'll never hear anyone refer to Ben Avon as a rapidly changing place. 100 years ago, it was a different story, because Ben Avon was bursting with major building projects.

The dozen-year period centered on 1911 saw the construction of three churches, a high school, two bridges, a trolley line, numerous streets, and scores of houses. For sidewalk superintendents, it was Ben Avon's Golden Age!

The sights and sounds of all that construction diverted attention from another project, and that was just fine with the young man who was working on it. In the attic at 6922 Church Avenue, George Kaufman was constructing a Tesla Coil.

Kaufman, a 17-year-old student, had studied the work of Nikola Tesla, who built the first such high-voltage transformer in 1891. It took Kaufman a year of work, and $125 of his own money, but he managed to complete the million-volt device in 1911. Not only did the Tesla Coil work – to the chagrin of Kaufman's neighbors in Ben Avon – but it is still working 100 years later, at the Carnegie Science Center!

In 1911, summer nights were quieter than they are today, with no radio or television, fewer cars, and no industries on Neville Island. But once in a while George Kaufman would get the urge to try out his machine. He would drag the Tesla Coil out of the garage and plug it in. All around the borough, electric lights would suddenly dim, and the quiet of the evening would be shattered by the sound of the Tesla Coil creating artificial lightning.

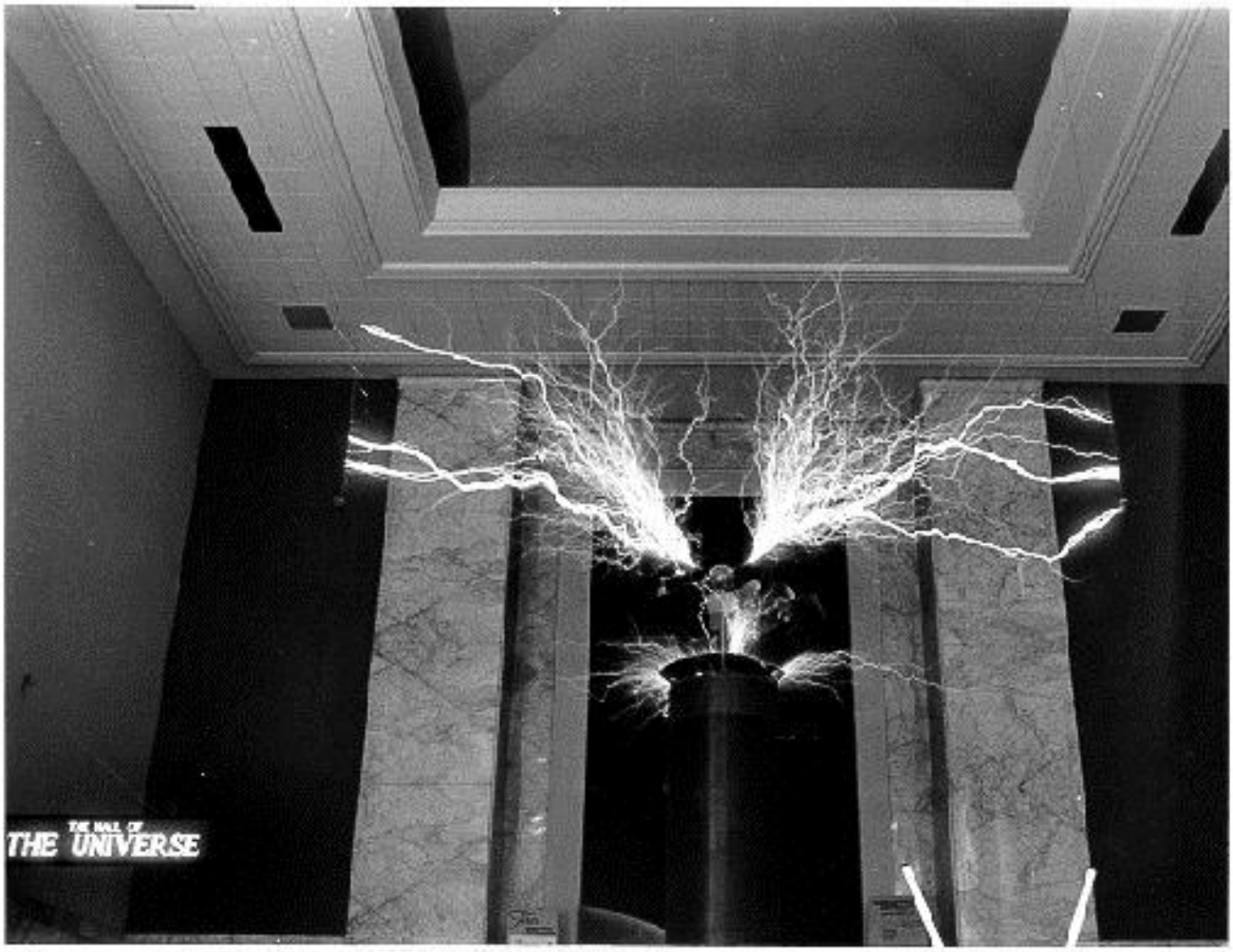
Ten feet tall, with more than 6000 feet of tightly wrapped copper wire, the Tesla Coil is a formidable machine. It has been described as sounding like a backyard bug zapper – but about 1000 times louder.

