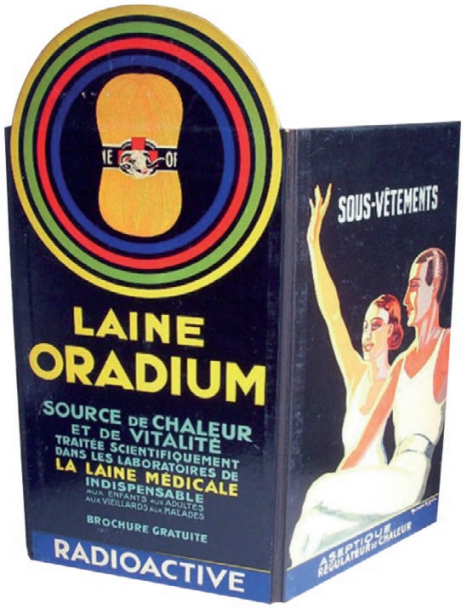
The constant tension between the press and nuclear power

Sylvestre Huet, author of the blog {sciences^2}



Informing the public, as with the role of scrutinizing and challenging that the press embodies, or should embody, finds an additional dimension in nuclear power. Indeed, the technical nature of the subject requires an effort of explanation and scientific outreach in order to help citizens form their opinion. However, history has shown that in the field of nuclear energy, the press has had difficulty playing this role, to the extent of being responsible for clear cases of disinformation.

Nuclear power has come to symbolize the ambivalence of technology. It has the potential to provide enormous benefits yet its loss of control can lead to intolerable devastation. The question of whether to use it or do without it is therefore not only subject to the ability to use and control it, or simply its usefulness, but also that of its social acceptance. In a democratic political system, such as is the case in France, it must also satisfy the will of the people, as expressed by the popular vote when legislators and elected representatives are chosen.

This requirement seems simple but comes up against a number of difficulties, including the quality of information provided to the public. For democracy not to be an illusion, choices must be made "in full knowledge of the facts". This democratic prerequisite, in this case, cannot be limited to the often caricatural form of "declaration of principles", on a double-sided page, distributed shortly before the election of the people's representatives. Does the press, which is supposed to make a decisive contribution to democratic debate, play its role in the debate on nuclear power?

Public subjugation

The story of this question goes back more than half a century, with not very encouraging precedents. The discovery and first uses of radioactivity led to the publication of articles extolling the "benefits" of radioactivity in … drinking water. By the early 1950s, the "technological promise" dominated. Magazines and journals uncritically promoted adverts for nuclear cars and rockets, spreading the illusion of unlimited and almost free electricity. Opinion then diverged into two opposing standpoints. When the French nuclear program was launched in 1974, it was either presented as a panacea capable of solving all the country's economic problems … or, conversely, it was presented as a path that would inevitably lead to the subordination of the people in a police state, subject to secrecy and destroying individual and collective liberties.

Misinformation and disinformation

Recent years have not been much better. The accident in Fukushima in March 2011 gave rise to many blunders and misinformation that are of interest to media sociologists. In March 2016, Le Figaro announced that children's thyroid cancers were due to radioactive contamination, but this was a confusion between epidemiological incidence and systematic screening[(a)]. This misunderstanding was found in the majority of articles on the subject, despite the clear warning of specialists. The Institute for Radiological Protection and Nuclear Safety (IRSN) in a document intended for journalists and the public stated that "only if the annual incidence of thyroid cancer in children increases from 2016-2018 (or during subsequent periods) can a link with the Fukushima accident be made".

Le Nouvel Observateur, in August 2012, sounded the alarm: "It's a small pool - and a potential global disaster. A concrete cube 11 meters deep, filled with water and stuffed with spent nuclear fuel: 264 tons of highly radioactive rods!

