THE ARSENIC EATERS

Simon Brugner

It is generally difficult to get a hold of individual cases, as those who eat arsenic are very anxious to conceal the fact, but the result from inquiries seems to be this: 1. That certain individuals were in the habit of swallowing a mineral substance several times a week for various purposes such as improvement of the appearance, easier respiration during mountain climbing, as a health tonic and stimulant, or prophylactic against disease. 2. That this substance was arsenic. 3. That these individuals became, through custom, capable of tolerating a considerable dose of this mineral poison, its more immediate effect making them lively, combative, and filled with strong sexual desire.

"It must not, however, be supposed that any one takes to Hittrach [Hüttrauch], or arsenic eating, quite openly. On the contrary, it is generally begun in secret at the increase of the moon, and in some villages with superstitious observances. A very small dose is at first taken once a week—bread and butter is the favorite medium—then twice a week, and so on until, when the individual arrives at a dose daily, the dose itself is increased till as much be taken as in ordinary circumstances would kill two or three individuals. But it must not be understood that those people can consume the drug altogether with impunity. When they first begin with their very small doses they are seized with nausea and burning pains in the mouth, throat, and stomach. But one peculiarity of arsenic eating is this, that when a man has once begun to indulge in it he must continue to indulge; for if he ceases the arsenic in his system poisons him; or, as it is popularly expressed, the last dose kills him."

> "Arsenic Eaters." *The New York Times.* July 26, 1885.

Part 1

All doubt as to the existence of arsenic eating is removed by the present experiments.

























"He is now past middle life, but astonishes every one by his fresh, juvenile appearance; he is always exhorting other people to follow his example, and says, 'See how strong and fresh I am, and what an advantage I have over you all! In times of epidemic fever or cholera, what a fright you are in, while I feel sure of never taking infection.""

Charles Heisch. "The Arsenic Eaters of Styria." In *Boston Medical and Surgical Journal* 62. Boston: D. Clapp, 1860.













"He, to satisfy our curiosity, picked out a piece of arsenious acid, and which, on being weighed, was found to be as nearly as possible six grains. This he placed entire on a small piece of bread, and taking it into his mouth, crunched it up audibly, and in about two minutes after swallowed six or seven ounces of cold water, stating that he liked to drink immediately after swallowing a dose."

Craig Maclagan. "On the Arsenic-Eaters of Styria." In *Edinburgh Medical Journal* 10. Edinburgh: Oliver & Boyd, 1864.

















Part 2

On the historical encounter with arsenic-containing minerals in general and the practice of arsenic eating in Styria in particular.

Ι



fig a Arsenic Rock. Zuckenhut mine, Gasen. Photo: Simon Brugner. ~ This 7-cm-in-diameter rock sample was collected in a historical arsenic mine. It consists mostly of *quartz* and *arsenopyrite*, an iron arsenic sulfide. These stones were hand-sorted, crushed, and roasted. The toxic smoke, *arsenic trioxide*, often simply referred to as "arsenic," was passed through horizontal chambers where it would condense into solid form.



fig b Relief Map of Historical Arsenic Mining Area. Kothgraben mine, Judenburg, 2011. Picture: GIS Steiermark. ~ The arsenic mine in Kothgraben operated until the late 17th century. The traces of arsenic mining are still clearly visible as this laser-scanned relief map of an area of about half a square kilometer shows: note the ditches, the mine entrances, in the center of the image.

PREFACE

People eating arsenic seems like a story from another reality, but it did exist in the eastern parts of the Alps, namely in Styria.¹ This habit was around until the first half of the twentieth century. Still, a lot of people in that region knew someone who was said to be an "arsenic eater." Even in their time, the arsenic eaters lived in another reality: They inhabited a space between life and death. When hearing stories about the arsenic eaters it is hard to separate fact and fiction. They were said to have superhuman strength, known for their ability to endure a lot of physical hardship. They were feared for the same reasons. The etymological origin of arsenic refers to these characteristics: the Ancient Greek word for arsenic, arsenikón, is derived from arsenikós, translated as "masculine, virile."