Thus all of Ben Avon was delighted when Kaufman, having so convincingly demonstrated his scientific gifts, was admitted to Carnegie Tech to study electrical engineering – and took the Tesla Coil with him.

The Tesla Coil spent most of the next four decades at Carnegie Tech, where it was used for electrical demonstrations. In 1950, Kaufman donated it to Buhl Planetarium, where it spent the next 40 years. In 1991, the Tesla Coil was moved to the Carnegie Science Center, where the Works Theater was actually designed around it.

George Kaufman fulfilled his early scientific promise. He became the chief electrical engineer for J&L Steel, and by

the time of his death in the early Eighties, he had earned more than 100 patents.



The Tesla Coil makes lightning inside the Buhl Planetarium. The demonstation was not only visual but very loud.

BAAHA Links #6: Buhl Planetarium

See the online Spring 2011 issue of *Carnegie Magazine* containing an article http://www.carnegiemuseums.org/cmag/article.php?id=253 celebrating the Tesla Coil's 100th birthday. The article includes a photograph of Kaufman with his machine, and pictures of the Tesla Coil in action at the Planetarium and later at the Science Center.

Hundreds of thousands of Western Pennsylvania residents can remember Buhl Planetarium, and a lot of those memories are vivid. The hush that came over the audience when the lights dimmed in the Theater of the Stars. The anticipation as you strained your eyes in the darkness to catch the first hint of movement in the center of the theater, where you knew that the amazing Zeiss projector was going to rise from its pit, looking like a giant insect. After the sky show had ended and everyone had returned to the main hall, the indecision about how far you dared to move toward the eastern end of the hall, knowing that they were now going to demonstrate the Tesla Coil, and the incredible noise of the lightning was going to stop your heart for a moment.

For half a century, the Planetarium served as the center for science education for this region. It took that role seriously, partnering with local schools to host science fairs and geography shows and – in the post-Sputnik Fifties and Sixties – offering special science classes on Saturday mornings.

The Planetarium building, at the corner of Federal Street and East Ohio Street, was constructed in 1938 by W.F. Trimble and Sons, an important Pittsburgh firm with Ben Avon connections. The Historic Pittsburgh website includes a sequence of 18 photographs from the Trimble archive at the Heinz History Center, showing the building under construction. To view them, go to the Images section of Historic Pittsburgh and search on 'Planetarium' http://digital.library.pitt.edu/images/pittsburgh/

When work on the Carnegie Science Center began in the late Eighties, many people in the community, particularly educators, hoped that the Planetarium building could continue to operate as an adjunct to the Science Center, focusing on science education. The Zeiss projector, they argued, was still in good operating condition and could continue to present educational programs, and the building was well suited for other educational activities. Their point of view did not prevail, although some advocates kept up the fight for many years. The Planetarium building is now a part of the Pittsburgh Children's Museum.

One of the die-hard advocates for keeping the Planetarium building in use as an educational center was Glenn Walsh, who was a Planetarium staff member from 1982 to 1992. In an effort to advance the cause of keeping the Planetarium in use, he founded an organization called Friends of the Zeiss, and created a website that documented, in great detail, the history and resources of the Planetarium building.

Visitors to the website http://buhlplanetarium.tripod.com should bear in mind that it was first created to advocate for a particular point of view on a public issue, and make allowances accordingly. Nevertheless, anyone interested in refreshing their memory about things that could be seen at the Planetarium should definitely visit Walsh's website.

At the time the website was created, the Zeiss projector was still operable, but it has now been moved to the Science Center and installed in a historical exhibit. A page at the Science Center's website http://www.carnegiesciencecenter.org/exhibits/zeiss/ includes a description and several photographs of the Zeiss. Click 'Works Theater' (left side menu) for a current photograph of the Tesla Coil.

The Science Center's website contains a number of pages about one of its best-known attractions, the miniature railroad and village. In advance of your next trip to see it, we recommend that you print yourself a copy of the 'Replicas' page which lists 50 different items you http://www.carnegiesciencecenter.org/default.aspx?pageId=455 could look for – everything from Fallingwater to Forbes Field to Punxsutawney Phil!

