

Agenda: Disasters bring the technological wizards to heel / Chernobyl, Challenger and the Ch-Ch Syndrome

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Body

The Russians cannot run a safe nuclear power system. The Americans cannot run a reliable space-rocket system. Challenger and Chernobyl were not 'accidents.' Both were disasters waiting to happen. Chernobyl had its precursors at Windscale (now Sellafield) and Three Mile Island; Challenger its successors in Titan and Delta. This is the Ch/Ch Syndrome: the catastrophic collapse of sophisticated mega-technology resulting from political pressure, incompetence and cover-up.

The environmental and human consequences of Chernobyl are vast in comparison to those of Challenger. But that is partly a matter of luck. If the Challenger flight had carried the 20kg of plutonium scheduled for the next, the rocket disaster could also have been a radiation catastrophe.

The immediate policy consequences of these events are not slow in coming. The two great post-war programmes of State-supported mega-technology are now crippled. The American space crusade, civil and military is grounded for the foreseeable future. The Soviet nuclear power programme, the intended workhorse of an overstrained economy, is stalled. Both accidents made the world more dangerous. A blinded and wounded America is all the more likely to strike out wildly; and a Soviet bloc deprived of hope of common material advancement is more vulnerable to its many destabilising stresses.

The Ch/Ch Syndrome affects more than post-war mega-technology; the very place of science and technology in our civilisation is put into question. Hitherto, acquiescence in mega-technology has been secured by the cult of expert infallibility. Drawing on the charisma of science, corporate experts have operated on the assumption that error by them is not merely impossible, but strictly inconceivable. This delusion has been exposed by the display of total ignorance and gross incompetence when things do not proceed according to plan. Further confirmation is provided by the subsequent revelations of external political manipulation, and corruption of quality control.

It is no longer feasible for ruling elites to employ experts for persuading the public that their policies are beneficial, correct, inevitable, and also safe. The Ch/Ch Syndrome amounts to a mortal blow at the scientific foundation for the legitimacy of the modern mega-technological State. We have been witnessing growing concern about the powers of science and scientists, and their perceived immunity from social and ethical accountability (as in biological engineering). Now the problem is aggravated: hubris is mixed with incompetence. Our previous fears that the grand technocratic projects might work, taking society along unknowable paths, are now compounded by the new fears that they might not work, with a multitude of catastrophic consequences.

A new social contract of expertise is now taking shape. Just as the generals cannot be entrusted with the sole conduct of war, the experts must now yield to effective public participation in technological policy decisions. They can no longer shelter behind impenetrable technicalities and corporate secrecy.

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The new social contract of expertise will entail a review of the character of scientific knowledge. There is no question of denying all objectivity to science. But we shall have to recognise that ignorance and error interact with knowledge and power more intimately than was ever conceived hitherto.

This is the lesson of the Ch/Ch Syndrome for policy making. Approaches to managing our technologies must be based on coping with ignorance at least as much as on the application of knowledge. The exercise of prudence and integrity, as moral commitments, are essential to the proper conduct of expertise in quality-control, accident-prevention and the protection of the public.

Science, seen as knowledge performing special social functions, will change rapidly in the light of the Ch/ Ch Syndrome. This does not mean that our civilisation will, should, or can abandon science. Our situation is analogous to the late-medieval world described by Umberto Eco in Name of the Rose. Then, theology and its associated erudition had lost their inspiration. The decay was reflected in a local disaster: the monastery fire that started in the library. In our late-modern world, science and mega-technology have produced Challenger and Chernobyl. In our transition period as in Eco's, the future structures of belief and of power are scarcely discernible. But change is inevitable, as well as urgently necessary.

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