Fact or Fiction?

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Plating Mysteries: Part 1

Murder can be considered the ultimate form of pollution. Being alive means having a healthy, strong body that no one is going to puncture with bullets or knives, or invade with poison. Because I try to keep this column directed at environmental issues, this lead-in helps support what follows—namely, examples of how plating is used in murder mysteries. The following examples show how various authors have used our industry in novels.

D.L. Sayers, "The Abominable History of the Man With Copper Fingers," in *Lord Peter Views the Body*, Avon Books (1969).

Dorothy Sayers has been described by the *Los Angeles Times* as one of the greatest mystery story writers of the last century. Her mystery, "The Abominable History of the Man With Copper Fingers," should be of particular interest to electroformers/platers. It's about a man named Eric Loder who was a metal sculptor specializing in life-size replicas. He had a magnificent house in the country crammed with pictures and antiques, was a *bon vivant*, and had a most beautiful live-in, Maria Morano. He was also very jealous and, after suspecting that Maria was having an affair with a house visitor, used her as a mandrel for an electroforming project! The completed piece became an *objets d'art* in Loder's front room. As described by Lord Peter when he visited Loder: "There was a great silver figure of a nude woman, fully life-size, lying with her head back and her arms extended along the sides of the couch. A few big, loose cushions made it possible to actually sit on the thing, though I must say it never was really comfortable to do this respectably."

Any electroformer worth his weight in gold-plating salts will find the technical details extremely weak. In fact, if I were teaching a course on plating, I would provide students with the following from the novel, and then ask them to pick it apart. Here is the description of the plating facility located in the basement of Loder's house.

"On the right-hand wall was a big switchboard, with a bench beneath it. From the middle of the ceiling hung a great floodlight, illuminating a glass vat fully seven feet long by about three wide. It was filled with a dark brown liquid which I recognize as the usual compound of cyanide and copper-sulfate which they use for copper plating. The rods hung over it with their hooks empty, but there was a packing case half-opened. It contained copper anodes, enough of them to put a plating over a quarter of an inch thick on a life-size figure. There was also a case containing silver for the rest of the process, and a considerable quantity of prepared graphite and a big jar of varnish."

For those of you who follow the Plating I. Q. test that appears in the back pages of this journal, let's do a quiz with Loder's facility.

- The glass tank containing the plating solution must have been of very special construction (*e.g.*, a really strong aquarium). Seven feet by 3 feet (no depth is mentioned, but assume 3 feet) gives a volume of around 400 gallons (~1500 liters), assuming it was filled within 6 inches of the top. Have you ever seen a plating tank this size made of glass?
- No mention is made of a fan or ventilation system. Can you imagine the odor that would have permeated the house?
- No mention is made of some type of crane. Even though Maria was a thin, lithesome mandrel, some sort of lifting and holding device would have been required.
- Have you ever plated copper in a cyanide-sulfate solution? Last time I checked, this was the kind of mixture that generated HCN.
- The color of the solution was described as dark brown. I remember properly operating copper cyanide solutions typically being straw in color, while copper sulfate solutions were blue. Of course, if you mix the two, maybe the color becomes dark brown, even though you will not be alive to see it.
- The plating thickness was described as over a quarter of an inch. This would have required a very specialized formulation.
- Can you imagine the difficulties in plating over a human body? It would be a real challenge to get between all the toe jams, and fill in other places where we have crevices, cracks, etc.
- No mention is made of a machining facility. Loder would have to have been very clever to plate as thick as 0.25 inch without having to remove nodules from the electroform at various stages during the plating operation.

I've probably missed some details, but you get the point. Now let's talk about removing the mandrel from the finished product. At the end of the story, Maria's bones are discovered in the mandrel, but no flesh remnants. It's

theorized that "Maria's soft parts must have been digested away with pepsin, or some preparation of the kind." My dictionary defines pepsin as a proteinase of the stomach that breaks down most proteins to polypeptides. I've seen many difficult mandrel removal problems in my career, but this one would have taken the cake. Pepsin? Could this be a new elixir that all electroformers should have on their shelves for mandrel removal problems?

Now for the ending. When Loder is confronted in his basement plating facility, the following occurs:

"He gave a great yell and dashed at the switchboard, turning out the light, so that I could not see him. I heard him leap at me—and then there came in the darkness a crash and a splash and a shriek as I never heard—not in five years of war—and never want to hear again. I turned on the light. He lay there, still twitching faintly. Cyanide, you see is about the swiftest and painfullest thing out. Before I could move to do anything, I knew he was dead—poisoned and drowned and dead. The coil of wire that had tripped him had gone into the vat with him. Without thinking, I touched it, and got a shock that pretty well staggered me. Then I realized that I must have turned on the current when I was hunting for the light. I looked into the vat again. As he fell, his dying hands had clutched at the wire. The coils were tight round his fingers, and the current was methodically depositing a film of copper all over his hands, which were blackened with the graphite."

