

David Jamison



How the Industrial Revolution Created Cancer, and other catastrophic changes to human physiology

By David Jamison

It's really not very surprising at all when you think about it. Imagine any living species – we'll call ours Man-A – over a period of time, introducing into its system a host of foreign chemicals. Now, these chemicals might not be toxic in the amounts taken, but they are ingested day in and day out, with no consideration to how each might be affecting each other inside the ecosystem of the body. Now imagine generations passing, as the chemicals are slowly indoctrinated into Man-A's system and those of his offspring.

Eventually, wouldn't you expect physiological changes in the very chemical makeup of that species? Certain and specific minute adaptations made by the body to inure itself against these foreign elements? Dig this: When 16th Century European Man began traipsing across the planet, one of the reasons it was so easy for him to waltz over ancient indigenous civilizations was because of the diseases and bacteria he had brought over from the Old World. Indians died by the thousands from ailments European Man had long grown an immunity to by living in the biggest metropolises in the world. He had made his very body a carrier of poisons unknown to the Americas, and was from that moment a creature independently mutated from "homo sapien." He had become SuperMortal, his biology a mix of industrial waste, modern medicine, and antibodies toughened by the grit of urban living. With each new emerging city came new emerging diseases: polio, smallpox, the plague. Almost as if someone was telling us that these environments were becoming too far removed from man's natural habitat. But the big killer out of all the new modern diseases is cancer, the plague of the 20th Century.

Just for the record, the Industrial Revolution did not create cancer. It has in fact been around for centuries, first popping up in the writing of Hippocrates 2400 years ago. So why never the lamentable recounts of its horrors in the writings and art of history? One reason is common misdiagnosis. Cancer has long been diagnosed as other ailments, as doctors did not understand the nature of its ravages in the body. Another reason is the death rate. In 1900, the death rate from cancer was 79.6 people per 100,000 cases. By, 1989, that number had doubled to 172 deaths per 100,000. And this is all with the added benefit of modern medicine. So what makes cancer such a lethal mix in the 20th century? The fact is that for as many treatments as science can muster to battle cancer, we have twice as many new hazards in our daily lives.

Prae Lapsus

Today's modern supercities have actually created little meta-environments of their very own. Once you start to get close to a big

city, you begin to see man's changes to the natural habitat; the landscape seems to mutate, as steel spires and concrete embankments rise out of the earth. Industrialization has three effects on the environment which are inescapable. No. 1: Water contamination. Once you employ a sewage system, you are necessarily going to have water contamination: minerals from pipes; chemical agents to sanitize the water; and the obligatory pollution caused by the runoff of any number of industrious factories. No 2: Air pollution: The self-same factories spew soot into the air; and the manufacture of several products releases heretofore unknown elements into the sky as a by-product. No. 3: Food processing. The chemicals we grind into our grub are manifest. I don't even have to elucidate.

Urbanization has an added effect on the biosphere. As mankind is a haven for any number of bacteria and germs, our bacteria jump from body to body when you lump a whole bunch of us together, as you do in any modern ubercity. Remember your first couple of weeks in a freshman dorm? Everybody gets sick until you eventually develop a tolerance for all these new organisms.

Now we must look at the biggest causes of cancer and see how they relate to industrialization:

- Smoking. Of course. When did smoking catch on as a common pastime? The late 1800s. When did industrialization take hold in America, home of the great Carolina tobacco fields? The late 1800s. Cigarette companies were as great a beneficiary of the ability to mass produce its product as anyone.
- Diet. I dare you to find a morsel of food within 500 yards of you that hasn't been treated with pesticides, preservatives, food colorings, or hormones. But none of that withstanding, empirical evidence makes it pretty clear that the foods that we already knew were good for our bodies are the ones that decrease the risk of cancer. Fruits, veggies – all of nature's goodies. Of course, those foods are most effective when they are preprocessed, which makes them harder to preserve, so we tinker with them chemically and genetically.

- Ultraviolet radiation. The biggest cause of skin cancer. Chemicals that the industrialized world has been putting into the atmosphere for years has degraded our ozone layer, which is the earth's natural barrier from these rays.
- Workplace exposures. Asbestos, benzene, formaldehyde, diesel exhaust, and radon, all cancer-causing, have all been common workplace agents in the 20th century.

The rest of the suspected agents of cancer are apocryphal. Doctors can find no definitive link between cancer and power lines, cell-phone use, microwave radiation, electric blankets, computers, TV sets, household cleaners, birth-control pills, nitrate (whew!), or chlorinated water. And I don't mean to suggest they do here. But I would like to look at the accumulation of all those factors PLUS the additives we take in through food, water, and air everyday. Activist Mike Weilbacher estimates that every man's semen contains 35 different kinds of synthetic compounds. He adds that common

human breast milk today contains a mix of pesticides, dioxins, and other things you can't pronounce.

Throwing Technology at the Problem

Let's get back to our guinea species. As Man-A makes his environment more toxic, he notices more and more the prevalence of disease. Bacteria ravage city streets, day-laborers are exposed to whatever by-products help their industries gain capital. Certain precautions must be taken: First, clean-up procedures are introduced, and scientists educate the public as to some of the main causes of the modern diseases. However, the biggest weapon this species uses to fight this disease of industry is the most problematic one: more chemicals. In the ultimate fight-fire-with-fire bungle, many of the cancer treatments commonly used today involve exposing the cancer patient to drugs and/or radiation. Chemotherapy does kill cancer cells, but presently there are more than 50 chemo drugs commonly used to fight off the disease. And almost invariably, those drugs are

used in combination therapies. Radiation treatment is its own hazard. Advances in the technique have made it safer, but you are still irradiating yourself, with always the possibility of mutating a few or more cells. In addition, most side effects of radiation therapy are treated with – guess what? – drugs.

Just for the record, the Industrial Revolution is not the only cause of the modern-day Supercancers. Man is living longer, and cancer is primarily a disease of the old. The old adage is, if you live long enough, eventually everyone will get cancer. But was that always the case? I think not. I think that by now we have a preprogrammed death rate simply because the human body cannot live in Western civilization but for so long. We have introduced so many foreign chemicals into the environment that of course everyone is eventually going to get cancer. We begin feeding it to our babies at birth.

The evidence seems clear. Back when human hubris allowed us to tell ourselves that the earth's resources were unlimited, few pioneers saw the need for conservation measures. The world has started within the last few years, half-heartedly at best, hundreds of

years after the damage began in earnest. But clearly measures will have to be stepped up to make a dent in what has already been wrought. Man can transform his physiology so much that he can actually prove toxic to another man. So how much more toxic have we made the environment, and ourselves, all these years since then?