Because of its potency, people eating arsenic were in danger of being suspected of witchcraft. Therefore, arsenic consumers tried to keep their habit a secret.² Eating arsenic was considered a sin and forbidden by law. It was an absolute taboo-one does not do it, nor does one speak about it. It was a deal with the devil: offering your soul in exchange for arsenic's diabolical favors of youth and strength. But the price was high: It is said that eating arsenic is a commitment for life; that one must not stop the habit or one will lose health and eventually die a painful death. To eat arsenic was to be stigmatized, to ostracize oneself from society-an act of rejecting the social order and overcoming physical restraints to enter a reality from which there was no turning back. Arsenic eaters put themselves under the rule of a potent mineral substance. They let nature permeate their body and take control.

The arsenic eaters are gone now. And so is their reality. Because their habit is taboo, there are not many traces of their former existence. However, old arsenic mines in remote, mountainous areas can still be found, some dating back to the fourteenth century. One wonders how much effort was made to dig up those minerals, how much work and power miners dedicated to force tunnels through solid rock in order to get their hands on arsenic.

What defines a reality where eating arsenic makes sense? Under which circumstance does it make for a viable solution? The past inscribes itself in the present and the present bears the promises and warnings of the past. The arsenic eaters are still a part of collective memory and the Alpine landscape still bears the marks of historical arsenic mining. "There is hardly a district in Styria where you will not find arsenic in at least one house, under the name of hydrach [Hüttrauch]. They use it for the complaints of domestic animals, to kill vermin, and as a stomachic to excite an appetite. I saw one peasant show another on the point of a knife how much arsenic he took daily, without which, he said, he could not live." Charles Heisch. "The Arsenic Eaters of Styria." In *Boston Medical and Surgical Journal* 62. Boston: D. Clapp, 1860.

At a meeting of German natural philosophers in Vienna, Dr. Knapp introduced two arsenic-catera from Styria; the one ate 0.30 grammes of yellow sulphuret of arsenic, the other 0.40 grammes of arsenic acid, in sight of the assembly. In his lecture on the arsenic-caters Dr. Knapp said, among other things: "It is difficult to give any certain par-ticulars as to the increase in number of arseniceaters. I have convinced myself that there exist many of them in Upper Styria, and also in Middle Styria ; very many stable boys, ostlers, wood-cuttors and foresters are known to me as arsenic-saters ; and foresters are known to me as arsenic-eaters; even the female sex is addicted to the prao-tice. Many began already at seventeen or eighteen years of age to take arsenic, and continued it to a great age. Most arsenic-eaters keep the matter secret, so that it is impossible to give accurate statistics. They all assign as their motives for induging in the habit that it prevents illness; furthers their wish to look rosy and healthy; that it is a remedy against difficulty of breathing, and assists the digestion of indigestible food. A poacher in Upper Styria, who made ex-periments in my presence of eating arsenic, told me he had acquired courage by the habit. The appear-ance of the arsenic-caters in all cases known to me is healthy and robust. I think only robust persons can become accustomed to the practice. Some of them attain a great age. Thus in Zeiring I saw a charcoal burner, upward of seventy, still strong and hearty, who, I was told, had taken arsenio for more than forty years. I heard, too, of a chamons hunter of eighty-one, who had long been used to eat arsenic. I never observed an arsenic cachez in those addicted to the habit. It certainly happened once that such an arsenic-eater, (a leather dresser's apprentice in Ligist, 1365,) while intoxicated took too much, thereby poisoning him-self severely. According to his own account he had taken a piece as large as a bean. He entirely recov-ered, however, and ate arsenic afterward, but more carefully. As far as my observations extend, white arsenic, namely arsenic acid, As. O3, (also called flowers of arsenic) and the yellow arsenic, As. S3, (orpiment,) are taken, and that in a dry state, alone, or on bread. The dose is of course very small at first, and is gradually increased, the largest quan-ity eaten in my prosence by the poacher in Zeiring even the female sex is addicted to the pracfirst, and is gradually increased, the largest quan hist, and its gradually increased, the particle dual-tity eaten in my prosence by the poacher in Zeiring being fourteen grammes. A certain Matthew Scho-ber, in Ligist, ate seven and one-half grammes be-fore me on the 17th of April, 1865. The intervala, too, at which arsenic is taken vary—every fortuight, every week, twice or three times a week. But all doubt do to the original formation of another in the rest. doubt as to the existence of arsenic-eaters is now remoxed by the present experiments.'