R.K. Tanenbaum, *Reversible Error,* Signet (June 1993), *Material Witness,* Signet (August 1994), *Justice Denied,* Signet (August 1995), *Corruption of Blood,* Signet (May 1996), *Falsely Accused,* Signet (October 1996), *Reckless Endangerment,* A Dutton Book (1998), *Act of Revenge,* HarperCollins (1999).

Assistant D.A. Butch Karp and his lawyer/wife/partner Marlene Ciampi take on all sorts of creeps in these Tanenbaum novels, which are always entertaining. Karp and Marlene live in a loft of a former electroplating facility in the SoHo district of New York. Their living quarters are on the fifth floor, and one thing I've never been able to figure out is this: Where had the plating been done—the bottom floor, the fifth floor, or somewhere in between? The reason for my confusion relates to a large, hard rubber tank Marlene had rescued from the electroplaters and converted into a hot tub/bath. In *Reversible Error* (1993), it was 1,000 gallons, while in a later book, *Reckless Endangerment* (1998), it was 800 gallons.* I don't know what she did to reduce its size, but that's not what really confuses me. In all of Tanenbaum's books I've read, I can't find any indication that Marlene had to move the tub from some other floor. I, therefore, assume the plating was done on the fifth floor! I've written the author to try and get clarification, but have received no response. Regardless of this technical quibble, it's interesting to watch the progression of their fifth-floor loft from novel to novel. They upgrade from a situation where their daughter gets splinters (because, as Karp puts it, "We live in a decaying industrial building and maybe besides wearing slippers she should wear gloves too, and a face mask") to a place right out of *Architectural Digest*.

The loft re-do was entirely Marlene's creation before she and Karp had found one another. As described by Tanenbaum: "The summer she had moved in she had taken on the Herculean task of cleaning out the remnants of a defunct electroplater, heaving great tangles of wire and scrap down the freight shaft, scraping, sanding, painting, until it was as she wanted it, a great white, calm room, high above the street, flooded with light.

In the early days it had been illegal to live in such buildings. At that time, Marlene would sit on her fire escape and look out at square miles of blackness lit only by the windows of a dozen or so pioneers. Barely twenty-five people had lived full-time in the old industrial area south of Houston Street. Eight years later the area was called SoHo and it was the hottest property in New York." Karp's loft was now worth three-quarters of a million dollars and the envy of any number of trust-fund artist and Wall Street types (*Act of Revenge*—1999). A note to platers with decrepit facilities: Convert your space into condos using some of the tanks for hot tubs/baths, and then wait as the neighborhood becomes "yuppified" to reap your rewards.

**Columnist's Note: In Tanenbaum's most recent book,* True Justice *(Pocket Books—August 2000), the size of the hot tub/bath has been decreased yet again—this time to 500 gallons.*

I. Melchior, *The Haigerloch Project,* Bantam (July 1978).

Plating played a prominent part in this World War II thriller. As Germany crumbled, Hitler feverishly raged against final defeat. Every qualified citizen in the Reich was committed to developing an atomic bomb. In 1945, they almost succeeded with an event named the Haigerloch Project. One of the two heroes who foiled the A-bomb project at the plant site deep within Germany was an owner of a plating plant. Here is how he was described to the OSS general.

"Brandt runs a manufacturing company in New Jersey that he took over from his father when he retired. An electro-chemical plant. It's a prime contractor on the Manhattan Project. When the project hits a snag which none of the major corporations could solve, General Groves approached the senior Brandt. Brandt turned the problem over to his son, who told General Groves 'can do,' and he did. In fact, he invented a whole new electrochemical process."

It was also pointed out that Brandt had enough scientific knowledge to handle the problem, but not enough so that he would be too great a danger if captured. Obviously, unlike the platers of my acquaintance, all he knew about was plating, and if Brandt were captured, there wasn't too much he could reveal, even after all the severe torture people in those situations were subjected to. About all he could be expected to reveal were his special plating secrets.

To destroy the project, Brandt and his partner had to add a boron compound to the heavy water, which is used to slow down neutrons in order to achieve fission. By contaminating the heavy water with a small amount of boron, the neutrons are absorbed and the pile fails. Now put yourself in Brandt's shoes. You need some boron compound in a hurry, so where do you go? I'll bet that most platers would go to the plating shop because they know that boric acid is used in nickel plating solutions. Not Brandt. He suggests going to the weld shop to get some borax that was used as a welding flux. Perhaps this kind of thinking explains why the other agent, not Brandt, wins the young blond beauty in the end. (To be continued in a future column.) **P&SF**