

6 Hydropower for a Sealess Nation

Representation of Water Energy in Czech Visual Culture

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Abstract

Post-war Czechoslovakia preferred to rely on water resources in its energy policy. This study analyses the role of art and media in the country's communication of its turn to hydropower. Rivers are approached as envirotechnical landscapes that can (re)define modern national identities since they served as lines of communication, economic commodities, and a representational medium, helping to conceptualize ideas of the nation. Accordingly, media and art relating to the construction of dams supported the circulation of knowledge and exploited the symbolic potential of dams as energy sources and as a solution to the national trauma associated with the lack of access to the sea. Industrial films about hydropower contributed to understanding the profound economic paradigm shift from capitalist to socialist order and significantly shaped ideas on the possibilities of turning nature into a source of energy.

Keywords: resource cultures; envirotechnical landscapes; water energy; post-WWII reconstruction; Czechoslovakia

A poetic documentary about the Vltava River, *Příběh staré řeky* (*The Story of an Old River*, 1957) by director Jiří Lehovec, was created by chance. Lehovec, one of the avant-garde-minded Czech filmmakers of the interwar period, participated artistically for several years in other cinematic pieces on a similar topic before completing this film – Svatopluk Studený's *Povážské stupně* (*Váh Degrees*, 1955) and *Vodní díla v Československu* (*Waterworks in Czechoslovakia*, 1956), commissioned by the Technoexport company as an audiovisual promotion of Czech hydropower and especially water turbines abroad. In parallel with these informative promotional films with a technical

focus, Lehovec thought about a film that would portray the phenomenon of the Vltava River more comprehensively, not just in terms of the energy potential acquired by modern water management technology. As the author of the photographic screenplay for *Botič, potok chudých* (*Botič, the Stream of the Poor*, 1935) and the director of a movie about the progress in regulating rivers and dam building, *Zkrocený živel* (*Tamed Element*, 1938), Lehovec viewed the river phenomenon for a long time, primarily as a vehicle of social life and as a part of the landscape. *The Story of an Old River* links these two interests with other dimensions of the river's meaning, namely poetic, industrial, technological and economic.

It is symptomatic of Lehovec's approach to emphasize the river in its ambivalent unity. He reflects on the eradication of old villages and the creation of a new hydropower plant (a new energy source) with the same calmness and humility, aware of the naturalness of the change in the historical cycle of the river. He is fascinated by the poverty of former villages, by their churches and the traditional peculiarity of some houses, by the romantic countryside, as well as by the dangerous work of the rafters, the design of the giant dam, the hydropower plant's technological equipment and the vicissitudes of the water element. Considering all partial aspects surrounding the river at that stage of its preparation for the exploitation of the energy potential in overall harmony, Lehovec understands the Vltava as an "organic machine."

Environmental historian Richard White uses the same metaphor in 1995 to explain the meanings of the Columbia River in the United States. White notes the growing industrial mechanization of the river, however, he does not interpret it as evidence of the triumph of technology and the human element of nature, but rather in the sense of new trends in engaging nature and converting its energy to other forms. Humans, according to White, in this case did not destroy, but rather changed nature, and their impacts on the river are undistinguishable from those of environmental forces. "To say that there should be thousands of chinook and sockeye salmon passing upriver on a given day is perhaps to miss the point. If this were the old Columbia River system there should be salmon, but this is a different river. It is not the river the salmon evolved in. This new river produces carp and shad,"¹ claims White, freed from the need to evaluate certain aspects of the river's development either as negative or positive. That is to say, the river is both natural and cultural; it is an organic machine. Sara B.

1 White, Richard. *Organic Machine: The Remaking of the Columbia River*. Hill and Wang, 1995, p. 90.

Pritchard offers a profound deepening of White's concept by accessing the French Rhône River as an envirotechnical landscape, defined by specific envirotechnical systems and regimes and adding culturally constructed beliefs to the interplay of factors influencing its function.

According to Pritchard, rivers and their management are interwoven with political questions, economic debates, cultural ideas, and social struggles. More importantly, in her approach the history of the river reveals that "ideas about nature, technology, and their relationship infused conceptions of the nation."² Developments of certain envirotechnical landscapes thus, in her opinion, can be analysed as redefinitions of the identity of modern national states. The image of the river, or any other envirotechnical landscape, changing throughout history, however, is constantly constructed and reconstructed by external agents – politicians, scientific and technical experts, environmentalists, journalists, artists, as well as ordinary people.

In the Czech national imagination and consciousness, the Vltava River plays a similarly crucial role. But not only the Vltava alone. As a part of Central Europe, Czechoslovakia strongly identified itself with the whole Central European waterway system, and its regulation was one of the most prominent political and technological priorities. Despite the evidence that the construction of dams and the regulation of river flow generally reduces the intake of sediment and thus increases the likelihood of erosion of the river bed, including gravel, which is thought to contribute to creating an ideal environment for spawning, and the undisputable fact that dam and hydropower plant construction projects meant the flooding of former villages and often violent destruction of indigenous communities, in the public discourse, this social and environmental damage was balanced by the advantages that the reduction of flooding or conversely dramatic drought has for farmers. In the set of influences rectifying the image of rivers and other envirotechnical landscapes like ambivalent phenomena, media and the arts play a vital role. Therefore, the explanation of why, despite these negative aspects, waterpower plants and dams are still perceived as an unproblematic part of everyday Czech life is hiding in the cultural imagination that surrounds rivers, waterways and, generally, water as a source of energy.

In order to highlight the role of the social and cultural background in the economic processes from a historical perspective, contemporary archaeology

2 Pritchard, Sara B. *Confluence: The Nature of Technology and the Remaking of the Rhône*. Harvard University Press, 2011, p. 9.

and historical anthropology introduced the concept of *ResourceCultures*.³ This concept enables historians and anthropologists to point out that different things were considered as significant (re)sources by different cultures and societies at different times, and go beyond traditional resource categorization such as renewable/non-renewable, limited/unlimited, recyclable/non-recyclable etc. From this perspective, resources are understood as “parts of networks composed of people, objects, technologies, and knowledge,”⁴ and can be explained within the complex of political-economic relations, scientific and technological developments, geographic conditions, social and cultural dynamics, as well as practices of usage.