fig c "Arsenic-Eaters." *The New York Times.* Oct. 16, 1875. ~ The phenomenon of Styrian arsenic eating attracted a lot of international attention during the second half of the 19th century. The international scientific community was skeptical, thinking arsenic eating was a myth: nobody could survive the doses that arsenic eaters claimed to consume. On-site research by British and Austrian physicians later revealed that the Styrians' claims were true: people were eating arsenic.

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2. "The number of deaths in consequence of the immoderate enjoyment of arsenic is not inconsiderable, especially among the young. Every priest who has the cure of souls in those districts where the abuse prevails could tell of such tragedies; and the inquiries I have myself made on the subject have opened out very singular details. Whether it arise from fear of the law, which forbids the unauthorized possession of arsenic, or whether it be that an inner voice proclaims to him his sin, the arsenic-eater always conceals as much as possible the employment of these dangerous means. Generally speaking, it is only the confessional or the death-bed that raises the veil from the terrible secret." "The Poison-Eaters." In Chambers? Edinburgh Journal 15. Edinburgh: W. and R. Chambers, 1851.

ARSENIC-EATERS.



fig d Alpine Mining Area. Zinkwand mine, Schladming, c. 1922. Collection: Simon Brugner. ~ Over centuries, Zinkwand and its surrounding summits were mined intensely, especially for silver (accompanied by arsenic). During its peak, 1,500 people worked in this Alpine mining area, in heights of up to 2,300 meters. Many tunnels perforate the mountain and one underground passage still leads from one side to the other.

> fig. e Men Climbing a Mountain. Collection: Simon Brugner. ~ "For those who have to climb mountains, one essential quality is, not easily to get out of breath. Any means therefore of obtaining such a desideratum will naturally be eagerly sought after, and when found as eagerly employed. In some districts of Lower Austria and Styria, especially in those parts bordering on Hungary, arsenic is taken for this purpose, as it makes the respiration much easier in ascending mountains. Whenever the individual has to mount a considerable height, a minute morsel of the poison is taken and allowed gradually to dissolve. The effect is surprising, and heights are thus ascended with ease which otherwise could be climbed only with much distress to the chest. The peasantry are much given to this habit."-Charles Boner. Chamois Hunting in the Mountains of Bavaria and in the Tyrol. London: Chapman and Hall, 1860.



CURSED GROUND I

The arsenic eaters lived in a region defined by steep mountain ranges cutting their way through marshy flats. These snowcapped mountains served as impassable barriers, with countless valleys laid out like a labyrinth, limiting their inhabitants' movement. It was a remote region, known for its backwardness.

The constant transformation of the Earth's crust made the mountainous landscape's temper unpredictable. With sudden rock falls, mudslides, avalanches, or thunderstorms, the mountains could bring death within minutes. But the swampy valleys were not any better: they were a breeding ground for vermin and all kind of infectious diseases.³ This environment did not allow for a careless life. It is what one would call "cursed ground": thrown out of paradise, humans had to lead their dreadful lives in this hostile setting.⁴

This alpine region has always been a natural, and often political, border. The high mountains and scarcely populated valleys make for a perfect buffer zone between rival powers, dividing east and west, north and south. And as is often the fate of a border region, it was heavily fought over during the course of history. Bandits and enemy horsemen raided the area regularly.⁵ But people knew to take advantage of their surrounding landscape. The more remote the valley, the less likely it was interfered with by outside forces. In times of war and pandemic disease, people hid in forests and caves, patiently waiting for the death and affliction to end.

