Nuclear as public technology from the 1940s to the 1960s

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Nuclear as public technology

- Public discourse developed by journalists, scientists and engineers –
- As early as in the late-1940s, civil nuclear energy started to become discursively constructed in the public realm as something that can be linked with societal progress.
- As an energy technology it fitted into a post-war public discourses on technological modernization and dreams of wealth in general
  - on the shortage of energy and fears of dearth in particular:
  - relationship to the environment, to disasters and to weapons,
  - the release from the bonds of energy shortage, tinkering, national pride, consumption, personal benefit and the sublime.

Nuclear power as imaginary

- The “Atom Train” conceived by pacifist Joseph Rotblat, the only physicist to resign from the Manhattan Project on principle, toured Britain in 1947. Audiences were large.
- Large-scale exhibitions that featured nuclear technology as a peace-making and future-saving force featured all over Europe, from the Deutsches Museum in Munich to the Science Museum in London,
  - the idea of atomic energy that would enable a bright and prosperous future. These exhibitions had a technopolitical function and purpose, they were designed to create public trust in an emerging technology.
- In December 1953, President Eisenhower’s famous speech delivered to the UN General Assembly in New York City kicked-off the Atoms for Peace-campaign on December 8, 1953.
  - This could both have the image of an altruistic offer to assist the launching of nuclear energy program and serve as a strategy for gaining control and hegemony over the nuclear research and development activities of their allies in Europe. Each of these qualities helped to shape a public image for the technology.
  - In this context Disney first made an animated film “Our Friend the Atom” in 1954 and then aired it on his new television channel in 1957.
- First International Conference on Atomic Energy in Geneva in August 8–20, 1955
- World’s Fair in Brussels in 1958 that saw the “Atomium” as its icon, exposition’s motto of “progress of humanity through technological progress.”
- Through those media the sociotechnical imaginary was fueled by visions where atomic energy would be ubiquitous, abundant and drive new lifestyles through the use of nuclear-propelled cars, ships and airplanes, and through a revolution of the agrofood industry.

Second Industrial Revolution

- This “second industrial revolution” came with a challenge. The failings of the earlier industrial revolution were well known.
  - To social democrats, who were the dominant users of the term, it expressed the need to do things better this time around, better for the workers, for citizens and indeed for the environment.
  - The engagement of trade-unions, popular newspapers and political parties showed how broadly spread was the engagement with this challenge.
- Norbert Wiener *The Human Use of Human Beings* included a chapter on the second industrial revolution that would be brought about through cybernetics.
- In the US, in Britain, in Germany and elsewhere the promise of nuclear power was linked to automation in reflections on the new industrial revolution. In part this followed from the coincidence in timing between the peak discourse about automation with the summer 1955 Atoms for Peace conference.
  - In October 1955 The US Congress held widely cited hearings on “Automation and technological progress”. There the Vice-President of the Ford Motor Company suggested automation was just one of a family of new technologies emerging in “plastics, electronics, atomic energy and so forth”.
- The approach of British newspapers was reviewed in 1955 by a Swedish journalist who was asked to look principally at public attitudes to automation. He reflected: “Behind the way the subject is presented there is a hope that Britain may, by a combined progress in nuclear energy and automation, lead a ‘second industrial revolution’ and appear as the leader, or at least secure her standing as a leading industrial power, in a new age. In this way, automation ‘catches on’ sometimes, perhaps, at the expense of a number of realities.”
- In Germany the former radar engineer Leo Brandt wrote a paper for the meeting of the Social Democrat Party (SPD) in the spring of 1956 entitled the “second industrial revolution.”
  - Germany’s leading physicist and science spokesman Werner Heisenberg was an outspoken campaigner for atomic power.

Foreign ministers commission Spaak – Messina meeting,
nuclear power as symbol of the future (1955)

- 3. Le développement de l’énergie atomique à des fins pacifiques ouvrira à brève échéance la perspective d’une nouvelle révolution industrielle sans commune mesure avec celle des cent dernières années.

The promise of atomic energy

- The promise that atomic energy would secure social progress through cheap energy and technologies for the improvement of agriculture, food production and public health emerged as an imaginary that legitimized further state intervention and activities as patron of scientific activities and new science research institutions.
- At the same time, it was an important push to the industry to bypass its initial reluctant stance. Public pressure was a driving force for the rise of atomic power which in turn in some cases also meant that the development of technical alternatives to nuclear energy were blocked or neglected. In countries like Greece or Austria research on atomic and nuclear physics emerged through institutions that were established exactly in the context of the post ‘Atom for Peace’ era.

Austria, Greece

- Austria, public discourses promoted by physicists and politicians alike were dominated by an emphasis on the importance of nuclear physics research in promoting technological change, technological progress and eventually improvement of the daily lives of people.
- The establishment of the Greek Atomic Energy Commission (1954) and the Nuclear Research Centre 'Demokritos' were important institutional innovation aimed to build research facilities and the local scientific communities as part of the agenda of a modern state in post WWII Europe.
    - USA sought to structure and influence scientific expertise and European epistemic communities according to their interests through reconstruction projects and directed aid programmes.
- With the support of the USA as well as political patronage of Queen Frederica and the Greek Palace, the scientific community of nuclear and atomic physicists emerged as an important group of experts.
- It too promoted atomic and nuclear research for peaceful purposes and positioned itself as a critical group, whose research would contribute to the modernization of the Greek state. State building processes, the diffusion of western values and the formation of scientific institutions around the development of nuclear energy emerged synergistically.
    - Greek Junta (1967-1974). The Junta's public statements and plans prioritized the establishment of a nuclear power plant for energy purposes while from 1972 plans for a large-scale use of the nuclear power energy with the establishment of 10 nuclear power plant by 2000. Junta's regime aimed through an emerging techno-nationalism to establish Greece and a public representation of the country as an energy hub of the Balkans.
    - The Junta's public plans and imaginaries acquired momentum and influenced the public discussion and public policies – albeit in substantially smaller scale - during the early years of the restoration of the democracy

Local anxieties

- Even during the 1950s and 1960s, there were emerging anxieties and ambivalences in relation to risk and the vulnerabilities involved in the construction of a nuclear power plant.
  - The planning enquiry into the Bradwell nuclear power station in 1956,
  - nuclear research center in the forests close to Cologne, but met fierce local resistance
- Arguments that stressed the constraints, the economic risks and the unknowns in relation to the risks that those technologies did engage the societies.
- In Greece, in the 1960s. Major concerns and sources of ambivalence were the supposedly high costs and the dependency on both foreign technologies and resources. The critical voices from the public in combination with the lack of a clear and directed state energy policy help to explain, why the envisioned nuclear power plant was never built.
- Austria during the 1960s, emphasis on economic rationalism contributed to questioning views that promoted nuclear energy research and the establishment of infrastructures of energy generation.
- the 1960s saw widespread growth of construction and planning of new reactors across western countries. Even then, and where polls were not available, governments and companies had to weigh the responses of virtual or imagined consumers to various other scenarios, including electricity shortage, as well as to the introduction of nuclear power stations.