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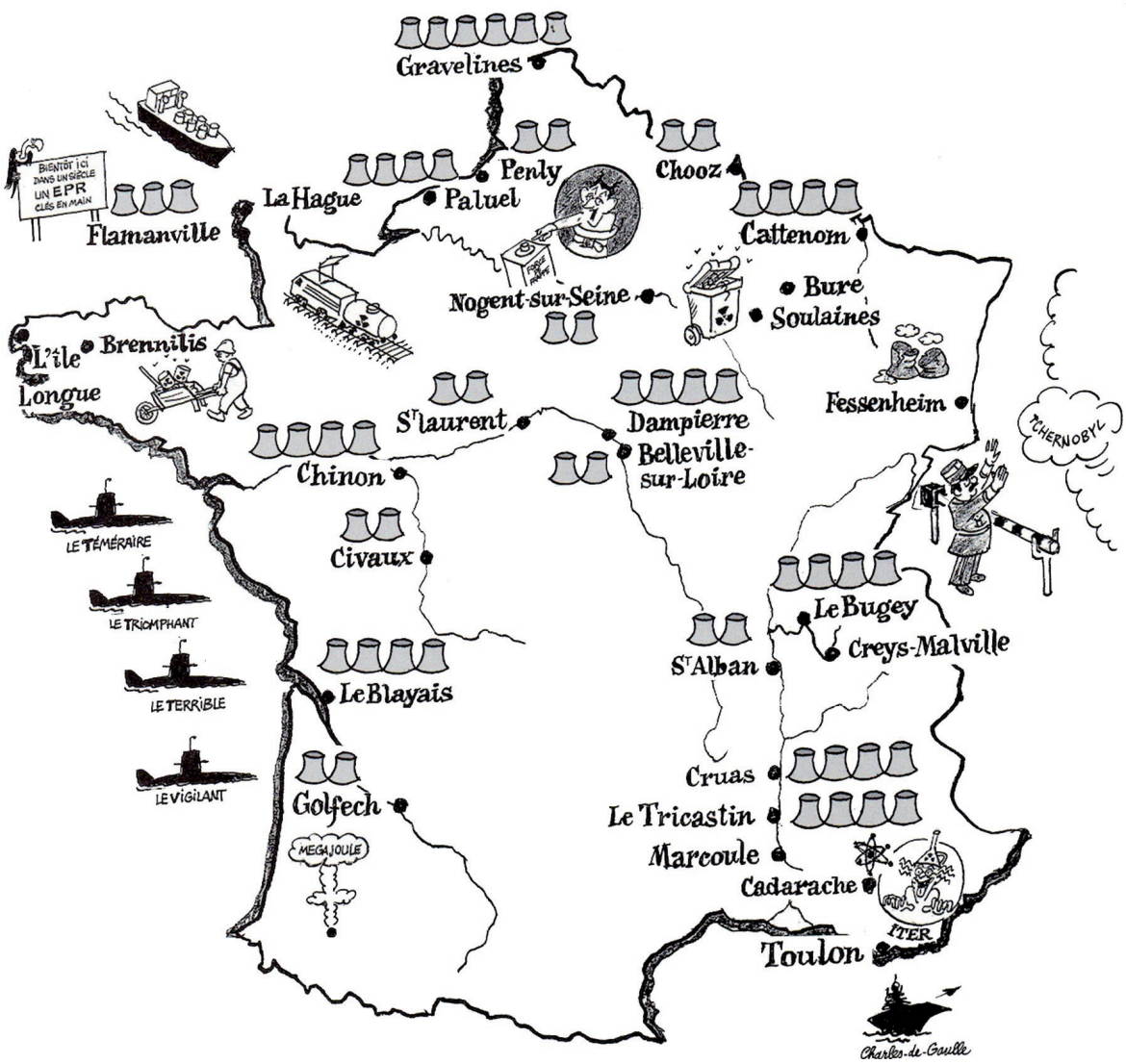

Civil and military nuclear power in Sarkozy's France, illustrated by Cabu. Research reactors, such as the Laue-Langevin Institute situated in Grenoble city, are not shown.

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For a year and a half, this so-called 'deactivation' basin has been resting thirty meters above the ground on the shaken building of reactor number 4 of the Fukushima-Daiichi power station. It is no longer protected by a solid roof or walls, but by a simple white plastic sheet." At the time of publication of this alarmist article in Le Nouvel Observateur, the pool was covered with a 60-tonne metal structure and not a plastic sheet. It will eventually be completely emptied of its nuclear fuel. Among the erroneous press coverage of the Fukushima accident, on the anniversary of the event in 2016 the French newspaper 'L'Humanité' attributed the 20,000 deaths of the March 2011 tsunami to the nuclear accident.

With this sort of treatment, is it any wonder that, according to the IRSN's annual sociological survey[b], a majority of French people consider the Japanese accident to be "more frightening" than Chernobyl, which had a much more serious health impact?

Rational considerations

The manufacturing anomaly on the lower head and closure head of the Flamanville EPR reactor pressure vessel resulted in hundreds of articles being published. Most of them preceded the work of analyzing the consequences of this anomaly on the vessel's ability to perform its function. Suggestions or claims that the vessel could certainly not be used ultimately turned out to be poor "intelligence". Following the authorization given by the Nuclear Safety Authority (ASN) for the vessel to be used, all that remained was the accusation of collusion with the manufacturers to justify the articles published beforehand.

