

# What If All Chemists Quit?

*From the president of the French chemistry society comes this nightmarish tale of science fiction*

**Armand Lattes**

It was decided! At the general assembly of their international conference, chemists decided to cease all work, analyses and activities. This decision was made as a result of incessant, nearly century-long criticisms of their work, thrown at them through the media by consumers, public authorities and interest groups. The chemists were concerned about the public good and preoccupied with the protection of individuals, as well as mindful of the impact of all phenomena—whether natural or not—on the planet. But they could no longer endure the outcast status imposed

their favourite target. Consumer associations applauded the return to a natural environment (which they considered spoilt by chemical activities). Strong personalities—both from the right and left of the political spectrum—did not fail to take credit for the situation, claiming loudly and forthrightly that it was the result of their own action.

For awhile the public hardly noticed any change in normal everyday activity. Curiously, the effect on atmospheric pollution was practically nil: refineries had sufficient reserves of fuel, and vehicles continued to

because of a lack of the technical means to transform it. Thus the government made some unpopular decisions: first a rationing system was introduced, and then stocks were requisitioned for priority sectors such as healthcare, ambulances, the military, etc.

The first winter presented no problems because of the preparations individuals made to keep their gas tanks filled with fuel. But they quickly realized they couldn't renew their supplies when refineries weren't running. Fortunately, many had already chosen the all-electric method, and nuclear power stations continued to operate (without supervision by chemists), providing the energy necessary for modern life. At first, this seemed to limit the consequences of living without fuel.

Nevertheless, there was perceptible dissatisfaction—but among the environmental protection groups who were recording an appreciable decrease in air pollution with the aid of the automatic detection devices that were still operating. Very quickly, however, the reagents required for monitoring air pollution became scarce, and from then on it became impossible to set up any form of detection.

At this stage, the use of alternative methods became widespread. The bicycle became the preferred mode of transportation since cars were abandoned almost everywhere with the exhaustion of fuel supplies. Bicycles were even more welcome now that the absence of motor vehicles meant that cyclists could use bicycle lanes without fear of being knocked down or even flattened. But the increased use of bicycles had an unexpected consequence: abnormal wear on tires. The public highways were in a bad state and were losing layers of asphalt, causing tires to wear down rapidly.

When the tires could no longer be replaced, the bicycles were themselves abandoned, despite the efforts of those who remembered the Second World War and did their utmost to keep them in working order with the limited means at their disposal. In this way, people learned that asphalt is the



on them by society. Society accused them of being responsible for all of the evils they were actually striving, with all their might, to detect and correct.

It was thus with sadness, but determination, that they parted company. They returned to their countries of origin to devote their lives to other activities that they were able to undertake due to their very broad training and varied personal interests.

At first, the decision was unanimously welcomed with exclamations of relief! Ecology groups were happy to see the back of

run and were still causing the usual pollution. Many noticed what chemists already knew—vehicles were the main culprit for contaminating the air. The chemical industry accounts for only a tiny fraction of global pollution.

The first signs of change appeared when fuel supplies began to run out. Without chemists to supervise refining processes, and without analysts to oversee the quality of finished products, crude oil tanks overflowed. It soon became necessary to halt the flow of black gold from its various sources

result of a complex chemical formulation requiring the synthesis of substances that bind gravel and stones together. Tires are also the result of a subtle formulation that is essentially—not to say totally—chemical.

The heating situation became serious at the beginning of the second winter. The second eruption of the Pinatubo volcano in the Philippines had created a difficult situation by polluting the atmosphere to a height of 24 kilometres, and destroying 20 percent of the ozone layer. This caused a dramatic decline in the temperature. Without most of the energy sources they were accustomed to, people modified their installations to adapt them to the old-fashioned methods they were rediscovering, such as:

- Coal primarily, but with scant supervision and the coke works closing, the production of quantities of sulphurous, and even acidic gas became massive—and completely uncontrolled! The results ruined furniture, led to an increase in the number of asthma sufferers, and to the destruction of forests due to acid rain. In addition, there were numerous cases of carbon monoxide poisoning. They were caused by boilers that had been clumsily modified, leading to faulty combustion;
- Wood was also an exploitable material, and more so as a result of the closure of wood pulp-producing paper mills that had made vast quantities available. The country drew on its extensive forest reserves. But these soon started to dwindle given the destruction of numerous areas by acid rain. This process was exacerbated by parasites that had become virulent in the absence of chemical combatants.

Some problems start a chain reaction. An incident in a nuclear power station, linked to the lack of chemical controls in the plant and in the development of the fuel, forced authorities to take emergency measures that quickly led to the closure of all the power stations.