For a comprehensive history of the miniature railroad, including more than 40 photographs, Glenn Walsh's website is the place to go. There is a fine line between "comprehensive" and "overwhelming," and this site straddles that line! You start clicking links, devouring the detail, and soon you have no idea of how to get back to your starting point. We recommend that you bookmark the Master Index page of his

photo gallery and use that bookmark to return to the starting point. http://buhlplanetarium3.tripod.com/photoalbumBuhl.htm

On that Master Index page, click 'Major Facilities' for a room-by-room description of the building. For descriptions and photographs of the Foucault Pendulum (example above), the Hall of the Universe, and many other exhibits, click 'Exhibits and Programs'. There are also links for the Theater of the Stars and the miniature railroad.

In his history of the miniature railroad, Walsh explains that when it first opened at the Planetarium in 1954, it was called "The Great Christmastown Railroad" and was only open for the month of December. The public response to the railroad was so extraordinary – many of us remember standing in lines that snaked through the building, out the front door, down the steps, and along the sidewalk on East Ohio Street – that the exhibition period was soon extended to four months (November through February). Visiting the railroad became a Christmas tradition for many local families. Happy Thanksgiving!!!

Civil War Inaction: Fall, 1861

By Len Barcousky - Pittsburgh Post-Gazette

[Ed. note: Late 1861 was a quiet time for the armies in the conflict.

A diplomatic crisis began Nov. 8, 1861 for President Lincoln as two Confederate officials sailing to England are seized by the U.S. Navy. England demands their release, threatening war. Lincoln gives in and orders their release in December. "One war at a time," Lincoln remarks.

Len filed a young Lincoln story that is more interesting than striped pants threats.]

Abraham Lincoln once said his early years could be summed up by a single line of verse from English poet Thomas Gray: "The short and simple annals of the Poor." That wasn't near enough information for curious Americans in 1861, who wanted to know much more about their new president. Apocryphal stories about "Honest Abe" began to pile up like autumn leaves outside the door of a prairie cabin.

The Pittsburgh Daily Gazette offered its readers an improbable, but partially accurate, tale of Lincoln's near-comic participation in a duel in 1842. Lincoln, a Whig, had been feuding with the Illinois state auditor, James Shields, and he had written a satirical letter, under the pseudonym Aunt Becca, for a local newspaper. In it, he joked about both his Democratic opponent's policies and his vanity. In his 1995 biography of Lincoln, historian David Herbert Donald writes that Mary Todd, who Lincoln later would marry, angered Shields even more when she co-authored a second "Aunt Becca" letter to the editor, making fun of the politician's recent romantic misadventures. When Lincoln took responsibility for both letters, Shields challenged him to a fight.

The story that appeared in the Nov. 14, 1861, edition of the Gazette appears to be wrong in claiming that Lincoln had insulted Shields in verse, not prose. But the story was accurate in noting that "there were those who believed that the verses had been indited by fairer hands than Lincoln's ... and it was impossible for him to back out by throwing the responsibility on another, and that other a lady." "Indite" is an archaic term meaning to write. Dueling was illegal in Illinois, so the two men and their seconds agreed to meet at a spot known as Bloody Island in the middle of the Mississippi River in neighboring Missouri.

As the party challenged to the duel, Lincoln had his choice of weapons. He selected broadswords. At 6 feet 4 inches tall, and with long, strong arms, Lincoln had a much longer reach than Shields, who was 5 feet 9. According to the Gazette, Lincoln imposed other conditions as well, such as between the combatants "there should be erected a rail barrier four and a half feet high, and all blows to be exchanged over this barrier." Each combatant was "to be at liberty to approach as near the barrier or keep as distant from it as he might choose but not to jump over or go around it."

"These extraordinary terms were at first indignantly rejected, but Mr. Lincoln would offer no others, and Mr. Shields was forced either to accept them or go without a fight," the Gazette reported. Ultimately, there was no violence, because "just as they were about to engage in the duel, and after the fence had been erected, friends interfered, and the actual fight was prevented."

While the tale adds a great detail to a story about a man well known as a "rail splitter," the "rail barrier" appears to have no basis in fact. Neither Donald nor historian Daniel Mark Epstein, who wrote a joint biography of Abraham and Mary Todd Lincoln in 2008, mentions any fence in their descriptions of the incident.

An officer of the court, Lincoln remained embarrassed for the rest of his life that he had come close to violating the law by agreeing to a duel. Donald writes that Lincoln was asked about the incident during the Civil War. He admitted the truth, but he warned his questioner,

"If you desire my friendship, you will never mention it again."

Reporters were more accurate in describing activities they had witnessed firsthand. In the summer of 1861 the Pittsburgh Daily Dispatch offered readers a description of the testing, or "proving," of Pittsburgh-made artillery.

On June 5 crews transported 10 cannons, called "columbiads," and four mortars by train from the city to a "proving ground" across the Allegheny River from Tarentum. The guns were subjected to day-long tests. "Some experiments were also made to ascertain the effect of projectiles on heavy iron plates," according to a next-day story in the Dispatch.