Although historical anthropology by its nature deals with very old cultures and societies, the concept of *ResourceCultures* is relevant to recent history as well. Above all, it is bridging political-economic and sociocultural perspectives on resources, and as such it provokes explanations of resource use as being embedded not only in political and economical decisions, but also in technological developments, knowledge formation, as well as in the cultural beliefs and social practices of specific communities. To understand how the meanings are assigned to resources through cultural beliefs and social practices, and to explore the dynamics of this symbolic construction in its complexity is no less useful in the modern history of Western societies, where the construction and validation of symbolic ideas and beliefs was importantly catalysed by culture, arts, and media. Cultural artefacts and media as vehicles of the national imagination and knowledge formation can, if conceived as an insight into complex political, economic, social and technological relations, reveal how the concept of a particular resource in a given cultural context transformed and what factors contributed to dampen the controversy related to it.

Water Culture

Besides coal, twentieth-century Czechoslovak energy politics was most closely identified with water, the reason being the importance of water resources (rivers, ponds and lakes) in the national culture and imagination.

3 Bartelheim, Martin, et al. “‘ResourceCultures’ – A Concept for Investigating the Use of Resources in Different Societies.” *Persistent Economic Ways of Living, Production, Distribution, and Consumption in Late Prehistory and Early History*, edited by Alžběta Danielisová and Manuel Fernández-Götz. *Archaeolingua Alapítvány*, 2015, pp. 39–50.

4 Ibid.

As a state whose borders do not touch the sea and from which all the rivers only flow out and none enter it, Czechoslovakia always struggled not only with specific natural conditions, but also with many national frustrations. As a small, densely populated country often plagued by floods, but also severe droughts, a country with no colonial ambitions, Czechoslovakia dreamed about its own sea. The idea of the Czech sea, evolving as a specific concept since at least the mid-nineteenth century, cumulated in a series of sometimes conflicting small Czech national ambitions – from seafaring to political projects, economic recovery solutions, and business plans, to visions of tourism development.

Visual culture historian Petra Hanáková explains how culture has become a projection screen for unfulfilled longing for a Czech sea with an example from a popular Czech mock-biopic film, *Jára Cimrman, ležící spící* (*Jára Cimrman, Lying, Sleeping*, 1983). Hanáková recalls the scene where the main character, a Czech genius and in a way a caricature of a national hero, decides to lay the sea at the feet of the Czech capital – Prague. In this scene, set in 1897, an enormous panorama is extended between two Renaissance houses in one corner of the Old Town Square in Prague, and a patriotic speech at the opening of the event reminds the crowd that “this sea was not given to us by nature as with other nations, but by the genius of the Czech artist.” Cimrman’s sea – depicted as a panorama – Hanáková argues, functions here as both a “tangible screen, and elusive ideal, a screen infested with dreams, ambitions and desires, a screen which offers a condensed metaphor for visual culture working as a compensation for lack, inadequacy, and trauma.” In the imagery of a Czech sea, Hanáková reveals the distress of a small nation, a small country at the mercy of neighbouring political and cultural superpowers throughout its history, as well as the effort to compensate for this smallness and oppression through an investment in culture.⁵

This scene from the film emphasizes the compensation role of a culture which here actually literally replaces what for various external reasons does not exist. Culture, here in the form of a panorama’s canvas, was at the time an entirely new medium of an enhanced and immersive vision. The playful imagination of its creator (an artist) represents a conflict between progress (visual novelty) and tradition (its performance and theme), but it also soothes and alleviates the internal discord and the social trauma felt by a nation whose borders do not touch the sea. Moreover, Cimrman typically

5 Hanáková, Petra. “The Seas and Skies of Bohemia: Projections and Inventions of the National Space.” *EutROPEs: The Paradox of European Empire*, edited by John W. Boyer and Berthold Molden, University of Chicago Press, 2015, pp. 335–58.

does not stimulate the imagination of its viewers through the return to the past, to history, but wants to bring them to the amazement of utopia by displaying the improbable.

In conceptualizing Central Europe, to which Czechoslovakia (or the Czech lands) belong, the idea of a water(way) has wound like a red thread since at least the late eighteenth century, proving that culturally defined envirotechnical landscapes importantly contribute to the national imagination. The polarity of the Rhine and the Danube, more recently elaborated, for example, by Claudio Magris, was for the first time introduced by historian and publicist Constantin Frantz as crucial to his model of spacious Germanness.⁶ German economist Friedrich List then proposed his concept of Central Europe as based on the idea of a customs union interconnected through a complex transportation system,⁷ and as Henry Cord Meyer reminds us in his *Mitteleuropa*, such thoughts about the importance of ports and canal building were present in the Central European discourse throughout the entire nineteenth century.⁸ Although considered more or less as hopeless visions, such projects as Rhine-Main-Danube, Oder-Danube or Elbe-Moldau-Danube canals were enthusiastically discussed in contemporary newspapers, and even the intellectual history of the Czech National Revival shows us how deeply the Revivalist concept of Czech national identity was rooted in Johann Georg Herder's idea of the *Mitte/mittel*, the centre/middle, considered as Slavic, and spread from Balaton to Balt, along the Danube, from Sava to Volga,⁹ and how it in various text formats shaped popular Czech imagery in the nineteenth and early twentieth century.

A waterway network was also crucial for the very first visions of an integrated Central Europe, which in the early 1920s was enjoyed by Czech diplomatic patronage, business, as well as the intellectual elite.¹⁰ "To define our relationship to the sea" was a topic of the first public debates in the independent Czechoslovakia after 1918 and led to the founding of the Czechoslovak Shipping Company in 1920. Stating that "it would be a mistake to believe that the sea is of no importance for us just because it does

6 Ehmer, Manfred. *Mitteleuropa: Die Vision des politischen Romantikers Constantin Frantz*. Tredition, 2012.

7 List, Friedrich. *Das nationale System der politischen Ökonomie*. Cotta, 1841; Brechtefeld, Jörg. *Mitteleuropa and German Politics, 1848 to the Present*. Macmillan, 1996.

