

Feature



Was the Hatter Really Mad? Kathe Gust*

The fictional character from Louis Carroll's books was thought to be "mad" because of his profession and his erratic behavior. Were hatters really mad?

The Hatter is a memorable character in Lewis Carroll's *Alice's Adventures in Wonderland* and the sequel. Though often referred to as the "Mad Hatter," Carroll never used the term. The expression was already around before the book was written.



The Hatter as depicted by [Sir John Tenniel](#), reciting his nonsense poem, "[Twinkle, Twinkle, Little Bat](#)"

According to *Crafts and Professions in English Idioms*, the phrase means, "zany, eccentric, demented; behaving in a strange, silly, or irresponsible way." An early literary example from *Blackwood's Edinburgh Magazine*, January-June 1829 appeared in a conversation among a group of characters that wouldn't have been out of place in Wonderland:

NORTH: I was Sultan of Bello for a long period, until dethroned by an act of the grossest injustice.

TICKLER (aside to SHEPHERD.): He's raving.

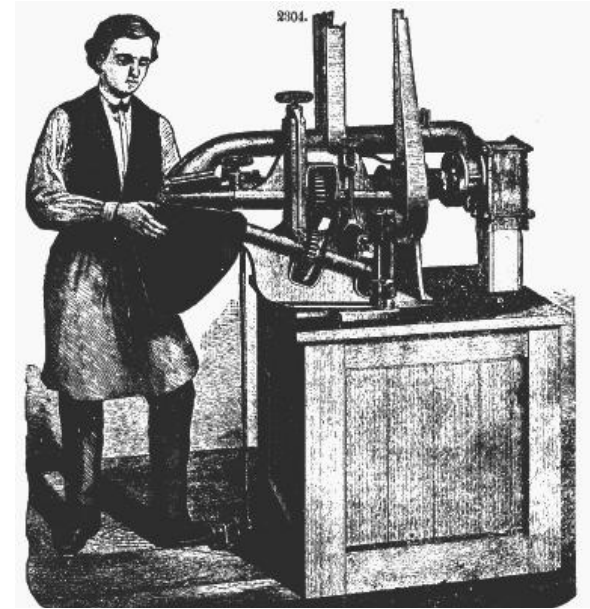
SHEPHERD (to TICKLER.): Dementit.

DOHERTY (to both.): Mad as a hatter. Hand me a segar.

Conventional wisdom holds that Carroll's Hatter earned his name because he exhibited psychotic behavior from mercury poisoning. Scholars debate this – as readily as any other topic - but this magical metal and its uses and abuses are still fascinating.

Mercury is the only metal that is liquid at room temperature. Oddly enough the liquid form is one of the less poisonous, but it is still not recommended that you rub it on your skin or immerse your hand in it. Mercury vapor, compounds and salts are highly poisonous.

The idea that hatters were "mad" stemmed from popular perceptions more than from any real medical knowledge. The first description of *mercurialism* in hatters



A hat maker shaping a felt hat, 1889.

was published in 1860, a mere five years before Lewis Carroll's famous tale was written, but it is unlikely that he would have read the obscure New Jersey medical publication where it appeared.

Only a small percentage of fur cutters and hat makers were affected sufficiently to exhibit more than the tremor, which is one of the early signs of exposure, but that, it seems, was sufficient to give rise to the expression. In fact, mercury poisoning is still known as "Mad Matter's disease."

Mercury occurs naturally in the ore cinnabar, which has been refined since the 15th or 16th century B.C. Roman criminals

sentenced to work in quicksilver (mercury) mines had an average life expectancy of only three years. Mercury was known to be poisonous when eaten as early as 2,000 years ago, but the dangers of inhaling the vapors were not discovered until much later.

From the 17th century onward the manufacture of hats from fur entailed a process known as felting, in which the hair is cut from the pelt, layered on a conical mold, and then pressed and shrunk using steam or hot water. The fur was treated with secret formulas, *le secretage*, to make the short animal hairs bind together better. There are several stories about it.

One is that use of mercuric nitrate was kept secret by the French, until the Edict of Nantes forced Huguenot hat makers to flee to England bringing the secret with them. The Huguenot version of the story is at variance with another account of *le secretage*, in which it is said that the process was introduced into England from Frankfurt around 1870.

Thus, there is no listing of mercury poisoning in Charles Turner Thackrah's description of hazards in the hat industry in 1830, when he conducted his exhaustive study of the British trades and professions. The third version regarding a hat maker undergoing treatment for syphilis and his particular method of wetting the hair for felting is considered very suspect.