Electricity was in limited supply and available only in rotations. People had to get around on foot and were limited to short distances. This led to the resurgence of their tribal instincts—the wealthy jealously guarded their possessions and were reluctant to share with the less fortunate. As a result, “tribal” conflicts became commonplace and developed into bellicose local regimes. The smallest spark could lead to confrontation.

The chemists’ decision to quit also affected consumers in one of the most essential aspects of their lives—food. It started with shortages of everyday ingredients, such as sugar. This ordinary, inexpensive, and basic chemical product began to disappear because of the complexities in extracting it from beetroot and purifying it. Without fertilizers, there was a massive drop in not only beetroot production, but also in all forms of plant production. Wheat yields were reduced to numbers reminiscent of the nineteenth century. Vegetables became increasingly rare, as they were attacked by Colorado beetles, caterpillars, and other insects. As a consequence, herds of cattle and other livestock were reduced because of a lack of feed and because of diseases that veterinarians could no longer treat without proper medications.

Milk had to be rationed since the means to stabilize it were no longer available. Consumers found the taste of butter rancid without the antioxidizing agents

synthesis—right from the very start of the strike. The public learned that:

- All drugs used to combat AIDS (tritherapy) came from chemical preparations;
- Certain hormones were not natural, but were manufactured entirely by chemists. As birth control pills began to run out, many undesired pregnancies were recorded. The disappearance of televisions (whose components are the result of syntheses) contributed to the high numbers;
- Even natural substances, anticarcinogenic molecules such as Taxotere®, are optimized by chemical modulation;
- Many people were surprised to discover that aspirin was a chemical product! Its absence was cruelly felt, and the substitution of a decoction of willow leaves did not compensate. It only had a limited effect (as has been known for more than two centuries).

Other more or less serious consequences were recorded, perhaps most notably in the manufacture of clothing.



that had helped to suppress it. Cardboard and plastic packaging were no longer manufactured, so without conserving agents to rely on, meat had to be consumed very quickly.

Limited in their movements, suffering from the cold and the heat, and living with the faint light generated by tallow candles (a chemist’s invention), the average life expectancy shortened rapidly. Certain illnesses made a comeback due to the lack of drugs—the majority of which had been produced by chemical

Artificial fibres had virtually disappeared, and with them the varieties of protection they had provided: protection from the cold, from heat, resistance to bad weather, “intelligent” cloth, etc. Natural fibres dominated: wool (despite the fact that sheep numbers were falling and the availability of this material was reduced), and cotton (but since pesticides were no longer available, whole fields of it were destroyed).

People found themselves living in conditions similar to those their parents

and grandparents had experienced during the Second World War. They learned how to re-use waste materials and to salvage the least bit of cloth. Abandoned car parts were recycled, and pants were adorned with seats that rarely matched their original colour. Dyes were a thing of the past and the lack of diversity meant that clothes became drab gray, browns, and off-white due to a lack of detergents. Jeans were no longer manufactured—the artificial blue dye couldn't be replaced by the low quantities of woad crops.

The situation had become intolerable and modes of communication broke down. There was no more paper or printing ink. There were no more radio or television broadcasts—conducting wire and aerials couldn't be replaced, nor could destroyed screens, and there was a lack of electronic components, etc.

Forums were organized to serve as rallying points where people could express their views. A unanimous agreement was reached: a delegation was dispatched to persuade the politicians that this state of affairs must end. They demanded that chemists had to return to work! From far and wide, by horse and cart, and on foot, the delegation was received by a parliament reduced to communicating by foot messenger with the outside world.

A committee headed by two former chemists was charged with the task of meeting with the chemists to persuade them to return to work. This was no easy task as they first had to be located. As the chemists had stated at the start of the conflict, they had all left the profession and become shop and restaurant owners, organists, cooking instructors, sports trainers, priests, soldiers, etc. The general public, stupefied, realized that behind chemistry there were chemists! These men and women, members of their own communities, were sharing their daily ups and downs. And they were respectful of nature and the environment.

At the start of the negotiations, there were hesitations on the part of the chemists who remembered past criticisms. After much thought, they were willing to sign an agreement on the condition that the community accept a certain number of rules, assembled to form a charter. Here are the main articles of this charter:

1. The signatories, having recognized the chemists' positive achievements, undertake to no longer hold either chemists or their speciality responsible for all evils;

2. When necessary, they will recognize chemists' accomplishments, and not (as in the past) attribute their achievements to other disciplines. For example, a medical product synthesized by a chemist would no longer be attributed simply to the field of medicine.

3. Instead of looking for the negative side of a chemical discovery, an objective analysis will be made of its contribution to society before making any statement or taking any stand.

In exchange, chemists undertake to return to work and continue their efforts to establish

an enduring civilization, respectful of humankind and its environment, and guaranteeing the positive effects of progress for future generations.

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