8 Meyer, Henry Cord. *Mitteleuropa in German Thought and Action, 1815–1945*. Springer, 1955, p. 75.

9 Kollár, Ján. Qtd. in Macura, Vladimír. *Znamení zrodu a české sny*. Academia, 2015, p. 159.

10 Janáč, Jiří. *European Coasts of Bohemia: Negotiating the Danube-Oder-Elbe Canal in a Troubled Twentieth Century*. Amsterdam University Press, 2012.

not neighbour us,"¹¹ the company brought together domestic elites across disciplines, from entrepreneurs to tourists, university professors and artists,¹² to join them in a nationwide societal movement, whose leaders openly reflected on the longing for the sea as a part of the national imagination, and through its activities wanted this idea to escape from the realm of fantasy.¹³

What is important, however, is that since the very beginning of the company's activities, close links to culture were declared to be an irreplaceable part of its identity. Primarily they looked for visual culture, mainly cinema. The company celebrated its establishment in one of the most luxurious cinemas in Prague's city centre, Světozor, with slides and films accompanying the opening speech and a lecture explaining the plan of creating a Central-European waterway network and the possibilities of hydropower. The ceremony was attended by the president, Tomáš Garrigue Masaryk, who also gave a donation to the company and affirmed the prestigious status of the event. Topical films depicting the Vltava River, such as *Inspekční cesta ministra Staňka z Prahy do Ústí nad Labem* (*Minister Staněk's Inspection Trip from Prague to Ústí nad Labem*) and the well-known *Svatojánské proudy* (*St. Johann's Rapids*, Antonín Pech, 1912) were screened, together with a film about serial shipbuilding in the United States.¹⁴ Since this event, the paths of culture, namely film and hydropower in Czechoslovakia, have remained admirably intertwined.

There were two major proponents of the Central European waterway regulation project: Hugo Vavrečka and Antonín Smrček. Vavrečka, the Czech ambassador in Vienna, joined Dominik Čipera and the well-known businessman Jan Antonín Baťa to become directors of the Baťa company in 1932, which was involved in commerce (especially shoe manufacture) and media production. Together, they developed a vision of a dramatic increase in the use of water transport in business and industry, and they promoted this vision at the national and international levels.¹⁵

11 Müldner, Josef. *Námořní společnost československá, její vznik a úkoly*. Námořní společnost československá, 1920, p. 13.

12 Ibid.

13 "It is not only the suppressed, subdued desires of a small, landlocked nation, distant from the sea, that leads swimmers, experts, and other interested persons to the constitution of the Czechoslovak Shipping Company, but also especially severe economic considerations. The programme of the company [...] therefore does not consist of dreams, fantasies, or romanticism, neither does the company work for profit. Its intentions are purely cultural. The company wants to help educate ordinary people and spread its noble idea," *ibid.*, p. 15.

14 The ceremony took place on April 29, 1920. *Ibid.*, p. 17.

15 Similarly, trade interests intersect with waterway development worldwide throughout history. See, for example, Innis, Harold. *The Fur Trade in Canada*. University of Toronto Press, 2001 (originally published in 1930).

Antonín Smrček, the second important voice in the water regulation and water energy debates of the 1920s and 1930s, was a professor of hydraulic engineering at the Brno University of Technology. In addition to being a member of a number of national and international water management commissions, he himself implemented many waterworks, whose construction he filmed. Emphasizing technical perfection, the beauty of the materials and the utility of the buildings, Smrček represented constructivism in Czech film. His works, such as *Stavba přehrady u Vranova nad Dyjí* (*Construction of the Dam at Vranov upon Thaya*), *Stavba přehrady u Kníniček* (*Construction of Kníničky Dam*), *Laboratoř Střekovský jez* (*Laboratory at Střekov Weir*) etc. appeared in the Czech collection at the International Photographic Exhibition in The Hague in 1928, as well as in several avant-garde Czech film collections screened both in Czechoslovakia and abroad. Smrček captured his waterworks from an unusual angle with a sophisticated sense of the materiality of bodies of water, and he introduced several tropes that would reappear in Czech imagery surrounding water energy later on, namely calling it “white coal” to highlight the fact that Czech coal is rare and of poor quality, while hydropower creates energy using otherwise “unproductive” land. Most crucial was the way in which Smrček’s films defined the relationship between water management and nature – which was understood as “taming.” Taming – via the construction of locks and reservoirs – meant new work for unemployed people in the 1930s and the tamed, docile countryside thus became fulfilled by new values and meanings.

Vavrečka and Smrček were key proponents of the construction of the Danube-Oder-Elbe canal in the interwar period, which is often described as a “laboratory of Europe”¹⁶ and whose planning developed throughout the twentieth century, in each period with different ambitions. The canal was developed “at the junction of transnational system network building and national development,” and thus its potential building carried different meanings for the state that built it and for those whom it would enable to connect to new territories. Negotiations about balancing costs and advantages were therefore always accompanied by conflicts of interest at the international political level. Discussions about canal construction projects and visions surrounding it were closely associated with the current international political direction of the country. In the dramatic Czechoslovak history in the twentieth century, frameworks legitimizing this project transformed in relation to changes in state policies. As the country transformed from a part of Austro-Hungarian territory to independent state, to Nazi occupied

16 Janáč. *European Coasts of Bohemia*, p. 20.

land and, after the war, to a member of the Soviet Bloc, the idea of the canal and its position within Central Europe changed as well.

