“The UV Cure: Museum of Neon Art Brings to Light Lessons from Past Pseudo Science in the Age of Corona”

By Dydia DeLyser and Paul Greenstein, April 25, 2020.
Photos and video by Dydia DeLyser and Paul Greenstein.
Violet ray, spark coil, and Acme beer sign from the collection of Paul Greenstein.

When President Trump suggested on Thursday that disinfectant taken internally, and UV light, perhaps also used internally, could be helpful in treating COVID-19, companies like Lysol had to rush to save the public by posting disclaimers—if taken internally such products could cause illness and death in themselves.

Few focused on Trump’s call for light therapy, but light and electricity have been the focus of both appropriate and inappropriate, effective and ineffective therapeutic treatments for centuries.

At the Museum of Neon Art in Glendale, California this all sounded very familiar. “Luminous tubing”—what Americans know neon lighting—was once widely used for medical treatments for ailments which, like COVID-19 today, then had no effective therapy—diseases like tuberculosis, and even ongoing afflictions like acne, and many types of pain. The high-voltage (but low amperage) electricity was thought to be stimulating for the body and bodily processes and was recommended to be used both externally, and, yes, even internally. One brochure termed the effect a “cell massage.” [1]

These medical devices were known as “violet ray” machines, after the naturally pale purple color of the argon gas typically used inside the tubing. Made for medical purposes mainly in the early-to-mid twentieth century, historic violet-ray machines typically come with an array of attachments.

Here an early-twentieth century home-use violet-ray machine is shown with two attachments, each offering a different type of high-voltage electrical stimulation, in this case, to body surface areas.

[1] Brochure quote from: https://afinecollection.wordpress.com/2014/04/09/violet-ray-machine-circa-1920/ last accessed 25 April 2020.

Here, two volunteers at MONA demonstrate the “knob” attachment on a historic violet ray. Clearly visible is the “violet” argon gas inside the tubing, creating the high-voltage spark jumping from the glass tube to the woman’s arm. The experience, with the voltage turned to its lowest setting, she said was “slightly prickly”—“a bit unpleasant, but not really painful.” She noticed no medical or health benefit (and in this case none was promised).

Today the devices (known as spark coils or tube testers) are still produced, and made in the USA, though no longer for medical purposes. Instead, they’re indispensable for neon craftspeople who use them to test broken tubes or discern the original color of tubing that is no longer lit.

Here, a volunteer at MONA uses his spark coil to illuminate an original late-1930s “Cold Eastside” beer sign (Eastside was made in East Los Angeles beginning in 1897). Though the original transformer is no longer working, the tubing still holds its original gas, and lights up, just as it did in the late-1930s, when touched with the spark coil.

Nevertheless, don’t try this at home, folks! By the mid-twentieth century there were lawsuits against the producers of violet rays, and they ceased being used for medical purposes.

Technologically these devices are fascinating, and harken back to visionary inventor Nikola Tesla’s early experiments with electricity in the early 1890s, and his invention of the Tesla coil. In fact, they operate on the same principle as a Tesla coil: transforming what is now ordinary household current into high voltage at low amperage.

Violet rays, for example, ordinarily deliver voltage adjustable from 10,000 to 45,000 volts—that’s a lot, compared to 110 volts in your house, but in the violet ray the amperage is much, much lower: just 1 milliamp compared to typically 5-20 amps used in American homes.

The chief difference between a violet ray and a Tesla coil is that where the Tesla coil uses a copper dome to discharge the electricity (to spectacular effect), the violet-ray machine packs the coil in a bakelite housing (an insulator—the operator holding the machine feels no spark), and uses a glass tip which itself acts as an imperfect insulator—because glass is liquid and porous the high-voltage spark can “jump” through to the “patient’s” skin.

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