Using mercuric nitrate in felting makes the outer stiff hairs on a pelt soft and limp, and also roughens them so that they pack

together more easily. In Britain this process came to be known as "carrotting" because the treatment turned white rabbit fur reddish brown.



Felt "carrotting" process, 1930s.

Work was often carried out in unventilated rooms and constant inhalation of the fumes slowly led to mercury poisoning among those who made and worked with the felt. But until the report in 1850 no one realized that mercury might be the culprit.

Mercury was still being used for medical treatments, notably to treat syphilis prior to the discovery of Penicillin, but it was also prescribed in the form of calomel, "blue pills" or "blue mass". Georgian physicians looked on the visible signs of mercury poisoning, such as excessive salivation and bleeding gums, as desirable indications that their patients were consuming therapeutic doses.

It is well known that Abraham Lincoln took blue mass pills. They were commonly prescribed in the 19th century for melancholy or "hypochondriasis," a condition Lincoln is known to have endured. What was not understood at the time is that

mercury in the form of the blue pill is a potent neurotoxin.

According to the testimony of many of Lincoln's contemporaries he suffered the neurobehavioral consequences of mercury intoxication but he was astute enough to recognize its effects on him and stopped taking the medication soon after his inauguration as President because it "made him cross." Fortunately many of the effects reverse themselves given time.

The principal psychotic features of mercury exposure are indeed more severe than mere tremors. They include excessive timidity, diffidence, increasing shyness, loss of self-confidence, anxiety, and a desire to remain unobserved and unobtrusive. Other symptoms included distorted vision and confused speech. Advanced cases developed hallucinations and psychotic symptoms



Lincoln's fur felt top hat.

The symptom that caused Lincoln to discontinue treatment was explosive loss of temper. During the 1850s Lincoln, by nature a friendly and balanced person, was known for flying into towering rages which sometimes took on physically violent

manifestations, as on one occasion when he grasped and shook politician Orlando B. Ficklin until his "teeth chattered".

For those who take an interest in this now obsolete medication, a sample of the genuine article was found in a Victorian

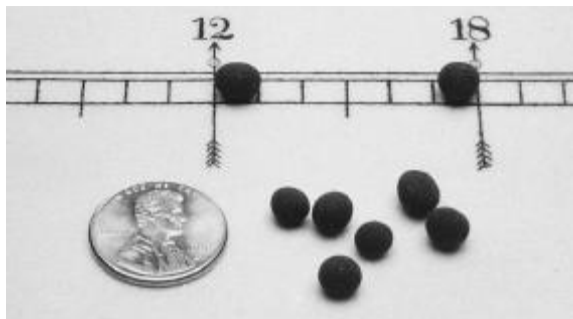
medicine chest from the Park Pharmacy Trust's collection in 2010. It was analyzed and the chemists were "were amazed that we found $33.6 \pm 0.3\%$ mercury in the pill. To think that the President was meant to be taking two of them a day is appalling."

The blue pill is actually a round, gray pellet about the size of a peppercorn colored with Prussian Blue pigment. All ingredients are finely crushed in a mortar, unfortunately insuring the poisonous vapors will more readily release.

A common British recipe contained: one part mercury to two parts confection of roses (rose petals steeped in rosewater with honey and sugar) and liquorice root. The U.S. used a slightly different recipe containing: mercury (33 parts), powdered liquorice (5 parts), althaea (root of the marshmallow) (25 parts), glycerin (3 parts), honey of rose (34 parts). Both resulted in a three grain pill containing one grain of finely crushed mercury.

Doses varied somewhat, but the most customary was one pill two or three times a day equaling about a gram of mercury – it would deliver nearly 9,000 times the amount of mercury that is deemed safe for people by current health standards. The U.S. Environmental Protection Agency's acceptable daily exposure is less than 21 micrograms per day.

Over time many medical studies were made of persons working in trades that resulted in mercury exposure, including six more on the hatters of New Jersey. They did



Blue mass pills reproduced from 1879 Park Pharmacy Trust recipe in 2010.

not lead to any elimination of mercury in felt hat manufacturing. In Europe a few laws began being put in place as early as 1913, but the hatters' occupational disease was finally curbed in the U.S. by the Public Health Service in December 1941.

At that time, mercury began to be required for the manufacture of detonators in World War II and there was a shortage. For close to a century the hatters, physicians, and the public were not sufficiently upset about the results of exposure to control or improve the conditions under which mercury was used. It took the advent of a war to cause the development of new non-mercuric methods for felting fur.



Hat maker preparing fur pelts using mercury, 1938.

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Kathe Gust enjoys creating clothing for many historical periods, and for various sci-fi and fantasy genre. Visit her [web site](#) to read articles and see photos for some of her costuming projects.