The idea of Danube-Oder-Elbe water management was viewed in the international dimension as a promise of connections to foreign markets and symbolic approximated seas. In the 1920s and 1930s, the “Czech sea” was most often linked with the Adriatic Sea, as the seaside destination that was the closest and most affordable in terms of traffic and culture.¹⁷ Besides bilateral cultural and trade exchanges, the idea of the canal, then, was associated with the conquest of the sea and with the development of transport and tourism, Czech integration into European structures and open, international communication. The media followed this tendency in various ways, one of them being the utopian vision of a water empire. The short educational film *Přístav v srdci Evropy* (*The Harbour in the Heart of Europe*) from 1946 represented such a water empire agenda. Recycling footage from 1930s and 1940s travelogues and educational films, *The Harbour in the Heart of Europe* significantly contributed not only to a debate on the national identity’s relationship with industrial development, but also to the circulation of the imagery and meanings in industrial films.

There were four main sources for *The Harbour in the Heart of Europe*, four groups of films whose footage the film recycled. These were classroom films by Jaroslav Novotný, travelogues and documentaries from Ceylon and India by Alexander Hackenschmied (aka Hammid), the above-mentioned dam construction films by Antonín Smrček, and Baťa’s unpublished instructional films about the benefits of water transportation. These all led to the project’s background, namely to Zlín. The very idea of the film as well as the project it promoted has its roots in early 1940s Zlín, a city that was the home and base of the famous Czech shoe company Baťa. The film calls for the construction of a canal between three major rivers, thanks to which, together with other improvements, the whole country would be directly connected with key European seas and with all the countries throughout Europe. After World War II, however, the idea fostered earlier by a single capitalist firm was adopted by the state as a national project aimed to support the recovery of the post-war economy, despite the fact that in the new left-wing and rather

17 “The Czech sea is a fairy-tale dream of the Czech people. This tale has already been made into a reality by the engine, the airplane, the radio, and a distant vision. But it would also be nice if we had our own piece of a small sea and, thanks to it, a way opened to the endless Czech waters, so that our children could play on the sunny sea beach while still being at home.” Nesnídalová, Marie. “Iluze českého moře – Koupání v Jugoslávii.” *Český lid*, vol. 17, no. 251, September 9, 1928, p. 1; Kvapil, Jaroslav. “Na nové parádní lodi Jihošlovanské po ‘našem’ moři.” *Pestrý týden*, vol. 6, no. 28, July 11, 1931, p. 8.

socialist conditions the Baťa company was criticized for, among other things, being a symbol of the exploitation of workers by capitalists.

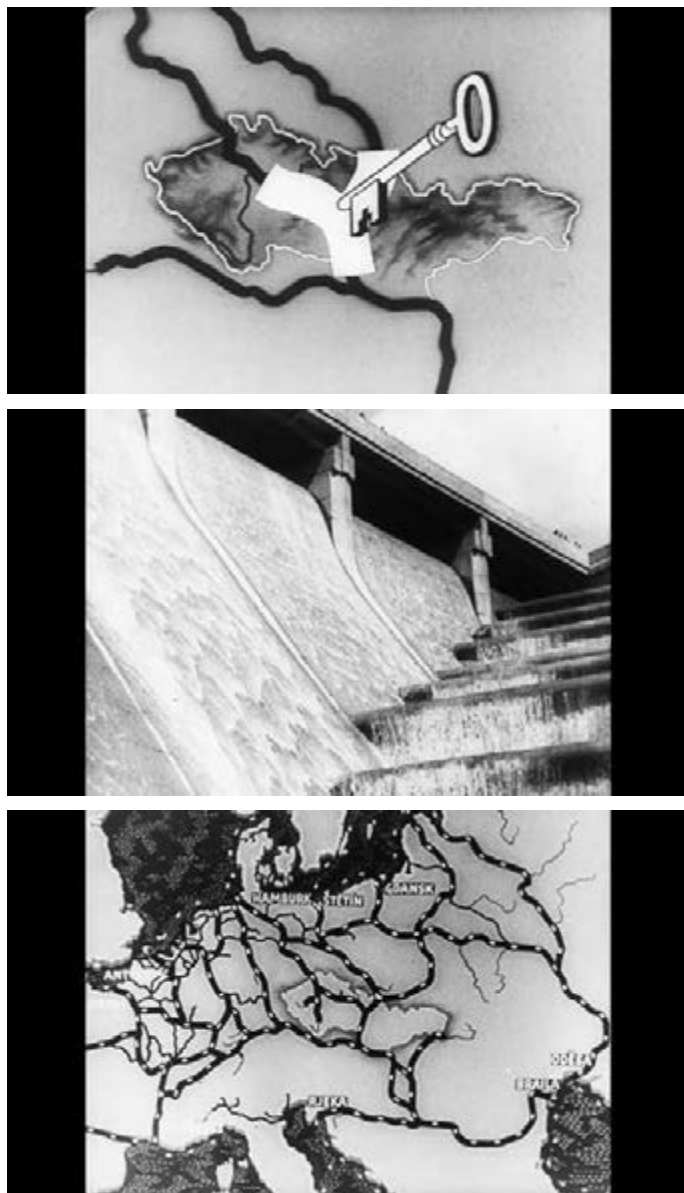
The Harbour in the Heart of Europe confirms its role in the debate about hydropower's significance for the post-war economy, and its rootedness in Central European water imagery, on two interrelated levels. First, by articulating the "lack of access to the sea" motive, and second, by illustrating the transnational advantages of the canal project. The commentary clearly links the necessity of building the Danube-Oder-Elbe canal with the historical injustice of Czechoslovakia's geographical position in the very heart of Europe and lacking a coastline. Followed by an illustrative animation, it states:

Because of Father Czech's¹⁸ decision, however, we have become a purely inland nation. We are the heart of Europe, but we are gripped like in an iron ring, we lack the sea. Let's make sure that worldwide there are only six separate civilized countries whose borders do not touch the sea. These are in South America: Bolivia and Paraguay, in Europe: Switzerland, Austria, Hungary and Czechoslovakia. Fate did not favour us when it placed us among such unfortunate world peculiarities. I wish we were an island...