The public debate on the economy or an assessment of the advantages and disadvantages of the nuclear choice for France is still burdened by a fueled ignorance. When the Court of Auditors provides a very thorough assessment of the costs of nuclear power since its inception[c], the press emphasizes the billions but doesn't compare them with other possible sources of electricity. The former "levies on profits" and the

subsequent billions of dividends paid to the State since 2006 by EDF, which mainly come from nuclear power production, are ignored. A simple calculation, such as comparing the cost of the "big refit" and post-Fukushima measures to the cost of an identical investment in generation capacity to ensure continuity of supply, is never made (see box, Ed.).

As a result, Le Monde headlined with a mysterious "French Obsession" to explain the choice of a majority nuclear base for electricity, made since 1974 by all governments and parliamentary majorities. It even suggested military nuclear power as the source of this obsession. However, the economy, the cost of electricity for businesses and households and the original intention to loosen the grip of external forces - financial and oil supply - are enough to explain this choice by questionable but logical reasons.

Since the international community became aware of the climate problem, the crucial advantage of a carbon-free source of electricity has been added to these considerations. However, IRSN's annual sociological survey indicates that nearly half the French public continues to believe that nuclear power plants contribute "a lot or enough" to climate change. While the press is not solely responsible for this gross misunderstanding, how can it be totally exonerated from this pitiful lack of basic knowledge on this crucial subject?

Public Conversation

Why is the press doing such a bad job on this subject[d]? There are many reasons, from ideology to incompetence, as well as the objective difficulty of the subject, which requires an investment of time rarely available to journalists. These are compounded by most editors' total disinterest in technology, and often even in the industry's infrastructure. Is the press alone responsible for the state of the democratic debate on the subject?

That would let off the nuclear industry far too lightly. The latter have often used and abused the language of advertising by hiding the real difficulties, such as the recurrent image of nuclear waste reduced to the volume of an "Olympic swimming pool". Considering the magnitude of the Industrial Center for Geological Storage (Centre Industriel de stockage Géologique, Cigéo) project to bury this waste - underground galleries of several dozen kilometers, caverns of several hundred industrial-size surface facilities - the deliberate deception is clear. Although the law and the rules oblige the industry to report every incident to the authorities, the rhetoric is routinely aimed at minimizing the risks. For every incident or technical problem encountered, the industry prefers to use language typical of an advertising or propagandist approach, to the detriment of detailed and honest information. From personal experience, many EDF managers consider the French (and even journalists) too "stupid" to understand the technology they use. Hence the use of advertising slogans rather than reasoned explanation. If industry always appears to react to information disseminated by ASN and IRSN, it is because they never take the initiative to report on the problems they encounter and even less on their errors or mistakes, as was seen in the case of the falsification of documents relating to the manufacture of heavy components at the Creusot Forge plant, before and after its acquisition by Areva.

This attitude is in contrast to that of ASN and IRSN which, on the other hand, are valuable sources of reliable information for journalists. At the time of the Fukushima accident, the soothing words of the management of Areva and EDF were in sharp contrast to those of ASN, which were realistic about the scale of the disaster. However, we should point out a paradox: the severity and ability to "speak the truth" of the ASN (independent administrative self-rule since 2006) and IRSN may be seen as a positive effect of the very high safety requirements of the French people, as demonstrated by the media coverage of nuclear risk and its shortcomings. ▮

Data for the calculation proposed by Sylvestre Huet

The Court of Auditors estimates that a "major refurbishment" will cost 100 billion euros (75 in investment + 25 in operation) by 2025, i.e. approximately 1.7 billion euros per reactor. However, by 2025, 34 reactors will reach the 40-year limit which represents 31.6 GW installed capacity, to be replaced if they are not refurbished. This would require the construction of about twenty 1.6 GW EPRs. Assuming the cost of an EPR in ongoing production falls to 5.6 billion euros (i.e. 3500 euros/kW installed), the total cost would be around 112 billion euros. The two estimated costs, although only an approximate order of magnitude, are therefore comparable. However, building some twenty EPRs over the next seven years would appear to be an impossible task. If wind or photovoltaic power is developed instead, the costs of additional natural gas installations to compensate for intermittency, and the restructuring of the grid to accommodate the peaks in production which must be absorbed so as not to lose the electricity produced, must be included in the calculation[e]. The other solution is to reduce electricity consumption[f].

Thanks to Roland Lehoucq, Ed.

a. Routine screening shows an incidence of 11 thyroid cancers per 100,000 children per year in the Fukushima prefecture compared to 23 to 130 in three other prefectures (Aomori, Hiroshima and Yamanashi) free of contamination for the period 2011-2014.

b. http://barometre.irsn.fr/barometre2017/#page=1

c. See the article by A.-S. Dessillons (p. 29).

d. Editor's note: see at the end of this issue (p. 62) some examples of competent press articles, which include criticisms of nuclear power.

e. See the article by J. Percebois (p. 52).

f. See the article by N. Maïzi and F. Briens (p. 49).