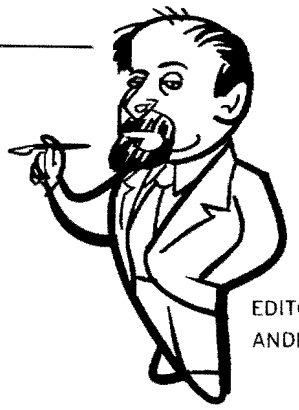
PRO DOMO

SEEING RED



EDITORIAL BY
ANDRÁS HIRSCHLER

No man is a prophet in his own land, except perhaps your Editor. Cast your mind back to my dismal presentiment about our future in the last issue: "Communism has long gone, but ecological catastrophes, apparently inevitable consequences of an over-industrialized world, are here to stay." Just a few weeks later, on October 4, Hungary saw its worst ever industrial disaster when the retaining wall of a huge mud reservoir collapsed in Ajka, releasing a deadly torrent of highly toxic red mud. Ten people were killed and hundreds more injured as the sludge engulfed around 50 square kilometers of countryside, destroying houses, farmland and livelihoods. Reaching two meters in height in some places, the toxic flood covered gardens, cars and homes, as well as wiping out virtually all life in the Marcal river.

The Hungarian government was quick to respond. Rescue work began immediately and a massive clean-up operation was launched three days later. Inhabitants of villages suffering the worst impact of the toxic torrent and forced into temporary accommodation were offered new housing either within the village or elsewhere if they did not wish to return. A protective wall has been built to shield the disaster area from further spills.

The owner of the alumina plant, Magyar Aluminium (MAL) Zrt., held responsible for the red mud disaster, has already pledged to pay up to 5.5 million euros (7.6 million dollars) in compensation to victims over the next five years. Production at the Ajka plant, which was suspended after the collapse of the depository wall, resumed a week later.

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But what the hell is red mud? The horrendous pictures of the disaster looked like hell on earth. In fact, Wikipedia's expert contributors reveal that red mud is a solid waste product of the Bayer process. This is the principal industrial means of refining bauxite to produce alumina, the raw material electrolysed to produce aluminium.

A typical plant produces up to twice as much red mud as alumina and this red mud cannot be easily disposed of. In most countries where red mud is produced, it is pumped into holding ponds. Red mud presents a problem as it occupies large areas of land and can neither be built on nor farmed, even when dry.

In theory, red sludge is collected in a holding pond, where its water content evaporates away to leave a hard pack that can be used for construction projects.

Alumina production is big business in Hungary, and MAL's Ajka plant is not the only facility that stores its red mud in open reservoirs. There are currently 24 such storage pools in Hungary with total capacity estimated at 55 million tons.

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Of these 55 million tons of caustic waste, around one million escaped to ravage three villages when the depository wall collapsed. The National Bureau of Investigations was quick to point a finger at MAL's senior executives for "failing to prepare the measures necessary to protect the lives and safety of people...", and one week after disaster struck, parliament passed a law authorizing the state to temporarily take over Magyar Alumínium Zrt. The state also froze the company's assets. As Peter Krekó from Political Capital explains: MAL is the country's sole aluminium producer and employs 1,100 people directly and 1,500 indirectly. In Hungarian terms, it is 'too big to fail'. Closing the plant would have inflicted economic catastrophe on the area around the town of Ajka. Equally, leaving the old management in place would have sparked a public outcry, and failed to allay fears of a repeat tragedy. The state takeover killed two birds with one stone: production continues, but MAL is now in 'safe hands'.

Academics seem to be more cautious about putting the blame on human negligence alone. Gusztav Winkler, professor at the Budapest Technical University, thinks the problem may lie in the structure of the soil where the reservoir was constructed 30 years ago. "The northern wall is situated on a spot where two different kinds of soil meet... If soil is dampened by rain, it moves, and different soil structures move differently." Other experts suspect underground streams which, due to rainfall well above average in the area, may have washed out key structural elements. Almost all agree, however, that building the reservoir in this area was, by all means, a risky enterprise.

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Constructing a reservoir for toxic sludge is not without risk in any location. "The toxic mess in Hungary should serve as a warning to communities – not just in Europe – but throughout the U.S." warns Matthew R. Auer in *The Providence Journal*. "The Environmental Protection Agency estimates there are more than 600 ponds and dams containing toxic coal ash." Climate change experts predict more frequent major rainstorms in regions like the Upper Mississippi and Ohio River Basins... that are sudden, intense and destructive. The prospect of a combination of more frequent floods and the failure of flimsy retaining ponds is unsettling."

NoMining.com, the information and action site for an Australian ecological pressure group, claims that Western Australia has the largest concentration of bauxite mining and alumina refining in the world. The total area of residue disposal in 2009 was 2002 hectares. "This makes Western Australia the toxic red mud capital of the world." Other major aluminium producers, including India, China, Japan, Russia, all have huge, and in several cases, uncontrolled red mud reservoirs. In Russia alone, more than 100 million tons of red mud has been accumulated to date.

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We cannot live without aluminium. Our buildings, cars, aeroplanes and packaging materials all depend on this light, strong and malleable metal. For aluminium production, we need alumina, for alumina production we need bauxite and the Bayer process. Day by day, millions of tons of red sludge are deposited in old or newly built reservoirs.

You don't have to be a prophet to predict the consequences. Perhaps the best you can do is get on your knees and pray. ■