The solution to how to resuscitate the lonely heart of Europe was the canal project. It would be a major artery in the centre of the continent, thanks to which Czechoslovakia would connect with the south and the north, with the east and the west of Europe. This moving image of Czechoslovakia as being the beating heart of Europe, whose main arteries and veins are rivers through which knowledge and commerce easily flow in all directions, clearly emphasized the importance of river transportation and water energy for the post-war national economy. Similarly, it corresponded to the Czechoslovak political straddling between East and West during the Third Republic (the era of Czechoslovak history between 1945 and 1948), where at least part of the Czechoslovak political elites still believed that the country could be a strategic bridge between the Eastern and Western spheres of influence.¹⁹

18 "Grandfather Czech" is a father of Czech nation, who according to a legend, together with his brother, Lech, wandered in an area of today's Central Bohemia, the area around Prague, and seeing the mediocre landscape and climate there, he decided to settle there and establish a village. Lech, conversely, wasn't so satisfied, and headed north, to find his dreamland in the area of today's Poland.

19 Brenner, Christiane. *"Zwischen Ost und West": Tschechische politische Diskurse 1945–1948*. R. Oldenbourg Verlag, 2009.



Figs. 6.1a–6.1c.
Film stills
from *Přístav v
srdci Evropy* (*The
Harbour in the
Heart of Europe*,
Drahošlav
Holub, 1946).

The early post-war political situation in Czechoslovakia, however, despite the global peace ethos, which called for the values with which the canal has been associated in earlier periods, was not in favour of the project. The interests of national protectionism outweighed the interests of international understanding and cultural trade and exchange. A new water management policy accentuated the energy dimension of water

flow regulation, which for a few years completely choked debates on the implementation of the canal. By the time of the restoration of the idea in the 1950s, it no longer had the same spirit as before the war, when the canal was called the laboratory of Europe and the way to the (Czech) sea, or just after the war, when it symbolized a “European crossroads.” New canal projects aimed to be the “gateway to the East” instead.²⁰ As histories of major energy eras show us, turning to new sources of energy was a global trend: “The post-war economic upswing was associated with the global substitution of hydrocarbons for coal, the global rise of electricity generation (including nuclear fission), mass car ownership, and extensive energy subsidies in agriculture.”²¹ The shift to natural gas and oil, however, was importantly related to colonial power networks. In Czechoslovakia, in a land without colonies, and even without a sea, a similar shift took place, but instead of hydrocarbons, the country turned to hydropower. Rethinking the role of water management in the national economy, from the regulation of water flows to the emphasis on energy, was a clear signal of a new incoming socialist economic order, which had fundamentally transformed the dynamics of industrial and social relations in the state. Under this new order the interests in energy, transport and communications interweaved, and the interpretation of the national relation to water resources changed.

Dam Culture

After the Second World War, thanks to new industrial developments and new demands on transportation, communication and energy sources, the hidden imagery of the Central European water empire reappeared in new energy politics. Post-war energy debates were shaped by two complementary theses. Czechoslovakia as a country which is not energy self-sufficient, must firstly educate its people to use coal sparingly and, simultaneously, to explore the uses of new energy sources, especially water and, in the future, probably also atomic.²² The greatest failure of the Czechoslovak energy system was considered to be the wasteful use of energy and the inefficient use of raw resources, both crucial problems for a country that lacked raw

20 Janáč. *European Coasts of Bohemia*, p. 149.

21 Smil, Václav. *Energy in World History*. Westview Press, 1994, p. 241.

22 According to research in contemporary literature on energy politics and the magazine *Energetika*, published by Průmyslové nakladatelství (Industrial Publishing).

materials.²³ According to comparative research, Czechoslovakia gained less energy than other states from a comparable amount of resources. Latent awareness of the need to embrace the energy revolution has resonated through the debate. Such a revolution, however, should be guided by the knowledge that “economic life cannot be stopped, or immediately rebuilt for new sources of energy.”²⁴ The new situation was thought of as a new challenge and focused its research mainly on water energy during the early post-war period.

The late 1940s and early 1950s thus represent a transitional period in Czech history in which the media in general and film in particular collaborated on a major economical paradigm shift. As historians of the economy and industrial revolutions remind us, when we look at all great economic paradigm shifts in history, they share one common denominator – that in a particular moment in time, three defining technologies emerge and converge to create a new infrastructure and change the way economic life is organized.²⁵ Those three defining technologies are new communication technologies to more efficiently manage economic activity, new sources of energy to more efficiently power economic activity, and new transportation logistics to more efficiently move economic activity.

Around the end of the 1940s Czechoslovakia tended towards such a significant shift. An economic boost was seen as a prerequisite for the post-war recovery across the political spectrum. In parallel to the construction of new industrial centres, projects to transform agriculture and build new transportation networks, the government promoted research into new energy sources. The establishment of the Ostrava-Karviná industrial centre together with the building of the entirely new city of Havířov was followed by improvements in the transportation infrastructure, represented by the Railway Line of Friendship and the Railway Line of Youth projects. The first connected the capital city of Prague with Košice in eastern Slovakia and the second was important for Slovak inner transport infrastructure. Both projects were realized with the help of people's brigades, consisting mostly of young volunteers. All these efforts were legitimized by profound transmedia campaigns, in which the press, radio and film were used alongside literature,

23 Ibler, Jaroslav. “Úkoly energetiky v socialistickém hospodářství I.” *Elektrotechnický obzor*, vol. 38, no. 4–5, 1949, pp. 2–4. Presented also as a part of lecture series called “Energy Course” at Czech Technical University.

24 Michalec, Jaroslav. *Rozvoj energetiky v ČSR: Příspěvek k sestavení dlouhodobého plánu energetiky*. Průmyslové vydavatelství, 1956, p. 21.