In this isolated area, people were on their own. They could not count on some king to provide for their safety. In the face of such uncertainty, people lived their lives from day to day, trying to survive. Leading their miserable existence in such harsh surroundings, many saw drunkenness as life's sole joy—foreigners travelling through the country were pleased by the amount of entertainment to be found. By submitting to fermentation, the inhabitants stopped fighting nature and instead let it take control. Intoxication became a liberating act of submission: "drunkenness as a triumphant irruption of the plant in us."6

The remoteness of the settlements, lack of physical (let alone intellectual) care, and hard living conditions, took its toll. Styrians were described as "savages" with ugly swollen throats, monstrous creatures populating the steep mountain slopes



fig f Woodcutters. Kindberg. Collection: Stadtarchiv Kindberg. ~ Many woodcutters were known arsenic eaters. They used it as a stimulant to endure the hard, physical work in Styrian mountain forests

the wilds again.' "

V

IV

3. "In November of the same year, 1348, the epidemic is found in Styria, at Neuberg, in the valley of the Mürz. The Neuberg Chronicle, giving an account of it, says, 'Since this deadly pestilence raged everywhere, cities became desolate which up to this had been populous. [...] The pest in its wanderings came to Carinthia, and then so completely took possession of Styria, that people, rendered desperate, walked about as if mad. From so many sick pestilential odours proceeded, infecting those visiting and serving them, and very frequently it happened that when one died in a house all, one after the other, were carried off. So certain was this that no one could be found to stop in the houses of the sick, and relations, as if in the natural course of events, seem to die all together. As a consequence of this overwhelming visitation cattle were left to wander in the fields without guardians, for no one thought of troubling himself about the future; and wolves coming down from the mountains to attack them, against their instincts, and as if frightened by something unseen, quickly fled into

Francis Aidan Gasquet. The Great Pestilence (A. D. 1348-9) Now Commonly Known as the Black Death. London: Marshall, Hamilton, Kent, 1893.

- 4. "Cursed is the ground for thy sake; in toil shalt thou eat of it all the days of thy life; thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field; in the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for dust thou art, and unto dust shalt thou return. Gen 3:17-19, RV
- 5. "The Sackman [referring to the Akinci, an irregular, unpaid, light cavalry that lived by raiding: they filled their sacks with plunder] [...], to the number of 40,000, spread themselves far and wide over the country, as far as the Ens and into Styria, burning and slaying. Many thousands of people were murdered. or maltreated and dragged into slavery Children were cut out of their mothers' wombs and stuck on pikes; young women abused to death, and their corpses left on the highway." Karl August Schimmer. The Sieges of Vienna by the Turks. London: J. Murray, 1847
- 6. Gilles Deleuze, Félix Guattari. A Thousand Plateaus: Capitalism and Schizophrenia. Minneapolis, MN: University of Minnesota Press, 1987.



fig aa Pierre Lackerbauer, Frères Becquet. Skin Symptoms of Chronic Arsenic Poisoning. 1859. ~ "There is found in the mines black pompholyx [a furnace deposit, usually mostly zinc oxide, but often containing arsenical oxide, and to this latter quality this reference probably applies], which eats wounds and ulcers to the bone; this also corrodes iron, for which reason

daemon subterraneus truculentus that, by its foul breath, could instantly strike a man dead. In some shafts these demons caused so much harm that the mine had to be abandoned. But the presence of demons was not always bad, some of them were distinctly helpful and their appearance was seen as a sign of good fortune: where they showed up great riches were soon to be found.³³

