Letters from Readers

Although the following letter is a fiction story, it is unusual enough to be of interest. The original tale, in French, is posted on the Web site of the French Chemical Society. Follow-up stories drafted by students of the University of Cergy Pontoise are also available on the site: <www.sfc.fr>, follow "Les dossiers de la SFC."

What if All Chemists Went on Strike? (science fiction)

by Armand Lattes

The decision had been made! At the general assembly of their international conference, the chemists of the world decided to cease forthwith all work, analyses, and activities. This decision was made in the face of the incessant, nearly century-long criticisms that consumers, public authorities, and interest groups had hurled at them via the media. The chemists, concerned as they were with the public good and preoccupied with protecting individuals, could no longer stand their outcast status. Accused by much of society of being responsible for all evils, these chemists were actually striving to detect and correct them.

It was thus with sadness, but determination, that they parted company to return to their countries of origin and devote their lives to other activities. At first the decision was unanimousy welcomed with exclamations of relief. Ecology groups were happy to see the back of their favorite target, while consumer associations applauded the retum to a natural environment, which they considered spoilt by chemical activities. Strong personalities—both from the right and left of the political spectrum—took credit for the situation.

For a while the public hardly noticed any change. Curiously, the effect on atmospheric pollution was practically nil: refineries had sufficient reserves of fuel, and vehicles continued to run. Many noticed a fact that chemists already knew: the main culprit in air pollution was the motor vehicle. The chemical industry accounts for only a tiny fraction of global pollution.

The first signs of change appeared when stocks of fuel began to run out. With no chemists to supervise refining processes or analysts to oversee the quality of the finished products it was necessary to halt the flow of oil. Thus , the government took some unpopular decisions: first a rationing system was introduced, then stocks were requisitioned for priority sectors such as health, ambulances, the military, etc.

The first winter presented no problems given the precautions taken by people who had kept their tanks filled with fuel. But they very quickly realized that they could not renew their supplies. Luckily, many had already chosen the all-electric method, and nuclear power stations continued to operate (without supervision by chemists). This at first appeared to limit the consequences of having no fuel.

Nevertheless, there was perceptible dissatisfaction—but not in the environmental protection groups who were recording an appreciable decrease in air pollution with the aid of automatic detection devices. Soon, however, there was a scarcity of the reagents necessary for monitoring air pollution, and all forms of detection from then on became impossible to set up.

At the end of this phase, the use of alternative methods became widespread. People began using bicycles and abdandoned their cars as gasoline stocks were exhausted. With the absence of motor vehicles, bicycle lanes could be used without fear of being run over.

But the intensive use of bicycles had an unexpected consequence: excessive tire wear. The bad state of the public highways, which were losing layers of tarmac, meant that tires wore down rapidly. People soon learned that road pavement and tires are the result of chemical synthesis. When tires could not be replaced, bicycles were in turn abandoned.

With the start of the second winter, the heating situation became very serious. The second eruption of the PINATUBO volcano in the Philippines had polluted the atmosphere to a height of 24 kilometers, destroyed 20% of the ozone layer, and caused a violent fall in global temperatures. People, in the absence of most of their normal energy sources, began using old-fashioned sources such as coal and wood.

But with no chemists to supervise the cokeworks, sulphurous, and even acidic gas were produced in massive amounts. This caused an increase in asthma cases and the destruction of forests by acid rain. In addition, there were numerous cases of carbon monoxide poisoning due to clumsily modified boilers.

Wood was still plentiful, especially with the closure of pulp-producing paper mills. France, a country with extensive forests, drew on its reserves. However, these soon ran down given because of acid rain and parasites that had become virulent without pesticides.

Troubles never come singly: an incident in a nuclear power station, linked to the lack of chemical controls in the development of the core or of its environment, obliged the authorities to take emergency measures

that led to the closure of all the power stations. With electricity only in limited supply and with travel limited to short distances, human beings reverted to their tribal instincts: the haves became jealous of what they possessed and were reluctant to share. As a result, "tribal" conflicts became commonplace and bellicose local regimes formed.

The chemists' decision also affected the availability of food. It became impossible to prepare even simple dishes requiring everyday ingredients. Sugar for example, the most common and cheapest, of all chemical products became scarce with out the means to extract and purify it from beetroot. Besides, without fertilizers there was a massive drop in all forms of plant production. Wheat yields were at levels of the nineteenth century, while vegetables, attacked by insects, became more and more rare. The amount of cattle and of farmyard animals was reduced through lack of fodder and medicines to treat diseases.

Milk had to be rationed since the means to stabilize it were no longer available. Meat had to be consumed very quickly as there were no conserving agents, nor cardboard or plastic packaging.

Life expectancy fell rapidly, as humans were limited in their movements, gripped by the cold, and restricted to lighting by tallow candlelight (itself an invention of a chemist). Very quickly certain illnesses came to the fore through lack of medicines—the majority of which are produced by chemical synthesis. Thus people learned the following:

- The only medicines available against AIDS came from chemical preparations.
- Certain hormones, such as birth control pills, were entirely manufactured by chemists.
- Aspirin was a chemical product!

In the area of clothing, artificial fibers had disappeared and with it the variety of materials that protected from cold, heat, and bad weather. Natural fibers became dominant: wool (but sheep numbers were falling), then cotton, but without pesticides, whole fields of it were destroyed.

The situation became intolerable. The population no longer had any means of expressing itself. There was no more paper or printing ink and radio and TV no longer broadcast because wire, aerials, and electronic components could not be replaced.

In response, forums were organized at which everyone could express their views. A unanimous agreement was reached: a delegation would be dispatched to persuade the politicians that this state of affairs must cease and that the chemists had to return to work. Coming from deepest France by differing means, by horse and cart and on foot, a delegation was received at the Elysée Palace.

A committee, headed by the vice president of the Senate and the scientific advisor to the President of the Republic (both former chemists), was charged with persuading the chemists to resume work. But first, they had to be located:

- Pierre Potier had opened an herbalist's shop
- Jean-Marie Lehn was organist at Strasbourg Cathedral
- Robert Carrie was trainer of the Rennes football team
- Armand Lattes, former choirboy, had joined the Capitole Theâtre in Toulouse
- Andrée Marquet had opened her own restaurant
- Robert Corriu was a wine expert
- Pham Tan Luu and Emile Vincent had taken holy orders

Thus the French people, stupefied, discovered that behind chemistry there were chemists. These were men and women, just like them, who were as respectful of nature and the environment.

At the start of the negotiations there were hesitations on the part of the chemists who remembered past reprimands. After due thought they were willing to sign an agreement on condition that the community accepted a certain number of ruies which were assembled in a charter:

1) The signataries, having recognized the positive achievements of chemists, will no longer hold chemists or their specialities, responsible for all evils.
2) Each time it is necessary, chemists will be recognized for their achievements instead of having them attributed to other disciplines.
3) Instead of highlighting the negative side of a chemical discovery, an objective analysis shall be conducted on its contribution to society before any statement is made or stand taken.

In exchange, chemists undertake to go back to work and continue their efforts to establish a durable civilization, respectfui of mankind and its environment and guaranteeing the positive effects of progress for future generations.

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