25 Rifkin, Jeremy. *The Third Industrial Revolution: How Lateral Power Is Transforming Energy, the Economy, and the World*. Palgrave Macmillan, 2011, p. 35.

drama and painting to educate audiences about the advantages of these transformative projects. The communist government was very well aware of the power of media and arts to educate new socialist citizens, and a centralized system of nationalized media and art production enabled it to regulate and control themes, genres and the focus of all output across art and media.

In 1951, the Czech government Act on New Economic Developments was issued to speed up the current slow pace of hydropower plant construction. This was followed by the 1952 Act on United Energy Balance, which also recognized the important position of hydropower. The shift to hydropower was aimed at conserving exhaustible coal mine reserves.²⁶ These developments were clearly inspired by the Soviet state plan for the electrification of Russia, the GOELRO, which established hydropower as a key source for the electrification of the country. The GOELRO plan was implemented during a ten- to fifteen-year period. According to the plan, Soviet territory was divided into eight regions, with distinct development strategies due to the specific features of each region and included construction of a network of thirty regional power plants, including ten large hydroelectric power plants and numerous electric-powered large industrial enterprises. In reality, only three out of ten hydroelectric stations were built by 1930 (the Volkhov, the Svir and the Dnieper hydroelectric stations) and the country's main energy source turned out to be oil and natural gas.²⁷ GOELRO was closely related to the Great Plan for the Transformation of Nature. This plan, proposed by Joseph Stalin in the second half of the 1940s, covered land development, agricultural practices and water projects to improve agriculture in the nation.²⁸ Czechoslovak engineers were directly inspired by the Soviet plan and compared its possibilities with the approach of industry in Switzerland, similarly lacking any original sources of energy and depending mostly on hydropower.

Established in January 1953, the Czech Committee for the Transformation of Nature settled on the construction of water reservoirs as one of its priorities. Although proclaiming its inspiration in the Stalinist plan, the

26 Michalec, Jaroslav. *Energetická bilance ČSR*. Elektrotechnický svaz československý, 1948.

27 Among other films devoted to the Soviet achievements in electrification, Dziga Vertov's *The Eleventh Year* (1928), according to John MacKay, elaborates the author's conviction that movement can be conceptualized in terms of energy flow and proves that his conception of cinema was rooted in the idea of productivism and transcendental materialism. See MacKay, John. "Film Energy: Process and Metanarrative in Dziga Vertov's *The Eleventh Year* (1928)." *October*, vol. 121, Summer 2007, pp. 41–78.

28 Michalec. *Rozvoj energetiky v ČSR*.

committee soon realized that in a small country with totally different geographical and natural conditions, the Great Plan for the Transformation of Nature would not be possible to implement with the same grandiosity as in the Soviet Union.²⁹ A thorough analysis of the state of the water resources and problems with water pollution in Czechoslovakia ultimately provided the basis of the state's water management plan.³⁰ The parameters of this plan were consistent with the 1952 Act on United Energy. The goal of water managers to build reservoirs and the intention of energy engineers to build hydropower plants thus converged into one effort, which was a radical transformation – that is, a taming or subjugation – of nature.³¹

In the 1950s, Czechoslovakia thus engaged in the rapid construction of hydropower plants, dams, and water reservoirs. All the big hydropower plants on the Vltava River and on the Váh River were built in this period, followed by many other smaller water management projects. Thanks to the overall control of media and arts production, the government was able to cover these construction endeavours in various formats distributed through various channels. Similar to the case of building new industrial centres and new transportation networks, construction sites for waterworks became the settings of novels, dramas and films, creating a new genre, the so-called “production drama.”

The production dramas produced at the time (plays, literature and films set in factories and construction sites) engaged in reportage and displayed similar motives and tropes. The journalistic character of the documentary features and production dramas reflected contemporary “ideas about what is and is not reality and realism.”³² The idea was that art should “shape the present” and therefore it naturally embraced stories of about current building projects. This approach was rooted in the works of Czech social novels from the 1930s, such as Marie Majerová's utopian novel *Přehrada* (Dam, 1932).³³ Majerová not only denied the epic storyline and intensified simultaneity of journalistically tuned episodes from reality, but also portrayed the romance of transforming nature as coinciding with technical

29 For detailed description of the whole process of the implementation of the Transformation of Nature plan in Czechoslovakia, see: Olšáková, Doubravka, and Arnošt Štanzel. “Kafkaesque Paradigms: The Stalinist Plan for the Transformation of Nature in Czechoslovakia.” *In the Name of the Great Work: Stalin's Plan for the Transformation of Nature and Its Impact in Eastern Europe*, edited by Doubravka Olšáková. Berghahn Books, 2016, pp. 43–125.

30 Rosík, January. “Státní vodohospodářský plán a zásady pro další plánovité řízení vodního hospodářství.” *Vodní hospodářství*, vol. 4, no. 4, 1954, pp. 99–103.

31 A clear example of this general approach is given in a popular science book: Hoch, Alois Adalbert. *Živly pracují za nás*. Mladá fronta, 1955.

32 Janoušek, Pavel. *Studie o dramatu*. Ústav pro českou a světovou literaturu, 1993, p. 112.

33 Several re-editions of Majerová's novel were published in the 1950s.

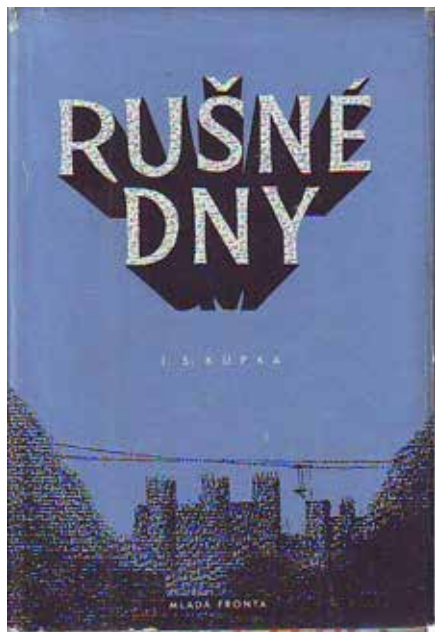


Fig. 6.2a. Cover of J.S. Kupka's novel *Rušné dny* (Busy days, 1955).