"The experiments on the iron plate, together with the novelty of the Government proof, attracted quite a large party, chiefly gentlemen connected with the iron interest," the story said. "A number of ladies also accompanied the party, for whose special delectation the aid of a city confectioner had been called in to prepare a banquet 'al fresco.'" Several lawyers and "gentlemen of leisure were also added to the party, engrafting the lighter amusement of an impromptu picnic on the graver business of Uncle Sam," the report went on. Such weapons tests were especially important in the opening months of the Civil War as Pittsburgh's workshops, foundries and "manufactories" geared up to supply the Union forces with weapons, ammunition and uniforms.

The site of the former proving ground is now private property, according to local historian Arthur Fox, who has identified the spot. Although the location was more than 20 miles upriver from Pittsburgh's Golden Triangle, the area was by no means wilderness in the 19th century. The site lacked "a large extent of waste country or a body of water ... on which the balls or shells may fall without risking life," the story said. Mortars were usually tested by angling their barrels at 45 degrees, but the Dispatch story said that the weapons for these tests were aimed almost parallel to the ground in an effort to keep spent rounds from landing close to nearby houses.

Later tests included mortar firings at near point-blank range -- a mere 100 yards -- at iron plates of various thicknesses. "The plates were invariably hit, and generally at approximately the center, which would not have disgraced many riflemen," the reporter wrote.

Gun crews then carried out similar checks on the 8-inch columbiads, smooth-bore cannons that fired 64-pound balls. During the proving ground trials, one of the targets for two of the guns was a 5-inch-thick iron sheet. When the smoke cleared away after one test firing, observers found two trees had been toppled and the plate had been hit twice and broken in half. "The result of all the firing proves that at short range no ordinary, or practicable iron sheeting would resist the power of a columbiad shot," the reporter concluded.

That conclusion, however, would be proved at least partially wrong nine months later. In March 1862 the Union's Monitor and the Confederate's Merrimac, both ironclads, battled each other to a draw, at the mouth of the James River in Virginia. The results of that otherwise minor engagement showed that iron plate could be very effective in protecting ships and their crews from cannon fire. In the years that followed, navies around the world rapidly converted their fleets from wood to iron.

Note: Ben Avon resident Len Barcousky is the author of "Remembering Pittsburgh," a book that looks at how historic events were covered in the pages of the Pittsburgh Post-Gazette. A version of this story appeared previously in the Post-Gazette.

"Distinguished Psychologist" Speaks at Cornell

by John Warren

One morning in December 1921, the campus of Cornell University was abuzz. Overnight, posters and flyers had appeared in several buildings, announcing the impending arrival of a distinguished psychologist from Europe.

No, not THAT distinguished psychologist, of course. Dr. Sigmund Freud was alive and well and living in Vienna. This man's name (Dr. Herman Vosberg) was not familiar, but he was said to be an associate of Dr. Freud, with some important psychological theories.

A lecture hall was reserved, and a reception was planned to honor the distinguished visitor. He was met at the train station by a delegation headed by the wife of Cornell's president.

In the lecture hall, a capacity crowd awaited the visiting psychologist. He spoke to them about "Dreams and the Calculus, or the Freudian Theories with Later Developments." His lecture was politely received, although the listeners struggled to grasp the complexities of his theories, which were illustrated with charts and explained in thickly accented English.

At the reception, however, audience members showered the speaker with compliments on his insights, and a sizable group accompanied him to the station to wish him a pleasant trip back to New York City.

Some of you are probably wondering where we are going with this story, and perhaps you have begun to suspect the truth – that the whole thing was a hoax.

Word soon spread around the Cornell campus that the "distinguished psychologist" had actually been a young Pittsburgh man named Charles Morse Stotz. After graduating in June 1921, Stotz had stayed at Cornell for graduate study. Aided and abetted by fellow students in the School of Architecture, Stotz had driven to Elmira, jumped on a train headed back to Ithaca, donned a luxuriant beard, and improvised his way through the lecture and the reception.

It was a *tour de force* – that came within a whisker of getting him expelled. We can be confident that the decision to allow Stotz to remain in school – that required the approval of Cornell President Livingston Farrand – must have been influenced by the fact that Stotz's chief accomplice in the hoax had been Daisy Farrand, the President's wife!

Regular readers of this newsletter will recall that Charlie Stotz has been featured in several of the recent BAAHA Links articles. We first learned about the "distinguished psychologist" at Cornell during a conversation with Marjorie Simonds, who heard the story directly from the perpetrator of the hoax. We later came across references to it in two books, including A History of Cornell, by Morris Bishop.

On the 90th anniversary of this unusual exploit, we take this opportunity to salute the memory of a longtime resident of our community, who demonstrated that it is possible to carve out a lifetime of major achievements without taking yourself too seriously.

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