It was believed that there was different air underground and that minerals would exhale a certain kind of breath that caused much harm.³⁴ The minerals' vapor was said to be indigestible by the lungs. Because of their especially sharp and powerful breath, arsenic minerals were imagined to cause bad air—the Medieval Italian term being *mala aria*—and to promote, if not produce, the plague.³⁵ Arsenic was thought of as both the cause and cure for the plague. It was a magic remedy able to cure all diseases, a panacea. the keys of their sheds are made of wood. Further, there is a certain kind of cadmia [probably referring to arsenical-cobalt] which eats away the feet of the workmen when they have become wet, and similarly their hands, and injures their lungs and eyes."—Georgius Agricola. *De Re Metallica*. Trans. H. C. Hoover, L. H. Hoover. New York: Dover Publications, 1950.

33. "They are venerable looking and are clothed like miners in a filleted garment with a leather apron about their loins. This kind does not often trouble the miners, but they idle about in the shafts and tunnels and really do nothing, although they pretend to be busy in all kinds of labour, sometimes digging ore, and sometimes putting into buckets that which has been dug. Sometimes they throw pebbles at the workmen, but they rarely injure them unless the workmen first ridicule or curse them. [...] The mining gnomes are especially active in the workings where metal has already been found, or where there are hopes of discovering it, because of which they do not discourage the miners, but on the contrary stimulate them and cause them to labour more vigorously." Georgius Agricola. "De Animantibus Subterraneis." In De Re Metallica. Trans. H. C. Hoover and L. H. Hoover. New York: Dover Publications, 1950.

34. "There is another illness even more destructive, which soon brings death to men who work in those shafts or levels or tunnels in which the hard rock is broken by fire. Here the air is infected with poison, since large and small veins and

seams in the rocks exhale some subtle poison from the minerals, which is driven out by the fire, and this poison itself is raised with the smoke not unlike pompholyx [probably referring to arsenical oxide], which clings to the upper part of the walls in the works in which ore is smelted. [...] The bodies of living creatures who are infected with this poison generally swell immediately and lose all movement and feeling, and they die without pain; men even in the act of climbing from the shafts by the steps of ladders fall back into the shafts when the poison overtakes them, because their hands do not perform their office, and seem to them to be round and spherical, and likewise their feet. If by good fortune the injured ones escape these evils, for a little while they are pale and look like dead men." Agricola. De Re Metallica.

35. "He inclines to think that the Malignant Disposition of the Air whereby the Plague is propagated, if not first produced, is imputable to some Kind of Subterraneal Expirations, and particularly to Arsenical Fumes."

By a Well-Wisher to the Publick. *Some Observations Concerning the Plague*. London: J. Roberts, 1721.



fig ab Arsenopyrite Crystal Growing on Quartz. Erzberg mine, Eisenerz. Photo: Christian Auer. ~ "Rock crystals, amethysts, and various precious stones, have been thought [...] to grow like mushrooms; [...] that in their formation they may resemble the gums and resins extravasated from various species of vegetables. The vegetation of stones hath been admitted by many, and some have contended that minerals, as well as animals and vegetables, spring from seed, the greatest rock being nothing but the expansion of the parts of a minute grain of sand."—Richard Watson. *Chemical Essays.* London, 1782.



fig ac Red Arsenic. Vienna. Photo: Simon Brugner. ~ A retired Viennese pharmacist with a sample of historical, pharmaceutical "red arsenic." Laboratory tests at the University of Graz showed the sample being an arsenic sulfide, As_2S_3 and As_4S_4 , together with magnesium carbonate, MgCO₃.

fig.ad Therenovated could not nourishes

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fig ad The Manna Eaters. Romanesque Charnel House, Hartberg, c. 1200 (frescoes renovated 1889–1894). Photo: Simon Brugner. ~ "Theirs but fed the body, and could not preserve them from death at last; but our manna feeds the soul, and nourishes to eternal life, and preserves all that eat of it, from eternal death."— John Willison. Sacramental Meditations and Advices. New York: S. Quackenbush, 1821.

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