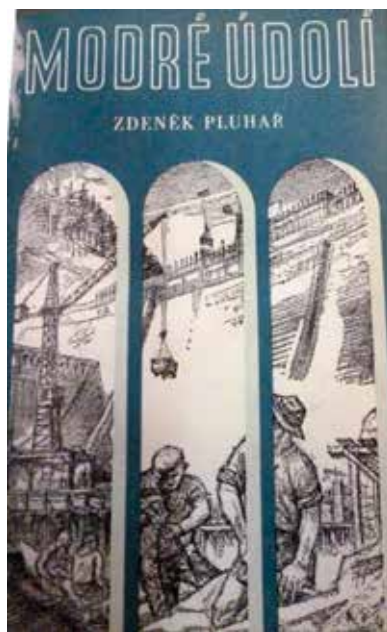


Fig. 6.2b. Cover of Zdeněk Pluhař's novel *Modré údolí* (Blue valley, 1954).

progress. In works of the 1950s, especially those created around 1952 and 1953, however, a constructivist ethos and a commitment to and enthusiasm for involvement in the construction of the new society were complemented by concerns about the struggle with obstacles and with internal and external enemies. The feature film *Priehrada* (*Dam*, Paľo Bielik, 1952), for example, introduces both types of characters: those who believe in the importance of dam construction and those who criticize it.

Specific hybrid genres were developed within the transmedia campaign to inform the people about hydropower construction. Contemporary press covered the big construction projects, mostly in narrative reports, focusing on technical details, enumerating quantitative data and reminding people of the benefits of the transition to hydropower. Production novels, dramas and fiction films told stories about the construction of hydropower plants and dams. Poetic documentaries and popular scientific and educational films were made on the same topic. Painters created large canvases of the structures that reveal the hydropower plants' inner mechanisms. The human element in the stories was mostly suppressed, as if this aspect was a part of the goal to tame nature. With a basis in real stories and by clinging to the facts, fictional genres resembled non-fictional ones. At the same time, these works were intentionally created with both aesthetic and non-aesthetic goals.

The absorption of topics, themes and plots from everyday industrial life, along with an aesthetic approach to technology and mechanical processes, led to the emergence of various hybrid art forms, which in the centralized socialist media ecology worked in synergy to support the introduction of a new energy politics within the new economic shift.

In 1953, writer and director Dušan Kodaj wrote a production novel, *Oravska priehrada* (Oravska Dam), followed by a documentary film of the same name about the construction of the Orava dam and reservoir in Slovakia. In addition to reports in the press, this construction project was the subject of a painting by Eduard Světlík (*Stavba Oravské přehrady od betonárny* [Construction of Orava Dam as Viewed from the Concrete Plant, 1952, oil on canvas]), a triptych drawing by Dezider Milly (*Triptych Oravská priehrada* [Orava Dam Triptych, 1949, ink on paper]) and the above-mentioned feature film by Pal'o Bielík. Similarly, press, film, literature and painting co-created the image of the Váh Cascade Project³⁴ and the construction of dams and reservoirs on the Vltava River. The documentary film *Příběh staré řeky* (The Story of an Old River, 1956) by Jiří Lehovec, together with the feature film by prominent director Martin Frič, *Povodeň* (Flood, 1958) and the educational film *Kronika Slapské přehrady* (Slapy Dam Chronicle, Olga Růžičková, 1960) represented the construction of the Slapy dam, reservoir and hydropower plant, together with the novel *Rušné dny* (Busy days, 1955) by Jiří Svetozar Kupka and František Bílek's painting *Stavba Slapské přehrady* (Slapy Dam Construction, 1958, oil on canvas). The same set of outcomes surrounded the construction of the Lipno dam, reservoir and hydropower plant: useful films like *Vodní díla v Československu* (Waterworks in Czechoslovakia, Svatopluk Studený, 1956) and *Vodní energie* (Water Energy, Josef Pinkava, 1951) recombined shots of films previously made. Stories from dam construction also shared similar motives, such as the fight with nature, the destruction of the old to make way for the new etc.³⁵

A combination of facts with technological optimism and the mythologization of the whole construction process resulted in a factual symbolism

34 Jozef Šturdík's canvas of Váh Dam was followed by documentary films *Povážské stupně* (Váh Degrees, Svatopluk Studený, 1955) and *První vážský stupeň* (First Váh Degree, Štefan Ondrkal, 1957).

35 In the 1950s a specific sub-genre emerged within the socialist production novel, namely the "dam novel" (*přehradní román*), which established these key characteristics. This massive trend can be represented by the translation of Leonid Leonov's *Dravá řeka* (Wild River, Соть, 1928–1929), and novels such as *Modré údolí* (Blue Valley, Pluhař, Zdeněk, 1954), *Závod ve stínu* (The Enterprise in Shade, Sedláček, Květoslav František, 1954), *Rušné dny* (Busy Days, Kupka, Jiří Svetozar, 1955) etc. For more, see Hodrová, Daniela. "Žánrový půdorys budovatelského románu." *Vztahy a cíle socialistických literatur*, edited by Hana Hrzalová and Radko Pytlík. ÚČSL, 1979, pp. 121–41.



Fig. 6.3a. Recruiting poster for the construction of Lipno hydropower plant, 1952.



Fig. 6.3b. Cover of the economic research report *Rozvoj energetiky v ČSR* (Energy development in the ČSR, 1950).

as an approach which, based on current topics or stories, celebrated construction and technological progress and developed across factual as well as fictional arts and media. Visual culture emphasized the arch of the dam together with the water turbines and electric generators that became symbols of the most efficient method of energy generation (these images appeared on the covers of books and in brochures about new energy developments and plans, for example), while the previous era was associated with the image of the “coal barons,” opportunists who did not belong to the new socialist order. While trying to establish new energy trends, however, the arts and media did not reject the old methods and procedures. A country focusing on heavy industry did not close its mines and steel mills, but instead celebrated its miners as “heroes of labour.” Just as with the coverage of mines in the media emphasized the aspect of workers’ labour, the new waterworks were viewed as Czech engineers’ technological endeavour. Turbines designed by Viktor Kaplan were especially commemorated as a Czech contribution to hydropower engineering, which had both a technical as well as an artistic value. The ten-paddle wheel of Kaplan’s turbine, later installed into the Orlik hydropower plant, was a key element in the Czechoslovak pavilion at EXPO ’58 in Brussels and was awarded the gold medal.



Figs. 6.4a–6.4d. Film stills from *Lidé nad Čertovou stěnou* (*People over the Devil's Wall*, Emanuel Kaněra, 1962), showing the construction of the dam, a look at the machinery inside and its recreational benefits.

Representations of hydropower in Czech culture carried contradictory meanings. Emphasizing the size of dam construction and technical maturity, linking artistic and useful goals, and facts with symbols, it depicted technology as an art and the water element as an organic machine.

The imagery and rhetoric associated with the symbol of the dam proves how multi-layered and complex the phenomenon of hydropower is. The dam is a big fortress, evidence or, better, a symbol of gigantic construction and socialist technological and scientific endeavour. The dam is a symbol of how man's rationality and scientific development can transform nature. The dam is a wall behind which, however, hides a beautiful holiday resort and, as such, the dam gives the sea to the Czech nation. The dam is a symbol so big that it hides all negative environmental and social consequences these constructions had (from fish extinctions to the eradication of villages and the relocation of entire communities of people).

Dams and reservoirs, around which recreational resorts developed, brought, along with the help of the media, the Czech people closer to the sea. Just like the articles that appeared in the 1920s and 1930s claiming that

the sea could be reached through technical innovations such as “an engine, an airplane, a radio and a distant vision,” the media of the 1950s called all water surfaces close to dams and hydroelectric power stations “seas” (Czech sea, Šumava sea). Of these two ways of getting closer to the sea via the media, the second had the effect of redirecting attention away from the problems that were linked to water management projects, in favour of a positive interpretation of the process as a natural transformation. One article about the origins of the Czech (Šumava) sea, the Lipno dam, claimed: “Where the birds nest this summer, fish will swim in the coming year.”³⁶ Others voiced pleasure about the transformation in which the romantic landscape disappears beneath the water’s surface.³⁷ Joining the poetic approach were plenty of tourist films from the late 1950s³⁸ that presented artificial lakes created by dams as tourist destinations, places of recreation and relaxation, and that used the metaphor of the sea to increase the attractiveness of particular resorts and, above all, divert attention away from the social and environmental context of their construction.

Conclusion

The nationalized economy of post-war Czechoslovakia established a synergy of arts and media and built an efficient communication tool to promote new endeavours in energy supply, namely by hydropower plants, and supported new shifts in transportation and mobility associated with tourism. Between 1945 and 1948, the Czechoslovak president Edvard Beneš had compromised with the Communist Party to avoid a post-war coup, hoping that the democratic process would restore a more equitable distribution of power. Beneš had negotiated the Soviet alliance, but at the same time he strived to establish Czechoslovakia as a “bridge” between East and West, capable of maintaining contacts with both sides. After the communist coup d’état in 1948, however, the country’s geopolitical situation profoundly changed, while the shift in water energy imagery from canal to dam illustratively follows these geopolitical processes. Exemplified in the clear move from projects of (centrifugal) canal to (centripetal) dam, to a fortress in a way, the trend of the country’s geopolitical isolation prevailed over efforts towards

36 “Les ustupuje šumavskému moři.” *Rudé právo*, vol. 36, no. 276, October 3, 1956, p. 1.

37 “U nejvyššího ‘Gottwaldova stupně míru’.” *Mladá fronta*, vol. 10, no. 187, August 9, 1952, p. 1.

38 Miškuv, Pavel, *Oravské more*, 1959; Šulc, František, *Za Oravou za Váhom*. 1959 etc.

international circulation of knowledge and capital. Besides mountains and spas, both former highlights among domestic tourist attractions, artificial lakes beside dams became new popular destinations, easily accessible by automobiles, and were associated with new trends in the socialist lifestyle.

Water energy both as a complex ideological concept and energy solution for the future in the Czech case positioned art and media into the role of servant to the state. Yet even such works offered variable explanations of the importance of rivers and bodies of water. Traditionally considered as borders, rivers and bodies of water were represented in Central European thought as lines of communication, economic commodities and a representational medium, and had an irreplaceable role within the process of conceptualizing ideas related to the nation and national identity. As such, all these media and artistic forms supported the circulation of knowledge about scientific background and the energy benefits of hydropower, and exploited the symbolic potential of dam construction as an important energy source, a specific work environment and, last but not least, an important solution to the national trauma associated with the lack of access to the sea. Industrial films on hydropower, however, not only contribute to our understanding of the profound economical paradigm shift from capitalist to a nationalized socialist order, but also tell us more about a cinematic and broader visual imagery connected with water in general. Through establishing a new topoi of the dam, these films heavily profit from the pre-war avant-garde constructivist movement (represented in the Czech environment by the technical films of Antonín Smrček), poetic documentaries about water sports and other leisure activities, social documentaries about work and labour, and Czech feature films in which rivers and water were associated with lyrics, melancholy and eroticism, such as Josef Rovenský's *Řeka* (*River*, 1933) and Gustav Machatý's *Extáze* (*Ecstasy*, 1932). As mentioned in the introduction, the poetic documentary that can be considered emblematic in this sense was named by its director, Jiří Lehovec, *The Story of the Old River*. By that name, however, Lehovec did not aim to evoke nostalgia, but rather to emphasize the aspect of time, crucial for the medium of film itself. The story that is being told, and, therefore, lasts, and deals with the replacement of the old by the new, represented the river as a vehicle of historical flow and change.

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